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Entornos Personales y Corporativos de Aprendizaje (PLE y CLE) como Andamiaje en el Desarrollo de las Estrategias de Lectura en la Lengua Extranjera

(Personal and Corporate Learning Environments (PLE and CLE) as Scaffolding in the Development of Reading Strategies in a Foreign Language)

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A Olga e Iván

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When we focus on designing ecologies in which people can forage for knowledge, we are less concerned about communicating the minutiae of changing knowledge. Instead, we are creating the conduit through which knowledge will flow. What is the difference between our current organizational designs and networks and ecologies?

(Siemens, 2006:116)

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INTRODUCTION

CHAPTER I

<u>INTRODUCTION</u>

In one of my first experiences as a teacher, I made the acquaintance of an inspiring student. He was quite smart and spoke nice English. Outside school, he managed to keep a rock band together, even providing a place to play in for his colleages by making use of the public resources of the community. Regarding his opinions, he was balanced and canny for someone his age. He had the profile of someone from whom we would probably expect success, since we feel these traits are useful in the real world. However, he was not successful at all, at least in his academic life. The school failed to supply anything of interest for him: the archaic, inflexible, learning-clumsy system he was forced to go through, did not have the faintest interest for someone who was capable of moving around a complex ecosystem (life) at ease. He might have done well in life merely by virtue of with his character, but he would surely have excelled with the help and guidance of a sensible school system. The 'real life' that was a reference for his school was not the real life he was actually living.

Like this student, all learners today face a completely different environment than learners in the nineteenth or the twentieth century. Concepts such as knowledge, and learning itself, have changed. In the context of the knowledge society, knowledge has become a basic need of citizens all around the globe (Drucker, 1999:6). Our society "is directly based on the production, distribution and use of knowledge and information" (OECD, 1996:7) and "production, distribution, and use of knowledge is the main driver of growth, wealth creation and employment across all industries" (APEC, 2000: vii). But knowledge is not encapsulated in books or schools. It is no longer linear and grouped into well-organized disciplines (we could argue it has never been). It is chaotic and permeable: English together with History and Maths, for instance, makes

more sense. In George Siemens's book *Knowing Knowledge*, he defines learning as follows:

> **Chaotic:** Diverse and messy, not necessarily neatly packaged and arranged; **Continual**: Ongoing in development and communication. The model of "go to a course" is being replaced with learning and knowledge at the point of need; **Co-creation**: Instead of content consumption (or passive learners involved in knowledge acquisition), experts and amateurs are now co-creators in knowledge; **Complexity**: Learning is a multi-faceted, integrated process where changes with any one element alters the larger network. Knowledge is subject to the nuances of complex, adaptive systems; **Connected specialization:** Complexity and diversity results in specialized nodes (a single entity can no longer know all required elements). The act of knowledge growth and learning involves connected specialized nodes; **Continual suspended certainty:** We know in part. An attitude of tolerance for ambiguity and uncertainty is required. Certainty is for a season, not a lifetime (Siemens, 2006:27-28)[1]

Therefore, the constructs of knowledge and knowledge creation are no longer the same. Looi (2001:14) and Siemens (2006:39), among others, use the metaphor of learning ecologies to describe current learning environments: learning, like spores, grows by means of the interaction and collaboration of individuals. A further example is found in Nonaka *et al* (2000). On positing what the attitude towards knowledge of an enterprise should be, they assert that "[the enterprise] interacts with its environment, and reshapes the environment and even itself through the process of knowledge creation." *(ibid*:6) This biological metaphor of ecologies, within the umbrella of theories of Complex Adaptive Systems (see Section II.1.2.1), is frequently used to refer to the creation of knowledge within society as a whole or within a specific group.

This complexity cannot be assessed following traditional examining methods and it is very hard to make it fit into an inflexible timetable. The simple context of the classroom alone cannot cater anymore for all the demands that have arisen. Depending on the methodology used,

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[1] The layout of this quotation was part of the discourse, and we tried to reproduce the original as faithfully as possible.

classroom context could even hinder the development of students. We do need to find a way out. Fitzpatrick and Davies (2003: 4), reporting their research on the impact of IT on the foreign language class, came to the conclusion that

> […] with regard to pedagogy and methodology, research has shown that a "shift of paradigm" is necessary in teacher / learner roles. Co-operative, collaborative procedures are called for to harness the wide range of possibilities the new media offer. Teachers are called upon to abandon traditional roles and act more as guides and mentors, exploring the new media themselves as learners and thus acting as role models for their learners.

We have a plethora of new tools where real, relevant learning takes place. For UNESCO, "the use of information and communication technologies (ICT) must be linked to the recognition that knowledge is the principal force of the social, political, cultural and institutional dimensions of development, founded on human rights" (UNESCO, 2003: 2). These possibilities surpass the physical frontiers, making the aim of opening up the classroom to the real world easier than ever. Web 2.0 (dealt with in detail in Section II.1.2.3) is full of instances of tools that help foster interaction and collaboration beyond the classroom context. By way of example, we have social networks that are able to help individuals with the same interests and/or needs come together, with the intention of sharing knowledge or simply as a means to not being alone. There are other tools as well, which are open and free for all communities: for example wikispaces, blogs, or shared spreadsheets.

Our endeavour in the current research project is devoted to bringing the implications of both the new visions of learning and the tools associated with it to the field of foreign language learning. With the aim of circumscribing our research to guarantee attainability, we will focus on the potential benefits of learning-strategy training through the use of a specific ICT model in the improvement of learners' reading skills in English as a Foreign Language. Bearing in ming the possible wide range of related investigative fields, the following chapter (Chapter II) will be devoted to establishing the epistemological grounding for the design and implementation of our own exploratory study. Consequently, we will organize this chapter following a structure that underscores the intricate bonds that relate learning in general, foreign language learning in particular and Information and Communication Technology (ICT). We will focus first on more

general paradigms, with the chapter gradually evolving into a descricription of more field-specific ones. We will finish with a reference to those parameters that have helped us define our own research design, highlighting the features that are relevant to our investigative aims against the backdrop of the wide range of options available.

Thus, we will start with a brief historical overview of the use of ICT for educational purposes (Section II.1.1). Within this section, we will try to depict the different perspectives educatiional institutions, researchers and teachers have reported in recent history regarding the implementation of technology in general, and ICT in particular. We will see that there are opinions that go from the scepticism of Larry Cuban (1986:5-6) to the very promising results offered by Gottschalk (1965:90) and Fallahkhair, *et al* (2004:4337), to name but a few. We will finish our historical overview with an in-depth description of the evolution of Computer Assisted Language Learning (CALL), including relevant up-to-date references as far as possible.

The current state of affairs regarding the use of ICT in education is necessarily associated with open approaches to learning and teaching (Section II.1.2). The drive coming from different sectors of society to change the way educational institutions deal with learning will be the focus of this section, starting in Section II.1.2.1 with the shift of the workforce paradigm as delineated by Drucker (1999) and the reconceptualisation of knowledge and learning instantiated in, for instance, Siemens (2006) and Nonaka and Konno (1998). Knowledge and learning will be linked to the constructs of formal and informal learning (Section II.1.2.2) and the need for the XXI Century educational institutions to cater for both, challenging the limits of purely formal training. There is evidence coming from research (from primary and secondary education, and from other contexts) that confirm that this combination is not only possible but also desirable.

Nevertheless, crossing the physical boundaries of schools has constituted the eternal challenge of formal education. The context where informal learning happens is traditionally associated with contexts other than the classroom, resulting in a more direct relationship with the learners' active involvement. With the advent of web 2.0 (Section II.1.2.3) the active engagement of learners in individual and cooperative production is made easy both outside the context of the classroom and within its walls, which establishes the perfect scenario for breaking those once unsurmountable limits. Primary and secondary schools and other levels of education are currently providing a wealth of instances to illustrate the benefits, but also the concerns,

regarding the implementation of web 2.0 facilities for both formal and informal learning.

Different combinations of these facilities could constitute Personal Learning Environments (PLEs) or Corporate Learning Environments (CLEs), which would represent a conceptualisation of learning characterised by empowered autonomous learners or institutions respectively (Section II.1.2.4). The concept of learning environment, applied to the customization of web 2.0 tools, matches perfectly well with that of open learning and teaching: each individual or institution could design an environment that embodies their current learning needs, thus making the complete process potentially more relevant. Mitra and Dangwal's description of 'The Hole in the Wall' project (2010) could represent an illuminating instance of customization for meeting specific needs in primary or secondary education. However, it is in other educational levels where the use of PLEs or CLEs is more widespread at the moment.

It is precisely the pliability of web 2.0 that makes the task of producing a comprehensible catalogue of possible PLEs or CLEs, or the facilities they could include, unattainable. Currently, although, it is very common to see Learning Management Systems (LMS) included in designs that would also draw from a myriad of other facilities. One of these designs would be within blended models of learning, where there is a traditional physical classroom context and an legitimate online component (Section II.1.2.5). The LMS represents one of the most standardized online learning tools, with sound supporting research in primary and secondary education and other formal, non-formal and informal learning contexts.

However, the potential for exponential growth of online learning designs is better represented by the possibilities provided by portable devices. Ubiquitous Learning (UL) embodies the promising future of widespread open formulations that would efficiently combine formal and informal learning (Section II.1.2.6). Despite the fact that it is still at the level of groundbreaking innovation more than mainstream implementation, UL already exhibits sound empirical evidence of the advantages it offers in primary and secondary education, but also in other context (Section II.1.2.6.2).

All these potentialities for learning, nevertheless, deserve to be substantiated by evidence coming from empirical research, with sound pedagogical reasoning for applying the technological design (Macaro *et al*, 2012:8). Along that line, our endeavour will be focused on establishing the context within the field of foreign language learning to test our ICT design. With

this purpose in mind, we shall embark on a process of establishing the situation of relevant research in the usefulness of ICT for bringing about improvement improvement in the reading skills of upper-secondary school learners of English as a Foreign Language, mainly due to the instrumental nature of this particular skill (e.g. Sidek, 2012:109; Ghorbani *et al*, 2013:1).

We begin in Section II.2 by establishing the evolution of research on the nature of the reading process (Section II.2.1), which has so far eluded a clear and widely accepted description; different research paradigms provide different descriptions which are, at times even contradictory. These descriptions range from the purely top-down, which generally maintain that the reader first takes a general picture of the text and then continues by decoding large portions of language to finally concentrate on the minutiae of single words; to the purely bottom-up models, which contradict this stance. Nevertheless, we can also find compromising models that assert that the process comes from a combination of both. This section will provide a picture, from a historical perspective, of the process of reading comprehension, grounding the theory on empirical research (Section II.2.2).

We defend the idea that the teacher of English as a Foreign Language needs to have a clear idea of what the reading process entails. However, this is as peremptory as the need to be conscious of the different models for teaching reading that have been adopted in each theoretical account of language learning processes (Section II.2.3) drawing not only from the perspective of learning the second or foreign language, but also from the experience of research on the acquisition of the mother tongue. For example, instructional models such as content-based instruction (e.g. Tsai and Shang, 2010: 81-82), or those substantiated on team-based learning (e.g. Hamra and Syatriana, 2012:9) have offered provide positive results to this effect.

Reading instruction has also been empirically corroborated in the field of reading strategies (Section II.3), with a clear relationship between strategy proficiency and success in reading (e.g. Carrell, *et al*, 1989:650). According to Oxford (1990:8), strategies are actions taken by the learner with the purpose of making learning "easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations." However, within the evolution of the subfield of strategy research (Section II.3.1) we see that there are still some difficulties in establishing a widely accepted definition of what strategies really are (Section II.3.2), even though we will find a number of features that are present in most definitions. This difficulty in

conciliating a definition is also present in the elaboration of taxonomies of strategies (Section II.3.3), which are of the utmost importance for guiding the teaching of strategies. Nevertheless, in the case of taxonomies, there are some models that have a more widespread use. There is certain agreement that the most influential taxonomies are Oxford's (1990; 2011) and O'Malley and Chamot's (1990), that have been empirically validated (Griffiths, 2008:84; Gürsoy, 2010:166; Vidal, 2012:47).

Strategy training (Section II.3.4) has also corroborated its importance, regarding the evolution of reading, in empirical research, with a number of different models for training students to improve their learning strategies. These different models represent different levels of overtness. Oxford (2011:181) classifies these levels of strategy training according to how explicit that training is for the learner, where level one would imply the learner is completely unconscious that specific training on strategies is being implemented, and at level four the learner is completely conscious (see Section III.3.2.3 for further details).

Once we have established the theoretical background, we are ready to design the research tools we are going to use for our investigation. Nonetheless, when it comes to establishing what model to implement, there are a number of issues we need to be conscious of and accordingly accommodate any model we decide to use. From the myriad of ICT designs available, the use of LMS and electronic portfolios to train upper-secondary education foreign language learners on the use of strategies could be considered a favourable choice (Section II.4). The factors of autonomy and motivation, regarding language learning (Section II.4.1) and attitude and motivation in the case of the use of ICT (Section II.4.2) need to be part of our equation. In the case of foreign languages, there are some concepts like intrinsic and extrinsic motivation (Section II.4.1.1), context and its influence on motivation (Section II.4.1.2), the role of the teacher (Section II.4.1.3) and authenticity (Section II.4.1.4) that determine what decisions we need to take both prior to and during the implementation. Attitude and motivation, in relation to the use of ICT by the learner will bring into play other parameters, for instance learners' experience with the use of technology, their concept of technology or even their social status, since according to Zhong (2010:738), their social profile determines not only what access they will have to technology, but also the use they make of it.

Therefore, since the time devoted to implementation will be a crucial factor for achieving

some level of success (Blau and Hameiri, 2010:255), attempting the most adequate customization of the factors that will eventually influence our learners' attitudes (Section II.4.3) will be of utmost importance. For Karamanos and Gibbs (2012:333), for instance, convincing the learner that methodology based on ICT brings about improvements over the traditional method is critical. To be able to do so, we need to cater for learners' 'Perceived Usefulness' (PU) or 'Perceived Ease of Use' (PEU), which are, by themselves, capable of predicting the learners' acceptance of the new methods.

However, the context where the study is going to be implemented (Section II.4.4) will also determine what we will be able to implement, as well as what we will not be capable of accomplishing. For instance, ascertaining to what degree the institution accepts innovation within their culture will determine what degree of change we will be able to suggest in our model regarding the one that is established as mainstream (Paredes, 2010:49). In fact, there is evidence that although the use of educational technology has advanced well within educational institutions, we cannot say the same about e-learning pedagogy (Karamos and Gibbs, 2012:321).

In fact, all these factors affecting the learner, the institution and pedagogy advise that taking web 2.0 capabilities to the maximum, despite the facts that they constitute a potential boost for an autonomous, empowering learning solution, may not be the right choice (Section II.4.5). Apart from technical reservations, such as not having a clear method to keep track of the learners' process of learning (Panagiotidis, 2012:435), we could also argue that there is a lack of knowledge of web 2.0 that leads learners and teachers alike to believe it does not comprise an appropriate learning tool (Tu *et al,* 2012:13). A further argument against the use of web 2.0 is the lack of grounded empirical studies proving its benefits for language learning (Malhiwsky, 2010:75).

Simultaneously, there are still reasons to establish the use of LMS as a compromising answer that help implement ICT together with pedagogical innovations in an otherwise traditional environment, especially in upper-secondary education (Section II.4.6). To start with, the use of LMS in secondary education is still far from being widespread, which could imply that users are not used to the minimum requirements of skills for e-learning. Besides, there is still literature within the field of e-learning that consider that there are still sound arguments to implement LMS-based models for different learning contexts.

Thus, having grounded our research theoretically and having established the issues that will help us design our model, we set out to test whether the use of a CLE, which in our case will combine a LMS and an e-portfolio to train learners on the use of learning strategies, eventually improves learners' reading skills. Nevertheless, we intend to incorporate in our research design a spectrum of other aspects present in the process (Chapter III). Thus, our research questions (Section III.1) will cover different aspects of ICT implementation and language learning, ranging from the learners' attitudes and motivation towards our design to their actual progress in their reading skills and their development in the use of strategies.

The subjects that will help us in our investigative endeavour (Section III.2) are students of English as a Foreign Language from the second and final years of upper-secondary education. Our first aim, regarding the subjects, will be confirming that the experimental and control groups are balanced, in holistic terms, since according to authors as, for instance, Tsai and Talley (2013:14), this is a parameter we need to control. We will also confirm, or discard certain expectations we have according to their communicative competence level.

In order to accomplish our objectives, we will use a number of research instruments (Section III.3). These will include a number of questionnaires (Section III.3.1, including subsections III.3.1.1, III.3.1.2 and III.3.1.3), aimed at providing insights in relation to the starting point of learners regarding the issues being tested, but also at gathering data that will describe their development. Furthermore, we will also include a detailed description of the ICT tools used in our CLE (Section III.3.2, including subsections III.3.2.1, III.3.2.2 and III.3.2.3), which will help to implement the online side of our blended model for learning a foreign language. At the end of this chapter (Section III.3.3), we will include a short description of the course materials we will use in classroom sessions. Closing the chapter on methodology (Sections III.3.4, which includes subsections III.3.4.1, III.3.4.2 and III.3.4.3), we will provide a detailed account of the procedure we have followed in order to implement the different questionnaires, but also the range of ICT tools we will use in our experiment. However, in Section III.3.4.3, however, we will also describe some difficulties encountered once the implementation of the project was underway, since we consider they posed a further challenge which was not taken into account in the design, but that might have affected the results (Chapter IV). The results will then be organized following the structure provided by the four research questions, namely Sections IV.1 to IV.4. We will close this chapter with a summary of the conclusions drawn from the results

obtained in the implementation and the implications derived (Section IV.5). The report of our investigative study that constitutes the current dissertation will then conclude with a suggestion for further research in Chapter V which we propose could be undertaken in relation to those fields of investigation addressed during the implementation of our research project which seem to have particular potential for our own teaching/learning context.

CHAPTER II

RESEARCH BACKGROUND

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II.1 Recent Research in Information and Communication Technologies for Educational Purposes

II.1.1 Brief Historical Overview

The impact of technology on teaching and learning has long been an issue. Josiah F. Bumstead's seminal quote, dating back to 1841, on the use of the blackboard in primary schools, is an example of how little this debate has evolved:

> the inventor or introducer of the system deserves to be ranked among the best contributors to learning and science, if not among the greatest benefactors of mankind [...] Let every town put in each of its school-houses, next summer, a good black-board and a good teacher "who can use it;" (*sic*.) and the effect will be about the same as doubling the number of teachers and school hours [...] (Bumstead, 1841:viii).

The importance of technology applicable to education, combined with the necessary investment from public institutions and the need to provide the schools with methodologically aware, qualified teachers, has always been at the core of the debate on technological innovation in education. In the XXIst century, school teachers, researchers and education authorities are still struggling to find the right balance between dazzling avant-garde technology and good old-

fashioned pedagogy. Thus, a great number of technological advances have been introduced into schools in the last decades, changing the landscape of classrooms. We have seen the slide projector evolve into an overhead projector and then into a beamer, along with the nearly ubiquitous Interactive Digital Board. Television sets with videocassette recorders were, for a very long time, a topic of discussion in staff meetings regarding the safest way to keep them inside classrooms or how to move them around. Now they have been replaced by computers with varying levels of sophistication. However, how and to what extent these changes have affected the actual teaching processes at schools is still an unresolved issue in educational debates among researchers, ranging from pessimistic visions (e.g. Cuban, 1986; Macaro *et al*, 2012) to more optimistic perspectives (Becker, 2000).

With regard to the teaching and learning of foreign and second languages,[2] in the present chapter we will try to provide a general overview of which technology has had a significant impact on teaching and research interests over the last few decades and how effective they have been considered to be. We will start with a short approximation as to how and why technology and formal education have been related throughout recent history. We will subsequently move into the field of Computer Assisted Language Learning (CALL) with a brief historical outline of the evolution of the use of computers in learning contexts, addressing the most influential research publications by CALL specialists, with reference to instances of the technology used and their impact. In line with the rationale of our own research, we will provide an account of relevant empirical data, where available.

Technology and teaching have always shared a close relationship. One of the reasons for this is the perceived rise of interest among students in tune with their implementation in clasroom practice. Bumstead (1841:viii), when talking about the benefits of using blackboards in the classroom, formulated it in the following way: "Give them form or letters to imitate, and they will entertain and teach themselves by the half hour together; which is far better than pinching each other, pulling hair, or doing mischief." It is easy to draw parallels with any mischief our current students could make due to boredom in contemporary classes. An improvement in

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[2] As opposed to Foreign Language Learning. In Richards, Platt and Weber (1985:93), EFL is defined as "the role of English in countries where it is taught as a subject in schools but not used as a medium of instruction in education nor as a language of communication [...] within the country," as is the case in our own research context, whereas ESL is defined as "the role of English for immigrants and other minority groups in English speaking countries [...]"(Richards, Platt and Weber, 1985:93),

attitude, this time specifically towards writing, was also an issue for Warschauer and Healey (1998:62); in the same way Becker (2000:25) claims to have proved that the use of technology does bring about higher levels of student engagement.

There are also a number of studies that attempt to shed light on the benefits of the use of other technological resources in relation to specific aspects of teaching or learning. Gottschalk (1965:90), for instance, claims to have proved that the use of closed-circuit television in classes of German as a foreign language at university level improves students' attitudes towards the use of the technology itself, apart from enhancing performance in aural and reading comprehension skills. Shaw (1961:152) reports positive results on the use of television sets at the University of Texas to overcome classroom overcrowding problems, students paradoxically feeling they had closer contact with the teachers (*ibid*) compared to overcrowded classrooms, and having better overall learning conditions. More recently, Fallahkhair *et al* (2004:4337) highlight both the fact that television is already in widespread use at schools as well as its potential as a learning environment. They researched adult learners' perceptions of interactive television as a way to foster autonomous learning, and define a number of features that could boost learner independence (*ibid:*4342). Later on, the Video Cassette Recorder, with the possibility of using video recordings at will in the classroom, was also a technological blockbuster in the classroom, with teachers cited as being "mesmerized" (Farmer, 1987:31) and numerous experts advocating its potential (e.g. Swaffar and Vlatten, 1997:175; Hill, 1999:8; Salaberry, 2001:50).

However, according to Cuban (1986:5-6), this drive to use the newest available technology to enhance learning is more related to educational policy, commercial interests and fads than to actual, scientifically proven benefits for learning. The main reason he uses to support this idea is that special difficulties in the classroom are not taken into account by either researchers or reformers (*ibid*). The urge for reform stimulates the implementation of technology in the classroom, and not the other way around, that is, teaching and learning processes demanding the implementation of a specific type of technology (Tyack and Cuban, 1995:121; Cuban, 2001:12-13). Furthermore, Macaro *et al* (2012:26-27) complain that, within the research corpus they have analyzed, the most common argument for implementing technology in education is the desired competence in technology use learners should develop, without any further support from previous research on language learning, in the case of CALL, and this does

not shed, they argue, any light on what benefits technology really does provide over non-technology assisted language learning.

The use of computers, as probably the most significant technological resource in the last few decades in the context of foreign and second language teaching, has given birth to a field of research in its own right. Computer Assisted Language Learning (CALL), is defined as "the search for and study of applications of the computer in language teaching and learning" (Levy, 1997:1). Warschauer and Healey (1998:57-58) established a seminal classification of the evolution of CALL, which is still cited today (Macaro *et al*, 2012:2). For them, there are three different phases in the evolution of CALL. The first phase, initially labelled as 'behaviourist'[3] and going from the 60s to the 70s, was characterised by the use of repetitive, drill-like, language exercises. The language learner would painstakingly repeat the language patterns provided by computers. With the generalisation of personal computers, a more communicative phase followed in the late 70s, and 80s, based on the appropriate use of the target form rather than on simply reproducing the form itself. If the former approach was influenced by behaviourist views of learning, this later phase is characterized by a cognitivist perspective, with the last one being the integrative phase when computers are integrated into the daily learning process, together with development in different language skills, which would also be presented as an integrated whole. More recently, cognitivism is gradually being replaced by socio-cognitivism, and, this last stage, the technology involved is networked computers and multimedia. Warschauer (1996:np) exemplifies integration[4] with a group of learners of English for Specific Purposes using the internet as a way to read and write about their field of study, with the focus on the field itself and not on language use nor technology.

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[3] Although Warschauer in later essays (2004:10), uses the term 'structural', instead of 'behaviourist', there does not seem to be any significant difference in the nature of the methodology used or the technology involved.

[4] In more recent research Warschauer and Liaw (2011:111) describe software used for reading, using data coming from empirical studies, that would fall more on the side of the behaviourist type of learning than on the integrative, even though their claimed aim was to "discuss technologies that have emerged or changed substantially in the last ten years, rather than earlier digital technologies such as word processing, e-mail, or Web browsing" (*ibid.*:107). These instances would only include software that provides the learner with a way to check the accuracy of their production, or clarify vocabulary. This might sound like a contradiction since, according to Warschauer (1996:np), "The challenge for advocates of CALL was to develop models which could help integrate the various aspects of the language learning process. Fortunately, advances in computer technology were providing the opportunities to do just that." We believe there is recently-developed technology from the last ten years that would match his own definition of integration for reading, which will be described in more depth in the coming chapters.

This three-part division is still widely used.[5] Bax (2003), who has put forward an alternative model, believes it is a relevant analysis of the evolution of CALL since it is not merely focused on describing the evolution of software and hardware (*ibid:*14). However, Bax does contend the arguments in Warschauer and Healey's model and argues that his provides a more accurate depiction of the evolution of CALL (*ibid:*15-19). He starts with an analysis of what he believes are inconsistencies and continues with an overall description of his model. The term stage, for instance, used by Warschauer and Healy to account for the episodic evolution of CALL (Warschauer and Healey, 1998:57), does not provide a consistent picture of what was actually happening at those specific moments in language teaching. For Bax, and arguably for Warschauer and Healy (Bax, 2003:16), they are not clearcut historical stages, but different approaches to the use of computers for language learning, with only some extent of historical consistency still coexisting even today (*ibid:*23).

Bax's model (*ibid:*21) starts with a 'Restricted CALL' approach that would dominate language teaching and learning from the 60s to the 80s, although, as we stated above, it can still be seen in computer use today along with the rest of the approaches (*ibid:*23). Its main aim is the focus on and attention to grammar, and it uses drills and quizzes as learning activities. The focus is on developing accuracy. The computer is not part of the curriculum and its use is restricted to sporadic visits to the so-called computer lab. The 'Open CALL'[6] approach would dominate the period from the 80s to the present day and it is characterized by a more humanistic use of computers, featuring games, simulations and, eventually, with the advent of the internet, Computer Mediated Communication (CMC). The computer lab turned into a language-specific computer lab. More specifically, from 1995 onwards, there are some features of authentic

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[5] As can be seen in Gündüz (2005:198,199), Evans (2009:3), Yang (2010:909), and Macaro *et al* (2012:2).

[6] For Bax, this period should not be called 'communicative' since it lacks many of the characteristics a communicative approach to language learning or teaching should have (*ibid:*17). Jung (2005:9), using bibliographical data base analysis, also affirms that the use of the computer until 2004 was not communicative at all. It had the same profile as closed, drill-like instruction, with computers being a touchstone for the learner to check their knowledge of grammar, vocabulary, reading and writing. According to Jung (2005:8) listening and speaking, both considered central in communicative language teaching (*ibid.*), have a merely anecdotal presence in CALL research. Computers would only become communicatively meaningful in implementation when teachers were exploring their use as an excuse for students to speak among themselves. As Jung formulates it, "students were encouraged to talk to one another off-computer while running the programs" (*ibid.*).

communication present in this approach. It is labelled as 'open' [7] because of the change of attitudes towards the computer (*ibid:*22), the type of feedback given to the student, the software used and the roles of both teachers and students (*ibid:*20-22), as opposed to the 'Restricted CALL' approach. This openness is not present, however, in teachers' attitudes, administrators' attitudes or timetabling, which are believed to be key implementation parameters (*ibid:*23). The last approach is the Integrated [8] CALL approach. Making reference to other technological innovations, Bax states that the integration of CALL will be reached when computers become organic in every lesson "like a pen or a book" (*ibid:*24), normalized within the context of the language classroom. For computers to be successfully integrated in language learning, they should be accessories to learning needs. In their own analysis, Macaro *et al* (2012:4) have also reached the conclusion that there should be some level of integration of technology and methodology for CALL to be effective in foreign language learning in secondary and primary education, [9] since they claim that success seems to come from "instruction combining the two" (*ibid:*24). Bax also contends (2003:24) that the effort of the researcher should be focused on facilitating integration since it should be the ideal evolution of CALL. Consequently, CALL would be made redundant and, thus, disappear as a "separate concept and field for discussion" (*ibid:*23). This idea of integration as the utmost evolution of CALL is also present in Yang (2010:912). Kern (2006:203) claims that the internet had already been normalized by 2006, with CMC probably following suit, so the role of the teacher should be uncovering "the underpinnings, [...] context of operation and [...] implications" (*ibid*) of the norm for the learner in order to help them make the most of the technology in an autonomous way.

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[7] It is described as 'Open' in the sense that Underwood (as seen in Bax, 2003:16) defines the communicative approach, that is "(1) [it]focuses more on using forms rather than on the forms themselves; (2) teaches grammar implicitly rather than explicitly;(3) allows and encourages students to generate original utterances rather than just manipulate prefabricated language;(4) does not judge and evaluate everything the students do nor reward them with congratulatory messages, lights, or bells; (5) avoids telling students they are wrong and is flexible to a variety of student responses;(6) uses the target language exclusively and creates an environment in which using the target language feels natural, both on and off the screen; and(7) will never try to do anything that a book can do just as well," although Bax believes this is not a true description of Communicative Language Teaching (*ibid:*17).

[8] The main issue in the difference between Warschauer and Healy's "integrative" label and Bax's "integrated" is the fact that the former tried to depict an alleged characteristic of the use of computers in the language classroom at a specific historical moment (Warschauer and Healey, 1998:58), and in the latter it represents a goal the field of CALL should endeavour to reach in the future, since it does not represent a generalized picture but a feature present in the use individual teachers make of computers, or schools, or institutions (Bax, 2003:22).

[9] Although their overview of analysis is primary and secondary education, they acknowledge the possibility of their conclusions being applicable to other levels (Macaro *et al* (2012:4).

Potentially complementing both Warschauer and Healey's and Bax's views of the evolution of CALL, Jung (2005:10-12), establishes 1993 as representing a paradigm shift,[10] first witnessing a technological change from offline to online technology, and then a scientific shift into more student-centered issues. These shifts could be exemplified by the growing interest in Computer Mediated Communication (CMC) on the side of technology, and the growth of collaborative and tandem learning, as well as authenticity and autonomy, in the CALL research field (*ibid:*12). Macaro *et al*'s research (2012:3) seems to sanction Jung since their analysis of the current evolution of CALL starts precisely in the 1990s, overtly claiming the offline/online divide as the reason to start from that specific standpoint. For instance, they certify the growth of CMC as a research element from that moment on, as well as the internet (*ibid:*5). However, Macaro *et al* undertook a more in-depth analysis of CALL research from the year 2000 onwards due to, as they later affirm, technological advances and their use in educational contexts (*ibid:*4).

Currently, there is a common call to place Computer Assisted Language Learning (CALL) within the scope of language learning theories (Warschauer and Healey, 1998:67-68; Bax, 2003:26; Jung, 2005:12; Kern, 2006:186; Macaro *et al,* 2012:13), where the use of computers is described against the background of the language classroom context in order to be able to identify and measure their benefits for language learning. One of the complaints made by Macaro *et al* (2012:8) is that a great deal of the research analyzed in their work had vague reasons for applying that specific use of technology. Most of them did not provide a pedagogical need for the research. For instance, they describe how Zhang *et al* (2007) analyzed writing in online discussion simply because, it is claimed, technology was underused in fully equipped Chinese schools (*ibid*). In others, the reasons are specific to a particular context with few generalizable possibilities (*ibid*). This is the case of Coniam and Wong (2004:324-325), who supported their research into the use of Internet Relay Chat (IRC) on the poor use of finite verbs in main clauses by students from grades three to ten in Hong Kong.

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[10] Jung takes the 1993 'London Conference on Foreign Language Learning and the Use of New Technologies' as a turning point in the use of online technologies and, consequently, in the shift of research interest towards the attitude of the learner (Jung, 2005:11-12).

II.1.2 Open Approaches to Teaching and Learning

On examination of the relevant literature, the Information Technology described in the previous section has long been regarded as highly useful in the foreign language learning classroom and, in a certain sense, it still is. It provides easy access to relevant and meaningful language input, apart from being an enriching source of stimuli for the learner. Nevertheless, it can represent, in most cases, a very teacher-centered approach to learning, where learners are offered an array of tools in order to reproduce expected behaviour. However, there is currently a strong call from researchers, teachers, learners, and society alike to build learning upon more learner-centered methodologies, within which learners would be encouraged to self-regulate their learning in different degrees, and to use the alternatives provided by emergent technology. Some researchers (e.g. Couros, 2010:120; Segura and Castañeda, 2010:np; Brown, 2010:6; Godwin-Jones, 2011:8) claim that giving this more active role to the learner should arouse more relevant learning, deriving from the learners being able to self-direct their own learning, both in the classroom and outside it.

This need for pedagogical change is present, for instance, in Attwell (2007:1) who claims that "we cannot simply reproduce previous forms of learning, the classroom or the university, embodied in software. Instead, we have to look at the new opportunities for learning afforded by emerging technologies." Arandia and Fernández (2012:116), along the same lines, also stated that new approaches to learning and teaching at university level are needed for the educational system to be sustainable. As early as 1974, Dawson and Lindstrom (1974:204) were already demanding a change in the educational system, since technology had already generated a system overload.

Virtual Learning Environments (VLE) potentially embody a complete change in language teaching methodology compared to previous technological formulations, since the teacher, or the institution for that matter, can easily provide a constant flow of self-access resources for the learner, which could include any stimuli multimedia activities can provide, along with versatile internal communication capabilities, and very powerful learner-tracking capabilities to check, for instance, what problems they may have had, the different steps they have taken to get to the end of the task, the frequency of the resources used and how long they took to get there (Ellis and

Calvo, 2007:61; Pynoo *et al*, 2011:570).[11] However, many authors (e.g. Santamaría, 2010:382; Yuen and Yang, 2010:457; Couros, 2010; Boruta *et al*, 2011) are already urging educators to move forward from these still somewhat restricted ecosystems in order to to give the learner more freedom to interact outside the borders of an institutionally bound context. For example, Couros (2010:110) provides an example that clearly represents this need to set the learner free. When describing the results obtained in an open access course that used open teaching methodologies rather than more traditional teacher-constrained designs,[12] Couros quotes the words a learner used to depict the building of authentic and sustainable knowledge networks inside a VLE as having blown "the doors of this course right off their hinges." Breaking down the walls of educational institutions means the sudden expansion of the informal learning variable so as to account for everything learners might acquire outside formal academic contexts, which is difficult to account for, but which has an unquestionable influence on it (Cox, 2012:16).

In order to provide a coherent depiction of the evolution of technology in language education and elsewhere, we will start by analyzing, in Section II.1.2.1, the birth of the knowledge worker as coined by Peter Drucker (1959), and new knowledge or knowledge management constructs. Both concepts lie behind the different tools teachers and learners are called on to use on a daily basis. We will devote Section II.1.2.2 to formal and informal learning and II.1.2.3 to Web 2.0, both concepts having a great impact on the IT formulations relevant for the current research project presented here. Afterwards (II.1.2.4), we will analyze the different IT solutions that are spin-offs from all the variables mentioned above and which correspond to both formal and informal learning, starting from more institutionally controlled facilities (Corporate Learning Environments) to the most open, learner-centered formulations (Personal Learning Environments), with an emphasis on the different degrees of impact each instance has had on education in general, and on foreign language teaching and learning in particular. Blended learning with Learning Management Systems will be included in Section II.1.2.5. Although all the previous sections dealing with the role of technology in education could account for some

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[11] We will describe LMS in depth in Section II.1.5.

[12] Couros (2010:109-110) describes an online course where the twenty learners that had officially registered in the course were invited to interact with another two hundred guest participants, who freely joined the process from around the world "to collaboratively explore, negotiate, and develop authentic and sustainable knowledge networks." This contrasts with the traditional open course, where students are given a limited amount of information, a number of activities designed by the teacher, and they are constrained to interact among themselves and the teacher (*ibid:*109).

aspects of ubiquitous learning, we consider it is important to include it within a separate section (II.1.2.6) due to the relevance portable devices have for learning today and will definitely have in the near future.

Taking into account that our own research is an empirical study, we have thus decided to provide empirical evidence of the different learning initiatives we describe. Therefore, we will not only give a descriptive account of the theoretical background relevant to the present investigation, but we shall also substantiate theory with practice. Hence, from Section II.1.2.3 onwards we will refer to relevant empirical studies carried out in a range of educational contexts. However, many of the concepts developed in these sections are intertwined within the different empirical research reports, and sometimes it is very difficult to assert that one instance could be an example of, say, Personal Learning Environments and not of Web 2.0. This probably validates the complex nature of the subject itself, since it would depend on what aspect we place the focus on. If we focus on the way learners address their learning, it could be research that would shed light on the internal processes of informal learning for instance, but if we choose to highlight the learning tools used by the authors, we could be giving an account of Web 2.0 as a learning tool. Therefore, we will try to be faithful to the researchers' own focus. Depending on the overtly stated aim of the study, we will regard it as an instance of one field or another.

There is, nevertheless, very little fieldwork analysing the effectiveness of online instruction of any kind in both primary and secondary education according to Means *et al* (2010 xiv). This would be consistent with our own investigation: there are very few studies, within any field of online learning, that provide empirical data for primary and secondary education in general, and foreign language learning in particular. This would also confirm the conclusions drawn by Wang and Vásquez (2012:424), dealt with in more detail further on in this section, that more empirical research needs to be done in the field of open approaches to learning. Although Brown and Green (2011:79) predict a steady increase in the use of online instruction in primary and secondary education and higher education, they also acknowledge that "corporate use of e-learning was slightly down." In the *Horizon Report* of 2012 (both the primary and secondary editions) a number of challenges are mentioned that hold back the drive to actually implement the changes the knowledge society needs from academic institutions. Thus, as the data is still scarce in these areas, we will include data from other levels as well, since the aim is to give an overall depiction of what is currently an issue in online distance learning.

II.1.2.1 New Approaches to Knowledge and Learning

There has been a perceptual change regarding knowledge and learning: knowledge, information and culture are now seen as an ecology, where every individual is a crucial active element. Learning is depicted as a structural function of that ecology (Siemens, 2006:33). This clashes with the traditional conception of knowledge and learning in the traditional secondary education classroom, where both are instructor-centered, and learning tasks are restricted to assimilating information and reproducing it, with very few real opportunities to ask for clarification or review part of the content, if needed, for a significant number of students (Zhang *et al*, 2004:79).

Peter Drucker (1999) coined the construct *knowledge worker* to describe workers in the new society we currently live in, where former 'manual-work productivity' parameters[13] are no longer pertinent. Instead, Drucker (*ibid*) claims that there are six major factors that determine the productivity of the knowledge worker. These factors would include defining the nature of the task the worker has to perform, which is not so clearly provided in the case of the manual worker. In fact, it should be determined by the knowledge worker themself. The manual workers on the Ford assembly line did not need to define what the task was: the worker putting on the wheel would be constrained by the arrival of the chassis and the arrival of the wheel he had to use; whereas in contrast, in the case of the knowledge worker the "task does not program the worker" (Drucker, 1999:7). Drucker uses the example of the nurse, who, generally speaking, decides what to do at every moment from among the different processes s/he has to implement (*ibid:*7). Therefore, another characteristic of the knowledge worker is that they need to have autonomy to take decisions, and, consequently, accept responsibility.

Innovation, according to Drucker (*ibid*:6) is also another factor that should drive the activity of the knowledge worker. He also asserts that "[K]nowledge work requires continuous learning on the part of the knowledge worker, but equally continuous teaching on the part of the knowledge worker" (1999:6). Therefore, learning itself becomes a crucial aspect in this vision of

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[13] For Drucker, these parameters would include analyzing the task the manual worker has to perform and determine the different motions needed to complete it; identifying which of these motions are hampering the process to eliminate them; arranging the motions needed to complete the task successfully in such a way that demand the least from the operator in order to guarantee the task can be performed for longer (in the easiest way, with the least time possible); then putting these motions into a 'job' in a logical sequence; and finally redesigning the tools needed for the task to meet the new procedures (Drucker, 1999:2)

the role of knowledge in society. The individual within the knowledge society is supposed to be continually learning and adapting to new contexts. Similarly, Solomon and Schrum (2007:3) claim that adaptability could be considered the key requirement of future society. The individual needs an active role in the management of their learning. Quality, rather than quantity, is another factor affecting the production of knowledge workers: they have to follow parameters related to quality, which should be defined by the workers themselves (Drucker, 1999:12). Knowledge workers, finally, need to be considered more as an asset to production, rather than a cost, as used to be the case of manual workers, since knowledge workers "own the means of production" (*ibid:*10).

According to Siemens (2006:6), knowledge is constructed through a number of ongoing cyclical steps where all the individuals involved would play a systemic role, not only in the consumption of that knowledge but also in the subsequent transformation. There is a stage of co-creation, when an element is added to a 'knowledge cycle;' that element is disseminated through a network characterized by analysis, evaluation and filtering of ideas; the surviving ideas would then be dispersed throughout the network; then the individual internalizes the newly acquired knowledge through dialogue and reflection in the stages of personalization; this would lead to the stage of implementation, which is when action provides feedback on what has been learnt. This will, eventually, lead back to co-creation. So the road to knowledge is not a one-way, source-to-consumer process. Instead, the individual can be said to be an intrinsic part of knowledge itself.

There is a clear connection between the development of the so-called 'Knowledge Society' and the increase in demand for more effective ways of fostering learning amongst individuals: learning has to happen when, and where, it is needed (Zhang *et al*, 2004:2). Technology provides the means to guarantee that this is possible. Zhang *et al* (*ibid*:76) assert that e-learning, defined as "technology-based learning in which learning materials are delivered electronically to remote learners via a computer network, [is] becoming a real alternative to traditional classroom learning," providing ubiquitous access to learning, and, thus, matching the needs of our knowledge society. Academic institutions (including all the stakeholders), where "learning is considered the ultimate goal" (Drucker, 1998:119), will be affected. Solomon and Schrum (2007:3), in their introductory argument in favour of using Web 2.0 for teaching and learning in schools, claim that "to be a truly new school, it has to model new ways of teaching and learning, and of using new tools." As Siemens (2006:3) formulates it, "libraries, schools,

businesses - the engines of productivity and society - are stretching under the heavy burden of change." Further on Siemens (*ibid:*5) states that these institutions will have to shift from their controlling and monitoring functions to fostering, nurturing and connecting. This will lead the learner to a new role within the academic world and outside: not as a simple consumer of knowledge, but as an active co-creator (Rubio, 2009:59).

Nonaka and Konno (1998:42-43) describe knowledge creation with their 'SECI' model: (i) Socialization, (ii) Externalization, (iii) Combination, and (iv) Internalization. It is a circle whereby tacit knowledge[14] is (i) shared among individuals through social interaction 'together;' (ii) then, it is externalized or translated in understandable ways to other members of the group, both the individual's ideas and the ideas of others, and sometimes through straight linguistic means, or with visuals, using both inductive and deductive means; (iii) the new explicit knowledge, coming from within the group or from outside, would then be combined, that is, collected, disseminated and edited to be easily handled, under the all-embracing umbrella of justification; and (iv) the last stage is when the knowledge becomes tacit for the group again and internalized.

Learning for Siemens (2006:27-29) is "the process for creating networks" and he describes it as being chaotic, because it is "diverse and messy" since it does not necessarily follow linear structures. It is also continual, that is it does not end with the last word of the trainer in a course. This connects with the concept of ongoing learning or learning in the place of work or 'just-in-time' learning (Drucker, 1999:8; Davenport and Galser, 2002). There is a co-creation aspect as well, which would imply learning being more than simple 'consumption,' but also creating both the savvy and the inexpert learner together. Downes (2010:28) also emphasizes the importance of co-creation in the process of learning when he asserts that the individual learner is not only the "subject of learning" but also the "source of learning" since their own learning process would feed back into the network. This would also make learning

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[14] Nonaka and Konno consider tacit knowledge to be opposed to explicit knowledge. Tacit knowledge would be the one that individuals have, but which cannot be turned into objective data, it cannot be measured, and it is hard to share and communicate to others. Tacit knowledge falls into yet another two dimensions: (i) the technical dimension, with personal skills, or 'know-how;' and (ii) the cognitive dimension, with "beliefs, ideals, values, schemata and mental models." Explicit knowledge can be transmitted through words and numbers. They claim that whereas the western world has given more prominence to explicit knowledge, in eastern cultures tacit knowledge has prevailed.

more complex: in Complex Adaptive Systems,[15] any individual change would affect the whole system. Learning is also characterized by connected specialization, by means of which the different nodes in the network are specialized, and with no individual node able to embrace everything. Learning lacks certainty as well, which constitutes a continual suspended certainty, because, as Siemens formulates it, "we know in part" (*ibid:*28).

As a means of giving emphasis to interaction as well, Williams *et al* (2011:49) use the concept of 'affordances,' which are considered to be the 'product' of the interaction between individuals and the environment, which could result in alterations of "knowledge, competencies and identity" and of the environment itself. Learning is considered to be the successful process of managing (exploring, benchmarking and mastering) new affordances. This would account for the learning that happens both in formal and informal learning (predictable and emergent learning)[16] and it gives, as Williams *et al* claim (2011:50), a paradigm for the incorporation of informal learning into the more regulated context of educational institutions, which will be explained in more depth in the following section.

According to Williams *et al* (2011:51), in order to be able to incorporate emergent learning into the formal academic world, it has to be constrained to some extent. This entails setting negative constraints, that is, an overt declaration of what outcomes are not allowed to happen, rather than setting what is expected from the learner, and communicating this end to the participants as well as being ready to inhibit negative emergence[17] and ostensibly celebrate positive emergence. There are other parameters that need to be considered for the management of emergent learning for this to be likely to succeed, like, for instance, becoming aware of the

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[15] For Cilliers (1998:viii), "the interaction among constituents of the [complex] system, and the interaction between the system and its environment, are of such a nature that the system as a whole cannot be fully understood simply by analysing its components." Any constituent influences the system, according to Cillier (*ibid:*3), and is influenced, in turn, by the system as well. Interaction intself can change the system, producing emergent features (*ibid:ix).* So a full description of a complex system is elusive. A complicated system, on the contrary, although encompassing a high number of elements, can be fully comprehended by analyzing the sum of all its parts (*ibid:*viii).

[16] The concept of predictable learning would apply to that formal learning taking place in educational institutions, which follows set teaching patterns and standards learners have to achieve. Results can, therefore, be foretold. However, emergent learning could happen in any context, educational or not, and it would arise from the interaction among individuals and the environment in complex adaptive systems. Emergent learning is coherent, but only when seen retrospectively since it cannot be foretold due to its "unpredictable" nature (Snowden and Boone, 2007:5; Williams *et al*, 2011:42)

[17] Knorr-Cetina (2005:217) claimed that organisations such as Al Quaeda are instances of the negative emergence of complex systems in our society

changes that may take place in boundaries, attractors and emergence, that is to say, in the barriers that "limit or delineate behaviour" (*ibid*:6); in instances of positive or negative reactions by the ecosystem to a certain stimulus (*ibid*); or in the unpredictable product of the dynamic interaction of the individual actors in an ecosystem (*ibid*:3). Continuous monitoring and reaction to the different signals in the behaviour of interacting participants on the part of the tutors is also believed to be a vital part of the management of complex environments. 'Resilience' to overcome failure is also mentioned as a desirable objective, as opposed to 'robustness,' which would devalue mistakes and the subsequent learning from mistakes (*ibid*:5).

In the case of Nonaka and Konno (1998), as well as Nonaka, Toyama and Konno (2000), the concept of learning should be closely related to context (not necessarily physical), to what they call "ba" (Nonaka, Toyama and Konno, 2000:14). The creation of knowledge, which is, as we have seen above, a crucial stage in the process of learning, needs the energy provided by their previously described model of SECI; it cannot be created by an individual in a context that is void of interaction.

Finally, Rubio (2009:45-46) identifies three different paradigms that explain what Knowledge Management (KM) is: (i) KM as an informational environment, (ii) as a social environment or (iii) as a complex environment. In the informational environment, knowledge is information that is treated as an object that can be obtained, stored and reused, so the aim is to acccumulate content. In the social environment, knowledge is a process and not an object, and the emphasis is on sharing (see SECI in section II.1.2.1). The complex environment focuses on the creation of knowledge in self-structured 'organic' communities, and knowledge is a dynamic process of extending meaning. This is based on the model of Complex Adaptive Systems. Siemens (2006:3) asserts that these three paradigms coexist: hence, one does not substitute the other.

II.1.2.2 Formal and Informal Learning

Many of the tools made available by the advent of Web 2.0 are being spontaneously used by learners in their own lives, as well as outside the formal academic context (Malhiwsky, 2010:83; Park *et al*, 2011:149). For example, some of the learners in my own school groups have a music blog, or a blog on fashion, or they use blogs as personal diaries. Most of them definitely

use social networking websites.[18] Informal learning takes place by means of these activities without any doubt (Santos and Ali, 2012:188; Gower, 2012:17). However, the formal-informal learning dichotomy raises a number of questions and the answers are manifold, as well as probably subject to many interpretations. To exemplify this difficulty, Fenichel and Schweingruber (2010) take us back to our own experiences as school students. When going on outings, we were not usually able to explain to our parents what we had learnt. But, at the same time, we had the feeling that we had definitely learnt something, although we were unable to put it into words. This feeling is also present in Comas-Quin *et al* (2009:101), when they suggest that sometimes we do learn, but we do not realise that it is learning. Once we understand that it is indeed learning, we still have to become aware of its underlying structure to be able to get the most out of it. In order to shed some light on this important field, many researchers are providing some insights into the mechanics of informal learning and how teachers could use it to boost the learning process, although, it is acknowledged, there is still work to do to test how effective it can be (Park *et al*, 2011:150; Cain and Policastri, 2011:1; Choi and Jacobs, 2011:239).

From the very outset, reachingthe definition of informal learning itself is elusive (Santos and Ali, 2012:188). Informal learning may be seen as that learning happening in the absence of formal contexts and teachers, with learners setting their own learning goals (*ibid:*188). Livingstone (1999:51) considered that it included "any activity involving the pursuit of understanding, knowledge or skill which occurs outside the curricula of educational institutions, or the courses or workshops offered by educational or social agencies." Mattox II (2012:50) adds that it is not structured in terms of time and effort and it is incidental in most cases. Along the same line as Mattox II's research, other authors believe that informal learning could be unintentional when learners encounter learning opportunities or goals, and learning processes follow, but they also consider that it can be intentional when the learner sets and pursues personal goals (Santos and Ali, 2012:188; Schugurensky, 2000:3; Comas-Quin, 2009:102). For other authors, the cornerstone of informal learning would be that the learner needs to be empowered to make his or her own learning decisions, since they are the ones who are engaged in the process of learning (Downes, 2010:28; Park *et al*, 2011:150). What is more, for a field as

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[18]Sánchez and Fernández's (2010) report on the use of social networks by adolescents supports this claim. They ascertain that adolescents use blogs to a certain degree and that there is a widespread use of social networking . The report by *Fundación Telefónica* yields similar results (2012:83).

specific as science, Fenichel and Schweingruber (2010:2) include the idea that informal learning that might take place in those formally designed contexts that may provide stimuli, such as specially designed environments like museums, science centres, or planetariums, and programs like science clubs or after-school activities. The degree of choice learners would have would be smaller, but they still would provide opportunities for learning (*ibid*). As we can see, there is not one single definition of informal learning, but different shades of meaning depending on where the pedagogical emphasis might lie.

Complex as they may be, the parameters within informal learning are a key concept in educational contexts, especially in our current ever-changing world. A large number of international institutions are placing more emphasis on informal learning and non-formal learning as a vital complement to formal learning within the concept of lifelong learning "to respond to the accelerated changes in the world and the increasing and diversified demands of society" (Park *et al*, 2011:150; European Comission, 2012). To get the most out of this holistic vision of learning, the European Comission has emphasised the need to network (European Comission, 2012:20), since it is through the interaction of different learners that learning can emerge (Boud and Middleton, 2003:194; Koper and Tattersall, 2004:690). Educational institutions need to build "a network that learns and thus adapts and reshapes itself based on those conversations and interactions" (Downes, 2010:28). Downes believes the educational system itself should be designed to cater for the changing nature not only of knowledge, but also of learning itself, since the opportunities afforded by technology, or even the capacities of the learner, are in constant flux so he suggests that the educational system should be adaptive rather than prescriptive (Downes, 2010:28). Teachers should teach their students how to learn and then encourage learners to manage their own learning (e.g. Zimmerman, 2002:69-70; Little, 2004b:2-3; Yu and Wang, 2009:466).[19]

Thus, the educational system should respond to with what is already happening in real life. The *Horizon Report* (2012), apart from claiming that there is a need to measure what part of learning comes from informal contexts (*ibid:*22), states that the learner is already using easily available technology in the western world for their informal learning (*ibid:*15-16). For instance, it describes a number of initiatives to introduce the use of tablets and other mobile devices for

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[19] For a more in-depth account of learner autonomy see Section I.4.1.

academic instruction as appliances already associated with informal learning and in widespread daily use (*ibid:*15-17).[20]

However, one of the hurdles of informal learning is that it is difficult for education stakeholders to assess progress (Panagiotidis, 2012:435), especially given "the vastness of the learning sources, and a learner's ability to surf from site to site or source to source" (Mattox II, 2012:51). To help manage this broadness, Mattox II (*ibid*) suggests a fivefold structure for informal learning. He asserts that any instance of informal learning can be classified as being included within one of these groups: "communities of practice (online communities aligned to a topic, role, or function), virtual knowledge sharing (web-sites, knowledge portals, wikis, social networking sites, and blogs), performance support systems and job aids, mentoring and coaching, [and] on-the-job experience" (*ibid:*51). Although Mattox's list is clearly based on the world of business, it would not be difficult to link it to the school context.

Within the research context of primary and secondary education, Fenichel and Schweingruber (2010:6) depict an instance of informal learning which confirms Schaller, *et al*'s earlier research (2009) in relation to the use of 'Wolfquest,' a 3D game based on the lives of wolves in Yellowstone National Park. Players have to live the life of a wolf, hunting for elk, socialising in packs and learning how to survive as a wolf. This involves making "predictions about what hunting and mate-finding strategies might work, [testing] those predictions, [analyzing] the results through the use of observation and note-taking skills, and [working] with their pack mates to develop new strategies" (Fenichel and Schweingruber, 2010:7). They consider it informal learning because "participation in the game is entirely voluntary, and the amount of time players devote to it is based on individual choice and interest" (*ibid:*8).

The very nature of informal learning makes it more conducive to being implemented in an enormous number of fields. Park *et al* (2011) carried out an empirical study involving bloggers in Korea who were not currently enrolled in any formal academic endeavour in order to assess how the use of a blog influenced their learning, without a formal context potentially influencing their behaviour. They tried to assess whether there was a correlation between learning and a specific way of using blogs, such as the learner's age or the number of hours spent using the blog, but objective data showed that there was no correlation. Their assessment was

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[20] Mobile devices will be discussed in more depth in Section I.1.2.6.

finally based on the bloggers' perceived influence of their activity on their learning and, eventually, on their lives. There was a significant majority of users who believed that they had experienced "positive changes, including learning experiences, in everyday life after blogging" (*ibid:*158). The benefits would belong to different aspects of life that have a direct influence over learning, such as

> […] ways to deal with information and knowledge, personal ways of thinking, self-development, and social relationships. In examining the usefulness of blogging in the learning process, the majority of participants believed that blogging is valuable in acquiring specific knowledge, expressing thoughts and opinions, and expanding one's interests (*ibid:*158)

They claim that their results might apply to adult learners (*ibid:*150), although they only refer to school-specific learning with children and adolescents without taking into consideration that both, undoubtedly, learn in informal contexts. This could further evidence the lack of empirical work on the field.

II.1.2.3. Web 2.0

The evolution of knowledge and 'Knowledge Management,' as described in Section II.1.2.1, has a great deal to do with technological developments (Drucker, 1999; Attwell, 2007:2; Carmona, 2007:57-62; Rubio, 2009; Skareb, 2011:20-25). Complexity, a key parameter in how knowledge is created as seen above, is present in the way the internet has evolved, since, as Downes (2010:29) formulates it:

> Far from being neat and organized, the internet has become complex. Far from settling into one web community, users jump from service to service, creating (and discarding) new identities as needed. A typical web user may have multiple 'home pages' - their personal blog, their photo page on Flickr or Picasa, their Google Reader account, shared documents through Zoho, their video page on YouTube, their Twitter account, their profiles, on Facebook, MySpace and LinkedIn, their Wikipedia login, their email accounts, and (often least) their

university LMS login. While real friendships and communities develop through this mélange, loyalty to online sites and services is limited and fleeting.

This complexity, it could be argued, parallels the way the current young learner perceives reality. The Net Generation, as depicted by Diana and James Oblinger in the account of Eric's daily routine (2005:2.2), has "taken for granted" the technology[21] that is modelling their lives. Our teaching, therefore, needs to match their expectations regarding technology if we intend to be successful at all, which once more relates to the previous reference in Siemens (2006:3) about the changes schools have to implement (see Section II.1.2.1 above). To respond to the latest visions of learning and knowledge, as well as how these are created and managed, new methodologies have to be implemented where learners are able to develop a more active role within the processes put into action in educational contexts (Solomon and Schrum, 2007:38-42; Boruta *et al*, 2011; Wang and Vásquez, 2012; Tu *et al*, 2012). Web 2.0 is one of the key ingredients present in a great number of the studies involving this wider involvement of the learner by means of technological advances, as opposed to other types of learner involvement (Atwell, 2007; Villagra, 2010; Boruta *et al*, 2011; Tay *et al*, 2011; Tu *et al*, 2012; Wang and Vásquez, 2012; Spina and Bassetti, 2012). Therefore, we believe it is necessary to provide and account of a justification for Web 2.0 in the current review as a virtual learning tool.

The term 'Web 2.0' was coined in 2004 at the first 'O'Reilly Media Conference,' held in San Francisco, and it was intended to reflect a turning point from the dot com bubble burst in 2001 (O'Reilly, 2005). There has been much debate on the issue of what Web 2.0 really means (e.g. Berners-Lee, 2006; Warschauer and Grimes, 2007:2; Bloch, 2008:3, Weiter, 2008:271; Wang and Vásquez, 2012) and whether it is a good idea at all (Keen, 2007). However, there is already enough research to assert that Web 2.0 represents an identifiable reality and that it is, indeed, useful for educational purposes (Drexler, Baralt, and Dawson, 2008; Martín-Blas and Serrano-Fernández, 2009; Olaniran, 2009; Zorko, 2009; Hourigan and Murray, 2010; Judd, Kennedy, and Cropper, 2010; Miyazoe and Anderson, 2010; Hafner and Miller, 2011), although not exclusively. It represents the move from a one-way provision of information, from provider to consumer, and to a complex, co-creation of knowledge and learning potential (Atwell, 2007:4; Wang and Vásquez 2012:412; Judd, Kennedy and Cropper, 2010:341). For Wang and Vásquez

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[21] See Section II.4.3, on the digital natives versus immigrants debate for our perspective on what skills to expect from the Net Generation

(2012:412), there has been a shift towards a more cooperative use of the Web from Web 1.0 to a Web 2.0. Users not only read and collect information, but they also create and share. For Judd Kennedy and Cropper (2010:341), Web 2.0 comprises a number of social tools and technologies that allow users to "create, publish and share" content in social networks. According to Tu *et al* (2012:13), it provides more interactive, collaborative, user-generated internet tools. To give it a more educational feel, Vallance, Vallance and Matsui (cited in Mishan, 2010:7) go beyond O'Reilly's definition and state that it is a "knowledge-oriented environment where users cooperatively create malleable content with shared presence that is synchronously and asynchronously distributed in wired and wireless networks to fixed and portable technologies." For Tu *et al* (2012:17), Web 2.0 empowers the learner to create, share and organize their Personal Learning Environment. In line with our current research concerns, there are some technical characteristics that may not shed any light on the goals Web 2.0 may be useful for in our own context. But there are some features regarding use, authoring, and dissemination, which do deserve mentioning. We will also try to mention some of the facilities it offers without trying to be exhaustive, due to the limited scope of the current research reported here.

Two of the key issues reported are interaction and collaboration (Tay *et al*, 2011:350; Tu *et al*, 2012:14), as web users are no longer mere spectators of what is happening, but they become the "what is happening."[22] Zhang (2005:150) emphasizes the importance of interaction in the learning process: in research using content, learners can access information freely, without a pre-established sequence, and it is claimed that learning is ostensibly higher than in more traditional lectures. According to O'Reilly (2005:2), one of the main features that makes a successful Web 2.0 facility is the use of collective intelligence: you need to make the user want to collaborate in whatever you are doing. That is, for instance, the drive behind *Delicious* (www.delicious.com), a social tagging tool[23] that has its strength in the labelling of different pages by users, which leads to an overwhelming stock of user-assessed webpages that reduces the results of internet searches to levels which are easier to handle and which reflect user popularity, although naturally the most popular example could be *Wikipedia,* where users have

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[22] The *Time* cover story from Monday25th December, 2006 was dedicated to internet users: "It's about the many wresting power from the few and helping one another for nothing and how that will not only change the world, but also change the way the world changes."
[23] This has come to be called folksonomy as opposed to taxonomy (O'Reilly, 2005) as a means to place emphasis on the users' perspective

contributed to what has arguably become a reference which is nearly as reliable as the *Encyclopaedia Britannica* (Giles, 2005). *Flickr* (www.flickr.com), a photo sharing website, is also based on the same principle of user-provided value: the page is a place for users to collaborate in, generating an enormous picture bank together. O'Reilly (2005:3) emphasizes the importance of dynamism in Web 2.0. Whereas he acknowledges that dynamism on web pages was already a feature prior to Web 2.0, he asserts that we are now facing a different kind. He mentions RSS (the possibility for readers to retrieve information from pages without actually visiting them) and trackbacks, both characteristics of blogs. Tay *et al* (2011:351) suggest that blogs and wikis are "increasingly being used to support teaching and learning." They argue that both allow for a more social constructivist approach to learning due to their online social nature.

Regarding research conducted using Web 2.0, Tu *et al* (2012:13) assert that teachers using Learning Management Systems but with a focus on "social, open and network" aspects have combined them with Web 2.0 technologies in order to work with them simultaneously, since they believe it is "the best strategy for learning," along with the assets of "autonomy, diversity, openness, and connectedness" (*ibid:*13-14). Boruta *et al* (2011:82), in a study on foreign language learning and the use of IT, advocate for a switch to more personalized ways of teaching which might be in greater contact with what the individual needs. ICT is a valuable tool for this, even more so in the case of Web 2.0, which has provided a more dynamic context, as well as fostering interaction and bringing social networking and community building into the educational arena. Boruta *et al* suggest that Web 2.0 could help avoid the drawbacks of previous e-learning facilities, for instance in the ways they "decrease motivation and negatively affect drop-out rates. Furthermore, inadequate technological skills, combined with technical difficulties, can result in learner frustration, confusion, and disorganization and may interrupt the communication and interaction process" (*ibid*). They suggest that the assets Web 2.0 would bring are the user-friendly quality of the technology used, its built-in community building capabilities, along with the fact that it is set up for the Web as a platform, and, is therefore, multi-device: it can be accessed from any device that has access to the internet (*ibid*).

Wang and Vásquez (2012:413) assert that the potential for language learning is enormous, and that many authors believe the use of Web 2.0 represents the ultimate evolution of Computer

Assisted Language Learning (CALL).[24] In reference to the empirical research available, they believe that there is great potential, especially for collaboration-oriented and community-based learning environments. However, from the articles reviewed, it appears that most of the research has been carried out on the use of blogs and wikis, so they suggest that further studies need to be done on the use of social networks and other tools such as social bookmarking, mind maps and so on (*ibid:*424). In the current research reported here, our goal is to use some Web 2.0 features to foster integration to certain extent, as an initial step within a planned long term evolution.

Regarding the field of language learning, Web 2.0 has widened the range of research topics: from skills centeredness in the period from 1990 to 2000 to a much more varied landscape since the emergence of Web 2.0 (Wang and Vásquez, 2012:417). These topics fall into three categories: (i) language, (ii) learners and (iii) technology. The area of language could include other issues apart from language learning skills like communication skills, knowledge construction, or discourse analysis. In the area of the learner, they also found the variables of learner attitudes and perceptions, motivation[25], autonomy, and learner identities. Regarding technology, several studies have researched the impact of different technological resources on L2 learning. Nevertheless, it is notable that language learner strategies are not mentioned, which is of particular interest for the current study as it explicitly addresses this research concern.

The use of Web 2.0 has brought some empirically proved benefits in different areas according to Wang and Vásquez (2012). The main one has been in the realm of writing skills, which is related to the fact that blogs and wikis have been the main target. Other advantages have been identified, however. For instance, there is a clear positive impact on the creation of learning environments, which have been identified as comfortable, relaxed, collaboration-oriented, and community-based. The fostering of learners' collaboration and interaction is also an obvious benefit, as well as encouraging favourable attitudes towards learning, increasing interest and raising motivation (*ibid:*423).

Wihin the research undertaken at primary and secondary levels, Tay *et al* (2011) provide an account of a project partially involving Web 2.0 in relation to three primary school teachers

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[24] See Section II.1.1 for a more in-depth account of CALL.

[25] This is a complex concept which will be dealt with in in more detail in Section II.4.1

with their nine-year-old students.[26] This research is the basis for a pilot project that seeks to integrate IT into elementary school teaching in Singapore. The software used to implement it is Open Source Learning Management Systems along with blogs and wikis (Web 2.0) because they are considered flexible and robust. Tay *et al* establish a dichotomy between 'learning *with*' technology, where the learner has a more active role (by 'writing' and 'updating'); and 'learning *from*' technology to talk about more passive, ore receptive, ways of learning (by 'reading' and 'listening'). They argue that learning *'from*' would comply with a behaviourist approach to learning, whereas learning '*with*' would be nearer to a social-constructivist approach. Although Tay *et al* admit that the LMS already includes features of online social software (*ibid:*352), they assert that they included extra facilities in response to the call coming from the scientific community to combine the use of LMS with online social applications. This recommendation has to do with the belief that learners are already familiar with them,[27] and that they are "well used by students to create, share and interact with others," as well as the fact that LMS seem to 'disempower' the learner and most of the features included in the LMS are poorly used in most institutions (*ibid:*352).

From all the applications that were available on the LMS, the one that was most used by teachers was the online questionnaire. Teachers suggested that they were time saving, since they are self-corrected and students have immediate feedback that encourages them to move on (*ibid:*353-354.). They also have the chance to keep on trying when the answer is not correct. However, nothing was said about the number of students who participated in these activities or whether they were compulsory or not (*ibid:*354-355). Blog entries were also used to post online "resources, games and manipulatives" on a weekly basis. These had a direct relationship with what was taught in class (*ibid:*356). Although it is not overtly stated, we presume that they used the LMS to upload some of students' work to be marked. This also gave teachers and students the opportunity to comment on their progress

With respect to the feature of collaboration, both the LMS (through discussion forums) and a blog were used. The authors state that they used "free online storage space" (*ibid:*357-8) to

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[26] Due to the lack of empirical research involving primary and secondary school students in this area, we provide an account of this research as we consider the results enlightening for the current study. For instance, the ICT formulation in this studyis very similar to the one we are planning to implement, and our expectations about the use our students will make of the platform also matches their results.

[27] As we will see in Section II.4.3, this is not necessarily so.

upload written work to be posted in the blog afterwards so that, we presume, students could comment on each other's writing. The forums were used in the science class to talk about class-related topics as a means to "extend learning time beyond the classroom." (*ibid:*357) They also mention a project where students were encouraged to interact with Chinese students, both in English and in Chinese, using their ambitions or favourite places as subjects for discussion: their students would write posts, and those from China would comment. Nothing is mentioned about what platform was used.

Students' participation was mainly by means of school-based computers (*ibid:*358-359). Only 39% of them admitted to working from their home computer. According to Tay *et al* (2011:359), the reasons behind this could be the time they had to spend on other types of homework (obliged by their parents), parents being afraid of students using the computer for playing instead of studying, students who were not used to this type of learning, or the students not being naturally engaged with these platforms. However, a great majority of students reported that the use of IT both increases their "interest and motivation," and that they "enhanced and extended their learning" (*ibid*). It is also interesting to note that students were engaged with the activities that implied interaction with other students outside their own school context.

From the data arising from teachers' interviews, they conclude that teachers do perceive that the use of LMS, blogs and wikis raises students' motivation (*ibid:*360). They also consider that they open a new channel for teacher-student interaction, as well as give a chance for students to widen their IT skills, yet it is notable that the infrastructure of the school was considered to be crucial. They also found it difficult to control the data coming from the use of the blog and the wiki since they had no managing privileges. An external push was also considered to be important to get the students to participate outside the school. Finally, the young age of the learner was also a parameter to take into account, since it was felt that they might need more guidance in order to be able to move into a new paradigm of learning.

Judd, Kennedy and Cropper (2010:344) give an account of research undertaken with a group of psychology undergraduates in Australia using wikis for collaborative writing. The learners were grouped and given the task of writing a wiki page collaboratively on the subject of motion detection, a key notion in their cognitive psychology curriculum. The different groups were instructed to include "descriptions, reflections, quotes, images, web links and diagrams"

(*ibid*). Students were expected to meaningfully contribute to the wiki at least twice during the project, with this having a relevant influence on the their final mark. The goal of this research project was to assess collaboration among learners through the use of wikis.

The data analyzed was based on the different versions the wiki stores, so that the contribution of every individual could be tracked, as well as the interaction among the different members of the group within the wiki when using the commenting facilities. Since they were aware that the collaborative nature of the tool is not enough to produce collaboration, but that it also depends "on the way in which individual activities are designed and implemented" (*ibid*:350), the teachers devoted themselves to generating the right conditions.[28] At the beginning, the learners seemed to display a high level of participation, especially during the initial activities set up for them to become familiar with the wiki context. Nevertheless, when analysing the data at the end of the activity, they faced a completely different reality as a very low percentage of learners actually demonstrated collaboration: "the least productive 50% of students provided less than 15% of the total wiki content, which sits in stark contrast with the most productive 10% who contributed just over 40%" (*ibid*). In fact, although most of the students submitted the two meaningful contributions required to guarantee a positive mark,[29] this was done late during the course and on a single day, which leaves very little scope for collaboration. This seems to confirm Grant's findings (2009:115): learners behave in the context of a collaborative wiki much in the same way as within a more individual writing task. Judd, Kennedy and Cropper (2010:352) consider that collaboration would have been higher if the task "was allocated more class time for organisation and face to face group work, and the assessment of the task was weighted to reflect the value of group work, [as] more meaningful collaboration within the wiki space may have been evident."

Yuen and Yang (2010) undertook further research to establish the influence of the use of blogfolios on learners' perceptions[30] of interaction and learning among university students claiming that the results are encouraging. They decided to use a blog, mainly because of the

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[28] There is no clear specification to what parameters were used here.

[29] Oxbrow and Rodríguez-Juárez (2010:155-156) also perceived a connection between student participation and formal evaluation in research involving the use of forums in university students, since their learners seem not to participate as much when "required to submit written work in class for formal evaluation" since participating in the forums carried no "official evaluation or grading."

[30] We will further highlight the importance of learners' perceptions in Section II.4.

dynamic, cooperative nature of blogs as opposed to web-based portfolios. Blogs, they claim, can provide information on the whole process of learning instead of only on the result, which was the case in web-based portfolios: learners can interact in conversations, and they update on a regular basis (*ibid*:461). Some of the characteristics of blogs that seem to have drawn Yuen and Yang's attention towards them are their "huge potentials for interaction, reflection, self-assessment, and communication" (*ibid*). They selected a number of university students from two blended courses, and a fully online course in the United States. The three courses had similar content: the use of ICT in education. Learners were invited to complete two surveys both at the very beginning of the implementation of the application and immediately after. One of the surveys was 'The Interaction Survey' (Sherry, Fulford, and Zhang, 1998) to measure different types of interactions (learner-to-instructor, learner-to-learner, and learner-to-content in distance education) and the second, created by the researchers, was intended to quantify the impact of the use of blogfolios on students' perceived learning. Their application included an introduction to the concept of portfolios and their importance in learning as well as the mechanics of using or setting up educational blogs. Then, the students had to develop a blogfolio to show their progress in the course, and, in the last stage, learners could access each others' blogfolios. The results show important improvements in learners' perceived interaction among participants (including instructors) and among students. Regarding perceived learning, the final survey draws encouraging results on "logistic aspects, participation and satisfaction, social interaction and communication, self-reflection, learning atmosphere, learning process, and learning outcome"(*ibid*:465-466).

Malhiwsky (2010) gives an account of his implementation of Web 2.0 technology using the tools of "iPod, MP3 player, podcast, Wiki, Blog, YouTube, MySpace, Facebook, Google Earth, Wimba, Activeworlds and Second Life" (*ibid:*63) with a number of learners of Spanish as a foreign language at college level, and in conjunction with another group following the same course but with no Web 2.0 facilities. He claims to have confirmed that the use of Web 2.0 does result in an improvement in the students' "knowledge, understanding, and communicative abilities in the language" (*ibid*:83). The results of students in pre and post-tests were significantly higher for the experimental group, although their perceived learning seems to have remained the same as the control group. This mismatch is explained as the result of learners' difficulties in self-evaluating and self-reporting, and by the fact the learners perceived these Web 2.0 tools as

more pertaining to the domain of leisure than learning itself (*ibid:*83). The limitations of the study are acknowledged, coming especially from the nature of the "purposive sample" used for the implementation since the students that took part in the experiment were specially selected.

II.1.2.4 Personal Learning Environments (PLEs) and Corporate Learning Environments (CLEs)

Potentially combining features present in Web 2.0, and in order to cater for the requirements of knowledge creation and learning within more open approaches to teaching and learning, concepts such as Personal Learning Environments (PLEs) and Corporate Learning Environments (CLEs) are emerging. There is not one universally agreed definition of what a PLE is, however (Salinas, Marín and Escandell, 2011:3). Contrasting with Downes's definition above, for some authors a PLE is a single digital artefact that incorporates a collection of tools that would provide control over learning for the learner (Santamaría, 2010:382). An instance of this would be PLEX, a "Personal Learning Toolkit" that would help the learner aggregate content coming from various sources, publish their own content, and share (Panagiotidis, 2012:424). We can gather from Harmelem's definition (2006:sec.1), on the contrary, that PLEs would not necessarily be single pre-packaged software, but rather an "e-learning system that provides access to a variety of learning resources, and that may provide access to learners and teachers who use other PLEs and/or VLEs." Chatti *et al* (2011:23) go a step further and define PLEs as personalized 'mashups' or combinations of data or functionalities from two or more external sources that, once combined, produce a new service (*Wikipedia* as cited in Chetti *et al*, 2011:24), that would supply components and content from various "learning service providers" (*ibid*).

According to Williams, Karousou and Mackness (2011:47), PLEs and CLEs could represent an open option for learning by regarding the capacity of the learner to define their own path for learning. For Downes (2010:29; also in Siemens, 2007), PLEs represent a "concept rather than an application," and he believes that they could be defined as the "intersection of the multiple home pages employed by any given individual" (*ibid:*29). In the case of Personal Learning Environments, the learner has complete control over the tools they are going to use to further the learning process, whereas in a Corporate Learning Environment it would be an educational institution, a business, or any other identifiable corporation that would define, to

different degrees, what the environment for learning should look like. In both cases, the learner would have to be able to produce a certain degree of self-regulation for some success to be expected (Zhang, 2005:159-160; Sclater, 2008:5; Yamada, 2009:821-822; Spina and Bassetti, 2012:218; Tu *et al*, 2012:14).

The need for PLEs comes from the fact that learning does not necessarily happen in the educational institution anymore: relevant learning contents may come from any source; the need for learning is no longer standardized (if it has ever been); the time for learning can be at any time; and learning is closely linked to an activity the learner considers relevant. There needs to be a shift, then, towards providing the learner with more control over their own learning process. As we have seen in Section II.1.2.1, learning in the Knowledge Society is coupled with the evolution of technology: technology is not an end in itself, but it provides the facilities that might make the learner free to adapt their learning to their particular needs.

The relevance of PLEs comes precisely from the fact that they give the learner the possibility of managing and having control over their own learning processes (Santamaría, 2010:386). The seminal course on connectivism that Siemens and Downes held under the auspices of the University of Manitoba in 2008 is an example of PLEs put into practice. The main objective of the course was not to feed learners a certain amount of content, but rather "students were told that their role was to select and sample course content, pursuing areas of interest, reading related material from both within and outside the course, and then to contribute their unique perspective based on this reading" (Downes, 2010:30). The course had a central *Moodle* platform as a communication facility and content provider, and a wiki that contained the outline to the course and links to resources. But, according to Downes, one of the key features of their course on connectivism (CCK08) was the use of gRSShopper, a content aggregator that would harvest the content created by the different sources provided by teachers, but also the content created by the learners, using tags to filter it. They were, thus, able to include content coming from different sources within the newsletters and mails sent to learners, but learners would also be able to decide which direction to follow.

Mitra and Dangwal (2010) have described the positive results obtained in the context of a research project involving children living in slums in India. Using kiosks set up under the Hole-

In-The-Wall project,[31] they study the emergent relative learning of basic molecular biology that takes place in Kalikuppam, measured through the use of multiple-choice tests.[32] Students were given a test at the beginning, in the middle, and at the end of the experiment. Sample students, with ages ranging from ten to fourteen, were invited to approach the facility and have a look. "Will you take a look at it?" were the actual words used with the learners to avoid formulations like "We want you to study the material" which could produce a more directed behaviour or kill self-motivation altogether (Mitra and Dangwal, 2010:678). The authors chose basic molecular biology because it is part of the official curriculum, and, thus, present in the instruction provided at every school in India. After collecting the results from the three tests, these were compared with the results obtained from a group of students of the same age range and above, attending both an urban school, with low to middle social class students, and a private elite school in New Delhi that traditionally enjoys excellent results in secondary education examinations.

A set of web pages that were the source used by the experts who designed the tests were made available to the learners in the experimental group. During a period of seventy-five days, learners would approach the computer at will and without the help of any expert or any other adult who would intervene in the process. There seems to have been peer support since, spontaneously, a 13-year-old girl reportedly played the role of 'teacher' for the other learners. After this period, an adult, who did not have any significant knowledge of basic molecular biology, would mediate in their learning, "making positive encouraging remarks" (Mitra and Dangwal, 2010:678). The role of this adult is defined as "[...] encouraging, friendly but not knowledgeable mediation" (*ibid*:681).

The results drawn from the application of the different tests can be considered as promising. The experimental group surpassed the results the state school students had by the end

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[31] The Hole-In-The-Wall (HITW) project basically consists of setting up a PC embedded in a wall, with a connection to the internet and with the necessary software to navigate or send and receive mail in socially-depressed areas, where the provision of good teachers is difficult or impossible to provide (Mitra and Rana, 2001:224-231) It is claimed that children managed to attain computer literacy with minimum intervention (Dangwal and Gutpa, 2012:E118).

[32] Mitra and Dangwal, 2010 (679-680) asserted that learning measured through tests cannot be considered as having been developed in depth. However, the authors acknowledge that the goal of their research is to provide a tool to be implemented in distant areas where children do not have access to quality schooling. So they consider that the learning children produce, and the level at which they do it, which comes from sheer self-motivation, is something to "celebrate."

of the first, unsupervised, period. Regarding the elite school, the experimental group came close to their results on their own, and matched their results in the supervised period (Mitra and Dangwal, 2010:681). Although there have been some concerns regarding the depth of the learning of the experimental group, the authors emphasise the aim of their research project which was to test the sustainability of a learning methodology suitable for a distant, extremely poor area, devoid of any resources and where good teachers would not want to teach, and as a way to certify "the power of self-motivation."

Shieh (2012) describes a research study implemented at a high school in Taiwan using Technology-Enabled Active Learning (TEAL)[33] to teach science and mathematics. Learners were encouraged to actively participate in their own processes of learning, as opposed to being mere receivers of the knowledge transmitted by the teacher (*ibid:*207). The experimental group was exposed to "active learning and small-group discussion during the instructional process" (*ibid*:206). The instructor monitored discussions through an Interactive Response System (IRS), a gadget meant to immediately measure and assess the answers given by the students to questions posed by the teacher during the sessions. TEAL also involves a combination of lectures, problem solving and hands-on experimentation in laboratories on the part of the learners as well as simulations. There were also two control groups that were exposed to the "traditional lecture method" (*ibid:*208). The success of the implementation was measured through the use of pre-tests and post-tests, as well as by interviews with both teachers and learners. The conclusions drawn from the experiment include a certain higher objective attainment by the TEAL group (*ibid*:212), but there seems to be clearer improvement in learners' perception of the subject matter (*ibid:*210, 212) since it is claimed that they were more interested in attending physics classes and were more active participating in science activities outside the class, in combination with the use of technology for learning (*ibid*:210).

Despite the fact that most of the articles and books consulted in the current research project view traditional teaching methods as something teachers need to evolve from, and their main effort has been to prove how and why their methodological choice is more effective, none of them has defined what traditional methodology might consist of beyond being teacher-centred and based on lectures, and of a sequential nature regarding content (Zhang, 2005:159). However,

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[33] The MIT defines TEAL as "a teaching format that merges lectures, simulations, and hands-on desktop experiments to create a rich collaborative learning experience" (MIT, n.d.).

most of the literature accessed for the current study (including all the articles referenced here) seems to coincide in claiming that student-centred methodologies draw more effective learning outcomes.

At university level, Hafner and Miller (2011) present their research involving students from an 'English for Specific Purposes' (science) course. Learners were asked to plan a scientific digital-video documentary in groups, to actually film and edit the video, and to share and peer review the different products. The ICT tools used were a LMS "for course administration" (*ibid:*73), a blog for discussions on issues arising from the course, DV video cameras, video editing software, and online tutorials to get support for the editing software, along with *YouTube* to share the resulting videos. Following a rubric provided by the teacher, learners had to self-regulate the whole assignment. The face-to-face sessions were dedicated to providing training on some of the ICT tools needed, like video editing software, the use of a digital video camera, and live commenting on the production of peers (*ibid*:73).

Data was collected through anonymous questionnaires, group interviews and comments in the course weblog where all the videos were embedded. From the data collected, the authors claim to have found that the learners' motivations for learning were boosted, due mainly to fun, challenging tasks and the inherent novelty of the approach (*ibid:*75). The experiment also raised learners' perceptions of authenticity and meaningfulness related to the fact that the product was not only assessed by the teacher, but also by peers and a hypothetical audience on the internet, since the videos were broadcast through *YouTube* (*ibid*:77). Another feature highly valued by the learners was the fact that they learnt independently, both concerning the language used for authentic communication, but also the actual process used to produce the videos (*ibid*:78). Teamwork was also perceived as enriching by the learners (*ibid*:78-79), especially those features of teamwork related to self-regulation such as communication among group members for effective team functioning and autonomously managing their different roles within the group. Peer teaching (*ibid*:79), also closely related to teamwork, was overtly mentioned by learners, both in relation to the language feedback and repair involved in the conversations, but also regarding the ICT content they shared. There were also emergent reflections on learning in the comments students made in the weblog regarding the language used in the videos (*ibid:*80). The level of autonomy deployed by the students can be linked to both the methodology used and the "affordances of the technology" (*ibid:*81). Part of the success of this implementation is based,

they claim, on the similarities their design had with informal learning through the use of both the tools and media that learners use in their "unstructured, out-of-class learning" (*ibid:*81-82).

Virtual worlds can be also considered to be open learning environments. Lezcano (2010) emphasizes the fact that 'Second Life'[34] is free from any pre-established objectives, and users are only provided with a set of tools to use in order to collaborate by building a diverse and immersive 3D world with communication, collaboration, and creation as the intended outcomes. The opportunities for learning that may arise from these interactions are enormous. He also acknowledges that many educational institutions have already opened headquarters in 'Second Life' (for example the University of Texas, Open University, and Stanford University).

II.1.2.5 Learning Management Systems in Blended Designs

The traditional concept of the classroom, perceived as the geographically-bound brick-and-mortar location where learning happens, is constantly being challenged (Siemens, 2004; Downes, 2010:28; Johnson *et al*, 2010:5; Cox, 2012:9; Johnson *et al*, 2012:7; Tiernan, 2013:2). We are currently living in a completely different society from the one that the current mainstream educational system was devised for.[35] We cannot expect learners to feel stimulated merely by virtue of the socially-accepted belief that going to school is beneficial for their future. For learning to take place, we need to cater within the formal learning context for concepts such as motivation, relevance, and authenticity, which we have amply developed in Section II.1.4.1. However, this does not mean the classroom cannot play any role at all within the construct of learning in the Knowledge Society. The classroom as we know it today does make sense, but needs to be revamped.

We suggest that this reformulation could include Blended Learning (BL). There is evidence that blended courses are successful because, among other reasons, there is an offline, physical connection within the context of the classroom that plays a vital role (Means *et al*, 2010:ix). Blended Learning is, broadly speaking, a combination of "various pedagogical

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[34] 'Second Life' is a three dimensional virtual environment where users interact with one another through the use of avatars, or images chosen by the users to represent themselves, thus *de facto* creating a social network. Users are invited to explore, participate in activities, or exchange digital objects .

[35] See Sugata Mitra's talk in Ted Talks for further discussion (Mitra, 2013).

approaches" in the context of formal education (Driscoll, 2002:np). This could involve the use of technology or not. However, the construct of BL is normally used to refer to the combination of Face-to-Face (F2F) learning and the use of computer technology in general (Stracke, 2009:1; Stracke, 2007:57), online resources (Graham, 2006:3; Liang and Bonk, 2009:1; Parslow, 2012),or ICT (De Fátima Wardenski *et al*, 2012). Driscoll (2002:np) argues that it is a good way to gradually lead a learning institution into e-learning, since it allows the fine-tuning of the different elements involved to cater for the different needs the educational stakeholders may have. According to De Fátima Wardenski *et al* (2012:223), BL incorporates the best of the two worlds: the flexibility, the myriad of resources, and the fostering of self-regulation of ICT, and the access to teachers and the socio-cultural context of the institution. De Fátima Wardenski *et al* (2012) state that, although there are many instances of success in the use of BL, its implementation has to be brought about together with discussion and analysis of the context, taking into consideration its "nature, structure, and educational objectives, but also the profile and expectations of the students involved" (*ibid*:222). They go on to assert that one important issue in BL is the fact that institutions lack previous experiences with regard to this kind of learning method. It is sometime perceived as low quality education, used, mainly, to fill gaps in traditional education (*ibid*). Among the parameters that need to be planned, they list the hardware and the software that needs to be available and the abilities that learners need to possess for the institution to be able to implement this model with a certain guarantee. They argue that learner autonomy is a crucial ability (*ibid:*222). In our own research and learning context, blended learning is not an option, but the only possibility since both the experimental and the control group belong to the standard Spanish state school system, in which the physical presence of students is compulsory. Therefore, if we want to add an online element, it has to be in combination with F2F learning.

However, online learning, or the other half of the equation, bears the characteristics of *disruptive innovations* (Echevarría, 2012:171), with "the potential not just to improve the current model of education delivery, but to transform it" (Staker, 2011:1). There is a strong belief that e-learning will steadily grow (Staker, 2011:3), and although there is still work to be done to evaluate the effectiveness of e-learning solutions (Means *et al*, 2010:xiv), there is evidence that it is the right way to go (Johnson *et al*, 2011). But, what is the appropriate formula to apply in secondary education contexts? This is more of a methodological question than a technological

one (Al-Busaidi and Al-Shihi, 2010:2; Karamos and Gibbs, 2012:321). As Johnson *et al* (2011:5) point out, "Digital literacy is less about tools and more about thinking." This can also be inferred from the results reported by Área (2010) of the impact of ICT on learning in schools in the Canary Islands.[36] In order to take the correct decisions, there are some realities that we need to include in the equation. One of them is the fact that the technology systematically used so far at high school, such as digital whiteboards, calculators, overhead projectors, or electronic books, has not made any difference either in changing the structure of the system nor improving learning outcomes (Staker, 2011:3), but rather has helped to sustain traditional conventions. There is also a gap in the digital skills that learners at secondary school levels have and the ones that they need to have to be able to perform successfully within the e-learning paradigm that many researchers believe is relevant for the XXI Century learner (e.g. European Parliament, 2006:11,16; Attwell, 2007:3; Beetham, McGill and Littlejohn, 2009:3; Fenichel and Schweingruber, 2010:xi). As we will see in II.5.2, learners in secondary education have a limited repertoire of skills regarding the use of technology for academic purposes (Beetham, McGill and Littlejohn, 2009:4; Margaryan, Littlejohn and Vojt, 2011:439; White, 2011;). Therefore we need to produce a technological and methodological model that helps to usher learners into self-directed, digitally-intensive learning.

In this section, we will attempt to describe what we consider to be a sound scaffolding design to enable secondary education level students to adopt the competences required by the Knowledge Society. We will start by describing Learning Management Systems (LMS) as the core tool we will use in our research. We will also include the description of the additional tools we have decided to combine with the LMS, but leaving the in-depth delineation of both for Chapter III with the description of our research methodology. Following this, we will provide some relevant instances of how LMS are currently being used. Although we include our design in a mainstream formal educational context, where pure distance learning is not an option, we consider it relevant to include a description of the peculiarities of blended learning approaches.[37] We will also refer to some empirical studies implemented in secondary and primary education,

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[36] See Section II.4.4 for more detail.

[37] Blended designs are not exclusively for implementations using LMS, but we are positive that, for the purpose of clarity, describing them within the framework of our design will be more useful.

as well as higher education contexts, since, as we have stated, there is a lack of sound empirical studies at lower levels.

Learning Management Systems (LMS)[38] could be ideally described as a scalable software application, accessible via web browsers, which hosts learning initiatives and that facilitates communication, both synchronous and asynchronous, among its users. They could "handle[s] all aspects of the learning process" (Watson and Watson, 2007:28). From a technical perspective, they incorporate the centralized and automated administration of users, including assessment and tracking of usage, self-services and self-guided services, fast learning content assembly and delivery, portability and standards compliance, a certain level of customization, the possibility of reusing knowledge, and the ability to handle electronic files (Ellis, 2009:1; Aydin and Tirkes, 2010:2; Pynoo *et al*, 2011:570).

With reference to the usage aspect of analysis, Al-Busaidi and Al-Shihi (2010:2) describe Learning Management Systems (LMS) as *"online systems that allow users to share information and collaborate online."* They are used to support education and the learning process which is provided by the educational institution through the internet. One of the key features of an LMS is that they easily monitor learners' progress within the activities they provide (Zamorshchikova, Egorova and Popova, 2011:74). There are different uses an institution can make of a LMS, but it has been acknowledged (e.g. Al-Busaidi and Al-Shihi, 2010:2; Lorente-Guzman *et al*, 2009:142; Klobas and McGill, 2010:115) that the main focus of a LMS could be on the managing of the education process, and not on the mere delivery of courses. For Yasar and Adiguzela (2010:5682) a LMS "is an e-learning infrastructure with the functions of delivering the courses,

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[38] We will not include here the debate about the differences between Learning Management Systems, Virtual Learning Environments, Course Management Systems, Content Management Systems, Electronic Learning Environments, and Digital Learning Environments, although we are conscious that they could have very different connotations. Some authors think that these terms are close to synonyms or do not even make any reference to their similarities or differences (Sclater, 2008:4; Cavus and Momani, 2009:426; Yasar and Adiguzela, 2010; Pynoo *et al*, 2011:568; De Smet *et al*, 2012:688; among others), and others overtly describe the differences (Watson and Watson, 2007:1; Panagiotidis, 2012:420; Duncan, Miller and Jiang, S., 2012:954, among others). We can also highlight the fact that in many articles we can find contradictory descriptions, as is the case in Watson and Watson (2007:29) where *Blackboard* is overtly described as not being an LMS, and in Ellis and Calvo (2007:60), as well as in Spelke (2011:55-56), where it is overtly described as an online Learning Management System. This would be further complicated by the constant evolution of the concepts themselves. Therefore, we consider this terminological issue goes beyond the current aims of our research. We will provide an ample description of the tools we are using, and that should guarantee that the reader understands what our research objective is. We shall, however, strive to be consistent with the acronyms we use.

supporting collaboration, assessing the learner performance, recording learner data, and generating reports to maximize the effectiveness of the entire learning organization."

A LMS typically includes customizable tools,[39] manipulated by the teacher in most traditional approaches in order for the learner to perform tasks. These would include file submission facilities, a variety of test types, and online content repositories of different kinds from simple file reference to the interactive navigation of lessons, or glossaries. There are also communication tools that allow the learner to contact the teacher, the teacher to contact the learner, or the learner to contact other learners. Since there is always some level of customization, other possible connections can be established. For instance, parents could become users of the platform, or guests can be allowed in. Communication can be carried out through different types of discussion forums, chat rooms, or direct messaging facilities of different kinds. Grading is also a critical feature of LMS. They should include, at least, the possibility of teachers grading the different activities the learner is involved in, and the learner being able to access those grades. The teacher has a certain degree of control of what to grade and the weighting it should have within the total mark. Although not strictly a part of the grading mechanisms, the data tracking capabilities of a LMS, that is the possibility of tracing the different learners' manoeuvres throughout the whole platform, can also be considered as a key feature for assessment (Al-Busaidi and Al-Shihi, 2010:3; Cavus, 2011:20; Tay *et al*, 2011:360).

There are several reasons why we could use a LMS as a means of e-learning in formal educational institutions. For instance, it can enhance the motivation of both teachers and learners, bringing about an increase in student participation and interaction in class as well as outside it (Al-Busaidi and Al-Shihi, 2010:3). LMS are also efficient and cost saving. They foster communication among users and increase the pace of the learning process. A LMS makes it

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[39] Since our objective here is to depict the characteristics that a variety of LMS, like *Blackboard*, *Smartschool.be*, *Moodle*, *Dokeos*, *Atutor*, or *Desire2Learn* have in common, we will describe a certain number of features that we consider provide a clearer working picture of LMS from the literature we have reviewed (for example Johnson *et al*, 2010; Yasar and Adiguzela, 2010; Carrión and Zabala, 2011; Cavus, 2011; Pynoo *et al*, 2011; Staker, 2011; Smet *et al*, 2012; Despotović-Zrakić *et al*, 2012, among others included in the Bibliography). We will not make systematic reference to all the articles mentioning every one of the common elements we describe since it would create a cobweb of cross references that would add confusion and would not make our description sounder. Our objective, in any case, is not to be exhaustive, and probably cannot be. For a wider, more exhaustive comparison of a variety of LMS, a recommended source is http://www.edutools.info

easier for teachers and institutions to manage users and courses, and they include testing capabilities as well as the ability to generate reports, transcripts and notifications to students.

The learning platform *Moodle* has been identified as one of the most widespread open source LMS (Lorente-Guzmán *et al*, 2009:145; Al-Busaidi and Al-Shihi, 2010:3; Johnson *et al*, 2010:13; Ruth, 2010:79; Carrión and Zabala, 2011:188). It is considered versatile and flexible (Gómez *et al*, 2009:174), and it is supported by a committed, ever-growing community of users (Adell and Castañeda, 2010:13-14). In comparative research, involving an extensive number of LMS, Carrión and Zabala (2011:193) identified *Moodle*, together with *Atutor* and *Ilias*, as the best-ranked LMS, after analysing a significant number of studies involving LMS around the globe. Aydin and Tirkes (2010:599) also identified *Moodle* as an advantageous LMS in a research project also involving *Dokeos*, *Atutor*, *Olat*, and other open source e-learning platforms.

Staker (2011:11-157) provides an overview of a number of schools in different districts of the USA using blended programs with LMS. They acknowledge that their objectives are not to provide a full account, nor to depict the best examples, but simply to provide a "clearer picture of the emergent field" (*ibid:*10). The blended models implemented at the schools described range from almost nothing online to almost everything. For instance, we have High Tech High School in San Diego, where asynchronous learning is perceived as being too similar to using textbooks. At this high school, online instruction is used basically to drill mathematical problems, with 'Aleks,' "an artificially intelligent assessment and learning system" (*ibid:*92), and for foreign language instruction with 'Rosetta Stone,' a "content program" (*ibid:*132). At the other end of the continuum, we can find Michigan Virtual School, which serves the virtual part of the blended model to different schools on request. The role of teachers goes from that of the tutor, guiding, testing, giving deadlines or correcting, to "coach-like" assistance in their most virtual model (*ibid:*121-122). Many of the cases described would be very difficult to set up in the Spanish state school system, but the high levels of success reported give us a lot of pointers for partial innovations. However, the use of the LMS is not described in detail. Simple references are made to which LMS is being implemented, which we consider emphasizes the importance of methodology over technology.

One example using *Moodle* and content software is Grand Rapids Public Schools. They provide learners with online instruction for what they call core subjects. For a period of 55 to 70

minutes, students are in a computer laboratory working with online resources, and with the assistance of "a lead instructor, special education instructor, paraprofessional, and tutor" (*ibid:*85), that is to say, a ratio of one adult specialist for every eight students. These lessons account for four out of six periods per day. The other two periods would be with a teacher in front of a class of 30 to 34 students. The results are promising, since "participating 9th graders on average outperformed all other students in traditional high schools in the district" (*ibid:*86).

The use of *Blackboard*, a proprietary LMS, is also described in Staker (2011). An illustrative example is *eCADEMY* (*ibid:*60). At the start of every semester, students have to meet facetoface with teachers. If they have a passing grade, they will not be asked to attend classes, although they can if they need to since teachers are available during office hours, and they can also use the campus computer laboratory. They still have to log into the platform on a daily basis, from Monday to Friday, to comply with the state regulations. The students' designated mentors, who could be parents, receive alerts if students do not log in.

Zarkoskie (2010), in the context of a research project leading to completion of a master's degree, analyzed middle school students' use of discussion forums. The hypothesis was that the implementation of *Moodle* forums would increase students' participation in a multimedia content class. The hypothesis was confirmed using mean data, whereas, on narrowing down to individual cases, some students highly increased their participation while others decreased their participation significantly (Zarkoskie, 2010:26-27). The number of participating subjects was small, however, which limits the generalizable conclusions of this research study, although it confirms conclusions drawn from other similar studies (Zeng and Takatsuka, 2009:443; Oxbrow and Rodríguez-Juárez, 2010:153-154).

Podpera (2011) devised a set of English lessons for university students on a *Moodle* platform. The subject itself was a skills development module aimed at students across the institution, with an emphasis on the competence level of students. The rationale of the course, he claims, is to provide extension material for class work, mostly related to grammar and linked to the coursebook, which would also help learners who did not attend the lessons (Podpera, 2011:118). The resources include explanations (some of them in L1) and follow-up tasks using *Moodle* quizzes. Immediately after the course started, students were invited to share their opinions on the use of the platform within a forum. They were explicitly asked three questions:

(i) "Has *Moodle* helped you revise and learn grammar?"; (ii) "What have you been satisfied with so far?"; and (iii) "What could be improved?" Most of the answers confirmed that the platform was perceived as positive by the learners. Podpera also claims to have confirmed that learners' communicative production is higher in the context of asynchronous communication than face-to-face in class.

Of particular reference for the current study, Tsai and Talley (2013) from the I-Shou University in Taiwan[40] report research on reading strategy instruction using *Moodle* with English as Foreign Language (EFL) students. The participating subjects belonged to either an experimental or a control group, both having very similar characteristics. Learners took pre- and post- tests to measure their previous reading competence and their resulting reading skill after the application of the experiment. However, only the experimental group received overt instruction, through the *Moodle* platform, on reading strategy use. Learners from the experimental group also had access to an electronic users' guide to *Moodle*, forums, an assignment and resource section, an assessment section, and chat rooms and messaging, together with questionnaires and quizzes. They claim to have proved that this overt strategy training through *Moodle* brings about an improvement in the students' reading skills and strategy use, measured through standardized tests (*ibid:*15). The research reported here will hopefully replicate this to some extent.

Rehatschek *et al* (2011) implemented a *Moodle* platform to host the compulsory virtual module (9%) of the medicine degree at the Medical University of Graz. The contents were not an extension, but a separate part which was not able to be accounted for face-to-face. The rationale was simply to implement some "virtual lessons" with associated tests. They conclude, among other things, that the system saves time for teacher physicians and this leaves them more time for "intensive bedside teaching" (Rehatschek, 2011:9), which is believed as being more valuable in this particular degree. Similarly, Bussières, Métras and Leclerc (2012) implemented *Moodle*, together with *Examsoft* and *Twitter*, in a first-year Pharmacy course. The subject implemented had to do with law related to pharmacy. *Moodle* was basically used to store different kinds of legal documents that would serve as reference for the students, with some educational questions and summary questions. They emphasize the fact that students can use the platform as a reference throughout their degree, and also that different students from other different degrees

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[40] This research is remarkably relevant to our own and we will provide a comparison in the Chapter on Methodology (III.3.2.3)

can access the same material, enhancing the efficiency of the work implemented (*ibid:*1). They see *Moodle* as a success initiative that they plan to continue using, together with *Examsoft* (*ibid:*2).

II.1.2.6 Ubiquitous Learning

With the swift advance of mobile technology, debates about issues such as where and when we can learn are more pressing than ever. This has given rise to the research subfields of mobile learning (m-learning) and ubiquitous learning (u-learning) within the more general field of Technology Enhanced Learning (Taraghi, 2012:7). M-learning is defined as the "learning that occurs in or outside of a classroom or formal education setting, is not fixed to a particular time or place, and is supported by the use of a mobile device" (Hylén, 2012:10) U-learning, in turn, is defined as the "intersection of e-learning and mobile learning which is enabled by advances in it, particularly in mobile devices" (Martin, 2012:67), having its aim "to alert educators to the possibilities and potential of engaging in this new environment of learning any time and any place, including learning on-the-go." (*ibid*). This does not necessarily mean a different use of the resources that have already been made available with the advent of web 2.0,[41] but rather a more versatile management of time and place (Taraghi, 2012:7). By way of example, using a social bookmarking venue such as *Delicious* on a tablet would only add the ubiquitous factor to its already useful characteristics. However, the integration of multiple tools within mobile devices, like GPS, a multiplicity of sensors, or powerful cameras have inspired the development of a myriad of applications that are flooding into education, affecting the way we see learning and education (Kidd and Chen, 2011:xii; Johnson, Adams, and Cummins, 2012:4). Both learners and international institutions are demanding a process of remodelling of formal education to adapt to these new needs and new ways. Nevertheless, this process is proving to be a hard one.

The physical boundaries of schools are being challenged by the possibilities mobile technology offer the learner for ubiquitous learning (Santos and Ali, 2012:187). Whenever and wherever a need for learning arises, a mobile device holder can access the knowledge needed, find the right people to guide them, or ask for support from fellow learners. The fact is that there

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[41] See Section II.1.2.3 for a complete account of the features of Web 2.0.

is an ever-growing number of learners in very different geographical contexts who are having easier access to both mobile technology and high levels of connectivity (Santos and Ali, 2012:187; Johnson, Adams, and Cummins, 2012:7; Hylén, 2012:7; Taraghi, 2012:7). Additonally these learners, especially adult learners, have acquired the expectation to be able to learn and study both anywhere and at any time (Hylén, 2012:7). Therefore, academic institutions are being pushed forward by their own learners to open up to new possibilities for learning, letting informal ubiquitous learning permeate schools contexts (Hylén, 2012:7).

However, this urge is not only coming from within schools. International institutions are already encouraging this move towards a more generalized use of mobile technology for ubiquitous learning. Currently, UNESCO considers mobile learning to have the potential to downplay the disparities in ICT implementation in education by governments in different European countries "by providing low-cost and easy-to-implement solutions to make education more accessible to all students." (Hylén, 2012:9) The European Union itself has already funded several research and development projects focusing on the use of mobile technologies for formal learning (*ibid*:7), even though only a few countries have actually developed specific policies regarding the implementation of mobile learning in formal education contexts (*ibid*:24). The *Horizon Report* for the year 2012 on compulsory education (Johnson, Adams, and Cummins, 2012:5) perceived mobile devices as technology which would have a great impact on education within the following twelve months, with an important number of schools already implementing bring-your-own-device (BYOD) initiatives.

Although these initiatives are potentially an improvement, teachers and institutions should first comprehend what u-learning entails, since it goes beyond the simple use of a device (Wong and Looi, 2011:5). The definition presented above could be considered too ambitious (Watson and Plymale, 2011:9) because of the exacerbated sense of ubiquitousness in the expression 'any time and any place' In fact, we suggest that this definition could include the more realistic description of 'at the right time, in the right place' which renders it a definition that sounds more linked to real-life teaching and learning (Wong and Looi, 2011:2; Watson and Plymale, 2011:9). Regardless of the nuances mentioned in Watson and Plymale (*ibid*:9-10) which would probably affect a more epistemological study, what we consider especially relevant for the current research project are the characteristics a u-learning design should present.

For instance, for Watson and Plymale (*ibid*), the common features that the u-learning initiatives that they have studied fall into 10 categories:

(i) urgency of learning need, which implies that any environment designed to be implemented as u-learning should be able to be used for an "urgent learning need;"

(ii) initiative of knowledge acquisition, providing information upon learner requests;

(iii) interactivity of learning process, whereby communication among users, learners, peers and teachers, is facilitated;

(iv) situation of instructional activity, since they should be integrated within the flow of customary activities;

(v) context awareness, since context inevitably influences the u-learning environment implemented;

(vi) activities offered in the u-learning facility which should provide personalized services for the learner, gathering information from the context to implement that customization;

(vii) self-regulated learning, since learners are capable of controlling their learning process, and the system uses this information to further enrich the context awareness previously mentioned;

(viii) seamless learning, which guarantees that learners can unobtrusively follow their learning activities when moving from place to place;

(ix) adapting the subject contents, making the learners' interaction with the activities device independent; and

(x) learning community, providing access to networked contents and services, thus boosting interaction among the stakeholders of the learning process.

From a more student-centered perspective,[42] Wong and Looi (2011:9) have attempted to characterize mobile-assisted seamless learning as a

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[42] They base their arguments on the term 'student' and not 'learner,' thus excluding learning outside the academic context.

> […] learning model where a student can learn whenever they are curious in a variety of scenarios and in which they can switch from one scenario or context (such as formal and informal learning, personal and social learning, etc.) to another easily and quickly using the personal device as a mediator. (Wong and Looi, 2011:1).

In an effort to provide a definition based on an analysis of the literature on the field, they identify ten different dimensions of what they call mobile-assisted seamless learning. Some of these dimensions are similar to the ones mentioned in Watson and Plymale (2011:9-10) as cited above, and others differ simply because they refer to the learning normally associated with the academic context.

The first dimension they identify (*ibid*: 10-24) is the capacity u-learning should have to (i) encompass formal and informal learning, extending the time assigned to formal learning to out-of-school learning opportunities. The following feature, (ii) encompassing personalized and social learning, deals with the necessary combination of the learning done by an individual when he or she is working by themselves, and that learning fostered when interacting with other learners. U-learning activities should also be independent of time and place to a certain extent; that is, learning should happen (iii) across time and (iv) across different places, limiting the scope of the expectations of the expressions 'any-time' and 'any-place'[43] but still guaranteeing mobility. Knowledge access should also be (v) ubiquitous, which would include both the access of information across time and place, but also the ability of devices to gather information from the context where learning is happening, as, for instance, with the use of GPS data. In close relation to this latter feature, Wong and Looi (*ibid*:17) argue that mobile-assisted seamless learning activities should be characterized by (vi) encompassing the physical and the digital worlds. Thus, an ideal activity would lead the learner to use the facilities offered by the device to be able to produce artifacts connected to the real world, or the other way around as in the case of a field trip leading to a digital artifact (*ibid*:18). One of the features that would help guarantee mobility is the (vii) possibility of using different device types: using the same activities with different devices helps learners move freely without leading to significantly harming the learning objectives. Furthermore, learners should be able to (viii) switch between multiple learning tasks

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[43] The latter expression implies that the activity should foster learning whenever the student is curious, whereas the former only requires that the activity be extended beyond the time limits of a single time slot, and the boundaries of a single physical spot (Wong and Looi, 2011:13-16).

with a relative ease, as well. This feature guarantees that learners can access information, share photos, or comment as required by the learning task. Although it is acknowledged that it is not considered a salient feature in the literature reviewed (*ibid*:22), the capability of ubiquitous mobile learning for (ix) knowledge synthesis is thought to be the "ultimate aim of embracing seamless learning" (*ibid*). Mobile devices have the built-in capacity to serve as a hub for various sources of knowledge. The learner can retrieve data and knowledge in different forms and perform different tasks, which will eventually involve different thinking skills. A final feature mobile learning contributes to, which has the purpose of catering for different types of learning experiences, is (x) its ability to encompass multiple pedagogical and activity models, as compared to traditional learning. Wong and Looi warns (*ibid*:24) that this should not be taken to the degree of overloading the student's cognitive capacity.

On characterizing activities developed in u-learning contexts, Watson and Plymale (2011:10) also emphasize the social constructivist nature of u-learning, with its intrinsic susceptibility for being based on authentic activities. This emphasis on authenticity is also seen as relevant in Bonanno (2011:17) who highlights the need to focus on process-oriented learning experiences as opposed to the more traditional content transmission models (*ibid*:37), with u-learning possessing the inherent capacity to integrate virtual and real environments. Within these environments, and through knowledge creation processes similar to the ones described by Siemens (2006:6) or Nonaka and Kono (1998:42-45),[44] the learner will first acquire, then participate in, and finally contribute to the community in various dimensions (i.e. field domain, technology and community) with interaction being the key variable (Bonanno, 2011:17). Bearing these processes in mind, learning facilities for u-learning should be designed, analyzed and evaluated following less encapsulated models than the ones currently implemented, incorporating task- and person-oriented interaction as their benchmark.

However, setting up ubiquitous learning instances is not an uncomplicated task. Yet, the parameters involved in the implementation of u-learning influence cultural norms that carry strong implications for education (Kidd and Chen, 2011:xii). This could mean that the implementation of these u-learning instances face strong reactions by the educational stakeholders. Besides, u-learning is still at an early stage due to certain limitations in the

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[44] For a complete reference on their model of knowledge creation see II.1.2.1.

technology currently being implemented. For instance, present network restrictions in being able to log on at any time and any place (Watson and Plymale, 2011:9) could make implementation impossible in some geographical areas for some or all students, depending on the location of the educational institution. A further barrier to the success of u-learning is the lack of competence learners seem to have in the potential for learning that mobile devices offer (*e.g.* Watson and Plymale, 2011:7; Santos and Ali, 2012:200-201).

Looi *et al* (2009:1122-1131) implemented an empirical study with 30 primary education students using pocket PCs. Their study involved the use of a proprietary platform, namely *GoKnow*, to test the learning of prepositions of place. Students were expected to use a hand-held camera device, sketching software for them to draw with, and word processing software. In successive sessions, students were asked to take pictures of what they understood different prepositions to represent, draw a representation of each preposition and respond to an online questionnaire (*ibid*:1124-25). The students were also expected to move around the area where the teaching-learning process was supposed to be held. A great deal of emphasis was put into the pedagogy, so that motivation[45] went beyond the Hawthorne effect or novelty effect.[46] The use of the device and the adapted methodology, along with the teacher and the researcher managed to foster mobility, and this, in turn, increased the level of personalization of the teaching process (Looi *et al*, 2009:1131).

This research study served as a reference for Wong *et al* (2010:24), who carried out a similar empirical study on the effectiveness of mobile assisted learning for the learning of Chinese idioms in a primary school context. Their design required the students to share pictures taken in-context by the subjects that represented a number of idioms after having an in-class training session on those idioms (*ibid*:17). The design included the use of a wiki to share the pictures in and/or sentences among the participants, along with an embedded forum for discussion (*ibid*). Although the process was initiated in the context of the classroom, students were expected to look for the best context to represent the idioms in their out-of-class time (*ibid*), thus constituting a difference with the above-mentioned research implemented by Looi *et al*

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[45] López, García and Magal (2011:5) claim to have confirmed that the use of mobile devices fosters learner motivation.

[46] The Hawthorne effect implies that the subject of the study react to the fact of being observed rather than to the actual parameters implemented (Wickstrom and Bendix, 2000:363).

(*Wong et al*, 2010:24). Despite the fact that they consider their findings promising (*ibid*), it is also true that the contributions of the students were not balanced, since most of the contributions of pictures, for instance, were carried out by very few students (*ibid*:18-19). Some of the issues that influenced the research (*ibid*:19) were students being more prone to gaming than sharing in Web 2.0 style, technical problems arising during the application or parents being concerned about their children using smartphones outside the school context.

Kerawalla *et al* (2007) provide an account of an empirical study involving the use of tablet PCs and a software programme called *Homework*[47] with five-year-old students. Their goal was to analyze whether the use of *Homework* could efficiently bridge the gap between school and home numeracy practices and if it could be successfully integrated inside a "domestic ecology" (*ibid*:292). The tablet PCs were customized to meet maximum mobility requirements: they had an attached retractable keyboard, but the students were also provided with a pen to be used on the tactile screen, making sure that students could use it sitting at a desk, or while lying in bed. According to the results obtained from interviews held with parents before and after the application, the design improved learners' levels of enthusiasm, confidence, responsibility and independence in numeracy (*ibid*:301). However, they consider that the use of technology to support formal education needs to be part of a "broader infrastructure of information and support" (*ibid*) for all the stakeholders involved.

Santos and Ali (2012) researched the use of mobile phones usage for informal learning among pre-service teachers doing their teacher training degree in the United Arab Emirates. The instruments they used to gather the information were questionnaires, diaries and interviews (*ibid*:192-193). Anonymous questionnaires served as a way to obtain demographic data from students and information on both their usage of mobile phones, and their perceptions of informal learning. Diaries helped the researchers to analyze learners' annotations on (i) the places and the type of personal interactions they performed within informal activities using mobile phones, (ii) the nature of these informal activities, and (iii) how relevant the students considered these informal learning activities to be in relation to their learning. Finally they interviewed five of

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[47] *Homework* is a built-in learning platform apparently developed for the purpose of the research (Kerawalla *et al*, 2007:4), that included activities for students to use at home and which also kept a record of the steps taken by the learners (*ibid*).

these students chosen at random to complement the data gathered from the other two instruments.

According to their findings, students used their mobile phones to perform informal activities beyond those needed for the subjects involved in their formal learning context (*ibid*:199). However, the use they made of the mobile phone was nearly always restricted to the use of SMS, pictures, phone calls, the calculator and the calendar. (*ibid*:200) They conclude that the subjects were not conscious of the potential for informal learning their smart phones had. (*ibid*) They also report having confirmed that those students who reported using their mobile phone applications frequently or occasionally were more likely to take the initiative to engage in informal learning activities related to the formal subjects they were studying at university. (*ibid*) They ascertain that in order to guarantee being able to take advantage of the possibilities of the current technology implemented in mobile phones, students would have to be overtly trained in their use (*ibid*:201). Thus, they claim that teachers should (i) provide the chance to explore the different applications mobile phones include, together with their (ii) potential for informal learning. Learners should also be guided further by exploring clear examples of informal learning activities, and (iii) the possible connections these may have with formal learning along with (iv) their out-of-class interests.

Taking into consideration the potentialities of Ubiquitous Learning, it has to be taken as an option in the analysis of the requirements our model should comply to. Yet, we shall also have to face some serious drawbacks, especially related to learners' perceptions and school culture. All things considered, and taking into account the factors affecting the language contents we are going to work with which will be described in the following sections, we will need to carefully define our technological tools will with these considerations in mind.

II.2 Reading Skills in English as a Foreign Language

Fostering the development of reading skills, regardless of the context where it happens, is not an easy endeavour (Grabe, 2004:44; Cohen and Macaro, 2007:187; Schramm, 2008:231; Afflerbach, Pearson and Paris, 2008:364; Zoghi, Mustapha and Mohd, 2010:67; Bell, 2011:102) since the process of reading itself is of enormous complexity. Or, as Huey (1908:6) formulated it more than a hundred years ago:

[...] to completely analyze what we do when we read would almost be the acme of a psychologist's achievements, for it would be to describe very many of the most intricate workings of the human mind, as well as to unravel the tangled story of the most remarkable specific performance that civilization has learned in all its history.

Therefore, for the teacher and the researcher alike, grasping all the aspects what the process of reading really involves, although vital, is rather difficult, if not, as yet, impossible. But for the language user, learning how to read, especially in a foreign language, also implies an intense cognitive effort. To provide an instance of what is involved in the reading process, Alfassi (2004:171) claims that proficient readers "must become cognizant of their performance limitations, intentionally weigh their options, and wilfully execute compensatory procedures." Notwithstanding its complexity, fostering reading in the foreign language classroom, in particular at upper-secondary levels, is considered to be a key skill due to its instrumental nature (Schramm, 2008:231; Zoghi, Mustapha and Mohd, 2010:67; Chang and Hsu, 2011:155; Bell, 2011:102; Khatib and Fat'hi, 2012:66; Sidek, 2012:109; Ghorbani *et al*, 2013:1). It is with this quandary in mind that we shall undertake the task of both analyzing what constitutes the process of reading and what it takes to help foreign language learners to improve their reading skills.

For the purpose of giving a comprehensive picture of the construct of reading, we will start with a short overview of key research into the process of reading, providing a brief historical perspective before moving on to what the current situation is. We will then provide some examples of relevant empirical research illustrating some of the different parameters present in reading since a great number of the research studies published to date, many of them of enormous influence on the learning strategy literature, are grounded in empirical studies (Block, 1986; Carrell, Pharis and Liberto, 1989; O'Malley and Chamot, 1990; Hsiao and Oxford, 2002; Cohen and Macaro, 2007; Griffiths, 2008) Within this account, we will try to highlight the implications for language teaching where possible. We will subsequently concentrate on a more detailed description of the nature of reading strategies, since this is the feature of reading we will address explicitly in the current study.[48]

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[48] Due to the multi-faceted nature of reading, the models of reading designed and empirical research have always been restricted to specific parameters (Rayner and Reichle, 2010:2).

Nevertheless, prior to the more in-depth analysis of reading skills research in this section, we believe we need to clarify some concepts that will be important during the current chapter. To start with, we need to establish the relationship between L1 and L2 reading research and instruction. L2 reading research and instruction has been influenced by research on reading in L1 to the extent that much of the literature on L2 reading focuses on findings coming from L1 research (e.g. Cohen, 2003:np; Grabe, 2004:45, 58; Erler and Finkbeiner, 2007:187; Zoghi, Mustapha and Mohd, 2010:67-68; Alptekin and Erçetin, 2011:235-236). Grabe (2004:45) overtly admits that the differences between L1 and L2 reading processes should not deter researchers from bringing the major implications drawn from L1 research into L2 contexts. What is more, Baker (2011:322) claims that "overall, reading competence in two languages does not operate separately." This could be illustrated by research on strategy transfer from L1 to L2. In the case study presented by Block (1986:485) on reading strategies, for instance, she puts forward a great deal of evidence for the hypothesis that reading strategies mastered to a certain extent in the L1 are brought to the foreign language learning process. Pressley *et al* (1989:305) claim that this mastery, however, has to be developed at a metacognitive level, or rather that the user has to use it consciously for actual transfer to occur. Similarly, Oxford (2011:247) also acknowledges that strategy transfer does occur between L1 and L2, although she claims that the language user needs to have (i) a high level of literacy in L1; (ii) the ability to notice, and understand. linguistic nuances as well as to establish connections across languages, i.e. metaliguistic awarness; (iii) high background knowledge; and (iv) similar language familiarity in both L1 and L2. Therefore, unless stated otherwise, we will draw conclusions both from L1 and L2 research, giving details on the peculiarities of L2 features if considered relevant.

II.2.1 The Reading Process: A Historical Overview

There has always been a tendency to consider reading as the process of disentangling a message encoded by a writer (Widdowson, 1979:169). Following this rationale, every writer should be able to encode the exact message they want to convey, so the final result of the act of writing will be the transliteration of a thought or intention. The successful reader would, then, be the one who can decipher the exact message from the writer. But we may also subscribe to the idea that writing is as inexact a process as reading is (*ibid:*170) and, therefore, there is no such

thing as a single correct comprehension of a text. This is especially relevant in the context of foreign language teaching, where there is a tradition of guiding the proto L2-reader through the search for meaning that the teacher believes the learner should find, devoid of any relevant task or reason, not even that of reading for pleasure. Consequently, knowing what the process really involves becomes vital in the EFL teaching profession (Hamra and Syatriana, 2012:1-2). Therefore, before we introduce research on L2 reading instruction, we ought to establish what processes we believe are present in the act of reading.

To start with, in line with the findings from more recent research, we will regard the act of reading or the reading skill[49] not merely as the passive assimilation of information, but as the active construction of understanding (Widdowson, 1979:169; Rivers, 1981:67[50]; Grabe, 2004:53; Schramm, 2008:231; Yu-hui, Li-rong and Yue, 2010:60). Although it is, as yet, unclear what the reading process really involves (Goodman, 1967:135) we do have a number of models[51] that attempt to represent, sometimes from contrasting perspectives, those cognitive (Liu, 2010:152), emotional (Azmi, 2005:1), and social (Liu, 2010:153) mechanisms which are activated while we read. We will provide an account of those models that we consider relevant for our own research aims, as defended by Rayner and Reichle (2010:788) assuming that a more ambitious goal is impossible to be undertaken. We will also provide empirical instances, , when available, to illustrate current perspectives.[52]

Goodman (1967:127) describes the process of reading as involving "partial use of available minimal language cues selected from perceptual input on the basis of the reader's expectation. As this partial information is processed, tentative decisions are made to be confirmed, rejected, or refined as reading progresses." His definition would account for what is

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[49] There are far too many parameters that affect the development of the reading skill in language users both in L1 and L2, thus we cannot undertake, in the context of this study, a detailed description of the complexities of reading addressed by some authors (Grabe, 2004:44; Schramm, 2008:23; Erler and Finkbeiner, 2007:188; Yu-hui, Li-rong and Yue, 2010:60; Rayner and Reichle, 2010:1; Bell, 2011:102) since it goes far beyond the scope of our current goals. We consider that the description we do provide gives a precise account of how reading is currently described in the language learning literature and which influences reading instruction, and which definitely represents our own construct of reading in order to be relevant for our own research objectives.

[50] As cited in Khatib and Fat'hi (2012:66).

[51] The fact that such a number of different models to explain the same phenomenon exist, some of them even diametrically opposed to each other, is sufficient basis to assume the reading construct is still unclear.

[52] Due to the complexities present in the reading process, empirical data only provide evidence of some aspects at a time (Rayner and Reichle, 2010:2). Thus, we will try to offer a comprehensive picture.

known as the top-down model of reading. In this model, reading is conceived as a meaning-driven phenomenon, where emphasis is put on what the reader "brings to the text" (Liu, 2010:154). That is, the reader predicts what will come in the text, based on their prior knowledge of the language and personal experience (*ibid*).

In contrast to this top-down model, we have the bottom-up model. For authors sustaining this hypothesis, the reading process would start by decoding the linguistic elements present in the text from the grapheme towards the whole text in serial fashion: from letter to sound, from these to words, then to meaning. Gough (1972:154) describes the process as follows:

> First, the graphemic information enters through the visual system and is transformed at the first level from a letter character to a sound, that is, from a graphemic representation to a phonemic representation. Second, the phonemic representation is converted, at level two, into a word. The meaning units or words then pass on to the third level and meaning is assimilated into the knowledge system. Input is thus transformed from low-level sensory information to meaning through a series of successively higher-level encodings [...].[53]

A third model sees reading as an interaction of both top-down and bottom-up processing (Van Dijk and Kintsch, 1983:14; Erler and Finkbeiner, 2007:188; Liu, 2010:155; Yu-hui, Li-rong and Yue, 2010:60; Alptekin and Erçetin, 2011:241; Hersch and Andrews, 2012:240). According to this model, sensory data coming from the written or printed text and non-sensory information coming from the reader's own experience will be processed in what Rumelhart (1977; cited in Liu, 2010:155)[54] refers to as the "message board." That is to say, the information coming from the different sources described in the bottom-up model (e.g. the grapheme, the word) and in the top-down models (e.g. the reader's previous knowledge) simultaneously interacts to identify the sign. To do this, the reader keeps up a constant flux of hypotheses

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[53] As quoted in Liu, (2010:154): Gough, P." One Second of Rreading." *Language by Eear and by Eye*. Eds. Kavanagh,J. and Mattingly, I. Cambridge, MA: MIT Press. (1972).

[54] Rumelhart, D. E. (1977) "Toward an interactive model of reading." *Attention and Performance* ,VI. Ed. S. Dornic. Hillsdale, NJ: Laurence Erlbaum Associates (as cited in Liu, 2010:155).

regarding possible meanings running on the message board, which will be used to contrast the language strings encountered. The reader then chooses the hypotheses that seem to match their sphere of knowledge. This hypothesis is confirmed or, on the contrary, disconfirmed after evaluation (Liu, 2010:155).

To this interaction, Stanovich (1980:36) adds the concept of 'compensatory processing' as a means to describe how the reader, when they acknowledge a certain weakness within a particular knowledge source during the process of reading, compensates for it by relying on an alternative source. Van Dijk and Kintsch (1983) also share the concept of reading comprehension as happening at different levels at the same time. They claim that the process of comprehension happens at the same time at: (i) the word level; (ii) the level of propositions; (iii) the level of local coherence or the "meaningful connections between successive sentences" (*ibid:*14); (iv) the level of macrostructure of the text or "the essential points of a text" (*ibid:*52); and (v) the level of the superstructure of the text or "schemata for conventional text forms" (*ibid:*54). They also introduce the concept of reading 'strategies'[55] into their text comprehension model (cited in Erler and Finkbeiner, 2007:188).

Schema theory is also based on the interaction between the different sources of information coming from the top-down and bottom-up models of reading. For Yu-hui, Lirong and Yue (2010:61), the basis of schema theory is that in the perception of the world "one needs to connect new things with those known concepts, past experience, or background knowledge, to understand new things." According to this theory, readers have a set of interiorized structures in relation to the language used to codify the text, the content carried in the language and the form given to the text, against which the reader compares the text in order for comprehension to take place (Carrell, 1983:476; Yu-hui, Li-rong and Yue, 2010:61). Therefore, whenever readers start reading a text, they have certain expectations built on their prior knowledge and inferences made from the text (McVee, *et al* 2005:537). Regarding content, for instance, they predict and test what will probably come next in the text as they move forward, depending on the knowledge they have of that specific topic. Readers also bring their cultural background to the act of reading. A Western reader will find different connotations in a fable compared to an Eastern reader (*ibid*). It is true that there are currently many critical voices regarding schema theory associated with

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[55] Reading strategies will be described in more detail in Section II.3.

reading.[56] However, as McVee, Dunsmore and Gavelek (2005:534) claim, "the wide-spread reliance on schema theory indicates that educators still believe schema theory is a valuable tool in helping pre-service and in-service teachers understand cognitive and individual aspects of reading," and state that "the concept of schema is a useful and powerful tool for understanding reading processes." (*ibid*). Furthermore, there are also several documented studies that have tested the importance of formal schemata at the time of reading which will be referred to in coming sections.

Further to this, we agree with McVee *et al* (2005:555-556) when they claim that schemata are not simply inner, individual, cognitive processes devoid of any connection with the world. On the contrary, schemata are the result of our 'biological being' (*ibid:*555), as they are also influenced and thus transformed by the interaction between the world and the individual in a culturally rich social context that influences those interactions through the use of socially constructed ideas and materials (*ibid:*556). As we saw in Section II.1.2.1 in relation to new approaches to knowledge and learning, both knowledge, and hence the representations we make of it, are constructed collectively through social interaction (Nonaka and Kono,1998:42-43; Siemens, 2006:6). Bearing in mind that successful reading comprehension could be based on activating relevant schemata, it is the role of the teacher in the context of English as a Foreign Language to provide enough opportunities for the learner to acquire the necessary formal, content and strategic schemata to be able to understand the target text (McVee *et al*, 2005:555).

Carrell (1987:476) and Casanave (1988:297) add the comprehension strategies schemata that the reader also brings to the act of reading to this formal-content schemata dichotomy. Casanave (1988:285) emphasizes the importance of strategic schemata as a key factor in the process of reading. To support her thesis, Casanave uses Baker and Brown's (1984:354) definition of metacognition, which accounts both for those strategies concerning people's knowledge of their own cognition resources, and also those that regulate learning. Regarding reading, they state that good readers have a certain amount of control over these activities (*ibid*). Casanave quotes some activities directly related to reading (1988:287-288):

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[56] See McVee *et al* (2005) for a comprehensive analysis of schema theory and its evolution.

(a) clarifying the purposes of reading, that is, understanding both the explicit and implicit task demands; (b) identifying the important aspects of a message; (c) focusing attention on the major content rather than trivia; (d) monitoring ongoing activities to determine whether comprehension is occurring; (e) engaging in self-questioning to determine whether goals are being achieved; and (f) taking corrective action when failures in comprehension are detected.

Innefficient readers, then, are thought to improve their reading skills as long as they gain certain control over these strategies as part of their overall metacognitive ability (Casanave, 1988:285). Regarding comprehension monitoring, Casanave (1988:289) further differentiates between unconscious monitoring, which is carried out by most good readers while they deal with a text which does not pose any special difficulty, and conscious monitoring, which is activated when the reader identifies a 'triggering event' (*ibid*) or a comprehension problem. Unconscious strategies include "routine predicting, checking understanding for consistency with other parts of the text and with existing knowledge, and checking for general understanding" (*ibid:*290). Whenever the reader faces a problem, the strategies performed typically include "evaluating what the problem is, making decisions about how to resolve it, acting on those decisions, and checking the results" (*ibid*). Therefore, the reader, when facing a trigger event that has been identified by routine strategies, will put into practice non-routine, conscious skills to solve the problem, and once the problem is solved, routine comprehension strategies will be resumed (*ibid*).

II.2.2 Current Empirical Research

Purely top-down and bottom-up models have been discarded as only providing a partial description of the skill of reading (Erler and Finkbeiner, 2007:188). There is currently a common agreement that reading comprehension is the result of the interactions among the different parameters involved, namely text, setting, reader, reader background, reading strategies, the L1 and the L2, and the decisions taken by the reader (Erler and Finkbeiner, 2007:188; Khatib and

Fat'hi, 2012:67). This conceptualization of reading has been amply supported by empirical data as we shall see in this section.

Carrell (1991:167), for instance, obtained relevant evidence that suggest that both language proficiency in L2 and reading skills carried over from L1 are of relative importance for the process of foreign language reading comprehension to be successful. The study was based on the reading of two passages in the L2 taken from newspaper articles, and two texts in L1, which were the second ones presented to the subjects, chronologically speaking, in order to minimise short term interference. The texts were accompanied by multiple-choice comprehension questions. The data used were the answers to these comprehension questions. Despite of this, she mentions that there may be other factors that might have to be taken into account, for example the differences between first languages, or level of L2 proficiency.

Alptekin and Erçetin's research (2011) also confirms the complex nature of reading, as it analyzed the relationship between working memory capacity[57] and content familiarity on the one side, and inferential, literal[58] reading comprehension on the other. They claim to have proved that content familiarity, in the context of their study, does, in fact, improve inferential comprehension but not literal comprehension, thus limiting the common belief that content familiarity favours understanding in reading (Alptekin and Erçetin, 2011:258). Working memory is also a significant predictor of inferential comprehension ability (*ibid:*255). Therefore, they claim that teachers should be sensitive to the memory span of learners when assessing reading comprehension, since it would be hard to tell whether the mistakes made may be more a question of memory than of comprehension (*ibid:*258). Another obvious implication for the teaching of reading skills is the possible interference that a domain-specific text may generate on reading comprehension (*ibid*).

Bell (2011) explores the influence of cultural upbringing in the process of reading and those issues arising when the individual changes cultural context. Her research was based on a

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[57] Working memory capacity is defined as "a limited-capacity information processing system that allows for the active maintenance of information in the face of concurrent distraction whiletackling a variety of cognitive tasks" (Alptekin and Erçetin, 2011:238). In their study, Alptekin and Erçetin refer to 'high-span readers' and 'low-span readers,' depending on their degree of "active maintenance of information in the face of concurrent processing and/or distraction." (*ibid:*239).

[58] That is, "knowledge-based processes" and "text-based knowledge processes" (Alptekin and Erçetin, 2011:241) which have a direct relationship with the top-down and bottom-up processes mentioned in the current section.

group of Thai postgraduate students continuing their studies at an Australian university. Through think-aloud protocols,[59] Bell (*ibid:*105) tested the students' extratextual and intertextual frames[60] at the beginning and at the end of the testing period as well as the evolution of their self-knowledge. During their first semester, she identified similarities in these frames among the subjects and also confirmed changes at the end, including the different use of reading strategies (Bell, 2011:111-112). In relation to their self-knowledge, there was also an evolution since these learners started the first semester barely conscious that they had limited reading skills (*ibid:*107), and developed a certain confidence with more precise knowledge of their strengths and weaknesses by the end (*ibid:*112). Bell suggests that there should be more cultural awareness in the choice of reading texts when learners from various cultural backgrounds are involved as a means to guarantee that this does not hinder the learning process (*ibid:*112-113). She also briefly mentions the attitude of both teachers and educational staff towards learners as factors to bear in mind when trying to foster reading skills, as well as actively nurturing positive attitudes towards reading (*ibid:*113).

Reading fluency[61] is yet another factor predicting future reading comprehension ability, especially at early stages. Baker, Park and Baker (2011:255-256) researched reading fluency rates in English in first, second and third grade Spanish-L1 students in bilingual instruction contexts (i.e. learners receiving instruction both in English and in Spanish), and whether this served as a reliable predictor of future reading comprehension success (*ibid:*257). They concluded that Spanish learners had greater reading fluency in Spanish than in English in first grade. This gradually changed in higher grades, with learners' fluency in English increasing as they moved to higher levels. The possible reasons for this change are (i) linguistic transfer from Spanish into English; (ii) the fact that English and Spanish were both languages of instruction facilitating the linguistic transfer; (iii) the orthographic differences between Spanish and English, with Spanish having a higher percentage of multisyllabic words than English, thus making the

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[59] We consider that the label 'think-aloud' is clear enough for any further explanation to be necessary.

[60] Frames differ from schemata in the level of cultural load they carry. Van Gorp (2007:63) establishes this difference, claiming that "schemata, defined as collections of organized knowledge, develop gradually, become more complex, and are related to personal experiences and associated feelings," whereas frames "are rather stable [mental representations], because they are part of culture. They constitute broader interpretative definitions of social reality and are highly interactive with dynamic schemata."

[61] Reading fluency is defined as "[...] being able to read [...] in connected text [...] with speed and accuracy" (Baker, Park and Baker, 2011:253).

latter easier to handle for the reader at a graphological level than the former; (iv) greater exposure to English than Spanish since, except for instruction on reading, all the content instruction was implemented in English; and (v) the motivation to learn English in order to be able to assimilate (or 'integrate') into the school environment[62] (see Section II.4.1.2 on context and motivation for more details and examples).

In relation, this time, to schema theory, Carrell (1985:727) described how explicit, overt teaching of the rhetorical organization of texts brought about better results with ESL learners in terms of the amount of information subjects were able to recall. Although the study is limited to a specific feature, she emphasizes that this training in text structure should be part of wider reading programs that include all aspects of the reading process (*ibid:*741). Carrell (1987:465) also later carried out an experiment which attempted to offer insights into the influence of the combination of formal schemata and content schemata in the process of reading in an ESL context. She conducted the study with level B1/B2 students from a Catholic and a Muslim background, and found that familiarity with content and form would make reading relatively easy, whereas, not surprisingly, not being familiar with either the content or the form, makes reading a harder process (*ibid:*476). However, when form and content, in turn, were modified in order to be made more difficult, it was content that made a difference: a text with a familiar rhetorical form, but unfamiliar content, posed more difficulties for the reader than the opposite (*ibid*). Drawing similar results, Peretz and Shoham (1990:448) report an interesting study in which Science and Technology students and Humanities and Social Studies undergraduates consider that texts belonging to their field of study were easier than those that were not. Even though actual performance of the comprehension tests by the students did not bring about conclusive data,[63] the students' rating of texts as easier or more difficult do confirm the importance of background knowledge (*ibid:*449). A further similar example is Johnson's experiment (1981), which was carried out with a group of Iranian and American students. Two folktales were used, one belonging to American cultural heritage and the other one to Iranian

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[62] Although this study is clearly grounded in a second language acquisition context, there is evidence that these findings also apply in the foreign language learning context. For instance, Taguchi, Takayasu-Maass and Gorsuch (2004:90) provide an account of how instruction in the context of English as a foreign language improved reading fluency, and the potential benefits of these improvements for learners' reading comprehension.
[63] The Science and Technology students did better than Humanities and Social Studies students, even in Humanities and Social Studies texts (Peretz and Shoham, 1990:451).

heritage. The result, in this case, was that readers did exhibit a better performance with the text sharing their same background (*ibid:*181).

II.2.3 Reading Instruction

Empirical data coming from the application of reading instruction paradigms are very valuable due to their pragmatic potential although it is very important to have clear knowledge of what can be expected from our learners' reading skills and what might be a misconception, as we pointed out at the beginning of this section, and it is also vital for a teacher to know what to expect from different instruction alternatives. One of these paradigms is reciprocal teaching strategies.[64] Choo, Eng and Ahmed (2011:141) describe reciprocal teaching strategies as "an instructional activity that utilizes four comprehension strategies (predicting, questioning, summarizing, and clarifying) in the form of a dialogue between teachers and students regarding segments of a text." There is a strong emphasis on learners assuming an active role in the process which corroborates the idea of reading being a complex construct since in the interaction with texts, learners "use their prior knowledge, acquire information from the context, and combine disparate elements into a new whole before they arrive at their own idea of the meaning[...]" (*ibid*). Choo, Eng and Ahmed's publication offers empirical research on the adequacy of this paradigm for the teaching of reading with low-proficiency upper-secondary learners (*ibid:*142-143). Using pre-tests and post-tests, they assessed improvements in students after nine reading lessons using reciprocal teaching strategies. They conclude that there is significant difference in the experimental and control group, with the experimental group doing significantly better in the post-test (*ibid:*145).

Tsai and Shang (2010) also drew positive conclusions from the application of their paradigm, in this case of content-based language instruction. This model uses the parameter of relevance for reading instruction basing their assumptions on the fact that students learn a second or a foreign language better if they do it as a way to access knowledge and not as an end in itself (*ibid:*78). In order to do this, either a content teacher or a language teacher, or both at the same

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[64] Due to the scope of this study, it is almost impossible to provide a detailed account of the different paradigms. Again, our goal is to provide a brief picture of the current situation of reading. We will later describe, in more detail, the decisions we take in our own application.

time depending on the formulation employed, uses a specific theme that turns into the overt goal of the learning which is not a methodology in itself but draws on different methodological sources. In this study, the 101 subjects from their second year of university studies in English significantly improved their reading comprehension skills, both in general English and academic English texts, with those learners with lower reading skills benefitting the most from the experiment (*ibid:*81-82). Despite the fact that their study does not involve the use of a control group to ground their results (*ibid:*79), other studies draw similar results (Kasper, 1997:316) and there is theoretical backing that confirms it (Parkinson, 2000).

Hamra and Syatriana (2012:3) have developed a reading instruction model using team-based learning as the starting framework. They give an account of the validation process, with the rationale of the model originating in the core elements suggested by Michaelsen and Sweet (2008:10-12) for team-based learning. These are: (i) the provision of properly formed and managed groups, that is, groups should be formed evenly, regarding, for example, the ethnicity of its members, gender, and relevant experience for the work at hand, but they should also be shaped in such a way that there is no avoidable friction in the work (e.g.common history that might harm work in the group), and the group should be allotted time to develop cohesion; (ii) the inclusion of student accountability for individual and group work through giving individual students the chance to prepare the task before class and to relevantly contribute to the group, as well as giving them an objective measure to assess their work and the work of the rest of the teams; (iii) immediate and frequent feedback to students which will facilitate retention and group development; (iv) the fact that assignments should have the characteristics of promoting both learning and group development through taking decisions based on course content, involving a number of complex issues and a simple means to report their decisions.

Hamra and Syatriana (2012:9) introduce some changes to team-based learning in order to incorporate it into a reading course, labelling it as the Model of Teaching Reading (*ibid*). Its implementation involve needs analysis among learners before the teacher chooses the texts to be used. These will then be read by individual students before class so as to be able to discuss the topic in small groups while in class and, at the end of the process, the different groups will present their work in the context of a class discussion (*ibid:*5). They confirm with their study that their method is reliable since learners read effectively within the course and it improves reading comprehension skills (*ibid:*9).

Similarly, by using group work as a parameter, Chang and Hsu (2011) describe an experiment using mobile devices to foster reading in the English as a Foreign Language classroom. They used Personal Digital Assistants (PDAs) to implement a networked new-vocabulary annotation facility. Using collaborative learning[65] as the basis for the students' work (*ibid:*159-160), they put students in pairs during the first stage of their work, and then in groups ranging from three to five members. In their groups, students had to read using their PDAs, which had the same texts already uploaded within a networked English vocabulary search and annotating system. Each time any individual student looked up a word, or made an annotation to the text, it was immediately shared with the rest of the group. They claim to have confirmed that students working in groups from two to four (not five) using this system achieve higher degrees of reading comprehension than when reading individually (*ibid:*167-168).

II.3 Current Research on Reading Strategies

II.3.1 Brief Historical Overview

As we have attempted to illustrate by means of references to both theory and empirical data, all the parameters previously mentioned seem to be important in compiling a comprehensive account of what the reading process involves as well as constituting those factors to bear in mind when teaching reading skills. However, it seems that the different studies reviewed have focused on limited numbers of parameters involved in the reading process with the complexity of reading[66] being at least one argument for doing so. In our current study, we shall focus on overt instruction in reading strategies as a means to improve learners' reading comprehension skills. We will consequently defend our choice in the current section by providing evidence of the critical importance of strategy instruction as well as a comprehensive picture of the concept of learning strategies, along with the main issues in this research field.

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[65] They describe collaborative learning as implying heterogeneous groups working together, with members assisting each other, and with the instructor "providing support, facilitating, and consulting in collaborative learning" (Chang and Hsu, 2011:157).

[66] We consider that the case for the complex nature of reading being an issue in reading research has already been established in the previous section.

In relation to the importance of strategies for language competence, Block (1986:485) states that one of the factors that makes a good reader is how aware they are of different reading strategies as well as their flexibility when they apply them depending on the type of text and their purpose for reading. The use of strategies is also a good predictor of success in reading for Carrell, Pharis and Liberto (1989:650), who calim that a successful reader is one who can consciously observe their process of reading and learning as well as plan, adjust and evaluate their strategies, effort and understanding. Liping and Xiaoqing (2006:104) also associate success in foreign language learning with learners having an array of strategies to choose from. Once again emphasizing the crucial role of strategies in language learning, Oxford (1990:1) assures us that the use of appropriate language learning strategies improves the learner's proficiency in the language and Cohen (2007:43) claims strategies "enhance performance in language learning and use." More recently, Oxford (2011:13) claims that "strategies make learning deeper, more productive, and more lasting." Therefore, overt instruction in strategy use should be present in the language classroom (Block, 1986:488; Carrell *et al*, 1989:650; Chamot and Kupper, 1989:21; Cohen, 1998:19; Gong *et al*, 2011:2; Oxford, 2011:247; Heidari, Karimi and Imani, 2012:1493) since "teaching students to use comprehension strategies raises their performance, achievement beliefs, and awareness of the strategies' benefits" (Schunk and Rice, 1993:257), and "makes language learning easier, faster and more enjoyable." (Cohen, 2007:43). In more recent studies (e.g. Mehrpour, Sadighi and Bagheri, 2012:109; Norouzian and Mehdizadeh, 2013:6), reading strategies are also considered as a way of promoting comprehension abilities.

Some attention to a number of reading strategies is already present in textbooks used in class in some way or another, but we need to reformulate the use we make of these activities. Mera (1999:21), who carried out an analysis of a number of text books used in Spain at the moment, which, we assume, could also reflect the current situation, concludes that there is a "need to supplement deficient reading activities to help our learners become efficient readers and language users." This inadequacy was also emphasized previously in Carrell *et al* (1989:649), who believe that most traditional reading instruction has concentrated on decoding skills and "informal teaching of comprehension." For Alfassi (2004:172), in most high schools reading instruction includes only different skills and content. The need for greater in-depth training in reading, connecting L1 and L2 reading competence as we did in the previous section, is also

made evident by Spanish students' performance in the 2009 PISA survey,[67] with below average results within OECD countries, which turned out to be even worse this time than in the previous edition.[68]

II.3.2 The Concept of Learning Strategy

An issue that is often referred to in the language learning literature, both in L1 and L2, and that carries connotations for the terminology used in our current study is the distinction between 'learning' and 'acquisition'. Krashen (1981:1-3) defines the concept of learning a language as the conscious process of building a mental representation of the linguistic generalizations of the target language. For Oxford (1990:4) learning traditionally implies conscious knowledge of the target language rules derived from overt instruction on the language. This learning, by itself, does not promote fluency (*ibid*). Krashen (1981:2) emphasizes that learning is based on "corrections and presentation of explicit rules,"[69] whereas for the more successful process of unconscious acquisition to happen the target language needs to be used in the context of natural communication, that is the language user is concerned with the message to be conveyed and understood and not with the form (*ibid*). Oxford (1990:4) adds that acquisition happens "unconsciously and spontaneously."

There are current studies that still provide grounding for this dichotomy. For instance, Håkansson and Norrby (2010) provide evidence that higher-education learners of Swedish living in Sweden and abroad perform differently with regard to the aspects of pragmatics and lexicon, with those learners living in Sweden outperforming the learners living outside the country (*ibid*:645) due to a higher degree of language exposure (*ibid*:643). However, Oxford (1990:4) argues that this dichotomy is too rigid. She claims that the frontier between what is conscious and what is not is too undefined to know whether learning is the result of one or the other. She claims the differences are more accurately portrayed within a learning-acquisition continuum

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[67] Source: OECD (2010), *PISA 2009 Results: What Students Know and Can Do – Student Performance in Reading, Mathematics and Science (Volume I)*.

[68] In the introduction to Section II.3.2, we will highlight the interrelation between L1 and L2 learning and acquisition processes.

[69] Håkansson and Norrby (2010) concluded that both learners living in the context where the L2 was the native language, and those living outside the country showed similar progression in grammar development.

(*ibid*) where some strategies will be closer to promoting acquisition than learning, whereas others will be closer to the other end. The aim of our current study is to promote the conscious learning of language learning strategies, but within a language learning context where we try to provide a high level of exposure to the target language. Although we will research the use of learning of strategies, we will not be capable of assessing what level of acquisition takes place as a result. Therefore, following Oxford's own procedure (Oxford, 1990:4), we will use both the terms 'learning' and 'learner' strategies without the connotations carried within the learning-acquisition dichotomy, unless explicitly stated.

Reaching a single formulation of what the concept of learning strategy really involves is not an easy task (Dörnyei, 2005:163-164; Grenfell and Macaro, 2007:9; Gu, 2007:vii; Griffiths, 2008:85; Gong *et al*, 2011:2). An illustration of this complexity is the article by Cohen (2007) on the degree of consensus strategy researchers are able to reach regarding some key concepts, which is relatively high in some aspects but low in others. For instance, researchers seem to agree on the fact that learner strategies enhance language learning and use (*ibid:*43), but they diverge on how conscious a learner has to be for their behaviour to be considered a strategy (*ibid*). However, it is not only a question of defining a strategy, and what the features of strategies might be, but also of what a strategies taxonomy should include (Naiman *et al*, 1978; O'Malley and Chamot, 1990; Oxford, 1990; Gürsoy, 2010; Oxford, 2011). In this section, we will try to cover the different levels of complexity the field of strategies has posited, again with reference to key empirical studies, but we shall conclude with a defence of thestance we hold regarding the issues that will most influence our current study.

In the first place, there seems to be a connection between strategy use and 'good thinking' (Pressley *et al*, 1989:302). In fact, the latter concept derives from "knowing the techniques that accomplish important life goals (i.e. strategies), knowing when and how to use those methods (i.e. a form of metacognition), and using those methods in combination with a rich network of nonstrategic knowledge that one possesses about the world" (*ibid*). Within the specific field of language learning, Rubin (1975:43), in her seminal article "What the 'Good Language Learner' Can Teach Us" which is believed to be the harbinger of strategy research (Grenfell and Macaro,

2007:11; Griffiths, 2008:1), [70] formulated a definition of strategies as being "techniques or devices which a learner may use to acquire knowledge" pinpointing features of strategies such as the fact that the language user is an active participant in choosing from a range of resources (Griffiths, 2008:85-86). Building on this definition, Griffiths (2008:87) claims that strategies are "activities [which are] consciously chosen by learners for the purpose of regulating their own language learning," thus adding the features of consciousness, self-regulation and purposefulness, apart from emphasising the element of learning a language. In another key publication for the field of language learning strategies, Oxford (1990:8) defines learning strategies as being actions taken by the learner with the purpose of making learning "easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations." Hsiao and Oxford (2002:372) later defined strategies as being the "L2 learner's tool kit for active, conscious, purposeful, and attentive learning, and they pave the way toward greater proficiency, learner autonomy, and self-regulation," a definition which adds a further number of features although it still represents the same construct.

For Oxford (1990:8), if the strategies applied by the individual are the appropriate ones, they are necessarily oriented towards communication. Teachers should never forget that the ultimate goal of learning a language is communication, and all language skills[71] should be

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[70] The author has decided to include the title of the article here simply because it is illuminating for the current topic of discussion, since it embodies much of the work derived afterwards regarding research, a great deal of it revolving around the definition of good language learners (e.g. Casanave, 1988:285; Pani, 2004:355; Liping and Xiaoqing, 2006:104; Rucynski, Engler and Copeland, 2006:52; Liu, Chen Chang, 2010:439; Vidal, 2012:49).

[71] For Griffiths (2008:86), skills are different from learning strategies in that the former "relate to the manner in which language is used [...] [while] learning strategies are used to learn." However, she adds that skills can eventually be used as learning strategies when, for instance, learners "decide to read for pleasure in order to expand their vocabulary." (*ibid*) For Oxford (1990:6) ,the term skill simply refers to "ability, expertness, or proficiency." This same sense of ability provided by Oxford is also present in Afflerbach, Pearson and Paris's formulation (2008:368) of the difference between skill and strategy when they say that "reading strategies are deliberate, goal-directed attempts to control and modify the reader's efforts to decode text, understand words, and construct meanings of text. Reading skills are automatic actions that result in decoding and comprehension with speed, efficiency, and fluency and usually occur without awareness of the components or control involved." This comparison of skills and strategies is also overtly subscribed by Oxford later on (2011:12). Afflerbach, Pearson and Paris (2008:368) further claim that when learners use a strategy successfully for long enough it will eventually turn into a skill. Since our concern is with reading strategies, and our goal is precisely that learners become conscious of their importance and use them both actively and consciously, we will consider the term 'skill' as referring to the language skills mentioned in the *Common European Framework of Reference* (e.g. Council of Europe, 2001:25-27), which is similar to Oxford's own *de facto* decision (1990:5-6). Thus we will not go any further into this debate.

presented to the learner according to that rationale,[72] with learning strategies following suit. Regarding reading skills, this emphasis on communication is also present in Zhang, Gu and Hu (2007:4), who consider that reading strategies are "readers' deliberate and effortful mental or physical problem-solving moves in approaching a text for comprehension" which implies more than simply understanding the words in the text. These ingredients of "deliberate control, goal-directedness, and awareness" (Afflerbach, Pearson and Paris, 2008:368) are common to many definitions.

The definitions of strategy in the more recent literature (e.g. Gong *et al*, 2011:3l; Vaughn *et al*, 2011:941; Oxford, 2011:14[73]) do not vary significantly in relation to the objectives of the current research. Vaughn *et al* (*ibid*) provide an illustration regarding reading strategies, however, that will help us to delineate to what we consider applies for our current study: "good readers monitor the structure and organization of text, monitor their understanding while reading, make predictions, check them as they read, revise and evaluate them as needed, integrate what they know about the topic with new learning, and summarize and self-check their learning." This example encompasses the above- mentioned features of strategies, contributing, as well, to the ideal final picture of what we, as teachers, would like our learners to be able to do as a result of their learning process.

II.3.3 Taxonomies of Learning Strategies

For any teaching initiative to be successful, with regard to strategy instruction, or any other teaching content for that matter, there needs to be a declaration of precisely which strategies we want to instruct our learners to use. Each construct of what strategies might be, which, in turn, represents a way of conceiving language learning to some degree, has given rise to different classifications of strategies (Hsiao and Oxford, 2002:368). Therefore, it is very difficult to establish which taxonomy best represents effective language learning, especially if

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[72] Although we are sure that all foreign language learners have personal experiences about what can happen if teachers deviate from this rationale, we consider that Oxford's account (1990:ix) of her experience as a language learner provides both an illustrative and authoritative example. She describes her experience as a language learner in the context of traditional second language instruction as being useless for actual relevant communication, although she managed to obtain good marks, so she decided to take a step forward and start learning on her own (*ibid*).

[73] In fact, what Oxford does is build a definition grounded on selected literature also mentioned in our current study.

we acknowledge that "strategy use and effectiveness will depend on the particular learners, the learning task, and the environment" (Cohen, 2007:43). Also, we should bear in mind that the production of an appropriate taxonomy is normally based on empirical data which sanction the arguments held by the researchers (e.g. O'Malley *et al*, 1985; Block, 1986; Hsiao and Oxford, 2002). In this section, we will try to give an overview of different alternatives and establish which will be used in the current study, along with the reasons for our choice.

For instance, Block (1986:485), using think-aloud protocols with a limited number of non-proficient readers, produced a number of possible reading strategies using two different modes of response from the study of the recordings of her informants. The modes of response reflect the way the reader approaches the text. She identified a reflexive mode, representing a more personal and emotional way of approaching the text in which the reader concentrates on their own feelings or personal thoughts rather than on the information in the text, such as when the reader reacts to a text about babies saying "I love little babies" (*ibid:*473), and the extensive mode, which depicts a kind of reader who is more focused on understanding the ideas of the author, for instance when trying to recognize the structure of the text (*ibid:*472). Therefore, reading strategies are related to the modes, although some of them are present only in one of the modes and others in both. In turn, the strategies were classified as either general comprehension strategies or local linguistic strategies. The former include: (i) anticipating content from the text; (ii) recognising its structure; (iii) integrating information from other parts of the same text; (iv) questioning the significance or veracity of its information; (v) interpreting some aspects of that information; (vi) using general knowledge and associations as a reaction to the process of reading; (vii) commenting on behaviour or process while reading (metacognitive comment); (viii) monitoring his or her own comprehension of the text; (ix) correcting behaviour when noticing he or she has made a mistake; and (x) reacting emotionally to the text. Local linguistic strategies describe reactions to the formal aspects of the text, and consequently they were exclusively present in the extensive mode. These include: (i) paraphrasing the content; (ii) rereading portions of the text; (iii) questioning the meaning of a word, clause or sentence; and (iv) actually solving vocabulary problems.

Other authors (e.g. Dijk and Kintsch,1983:70; Cohen 1998:5-6; 2003:np) distinguish between strategies for language learning and for language use. The former includes:

(i) cognitive strategies for memorizing and manipulating target language structures, (ii) metacognitive strategies for managing and supervising strategy use, (iii) affective strategies for gauging emotional reactions to learning and for lowering anxieties, and (iv) social strategies for enhancing learning, such as cooperating with other learners and seeking to interact with native speakers. (Cohen, 2003:np)

Strategies for language use are implemented once there is knowledge already learnt or acquired about the target language and their ultimate goal is putting that knowledge into action. They include strategies for "(i) retrieving information about the language already stored in memory, (ii) rehearsing target language structures, and (iii) communicating in the language despite gaps in target language knowledge" (*ibid*).

However, probably the most influential taxonomies (Griffiths, 2008:84; Gürsoy, 2010:166; Vidal, 2012:47) are O'Malley and Chamot's (1990) and Oxford's (1990; 2011) contributions. O'Malley and Chamot (1990) classified strategies as either being cognitive, metacognitive, and socio-affective. Cognitive strategies are those that learners put into action to manipulate the actual elements of the task at hand, whereas metacognitive strategies allow learners to self-regulate their production, helping them plan, monitor and evaluate (Chamot and Kupper, 1989:14). Socio-affective strategies let learners exert some "affective control over their own learning behaviour" as they interact with other individuals to solve problems (*ibid*). Within the group of cognitive strategies, we find the strategies of repetition, resourcing, translation, grouping, note taking, deduction, recombination, imagery, auditory representation, keyword, contextualization, elaboration, transfer, inferencing; the metacognitive ones include advance organizers, directed attention, selective attention, self-management, functional planning, self-monitoring, self-evaluation, delayed production; and the socio-affective strategies encompass cooperation, questioning for clarification, and self-talk (cited in Hsiao and Oxford, 2002:371).

Oxford's original taxonomy (1990)[74] is based on similar grounds to O'Malley and Chamot's but with the advantage of being more comprehensive and detailed (Vidal, 2012:47).

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[74] Oxford's recent reformulation of her model has changed considerably (Oxford, 2011). In her current version, there is a distinction between (i) cognitive, (ii) affective and a (iii) sociocultural-interactive dimensions, with a fourth dimension labeled as a (iv) metastrategy that interacts with the other three. For Oxford (2011:14-15), cognitive strategies account for helping the learner "construct transform and apply L2 knowledge;" affective strategies account

Oxford distinguishes between direct and indirect strategies, the former accounting for those that imply the use of the target language, with the latter providing support and helping the user manage language learning but without actually involving target language use (Oxford, 1990:37, 135). Learners will always put strategies in action in articulated groups of strategies or "strategy chains" (Ehrmana, Leaver and Oxford, 2003:316; Oxford, 2011:34), with direct strategies being monitored or supplemented by indirect strategies. Oxford's model[75] not only provides a comprehensive taxonomy of strategies, but also provides examples of learning activities to help teachers in the strategy instruction process, along with tools for diagnosis.[76] Besides, this model has been further validated against other existing models, concluding that Oxford's "is more consistent with learners' strategy use than other models" (Hsiao and Oxford, 2002:378). Furthermore, since ours is an empirical study that attempts to shed light on the use of ICT tools for strategy instruction, we consider that Oxford's model provided more than sufficient guarantees of validation regarding its teaching feasibility.

II.3.4 Current Empirical Research on Strategy Use and Training

The metacognitive strategies of semantic mapping are the focus of the study by Carrell, Pharis and Liberto (1989:655-668) on using both mind maps and the 'experience-text-relationship' method. Mind maps are used as pre-reading activities and post-reading activities as a means to activate learners' background knowledge of the text first and then to assess comprehension. However, with the experience-text-relationship method the teacher first leads a

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for helping "create positive emotions and attitudes and stay motivated;" and sociocultural-interactive strategies "help the learner with communication, sociocultural contexts, and identity." Oxford claims (*ibid*.) that metacognitive strategies, which she considers crucial, provide the learner with the necessary control and management over the use of the other strategy dimensions. Thus, her taxonomy varies in number of dimensions and, therefore, the stated individual strategies also vary (see Appendix II for a complete account of the new model). However, she still echoes the validated nature of her previous taxonomy against other taxonomies (*ibid:*160). We appreciate that the difference is a question of classification and not related to the nature of the relevance of the different strategies, that, as she herself argues (*ibid*.), has not only been validated by Oxford and Hsiao (2002), but also by the overwhelming number of empirical studies that have established a significant correlation between the use of the strategies portrayed in the previous model and language learner proficiency (Oxford, 2011;160).

[75] See Appendix I for a complete description of the elements in Oxford's model.

[76] The 'Strategy Inventory for Language Learning' (SILL), provided in her seminal book (Oxford, 1990) is one of the tools we apply in our own study. As we will see in the following chapter on research methodology, the use of the SILL as a diagnostic tool is grounded in both the epistemological studies developed by Oxford and her contributors as well as an overwhelming amount of empirical studies.

discussion among the students about the topic the text is going to be about, thus relating the text to their background knowledge (experience), and then invites the students to read excerpts from the text with some questions related to the text, and finally helps the students make a connection between the text and their own experience. This study takes into consideration the individual learning style of subjects, since students with different learning styles could benefit from training in different metacognitive strategies.

Mental modelling is addressed by Pani (2004:356-357) as a way both to look inside the good reader's mind and to teach language learners how to read. In Pani's exemplification of mental modelling, a superior reader, in this case the teacher, shows how she puts reading strategies into use, thus giving the novice reader insight into the negotiation of meaning the superior reader goes through (*ibid:*356). The objective of her study is, specifically, 'word attack' strategies, that is those strategies used by the reader when facing unknown words in the text (*ibid:*358). After the teacher modelling of the strategies, subjects are asked to put the strategies modelled into action for themselves. She comes to the conclusion that learners by means of such strategy training manage to improve their reading ability, or, at least, their word attack strategies (*ibid:*361).

Alfassi (2004) carried out an experiment involving secondary school students in which researchers apply two different methodologies in the process of reading instruction: reciprocal teaching and direct explanation, combining content and strategies. This research is grounded on the assertion that "the course of action [i.e. the process of reading] entails a dual cognitive process in which the reader builds relations (a) among the parts of the text and (b) between the text and his or her prior knowledge and experience" (*ibid:*171). In the direct explanation model, the teacher overtly explains, while actually involved in the act of reading, the strategies used in reading, thus modelling the mental processes involved in it. However, in the reciprocal teaching model, reading is seen as a "problem-solving activity in which thinking is promoted while reading" in groups (*ibid:*172). The implementation of the study consisted of three phases. In the first phase, students underwent a standard pre-test to establish their initial reading comprehension capabilities. The second phase was the actual implementation of the two methodologies: first students received instruction in the strategies involved in the study (questioning, summarizing, clarifying and predicting) along with modelling using a think-aloud methodology on the part of the teacher; then students were encouraged to practise the introduced

strategies in a guided context; then students put reciprocal teaching into practice as they "take turns leading the group dialogue and practicing the strategies on other sections of text" (*ibid:*172), with the teacher stepping back and only guiding or giving onthespot feedback to the performing students. The last phase consisted of both a reading comprehension exercise about the text read in the second phase and a similar standardised test to the one in the first phase. The implementation of both methodologies combined brought about significant improvements in the experimental group as compared to the control group (*ibid:*180).

Zhang, Gu and Hu (2008) researched the use of reading strategies among students from grade three to grade six in primary education. They gave students a number of texts that were appropriate to their competence level and their contextual background, and asked the students to describe their mental processes in understanding the text using think-aloud protocols at specially signalled moments in the text (*ibid:*252-253). From the analysis of the results (*ibid:*256), they concluded that sixth grade students with a high level of competence showed greater use of language strategies and these tended to be of a global nature, that is "oriented towards meaning making" (*ibid*), whereas younger, less competent students not only used fewer strategies, but also the ones they used were of a more local nature, i.e. focused on isolated words and phrases or information.

Liu, Chen and Chang (2010) claim that university students improved their reading comprehension after being trained in concept mapping with the use of a concept-mapping computer programme. They ground their students' improvements on the activation of other strategies as well, since "through the concept mapping procedure, learners can build appropriate monitoring strategies and recall the content of an article which was forgotten due to checking vocabularies. Furthermore, learners can review the content, and guess or infer the meanings of vocabulary when they understand the article as a whole through concept mapping" (*ibid:*442). Furthermore, conceptmapping improved poor readers' reading skills, thus narrowing down the gap between "good and poor readers" (*ibid*).

Aghaie and Zhang (2012), through overt instruction in a selection of cognitive and metacognitive strategies,[77] researched the impact of strategy instruction on intermediate level

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[77] The strategies they used in their analysis were 'guessing unfamiliar words from contextual clues,' 'summarizing main ideas from a text,' 'looking for logical relationships between paragraphs' and 'trying to find out the

EFL students' reading skills. Their research procedure was based on raising learners' awareness of the strategies they used through open discussion with them and inviting them to help in an interactive definition of the strategies (*ibid:*1069). Learners were then encouraged to use the strategies while independently using the language with the teacher monitoring. They conclude that instruction raised the students' perceived strategy use, but also their reading performance and strategy transfer (*ibid:*1078). [78]

The instances of strategy training described in the current section have to be circumscribed within the wider scope of reading instruction, which, as we have amply argued, is a critical competence for foreign language learners. This critical nature substantiates the choice of reading as a research objective. Nevertheless, to be able to successfully instruct our learners, we need to be conscious of the complex nature of reading and, consequently, choose an instruction model that caters for this complexity and that suits our learners' needs.

II.4 Rationale for Learning Management Systems and Portfolios

PLEs and CLEs could be considered as a pedagogical stance more than a technological design (Paredes, 2009:53; Adell and Castañeda, 2010:7). They represent the decisions taken by private enterprises, educational institutions, and teachers and/ or learners themselves to approach learning from a personalized perspective in order to adapt to the new needs of a changing society and technological design follows. As we have portrayed in Section II.1.2.4, PLEs are thought to represent a pedagogical option more in line with what the knowledge worker needs for the XXI Century (e.g. Johnson, Adams, and Cummins, 2012:16). However, opting to use PLEs in the secondary school classroom is not a straightforward decision, since we need to be realistic regarding the kind of learner we will probably have there.

As an example, we could consider the case of Raúl, a proficient English speaker and a highly autonomous learner, always willing to adopt any innovation and who systematically

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organizational aspects of text' as cognitive strategies and 'determining in advance what my reading purpose is and then reading the text with that goal in mind,' 'looking for specific aspects of information and focusing on that information while reading the text,' 'checking the effectiveness in strategy use,' and 'checking whether the goals for reading are accomplished' as metacognitive strategies (Aghaie and Zhang, 2012:1066).

[78] Strategy transfer makes reference to the learner transferring the strategies used or learnt doing in a task in one language to other languages, including L1, or to other tasks (Aghaie and Zhang, 2012:1064).

demands more challenging tasks. We could set up a PLE with this exemplary student, as we might infer from the characteristics a successful PLE user should have, and that will be described below. In fact, it could have been a great success, both for the objectives of the present research study and this learner's own learning aims. But, as we will see, it is not realistic to expect a class with this kind of student in an upper secondary Spanish class.

There are, in fact, some critical issues affecting the way the current secondary school learner learns which exert a direct influence on our technological design for teaching, regardless of the tools we implement. Among these critical issues, we will encounter students´ perceived value of the innovation, their expertise in using ICT tools, the willingness of their previous teachers to adopt innovations and by default what their influence was on the students' own willingness to adapt to new methods, the age of the learner and even their digital competencies. Everything considered, even though we may sense that e-teaching and e-learning is currently evolving into that more open, learner-centred direction represented by PLEs we need to scaffold the process, mainly for the learner since for most of them, especially in secondary education contexts, it could mean a gap that is impossibile to bridge. As we shall sustain, using LMS ith the provision of tools empowering the learner to some extent will provide a perfect environment to guide our learners into the competencies necessary for more student-centred e-learning. Also, the factor of graduality should be taken into account when moving from more directed to freer designs of online teaching-learning because of students' previous experience in e-learning (Paredes, 2010:59). As has been made evident by Área (2010) and Paredes (2009; 2010) we cannot expect these conditions will be fulfilled in the school we intend to work in. Therefore, our expectations regarding the experience our learners will have regarding their active use of learning technology should not be too high.

In the following section, we will try to give a clear description of the factors that have helped us define the profile of our students. We will start with an in-depth account of the key concepts of motivation and autonomy and their influence on language learning in Section II.4.1, followed, in Section II.4.2 by an analysis of these two concepts and their critical influence on learning and the use of Learning Management Systems. The following Section, II.4.3, will include a description of the probable attitudes we will face and how they will affect our design. We will then make reference to what the current situation of secondary schools is regarding ICT innovations in Section II.4.4. We have also found reference to a number of concerns in the

research literature related to the use of Web 2.0 and PLEs and their influence on learning, which will form part of Section II.4.5. Before we describe our own design of the LMS we will implement with our students in detail, we will provide further arguments in favour of using LMS found in current research which are included in Section II.4.6.

II.4.1 Motivation and Language Learning

Gardner (2007:10) claims that it is not possible to formulate a simple definition of what motivation is. However, as has been widely documented in the literature, motivation is a key variable in language learner strategy instruction,[79] which Oxford and Schram (2007:55) consider essential together with volition (to be further dealt with below in Section II.4.1.4). But it is also a crucial parameter in language learning itself, and learning in general in learning (Oxford and Shearing, 1994:12; Gardner, 2007:10; Ushioda, 2008:19; Deniz, 2010:1269). Rubin (1975:42), in her seminal study on the 'good language learner' which has provided the foundation for much further research on language learning and strategy instruction, considers motivation one of the three essential variables for learning a language along with those of aptitude and opportunity. Dörnyei (1994:273) holds that motivation is "one of the main determinants of second/ foreign language (L2) learning achievement." Before that, Corder (1967:164) famously said that any human being could learn a language as long as they have the motivation to do so and is exposed to language data. It has, therefore, been a pervasive parameter in the design and implementation of our current research project.

But what do we actually mean by 'motivation'? Van Lier (1996:103-104) asserts that motivation comprises 'intentionality', which would refer to simply having the purpose of the learning in mind, 'affect', or the emotions involved in the process such as mood, feelings; and 'effort', when the actual cognitive processes are put into action. He then adds two ingredients that characterize intrinsic motivation (explained below) which are 'consciousness' and 'choice', whereby a human being would go beyond simple intention and 'take control' of learning, and choose among the 'options' that the environment offers. Ushioda (2008:19) adds the ingredient of duration by claiming that motivation is what "moves a person to make certain choices, to

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[79] See Section II.3 on Language Learner Strategy for a full account.

engage in action, and to persist in action." Gardner (2007:10) holds that we could define a motivated learner as someone who is, for instance, "goal directed, expends effort, is persistent, is attentive, has desires (wants), exhibits positive affect, is aroused, has expectancies, demonstrates self-confidence (self-efficacy), and has reasons (motives)."

More recently, Ushioda (2008:21) contributes further to the rich debate on the nature and types of motivation, and illustrates the difference between 'intrinsically' and 'extrinsically' motivated learners, where the former would find pleasure in the learning process itself, and the latter learns in order to achieve some external goal or the promise of a reward of some kind. Although intrinsically motivated learners can produce "high-quality learning and creativity" (Ryan and Deci, 2000:55), those who deploy an extrinsic type of motivation can do so as well, as long as they willingly accept the value of the goal they pursue. In fact, Ryan and Deci (2000:55) assert that "knowing how to promote more active and volitional (versus passive and controlling) forms of extrinsic motivation becomes an essential strategy for successful teaching."

II.4.1.1 Intrinsic Motivation

We would all probably agree that it is vital to know how to facilitate and maintain that intrinsic motivation some of our learners might already have in the process of learning. However, it is equally important to make sure we are able to foster both intrinsic and extrinsic motivation in the rest. Ryan and Deci (2000:56) state that intrinsic motivation is not universal: individuals are intrinsically motivated in those activities that have some kind of intrinsic interest for them for some reason. If that is the case in any of our learners, we should be ready to provide the necessary ingredients to make it last. If it is not the case, there are still some strategies that have been proved to catalyze[80] intrinsic motivation. For this, we need to foster both a feeling of competence (self-efficacy or self-esteem) through rewards or feedback, for instance, and a sense of autonomy that would provide the learner with a feeling that their behaviour is self-determined (Ryan and Deci, 2000:58).

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[80] According to Deci and Ryan (2000:58), since intrinsic motivation is an "inherent organismic propensity" it cannot be caused, but "catalyzed." That is to say we can provide the conditions for intrinsic motivation to arise, but not make it happen.

Little (2004b:2) claims that autonomy and motivation are closely intertwined: the drive an autonomous learner would need to start and maintain a learning enterprise is drawn from intrinsic motivation, and if successful, it will make his or her intrinsic motivation stronger. Oxford and Schramm (2007:55) consider volition as "the general capability of making a conscious choice or decision." Self-regulation needs both motivation and volition.

It has been empirically proved[81] that there are a number of factors that help to diminish intrinsic motivation because they are perceived as interference in the learners' autonomy: for example, external rewards (although they can foster a sense of efficacy, they can hinder the sense of autonomy), threats, deadlines, directives, or competition pressure (Ryan and Deci, 2000:59). Deci and Ryan state that rewards of any kind could always decrease motivation if "they are perceived as controlling" by the learner (as cited in Van Lier, 1996:116; and Kohn 1991:94). Thus the teacher's influence on the learners' Zone of Proximal Development (ZPD)[82] should allow internal control of the learner and self regulation. Evaluation, for instance, is judged by Deci and Ryan (1992:18) as highly controlling whenever the personal values of a learner are judged by their performance, which is, according to them, one characteristic of the achievement-oriented society we live in. Therefore, formal evaluation, most of it controlled by the established curriculum, is a factor that could be considered to hinder the motivation of some learners in the context of formal education. External achievement might only promote motivation if the learner internalizes it (in the sense seen in Ryan and Deci, 2000:61), and does not perceive it as controlling. Along the same lines, Schumann (1998:33) claims that sustained deep learning (see Section II.4.2) can happen even if the learner is forced to learn a specific type of knowledge or skill (as in a compulsory subject at school), but for the learning to be deep enough to be considered successfully accomplished, the learner must "pursue it to a higher degree" (*ibid*), that is to say external achievement must be internalized, and motivation generated. Self-efficacy has also been proved to be very powerful as a learning tool in the context of the 'Better Than

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[81] See Ryan and Deci (2000:59) for a complete account of this research.

[82] The Zone of Proximal Development is defined by Vygotsky (1980:131) as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." Nevertheless, we argue that this guidance should not disempower the learner.

Average' effect (BTA):[83] students who consider themselves better than average face the learning of that field they consider they excel at with a high sense of self-efficacy that would make it come true (thus materializing a self-fulfilling prophecy, or generating 'resultative motivation.'[84])
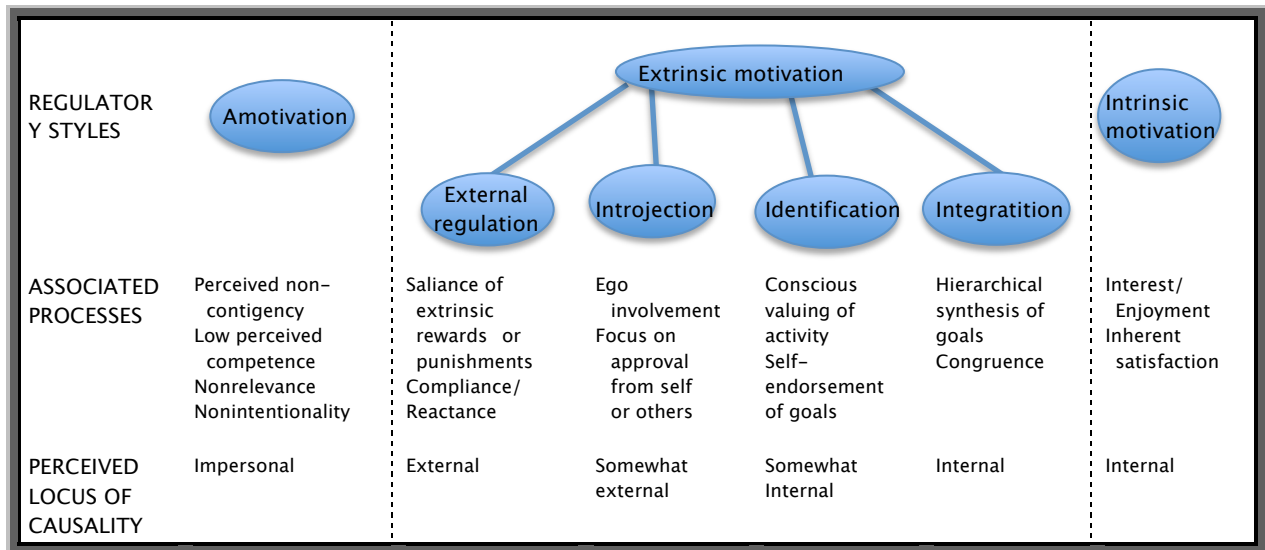
Those learners who are extrinsically motivated could also share most of the positive features that the intrinsically motivated learner has. Externally motivated learners can undergo a process of internalization and integration of the values and regulations that are externally provided (Ryan and Deci, 2000:60). A learner internalizes a value or regulation when they accept and understand it, and integrates it when it is transformed in order to "emanate" from within themselves ("sense of self"). This process is also associated with autonomy (Ryan and Deci, 2000:61): from the externally regulated learner onwards (amotivated [85] learners do not internalize, or integrate, regulations at all), we have an increasing degree of learner autonomy in the learning process. Externally regulated learners accept regulations due to external stimuli or rewards of some kind. At the far end of the continuum, we can have extrinsically motivated learners who have fully integrated regulations. They could share many characteristics with intrinsically motivated learners, for instance the will to perform because they believe it is what needs to be done in order to achieve the pursued goal. The following chart (Figure 1) summarises these different stages (Ryan and Deci, 2000:61):[86]

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[83] Kuyper, *et al* (2011) give an account of the BTA effect in secondary education. They support the idea that there is a tendency for the majority of people to consider themselves as having higher positive attributes and lower negative ones than other people.

[84] Hermann (1980, cited in Ellis, 1994:515) formulated the 'resultative hypothesis' according to which "learners who do well are more likely to develop motivational intensity and to be active in the classroom."

[85] Ryan and Deci (2000:61) believe the state of complete absence of motivation emanating from within the self is amotivation, "which is the state of lacking an intention to act." Demotivation, according to Dörnyei (2001:143), refers to "specific external forces that reduce or diminish the motivational basis of a behavioural intention or an ongoing action."

[86] This is not necessarily a linear process whereby learners would need to go through every stage. A learner could enter the process of learning in any of them and move forwards or backwards, depending on a number of factors.

REGULATORY STYLES	Amotivation	External regulation	Introjection	Identification	Integratition	Intrinsic motivation
		Extrinsic motivation				
ASSOCIATED PROCESSES	Perceived non–contigency Low perceived competence Nonrelevance Nonintentionality	Saliance of extrinsic rewards or punishments Compliance/ Reactance	Ego involvement Focus on approval from self or others	Conscious valuing of activity Self–endorsement of goals	Hierarchical synthesis of goals Congruence	Interest/ Enjoyment Inherent satisfaction
PERCEIVED LOCUS OF CAUSALITY	Impersonal	External	Somewhat external	Somewhat Internal	Internal	Internal

[Figure 1: different degrees of internalization of motivation.]

Prior to this, Gardner and Lambert (as cited in Gardner, 1985:11), in their seminal article in which they presented the 'orientation index' as an instrument to measure learner motivation, had described learners as integratively orientated or instrumentally orientated depending on their declared reasons for learning French: integrative learners stressed interaction with French speakers for social-emotional purposes (for example, "conversing with more and varied people," or to better understand "French Canadian people and their way of life"), whereas instrumental learners would declare more pragmatic reasons (such as "finding a job" or becoming "better educated"). Ushioda (2008:20) points out that integratively motivated learners seem to be more successful language learners in the long run. Dörnyei (1994:275) claims this dichotomy does indeed represent the conclusions most researchers reach when implementing empirical studies: there seems to be a cultural-affective dimension and a pragmatic-instrumental dimension in motivation. However, although simplicity may be a valuable asset for such a construct (Dörnyei, 1994:274), the picture is more complex. Several studies have identified other parameters related to integrative motivation and instrumental motivation. For instance, Dörnyei (1994:275), in research carried out with young adults in a foreign language learning context, claims to have identified three other dimensions formerly associated with integrative motivation, namely "interest in foreign languages, cultures, and people; desire to broaden one's view and avoid provincialism and desire for new stimuli and challenges." He also refers to "desire to integrate into a new community" as a fourth dimension originally associated with instrumental motivation.

Although "there has been a tendency to conflate the extrinsic/intrinsic distinction with the integrative/instrumental" (Ushioda, 2008:22), both integrative motivation and instrumental motivation are now thought to belong to the extrinsic side of the continuum (Gardner, 1985:12) since language learning can be seen as a means to an end in both cases. However, that fact is not considered to hinder the process of language learning; in educational contexts, some of those external goals might be highly appreciated, like, for instance, examination success, or life ambitions (Ushioda, 2008:22). What seems to be of paramount importance is that they are internalized and self-determined.

II.4.1.2 Context and Motivation

Apart from the role played by both external and internal drives to learn, it is also widely accepted that the external context, or the potential social interactions a learner is exposed to, is a key parameter affecting motivation in learning (Hussain, Shahid and Zaman, 2011:589; Norton and Toohey, 2001:318). Within the research context of Second Language Acquisition, Norton and Toohey (2001:313-314) give an illustrative account of how interaction, or the lack of it, can affect the process of learning a second language because it changes the "social status" of learners. Instances of successful language learning where interaction played a positive role include the example of an immigrant adult who received more linguistic interaction possibilities in her workplace and how this improved her position in the company and, consequently, increased her motivation and her possibilities of improving communicative competence along with a further example of a child, with Polish as her L1, who made quick progress in her second language skills thanks to a rich learning context, interactively speaking, in her preschool stage where she enjoyed some kind of social status (Norton and Toohey, 2001:313)

In the case of foreign language teaching, although there is not necessarily an L2 context where students have to negotiate their social status among other L2 speakers, the interaction element of motivation is still present. Williams and Burden (1999:199) consider that external factors affecting motivation are, among others, people and interactions with them (relevant 'people' being relatives, teachers, or peers). Deniz (2010:1275-1276) carried out research on the awareness of foreign language teachers of the importance of motivational strategies in foreign language teaching. The study included 'The Motivational Strategies Scale' which was previously

developed by Dörnyei (2001). Most of the items present,[87] it could be argued, have some kind of interactional weight, sometimes with peers and sometimes with the teachers themselves; teachers in fact stated that all the items were important for language teaching. Related to the language class context, Gardner (2007:10) argues that there are two types of 'motivational constructs:' language learning motivation and language class motivation. He understands the former as the motivation an individual learner might have, a willingness for learning a language or a personal drive which is applied to any opportunity to learn a language. Language class motivation would depend on the "individuals' perception of the task at hand" (*ibid*:11). It is influenced by a plethora of factors surrounding the classroom context: the teacher, class atmosphere, or curriculum, among others.

II.4.1.3 The Teacher's Role

Within the learning context, the teacher has a great deal to contribute regarding the stimulation of their learners' motivation. There are no golden rules as Dörnyei (1994:280) puts it, but he proposes a number of considerations for the teacher to bear in mind that should work in some contexts with students, since in the field of motivation there is no one-to-one correspondence or all-embracing 'magic formula.' The strategies he suggests fall into five different dimensions: (i) language level, (ii) learner level, (iii) learning situation level, (iv) teacher-specific motivational components and (v) group-specific motivational components. Some of these strategies are developing learners' instrumental motivation by making them aware of the usefulness of the language; developing learners' self-confidence by encouraging and reinforcing; promoting favourable self-perception of competence by giving emphasis to what students can do rather than what they cannot, and making mistakes part of the learning process; or making the syllabus relevant to the students. These, and other strategies, will be referred to when we come to talk about the design of our own research project in more detail.

Ushioda (2008:27) highlights these concepts as well, describing the different elements motivation is related to, and gives an account of how they should be dealt with in the learning

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[87] The dimensions present in the research are proper teacher behaviour, recognizing students' effort, promoting learners' self-confidence, creating a pleasant classroom climate, presenting tasks clearly, increasing learners' goal-orientedness, making the learning tasks stimulating, familiarizing learners with L2-related values, promoting group cohesiveness, and promoting learner autonomy (Deniz, 2010:1275-1276).

context. She claims that teaching should be based on needs analysis, making sure that these needs are as relevant to the students as possible, and with students taking responsibility for their own learning. Self-determination is, therefore, critical, but in a context with quality interpersonal support. Learners should also be encouraged to assess their achievements and their process of learning. For Bobb Wolff (1996; cited in Bobb Wolff, 2003:sec. II), autonomy is closely related to self-assessment in the sense that "until students have learned how to assess their work -the process and the end results- they remain dependent on others, usually their teacher, to tell them how they are doing with respect to their learning objectives." After analyzing students' responses in a research study on their perceptions on self-assessment, Bobb Wolff contends that their experience of self assessment changed their concept of learner into that of someone taking a central role in their own learning process (*ibid:*5).

Many of these conclusions were also present in Deniz's research (2010:1283). All the trainee teachers involved in this survey agreed to a very high degree (all the items averaged well above four in a maximum of five) that motivational strategies were important in the L2 learning context. Their complaint seemed to be that some of their trainers did not put them into action themselves. He concludes that "the main factor leading to success in the L2 teaching and learning process" seemed to be "desire and enthusiasm" on the part of both teachers and learners (*ibid:*1283).

II.4.1.4 Authenticity

Despite the fact that the main goal of our own research study is to evaluate whether the development of learner strategies fosters reading comprehension skills using a LMS, customization of the LMS itself has been undertaken in order to provide an authentic communication context as a means to catalyze motivation as suggested by Ryan and Deci (2000:58). To ground the relationship between authenticity and motivation, Gilmore (2007:106) claims that there seems to be a common agreement among teachers that authenticity is strongly related to motivation, even though there does not seem to be agreement on what authenticity is. Chavez (1998:299), in her research on the relationship between authenticity and its perceived contribution to learning and enjoyment, states that learners consider that using authentic material makes language learning more enjoyable, and that as long as there is enough pedagogical

support, the use of authentic material does not hamper the process of learning. The difference between genuine and authentic material according to Widdowson (1979:57) is that genuine material would be that which we bring into class that comes straight from reality such as an article taken from a blog, a message received by a non-L1 speaker, or an excerpt from a book. The use we make of that genuine piece of text could be inauthentic or authentic: we could either analyze the verbs in a video, or simply watch it and use it in a communicatively relevant way. Van Lier (1996:126) admits that there is some controversy to what actuallyconstitutes authentic use of a text, since the boundaries are not so clear-cut; there is a process of authentication undertaken by the learners and the teachers involved in so it is the learner and the teacher along with the use they make of that material who make it authentic or not.

Gilmore (2007:98) cites a definition by Morrow (1977)[88] that restricts the issue: "[An] authentic text is a stretch of real language, produced by a real speaker or writer for a real audience and designed to convey a real message of some sort." He overtly suggests this definition because, as he claims, it clearly leaves out parameters such as "learner authentication," although it still potentially includes the context of a foreign language learning context. Swaffar (1985:17) asserts that an authentic text "is one whose primary intent is to communicate meaning" for the purpose of foreign language teaching/learning, whether produced by L2 native speakers or not. Thus, any text provided by the teacher, the textbook, or by peers, provided it has that goal would be an authentic text. Our own research study, therefore, will be a rich source of authentic texts, as will be described in the section on Research Design (Chapter III).

It is participation in a conversation that makes it interesting for the speaker as Porter Ladousse[89] suggests, clearly referring to the tendency of using recorded conversations in the foreign language classroom. Hafner and Miller (2011:82) claim that the students involved in their digital video experience participated because they felt that they would engage with an "authentic audience" and because they perceived that using the digital, online discourse, was "meaningful to them." Relevance is also accounted for by Chavez (1998:279), in her research on

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[88] Morrow, K. "Authentic Texts and ESP." *English for Specific Purposes*. Ed. S. Holden London: Modern English Publications (1977):13–17.

[89] Cited by Gilmore (2007:107): Porter Ladousse, G. "Review of Exploring Spoken English." *ELT Journal* 53.2 (1999): 139–141.

the learner's perspective on authenticity among a number of other parameters such as medium authenticity, nativeness, content orientation, and goal or task orientation. Except for nativeness, the rest of these parameters will be of paramount importance when we come to explain the deign of our own Learning Management System.

II.4.2 Attitude and Motivation in Learning Management Systems

Attitude, according to Dörnyei (1994:274), "is used in social psychology and sociology, where action is seen as the function of the social context and the interpersonal / intergroup relational patterns." Gardner (2003:157) claims to have proved that, albeit to a lower degree than motivation, attitudes do influence language learning. Regarding motivation, Dörnyei and Ottó (1998:64), in an effort to provide a comprehensive definition, asserted that it

> […] can be defined as the dynamically changing cumulative arousal in a person that initiates, directs, coordinates, amplifies, terminates, and evaluates the cognitive and motor processes whereby initial wishes and desires are selected, prioritised, operationalised, and (successfully or unsuccessfully) acted out.

Therefore, along with other parameters, technological or not, we need to bear both our students' attitudes and motivation in mind when taking decisions about the design of our e-learning facility.

When it comes to implementing e-learning, according to Assareh and Bidokht (2011:792), we need to consider learner confidence and expertise with IT tools, the quality of their access to the technology itself, that is their ability to access a computer and the internet from home, and their attitude towards the use of ICT. Zhong (2010:738), in a research paper on the differences in IT use among adolescents coming from OECD countries based on results arising from the PISA report,[90] reported on several studies that highlight the fact that the

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[90] Zhong (2011) carried out research to identify the variables that accounted for the digital divide regarding self-reported digital skills among adolescents taking part in the Program for International Student Assessment (PISA) in OECD countries (PISA, 2003; PISA, 2006). Another finding not fully accounted for here, but which that caught our

socioeconomic status of students will predict not only the quality and quantity of their access to IT tools, but also the use they make of that technology. That is, students coming from a higher social status would have better access to IT facilities and they would use "capital-enhancing online activities" (*ibid:*738) such as searching for information, reading online news, taking part in online classes; in addition, their parents would value the use of IT as critical for their development, and they would also have the necessary expertise to guide their progeny in the use of IT, whereas parents from a lower socio-economic status would consider IT more as a tool for play rather than learning and would have a lower digital competence themselves. This is also be supported by the study carried out by Koivusilta, Lintonen and Rimpelä (2007:97) on the use of ICT in relation to sociodemographic background, educational career of parents and health.

The attitude of learners regarding the use of IT is vital for any e-learning teaching program to be successful (Usta, 2011:263) and they certainly do have an attitude. According to the Spanish National Statistics Institute (INE, 2011), 82.5 percent of Spanish citizens from the age range between 16 and 24 use the internet every day at least five days a week. Although there is a great deal we could comment on with regard to their IT skills when it comes to using them for academic learning on being required to do the activities teachers set them (Zhong, 2010; Eneau and Develotte, 2012; Cicarelli *et al*, 2011), they still have a whole range of expectations built up from experience and a perception of their self-efficacy about online tools (Cinque and Martini, 2012:57). These could either help or hinder learning.

Mohammadi *et al* (2011:464) claim that the mere use of IT raises learners' "engagement, attendance and motivation." Every teacher using IT with students in secondary education would probably agree with authors such as Assareh and Bidokht (2011:793) who state that, from data obtained in a research project carried out in Iran, most adult learners regard e-learning as more valuable than simply using "books and listening to the teacher." Undoubtedly, ICT offers a wide choice of stimuli for the learner. Other studies that would support that idea are, for example, those published by Giménez, García and Magal (2011), Sipal, Karakaya and Hergul (2011), Hashemi *et al* (2011), and Selvi and Panneerselvam (2012). Lim and Shen's research (2006:212) with young adults on the influence of computers on their reading competence seems to have discovered, among other factors which will be dealt with in later sections of the current work,

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attention was the direct influence of access to ICT at school on learners' perceived digital skills. However, we consider that giving a full account would divert the current study from its ultimate goal.

that "the students in the CALL-based English class were consistently more positive in their perceptions than were those in the traditional English class."

However, we also have to be conscious of the fact that the initial motivation coming from the novelty of these learning tools fades away with time (Lim and Shen, 2006:224). Actually, Dörnyei and Ottó (1998:44) distinguished between the motivation needed to take the decision to undertake a goal and the sustained motivation needed during implementation. In the case of complex fields of knowledge or skill "sustained deep learning" is needed.[91] According to Dörnyei and Ottó (*ibid:*45), a vital function of motivation "is to maintain the motivational impetus for a considerable period." To provide a framework that would substantiate this allegation, they formulated the 'Process Model of L2 Motivation.' The model depicted motivation as a dynamic and complex construct that included the actions taken during the process of implementation, and how motivation influenced actions. They included an 'Action Sequence,' that is the different stages behaviour undergoes to transform "initial wishes, hopes and desires" (*ibid:*47) into goals, intentions, actions, accomplishments of the goals and final evaluation. They also added 'Motivational Influences' which are "all the energy sources and motivational forces that underlie and fuel the behavioural process" (*ibid:*47). Three phases are suggested in the Action Sequence: (i) the preactional phase, (ii) the actional phase and (iii) the postactional phase. Each of these phases has a set of motivational influences. Some of the influences are "selective sensitivity to aspects of the environment," "quality of learning experience," or "sense of self-determination/ autonomy," all in the actional phase (*ibid:*57).[92]

Many of the findings accounted for in the paper by Hin (2011) on incentivized online activities and the role of learner motivation are based on the 'Elaboration Likelihood Model' (ELM) which aims to describe the processes inherent in communication. Hin (2011:212), in

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[91] Schumann (1998:32) considers that there are some knowledge and skills that need more time and a certain degree of depth in the process of learning to be mastered. These knowledge and skills, according to Schumann, are those "in which a great deal of variation is evidenced among individuals" (for instance, learning a foreign language, mathematics), as opposed to those that are inevitable, like learning to walk, or learning the grammar of your native language.

[92] Our goal here is not to give a complete account of the model, but simply to support the importance of keeping the motivation of the learner in mind throughout the whole process of instruction.

relation to the ELM , advocates that the level of involvement of the receiver[93] would result in a change of attitude following two different routes: the central route and peripheral route. The use of one or the other would depend on the level of elaboration likelihood or cognitive effort: if it is high, then a central route will be taken, which would mean that attitudes would be modified through careful consideration, thinking and the integration of the new information provided by the producer. If the peripheral route is taken, it is believed that the changes in the attitudes would come from "non-issue-relevant concerns." It is claimed that the elements of 'Motivation, Opportunity and Ability' (MOA) are needed to go through this process. In the case of the central route, MOA would be high. In order to increase motivation, which, in accordance with this author's chain of thought, is crucial in the learning process, Hin (*ibid:*213) refers to a study by Hoyer and MacInnis[94] who assert that this could be done by means ofintervention on human drives in the elements of personal relevance, consistency with learner´s values, needs and goals, perceived risk, and moderate inconsistency with learner's previous attitudes. In the research described above, Hin claims (*ibid:*215) to have proved that using e-learning ingredients in a blended course raises motivation, and thus learning increases. This is supported by an increase in the average of marks as the e-learning elements were gradually introduced over a period of four semesters.

Regarding more open or flexible kinds of e-learning, such as networked learning, Rubio (2009:58) claims that the use of 'PLWE' (Personal Learning and Working Environments, as previously described in II.1.2.4) is normally associated with learners who exhibit intrinsic motivation.[95] Saadé (2003) carried out a research project on the relationship between the perceived ease of use of the tools in a web-based learning environment, the 'Educational Information System for Enhanced Learning,' and their perceived usefulness among other parameters. Ease of use depends, among other factors, on the learners' previous experience and expertise with the use of the tools (as stated above). Perceived usefulness is a crucial factor needed to at least arouse instrumental motivation (see below). For example, Mohamad (2011:84), in research carried out on the effectiveness of social networking applications in e-

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[93] In Richards *et al* (1985), communication acts are described as involving "at least one speaker or sender, a message which is transmitted and a person or persons for whom this message is intended (receiver)." Hin considers learning a communication process (2011:211), therefore the receiver and learner should be considered synonyms.

[94] Hoyer, W., and D. MacInnis, (2001), *Consumer Behavior* (2nd ed.), Boston, MA: Houghton Mifflin Company.

[95] See Section II.4.1 on motivation in EFL for further details on the intrinsic/extrinsic motivation construct.

learning, seems to have found that students do have "moderate" fears that using cooperative networking tools could mean a "waste of time."

Lim and Shen (2006) raise yet another issue when talking about innovation. They suggest that the traditional way in which their learners are used to regarding EFL tasks might clash with the inclusion of new ways of learning. Apart from highlighting the possible "negative attitude" of the instructor towards CALL-based methodology (*ibid:*226), they also admit that "it takes time to adjust their learning styles and the expectation of the EFL classroom to fit in with a changed methodological and procedural paradigm" (*ibid:*225). In a formal learning context, where learners are used to being fed information and only required to answer questions in a very predictable, standardized context, a paradigm that asks the student to build up and manage their own learning would take time. In fact, they acknowledge that the short time span of their project may have been a drawback to obtaining quantitative improvements in the learners' reading competence (*ibid:*226). Notwithstanding the negative results, they did draw positive conclusions regarding learner interest: students in the CALL class demonstrated higher levels of interest towards learning than the students in a more traditional EFL class when answering questionnaires and participating in interviews.

II.4.3 Factors Affecting Students' Attitudes towards the Use of ICT in Formal Learning

There are some factors that somehow affect the implementation of ICT in an educational context. For example, Tay *et al* (2011:352) mention context, course content, and pedagogy as factors affecting teaching and learning. Another factor that affects the process is motivation, as we have also thoroughly discussed in Sections II.4.1 and II.4.2, influenced, in turn, by the "learning and teaching process, competencies of instructors, participants' attention, the online learning environment/technical infrastructure, and the time management" (*ibid*) These are all issues we will have to analyze in the fine-tuning of our design to some extent. However, with such a short time interval in which to have the chance to foster any learning,[96] the attitude of users towards these innovations becomes critical. From the very beginning, our students should

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[96] There is strong evidence that time is a crucial factor in the production of learning with new methodologies (Blau and Hameiri, 2010:255).

be willing to invest their time and effort doing something they perceive as being worthwhile. It is their own time and effort, and they have already built up expectations about what the learning process should resemble. Karamanos and Gibbs (2012:333) claim that learners need to be persuaded that the new environment offers clear advantages over the traditional method. The implemented system would have to be devised and presented as being easy to use, with the tools used having some level of familiarity for the learner including premises resembling tools they already use and with learners being able to test it out very early in the implementation process (*ibid*).

Once initiated, students will also unavoidably affect the system design. Grant (2009:114-115), in a research project involving the use of wikis, sustains that the subjects' attitudes helped define its implementation since "students appeared to import practices of individualised written assessment that they perceived as important from the broader economy of education and the practices of the school community" (*ibid:*115). It is suggested that there needs to be a debate to bring about changes in methodology to foster collaboration. Teachers should actively train learners in how to collaborate together, and then find the appropriate tools (*ibid:*113-114). Judd, Kennedy and Cropper (2010:350) also claim to have proved that this is so in their own research on the use of wikis for collaborative learning. It is the due to the way in which the different learning activities are deployed by the teacher, including the right technological tools and the ways in which learners are expected to engage in the process, that collaboration might happen, and not the technological tools alone, regardless of the potentials they may have (*ibid*). Even so, as we can see in their conclusions (Judd, Kennedy and Cropper*,* 2010:351), the learners were not sufficiently trained for collaboration, and consequently the indicators of cooperation and collaboration among learners were very low. The vital importance of learners' perceptions is also emphasized in Arandia and Fernández (2012:116). It is the students we have to convince in the first place, so we need to know what perceptions we need to cater for.

Some researchers have provided insights into the importance of the ways in which learners perceive learning innovations. Concepts such as 'Perceived Usefulness,' that is how useful students perceive the tools to be, 'Perceived Ease of Use,' or the level of difficulty the students consider the tools to pose, and 'Perceived Fit,' or how appropriate students think the tool is for the task at hand; all of these are considered to be key factors for technological innovation in learning environments (Abrami, 2009:83; Mlitwa and Van Belle, 2010:6; Yuen and

Yang, 2010:466; Pynoo *et al*, 2011:574; Lin, 2012:505; Smet *et al*, 2012:694). Al-Busaidi and Al-Shihi (2010:3) add the concept of 'User Self-Efficacy,' defined as the judgment people make of their capabilities to succeed in certain performances. They claim that it is a major drive for the success of IT implementation (*ibid*). There seems to be a close connection between 'User Self-Efficacy' and 'Perceived Usefulness,' which are factors, together with 'Perceived Ease of Use,' that would help predict attitude, intention and actual use of IT (Al-Busaidi and Al-Shihi, 2010:3).

Attitude is further influenced by learners' 'Experience with the Use of Technology' to be implemented (Wolpers *et al*, 2010:399-400; Al-Busaidi and Al-Shihi, 2010:3-4); that is the previous experience the user has of using IT and the skills obtained from it. A technology-rich scenario with learners of a low technological profile would inhibit learning. Almost twenty years ago, Hillman, Willis and Gunawardena (1994:34-35) claimed that "technologically-challenged" learners would have to overcome the difficulties with the specific technological interface to be implemented as well if involvement in the learning process is to be expected. Facing a new tool, 'Personal Innovativeness,' that is the inclination to experiment with and use new technology regardless of the experience of others, is yet another trait we need to take into consideration (Al-Busaidi and Al-Shihi, 2010:4) which may also have an influence on 'Perceived Usefulness' and 'Perceived Ease of Use.'

We can see empirical confirmation of the importance of these factors in Judd, Kennedy and Cropper (2010:351) who consider that if they had made more emphasis on providing "support and familiarization" for learners to feel at ease using wikis, more collaboration could have arisen. This, we believe, would have changed students' 'Perceived Usefulness,' 'Perceived Ease of Use,' and 'User Self Efficacy' of the tools and the methodology at least, as well as enhancing students' 'Experience with the Use of Technology.' Another example can be seen in Yuen and Yang (2010:466). 'Perceived Usefulness,' substantiated in the form of students' perceived learning, is also referred to as a major drive (*ibid*) in the context of an empirical study on the effectiveness of blogfolios (blogs used as portfolios) for university students. They conclude that students' level of comfort and self-regulation have a major influence on raising the level of overall interaction (*ibid*), and interaction, in turn, raises learners' satisfaction with instruction and, thus, perceived learning (*ibid:*456).

We need to avoid being misled by the expectations raised by the 'digital native' construct. Selwyn (2009:367) claims that the digital native is often portrayed as an "empowered" individual who can not only use different tools at the same time, deploying a number of multi-tasking capabilities, but who is also an active agent of their own learning processes, ready to collaborate with others on common interests and tasks, and an autonomous, yet cooperative, individual. This seems to be, they claim, more social wishful thinking than reality. The definition of the digital native seems to be a description of what kind of future we want to have rather than the society the young are taking us into (*ibid:*371). Making reference to research, the author claims that the reality of the digital native is, in most cases completely the opposite: a passive, individual user of media provided online (*ibid:*372-373). There is evidence that young learners would not even expect or want to use IT inside the formal institutions of learning as they do at home (*ibid*). Tay *et al* (2011:359) claim that students' inclination to adopt a passive, viewing role more than an active, participating role was confirmed in their research. The mere introduction of technology will not change this reality overnight.

Furthermore, Zhang (2005:159-160) admits that adult learners differ from other learners in how they commit themselves to something they know the goals of, especially if these are "realistic and important for them." He suggests that their positive results could have been different if the learners had not been committed adult learners (*ibid*). This would, *de facto,* support the idea that if his learners had been adolescents, the results might have been different.

II.4.4 The Influence of the Educational Context

Área (2010:93), in an analysis of the role of ICT in state schools in the Canary Islands through direct observation of schools concludes that the introduction of ICT in both primary and secondary schools has not meant any significant pedagogical change on the part of teachers. Changing the culture of a school is not easy, even though implementing ICT has come to be the leitmotif in most of the current debates happening in schools. Authors like Paredes (2010) believe that the implementation of any ICT innovation could bring uneasiness; it might break the harmony that may exist at the school it generates ambiguity, and it adds problems to the existing ones. The impulse to implement ICT led methodology should be preceded by the will to change the culture within the educational institution first (Paredes, 2010:49), and, consequently, it is

only when ICT designs are fully integrated into the institution that quality implementations will arise. However, we have to bear in mind that innovation is not easily adopted. For Rogers (as cited in Blau and Hameiri 2010:246), only 15% of the population within an institution would easily adopt a technical innovation. The state ICT network has made access to technology easier, but it has so far been received as a new way of doing the same as before since teachers have, generally speaking, adapted available resources to traditional ways of teaching (Área, 2010:93). Important evidence of this reality is that the curriculum planning process that schools have to undertake every year (subject syllabuses, and other school documents) has not significantly changed with the widespread introduction of technology (*ibid:*93). It is only in small *ad hoc* innovations that we can see some changes in the teaching-learning process, but always in line with the methodology currently used by the teacher (*ibid:*94). That is to say, the teacher who innovates will do so regardless of the technology used (Paredes, 2009:62).

As instances of the importance of the teaching environment at a school when designing an ICT facility we can refer to work by Grant (2009) on the use of wikis to foster collaboration among secondary school students and Wolpers *et al* (2010). Grant (2009:106) claims that "while popular and academic writing valorises the potential of social software and wikis to usher in new forms of learning, there is a need to understand the realities of such software use in a real educational context." In fact, although Grant's research was based on an open Web 2.0 facility, she was asked to customize the wiki in such a way that students' production was completely hidden and accessible only for authorized members of the educational institution for fear of "abusive or offensive posts" and/or authorship issues (*ibid:*108), thus leading to the platform becoming devoid, according to Grant (*ibid:*114-115), of "authentic, relevant and worthwhile practice." Therefore, a potentially open tool was customized to turn it into a controlled, closed environment that would match a more traditional methodology. Wolpers *et al* (2010), within their research on the use of Responsive Open Learning Environments in China,[97] concluded that implementing an Open Learning Environment to become a PLE is inevitably constrained by the "Confucian culture of China" (*ibid:*399), where the teacher is traditionally the centre of the

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[97] They describe ROLEs as "characterized through their openness for new configurations, contents and users and through their responsiveness to learners' activities in respect to learning goals" (Wolpers *et al*, 2010:391). They designed an interconnected set of widget to be further on selected by the user depending on need on a host platform that would perform language learning tasks (displaying multimedia texts on a widget, and a dictionary on another, with a vocabulary training widget), all selected by the user (Wolpers *et al*, 2010:392-393).

teaching process without much learner involvement, not even within the context of the traditional classroom.

Along the same lines, Karamanos and Gibbs (2012) claim that although e-learning technology innovations have advanced well into academic institutions, the same cannot be said about e-learning pedagogy[98] which "still remains at innovator stage" since it has not reached the status of widespread usage by students nor teachers (*ibid:*321); the same idea is also present in Paredes, (2009:61). When describing a theory and methodology for implementing change in education called the 'Concerns Based Adoption Model' (Karamanos and Gibbs, 2012:323), they claim that users undergo a series of stages of concern in the process of implementation of an innovation. The first stage would be concerns unrelated to the innovation which would turn into self concerns (what the experience would be like for 'me,' whether I can succeed), then into task concern (on the actual use of the innovation) and finally to impact concerns (e.g. is the innovation really going to bring improvements?). Thus, they ascertain the importance of a change facilitator, an agent that would actively promote the innovation through interventions, that is actions to influence the individuals involved in the innovation. They claim that the Concerns Based Adoption Model includes five functions in the possible interventions: "developing and communicating a shared vision of change, planning and providing resources, investing in professional learning, checking on progress and providing continuous assistance" (*ibid:*324).

The role played by educational institutions is also analyzed in Al-Busaidi and Al-Shihi (2010:4-5). They have identified some organizational factors that would affect 'Perceived Usefulness' and 'Perceived Ease of Use.' They mention several issues that are instructor-specific: 'motivators,' described as the capacity that an organization has to incentivize their members in terms of teaching awards, promotions or tenures, or organization support, in terms of

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[98] Karamanos and Gibbs (2012:321) make reference to the difference between e-learning technology and e-learning pedagogy, whereby the first would embody the technology used to deploy an e-learning instance; and the latter would cover the learning and teaching principles behind the e-learning instance. Gutiérrez-Colon Plana and Pladevall (2009:8) also established a direct relationship between the methodology used by the teacher and the success of the technology used. For them, "the more the teacher knows how to use the virtual environment from a methodological point of view, the better the students feel in the classroom and therefore the better the teacher facilitates their learning process" (*ibid*.). Lorente-Guzman *et al* (2009:141) also distinguish between technology and methodology when describing collaborative ways of working with students and the different technological stances used to substantiate them.

senior managers supporting the instructors. But there are others that may be more universal, like technology alignment, or the seamless adaptation of technology to the curricula, that would obviously affect the instructors' Perceived Usefulness and Perceived Ease of Use, but would also have an obvious influence on the learners themselves. For Keengwe and Georgina (2011:367), faculty members may be reticent to learn the skills required to manage learning in an online context. So they suggest gradual integration, going from using technology in their classrooms before going into online instruction (*ibid*). In their article, they describe a course they implement at the Midwestern University called the Digital Course Training Workshop, aimed at assisting the faculty in the process of integrating online instruction into their teaching. They conclude that the teachers involved in the program improve their perceptions of their IT skills and, consequently, e-learning instances grew in numbers (*ibid:*377).

II.4.5 Reservations about How Effective Web 2.0 is in Formal Learning

Regarding the use of Web 2.0 as a learning tool to build PLEs, there is no clear, univocal opinion regarding its benefits in formal learning. Wang and Vásquez (2012:423) claim that there are some disadvantages to using Web 2.0 for second language learning, coming mainly from the lack of training on the part of the learner. For instance, in the case of blogs, learners may not use the right register or take the reader into account when they are writing. Regarding the issue of collaboration, it is claimed that learners need to be trained to be able to give "appropriate comments to their peers" (*ibid:*423), as we have also seen above. In fact, as shown in Fu, Yang and Huang (2012:8), there are a number of research publicationsthat offer contradictory results regarding how effective blogs are as a means to foster learners' participation. Panagiotidis (2012:435), in an article analyzing the advantages and disadvantages of PLEs, acknowledges the difficulties involved in their implementation. He mentions class management, authentication, and assessment tools as services which are ery difficult to provide if you have decided to use a PLE. Another difficulty in such an open design is the existence of potential distractions for the learner that could hinder the process of learning. As a way to balance the strengths of both systems, Panagiotidis suggests (*ibid*) that both systems, LMS and PLEs, could be combined to give a better answer to formal contexts and informal learning.

There is also a high percentage of teachers and learners who have a negative perception of Web 2.0 as learning tool. Tu *et al* (2012) state that this negative perception comes from a lack of knowledge about the tools themselves, the consequent difficulty of learning to use different tools, having to visit different sites, and the authentication hassle. However, they consider this to be more a symptom of not understanding the actual networked learning paradigm, and the inappropriate integration of the different tools implemented (*ibid:*13), which is, precisely, one of the key issues for ICT implementation in general at schools as we have mentioned above. They consider that the use of Web 2.0 in a formal learning context requires a shift into a more decentralized learning mentality, both for teachers and students, where emphasis is put on the personal effort of learners and collaboration (*ibid:*18).[99] In fact, evidence shows that,although technology provides a wide range of possibilities for learning, they will only materialize if the factors affecting the implementation are catered for.

There is also a shortness of empirical studies as yet that could substantiate the potential benefits of Web 2.0 for foreign or second language learning (Malhiwsky, 2010:75). Regarding the scientific consistency of research related to Web 2.0, Wang and Vásquez (2012:419) stated that in the majority of studies accessed in their research on the effectiveness of the use of Web 2.0 in second language learning, there was no theoretical framework taken into consideration: reesrachers either do not mention it or "did not appear to have an obvious theoretical foundation" . This would account for a lack of well justified research on Web 2.0 (*ibid:*424). Only around nine percent would be related in some way to social constructivism, and none of them to connectivism. Most of the studies deal with higher education learners, and only nine percent of the studies surveyed were carried out in secondary education contexts, and none take into account the use of Web 2.0 for non-formal or informal learning. Other weaknesses mentioned are the lack of in-depth insight on the issues explored, "technocentrism," that is not regarding the pedagogical approach properly, and the absence of contextual variables in the parameters affecting the results (*ibid:*419-420).

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[99] As was also exemplified in Grant (2009:113-114) above where we described the characteristics of learners.

II.5.6 Current Considerations of Learning Management Systems

LMS are still an innovation in secondary education as most students have never had an experience with e-learning. Lorente-Guzman *et al* (2009:145)[100] claim that in Valencia only 32% of the secondary schools use some kind of learning platform, including Content Management Systems. This is perceived as positive (*ibid:*145), but it is still far from becoming a mainstream concept. However, there is a drive that is already promoting their use, an example of which is the above mentioned study by Área (2010). Another instance is the project called EVAGD[101] in the Canary Islands, which is an initiative with local government support to provide a slot in a common platform for any teacher in the Canary Islands who might need it. Another important factor is the widespread use of the LMS at university level all around the world (Ramakrisnana *et al*, 2012:528), and, more specifically, at both universities in the Canary Islands which is the most probable future for the majority of the learners in our research context. In *Horizon Report* (Johnson, 2012:27), it is stated that learning analysis needs to include more data than those provided by LMS, assuming they are still a central part of instruction at university. For some authors (Al-Busaidi and Al-Shihi, 2010:2; Aydin and Tirkes, 2010:1), LMS are still a means to enhance the learning process inside the classroom.

What is more, although there are calls from both teachers and researchers to move forward from the LMS into more open technological designs (Siemens, 2004; Sclater, 2008), there are also many authors that still consider the LMS as a central ingredient of current and future relevant e-learning facilities (Brown, 2010:8; Zaharias and Mehlenbacher, 2012:475). Those authors that consider LMS to be outdated also suggest that they still have a role to play (Siemens, *ibid*; Sclater, 2008, Sclater, 2009[a]; Sclater, 2009[b]). There have also been efforts to integrate LMS into the more learner-centered concept of PLEs (Sclater, 2008, Sclater, 2009[a]). We can see an instance of this in the use of *Mahara*, a learning portfolio facility that can be integrated in *Moodle,* or the conditional modules developed by the CICEI in the University of Las Palmas de Gran Canaria. Both of them will form part of our design in the current research project reported here.

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[100] We have not found any similar study about the situation in the Canary Islands, the context for our own research project, but since the case in Valencia is in the same country and the schools included also belong to the state system, we argue that we could safely assume that the situation here is similar.

[101] http://www3.gobiernodecanarias.org/medusa/ecoescuela/proyectoevagd/ Last accessed March19th 2014.

CHAPTER III

RESEARCH DESIGN

CHAPTER III

<u>RESEARCH DESIGN</u>

The development of the current research study stems from our perceived need to find a way to make the most out of the very little contact time we have in the second year of the upper-secondary education (pre-university entrance) level in our teaching and learning context in the Canary Islands, Spain, for guiding our students more effectively in their learning of a foreign language. What shall we include in classroom time and what should be left out? What, within the potential content included in the syllabus for the subject of English as a Foreign Language, can be learnt autonomously by students? What means, within the scope of the decisions that can be taken by the teacher, shall we actively implement to guarantee relevant learning? In what manner shall we implement those means, taking into account all the factors affecting the process of learning? Providing a holistic answer to those questions is not a realistic goal for one single research project. Nevertheless, we can contribute to the whole picture with a partial, objective and longitudinal study that sheds light on certain key aspects.

The time of exposure to the foreign language is definitely a parameter to be taken into account. Let us take the difference established by Cummins (1980) between Cognitive Academic Language Proficiency (CALP) and Basic Interpersonal Communication Skills (BICS), constructs that were used to establish the average time taken by a learner to learn what he considered to be two differentiated competences. According to Cummins (2008:489), an immigrant student immersed in an L2 academic and everyday life context will take two years to acquire conversational fluency in L2, but five years to achieve the same results as a native user in the "academic aspects of the second language" (*ibid*). As both premises involve language learners who are living in an L2 context, we assume they are exposed to the language for a great part of

the day. The participants in the current study are not in that acquisition context. Therefore, the time required for learning the foreign language by our learners, be it either for CALP or BICS purposes, can be expected to be much longer. But we might draw the conclusion that we should also direct our efforts towards increasing the amount of significant exposure to the foreign language, bearing in mind that classroom teaching time is very limited (only 3 hours a week).

Thus, we need to make decisions both on what to include in classroom time, and what should be left for students to work on outside the classroom context. Relatively new concepts such as expanded education[102] or the flipped classroom[103] are behind teachers' and researchers' efforts to make classroom working time more efficient with regard to relevant learning. However, those decisions should always follow official curricular designs so as not to degenerate into institutional unfairness with the rest of the students within the same system. In the case of the Canary Islands, and taking the case of English as a Foreign Subject as a core subject in the school system, the curriculum emphasizes the importance of communication, taking the *Common European Framework of Reference* or *CEFR* (*Council of Europe*, 2001) as their benchmark (BOC, 2008:19606). Therefore, communication should be the goal of all the teaching efforts we pursue. From all the ingredients communication encompasses, speaking and spoken interaction are probably the skills that students will have the most problems finding a means to work with outside classroom time. Therefore we consider them as a priority for class work. Taking into account the university entry exam (referred to below), and the nature of the skill itself, formal academic writing should also be part of classroom work in order to be able to closely guide the learner through the writing process. Therefore, other elements such as grammar and vocabulary practice or developing reading skills could form part of out-of-class work since they might lend themselves to more autonomous work (the details will be described in more depth in Section III.3.2).

The most natural means to implement this autonomous work, as we have seen in previous sections, is by means of ICT tools. In fact, ICT is mentioned in the curriculum as a factor to bear

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[102] Expanded education (Garcés, 2010:70) implies the disappearance of the frontiers of the classroom and scientific disciplines, with universal access to both information and cultural resources, as well as the evolution towards networked cooperative work

[103] In a flipped classroom, "students watch or listen to recordings of class lectures on their computers, tablets, smart phones, or personal media players outside class, leaving class time to engage in learning activities that might otherwise be assigned as homework." (Frydenberg, 2012:1)

in mind in the learning of a foreign language (*Consejería de Educación*, 2008:19606). Consequently, our endeavour described here will be devoted to building Corporate Learning Environment (CLE), informed by the research on the specific fields of language learning and the use of technology in educational contexts described in Chapter I, which will encompass a number of ICT facilities that will provide our learners with the necessary tools and content to further develop their autonomy.

Our CLE is supported by a Learning Management System (LMS) with an e-portfolio facility. The whole design revolves around a central area, where learners find most of the administrative information (e.g. marks, dates, deadlines), grammar-training activities and communication venues.[104] The core course has a number of specialised associated workshops for the learners to practice reading and/ or reading strategies, depending on the group of students they belong to. This teaching design we have decided to implement in the investigation project reported here will be described in detail in Chapter III.3.2.

The focus of the current study, however, will only be on one section of that design in relation to training in reading strategies at different levels of explicitness as a means to improve reading comprehension skills. Hence, we will analyze in detail the online learning aids used and how effective they are regarding not only reading comprehension, but also our learners' perceived effectiveness of the design, thus catering for all the parameters necessarily present in the progress of the learner (see Section II.4). In the following chapter, we will provide a description of the implementation of our research project, beginning with the research questions we wished to address followed by an account of the profile of the subjects in Section III.2 and the instruments used to collect objective data from them, in Section III.3.

III.1 Research Questions

Our research efforts primarily need to be directed towards identifying what parameters might be relevant in the design of a teaching/learning model that explicitly uses ICT tools in the context of teaching and learning English as a foreign language. Following the epistemological paradigms addressed in the previous chapter devoted to the state of the art in recent relevant

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[104] See Appendix IV for an account of the elements considered to be important in an e-learning design of this kind.

research, we decided to formulate three research questions, which we consider could shed light on the impact of the use of ICT on foreign language learning. These questions will shape the implementation of our investigation, and they will also guide our decisions in our subsequent teaching.

- o Does using a Corporate Learning Environment in a blended design, based on the use of Information and Communication Technology, enhance the language learning experience in our teaching context?

- o After the application of a Corporate Learning Environment, do learners perceive it as a relevant learning means?

- o Do learners improve their reading comprehension by means of explicit training in the use of reading strategies through the use of a Corporate Learning Environment?

- o Do learners improve their perceived use of reading strategies after overt instruction on reading strategies?

III.2 Subjects of the Study

The subjects that participated in the current study were selected from the courses assigned to the teacher-researcher by their school during the academic year 2011-2012 (as in Yuen and Yang, 2010: 462). Following standard procedures in empirical studies of this kind, we decided to set up both an experimental and a control group. In order to ensure the groups were not significantly different from each other in sensitive areas, such as the compilation of personal information, what their previous exposure to the target language had been, and what their attitudes to English as a foreign language were,[105] we asked our students, to complete a context questionnaire (e.g. Gong *et al*, 2011:2; Karamanos and Gibbs, 2012:324) at the beginning of the

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[105] Tsai and Talley (2013:14) emphasise the importance of the balance between control and experimental groups, not only within linguistic parameters, but also other parameters such as motivation, language background, qualifications, self-regulatory skills and learning styles, along with their attitude towards technology and computer skills, as well. We tried to provide as complete a picture as possible with the questionnaires we used. A copy of the questionnaire used can be seen in Appendix VI.

course as a means to collect personal information from both the control and the experimental groups. The results, after analysis, show that there is no significant difference in the responses to any of the questions provided. In total, there were 58 participating students from the second year of upper-secondary education at a state school in the Canary Islands, Spain in two separate groups. The experimental group was the one labelled as A and the experimental one was the group labelled C. Group A had 26 students and Group C, 32 with no significant difference between males and females, and all of the subjects have Spanish as their L1.

Our expectation with regard to the overall communicative competence of students reaching the second year of upper-secondary education in the Canary Islands was that we would have a heterogeneous group of subjects. After administering the questionnaire, and although most of our students (72.4%), according to their answers in the questionnaire, had had English as a school subject since they were between 6 and 8 years old, with the rest starting even earlier (27.4%), the average command of language skills is still low or very low.[106] However, some subjects do have a competence level beyond average due to family context, extra exposure outside the school context in private schools, or a special sensibility towards foreign languages.[107] So our expectations were confirmed. However, none of these parameters, as we have stated above, were significantly different in any of the groups which guaranteed that both groups had a similar student profile.

In order to be able to gather more insights on both our students' objective competence, and also their perceived competence in English, we asked them whether they had ever failed English, and what they thought their average mark in English had been to date. Only 31% reported that they had ever failed English (23% within the experimental group and 37% within the control group). With respect to their previous marks in English, the situation is also balanced in both groups with 44.8% of students stating they had had high or very high marks (46.2% in the experimental group and 43.8% in the control group), and only 3.8% in experimental group and 3.1% in the control group stating their average mark was a fail. Their competence level regarding reading was further confirmed with the application of a standard reading test, described in Section III.3.1.3, confirming that there was no significant difference as we will see

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[106] See the study by Cranfield (2007:110) for similar expectations for subjects with similar backgrounds.
[107] When considered relevant, we will come back to these parameters and their results in both the experimental and control groups in the section on results

in Section IV.3. Therefore, both groups not only matched our expectations, both regarding their heterogeneous nature but also their equivalence against each other.

We also asked the participating subjects about their perception of English-speaking countries and their perception of themselves as foreign language learners. Again, their answers show that both groups, within their diversity, are balanced, with most students showing positive responses,[108] further confirming the expected equivalence between both groups. Thus, we concluded that the possible differences between the groups would not significantly influence our study.

III.3 Research Instruments

The current longitudinal research project is based on the use of a number of data collection instruments, some with the specific purpose of collecting quantitative and qualitative data from the learners, but others corresponding to the actual online tools that were designed to produce the results we had hoped for. As we have seen in previous sections (e.g., II.1.2.3; II.4.1), students' perceptions are the key to the success of any learning or teaching application. Therefore we needed to have access to their perceptions of their own learning process, the online tools we were providing and the actual content of the study i.e. reading comprehension and learning strategies. Consequently, we devised (i) an attitude questionnaire (see, for example, Lim and Shen, 2006:213-214; Tay *et al*, 2011:353; Karamanos and Gibbs, 2012: 324) as a means to be able to gather information, at different points in time during the application, on some key parameters related to what their perceptions were and how they evolved during the learning process regarding their progress or the learning tools they had been provided with. For a greater focus on our students' perceptions of their strategy repertoire, we used the (ii) Strategy Inventory for Language Learning (SILL) (Oxford, 1990), described in Section II.3.3.[109] We also implemented (iii) a standardized reading test (e.g. Sung, Chang and Huang, 2008:1557; Liu, Chen and Chang, 2010:438-439; Aghaie and Zhang, 2012:1069; Tsai and Talley, 2013:6) in order to obtain objective data about our subjects' reading performance both before and after the

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[108] See a complete account of all the results in Chapter IV.

[109] For other studies using the SILL, see for example, Griffith, 2008:42; Kawai, 2008:218; Radwan; 2011:126-127; Sung, 2011:124; Kalahaji, Nimehchisalem and Pourshahian, 2012:195; Vidal, 2012:55; Yunus, Sulaiman and Embi: 2013:99; Sadeghi and Khonbi, 2013:30.

experimental period. Both the questionnaires on attitudes and strategies were administered with L1 equivalents (Bobb Wolff, 2006:Sec. 1; Aghaie and Zhang, 2012:1071) so as to make sure that the responses were not impeded by the compulsory use of L2.

Since the core aims of the online application described in the current research study are embodied in the ICT tools we designed for it, we built a Corporate Learning Environment (CLE)[110] that included a Learning Management System (*Moodle*) along with two modules that provided extra personalization features, together with a portfolio facility (*Mahara*).[111] As we will go on to describe both in this chapter and in the subsequent chapter devoted to the analysis of the results of our research project, we used the participants' logging data provided by the LMS to draw possible conclusions along with the information provided by the questionnaires. Similarly, there are several studies that use a combination of questionnaires and objective data provided by traces left by users in ICT learning facilities (Perry and Winne, 2006; Martín-Blas and Serrano-Fernández, 2009: 39; Judd, Kennedy and Cropper, 2010:344-345; Tay *et al*, 2011; Law and Sun, 2012:484-485). For instance, regarding data harvesting in ICT facilities, Perry and Winne (2006:211, 216-217) assert that 'Self Regulated Learning' (which was the topic of their research) is a "process that evolves across multiple episodes of studying" (*ibid*:211). They argue that self-report one of the main tools in 'Self Regulated Learning' (SRL) research, would not necessarily account for what is really happening in the process of studying since there are a number of factors that could affect learners' opinions. It is claimed, for instance, that it is difficult to know what context the respondent is thinking about when answering a questionnaire, unless it is restricted by the researcher. That makes it very difficult to generalize findings (*ibid:*215). Based on these weaknesses of self-reports, they suggest using traces learners leave when performing different strategies during the processes of conscious study. As a means to be able to do this, 'gStudy,' a study-strategy platform was devised, which is a framework containing a certain number of venues to help in the process of studying with the platform recording every movement (*ibid:*216-217). Access to these recorded data could shed light on the different mental processes the student is going through during the process of studying (*ibid*:220). Perry and Winne

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[110] See Section II.1.2.5 for more details on what CLE entails. Although our own environment was not a CLE, since it was not subscribed to by the corporation, it does represent for the learner what the institution, embodied in the teacher, asks from them. Thus, it was very different from what a Personal Learning Environment (PLE) (also in Section II.1.2.5) would imply.

[111] See Section II.1.2.5 for ample instances of empirical research using LMS of different kinds.

(*ibid:*226)claim that this, used together with self-report data, provides a more accurate picture of the learning process.

In this chapter, we will strive to provide the reader with a full description of the different instruments we have used in the current study. Section III.3.1 will be devoted to the 'attitude' questionnaire, the SILL questionnaire and the standard objective reading test. A complete replica of context, attitude and SILL questionnaires have also been annexed.[112] In Section III.3.2, we will describe the Corporate Learning Environment designed for the research, with one subsection for *Moodle*, including its modules and the *Mahara* application. Finally, in Section III.3.3, although it is not a tool used for the purposes of our research *per se*, we believe we need to briefly mention the textbook we were using,[113] since it has added cohesion to all the resources used through the choice of topics, vocabulary and grammar to be presented to the students. It has also helped us to make sure that there was not a big gap regarding the learning contents included in the course between the subjects in the two groups who were not involved in the research project and the ones who were.

III.3.1 Questionnaires

III.3.1.1 Attitude Questionnaire

One of the aims of the current study is to gain insights into the potential evolution of learners' perceptions of the subject of English as a Foreign Language at high school, their concept of the importance of learning a foreign language and the perceived utility of ICT tools for foreign language learning. Therefore, we devised a questionnaire with a four-point Likert scale[114] corresponding to three areas: (i) the evolution of the subjects' self-image regarding their level of English, (ii) the impact of the platform used during the course on their learning progress,

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[112] Appendix VI to VIII.

[113] To see some instances of studies using textbooks as side tools, the reader could refer to Rodríguez-Juárez and Oxbrow (2010:144), Liu, Chen and Chang (2010:438), or Ge (2012:288). Cohen (2003:np) refers to some of the benefits that using textbooks in strategy training could have.

[114] We decided to use a four-point Likert scale except in two items, where we added one more level with a more specific parameter not related to a level of agreement. This was done to avoid the social desirability bias produced by having a mid-level. See Garland (1991:4) for more details.

and (iii) the potential improvements the new method brought inside the classroom. The questionnaire was designed so that students' answers were kept anonymous until the final marks of the subject had been already decided and made public so as to make sure that they answered as sincerely as possible (the actual administration of the questionnaire will be further detailed in Section III.4 which deals with the procedure).

In relation to the first area, we asked our subjects questions on how they saw themselves as learners of English as a foreign language at different moments during the course, but also about how they perceived the evolution of their competence in the skills of writing, reading, listening and speaking, as well as a general perception of their progress. For the second area, we partially used the COLLES survey (*Moodle Docs* 1.9 [a], n.d.:Sec. 2.1). We asked students about their general perception of their experience with the use of the learning platform, but also about a number of key issues in enhancing learner experience with learning platforms (Gutiérrez-Colon Plana and Pladevall, 2009:4).[115] Lastly, since the inclusion of a learning platform means a change in the content we deal with in the classroom (as we will see in the following sections), we also wanted to know whether students perceived any improvement in other parameters such as their relationship with each other inside the classroom, their perceived relevance of the learning platform, and of the classroom sessions for their learning, along with anything else they might have noticed of interest.

III.3.1.2 Strategy Inventory for Language Learning (SILL)

As we have already stated, both in the introduction to this section and in the section devoted to learning strategies (Section II.3), the SILL is a survey tool based on sound theoretical premises and empirically tested in numerous studies. Its goal is to provide an overall picture of the learner's strategy use (Oxford, 2011:159), and we used a version that uses both L1 and L2 to formulate the statements. It includes the six different strategy domains of Oxford's strategy

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[115] Gutiérrez-Colon Plana and Pladevall (2009) established a number of parameters to bear in mind in enhancing learner experience in a 'Virtual Campus'. They were established (*ibid*.:4) by surveying students from four different universities in Spain who were involved in blended online courses in which *Moodle* was being used. These parameters fall into four categories: management of the subject, students' perception of the subject, design of the course and documents and feedback from the teacher (for a complete account of the different parameters that they think need to be catered for see Appendix IV). We have tried to implement our own platform following these recommendations where possible.

taxonomy (1990): (i) memory, (ii) cognitive, (iii) compensation, (iv) metacognitive, (v) affective, and (vi) social strategies. The items from all six domains constitute a total of 51 statements. The SILL uses a five-point Likert scale that allows the learner to choose, for every statement from (i) never or almost never true of me; (ii) usually not true of me; (iii) somewhat true of me,;(iv) usually true of me; and (v) always or almost always true of me, with corresponding percentage labels that are set from 0 to 10 %, to 90 to 100%. The copies given to the students included short instructions on how in proceed answering the questionnaire.

III.3.1.3 Standard Reading Test

As a means to obtain an objective measure of what the reading competence of our subjects was, both at the beginning and at the end of the course, we used the reading comprehension component of the standard Cambridge ESOL 'Preliminary English Test' (PET). The test is divided into five different sections, and it provides authentic and adapted reading texts (*Cambridge University ESOL Examinations*, 2010:5). As we have analysed it, each part focuses on the potential use of different reading strategies. In the first section, the reader is expected to use their cognitive and/or compensation strategies (e.g. 'analyzing and reasoning,' and 'guessing intelligently')[116] to get the "main message" (*ibid*:5) of notices and other short texts. The second part uses short texts and descriptions of people for students to match by finding relationships or correspondences between the specific information and details in the different texts 'using linguistic clues' as a compensation strategy, and 'receiving and sending information' as a cognitive strategy. In the next section, the reader is expected to extract specific information from a factual text and decide whether a number of statements are true or false (*ibid*); 'receiving and sending messages' is a possible cognitive strategy here. In part four, the reader is faced with a longer text and is expected to answer multiple-choice questions, this time with a focus on extracting the opinion, attitude and purpose of the writer (*ibid*); social strategies could be used here, such as, 'becoming aware of others' thoughts and feelings.' The last section contains a

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[116] The purpose of including sample strategies here is simply to provide a reference for the reader. These strategies are not universal for all readers in this type of exercises, since the use of strategies is based on the task, and also on the individual user and their language competence level (see Section II.3.2 on reading strategies). However, we have decided to try to match the reading task requirements with some of the possible strategies described by Oxford (1990) in order to relate it more closely with the aims of our own study.

multiple choice cloze test, with an example to help the learner with the procedure of the exercise, and it is based on vocabulary use and grammar (*ibid*), with 'guessing intelligently' as a possible compensation strategy, and 'analyzing and reasoning' as a cognitive strategy). However, this test was selected because it matched the curriculum competence level, and not because it consists of a specific test on strategy use. Additionally, the use of a standard test offered the guarantee of having an extensively validated tool for measuring the reading comprehension competence of our own learners.

III.*3.2* Corporate Learning Environment (CLE)

With the intention of providing a relevant context for our strategy training programme, we devised a multilayer learning environment where there was space both for relevant autonomous learning and communication, with some characteristics of social networking applications and web 2.0.[117] The LMS added an easy-to-monitor framework that purely Web 2.0 venues do not fully provide, since as we argued in Section II.4 on learner autonomy and our reasons for choosing a LMS we expected to have students with very low levels of autonomy and a very traditional way of viewing language learning (Rodríguez-Juárez and Oxbrow, 2010:155). A Learning Management System (LMS) provides all the characteristics we needed to implement our design: e.g. communication facilities, detailed tracking of learners' movements around the platform, and a high level of customization. Among the myriad of LMS and based on the literature we researched for this project, *Moodle* (version *Moodle* 1.9.13+), a highly versatile LMS, was our choice for articulating our own learning environment (see Section II.1.2.5 on LMS for a complete argument on the advantages of using *Moodle*).

Although the objective for using a LMS in the current research project was to provide evidence related to strategy training, this had to be done following the recommendations of the research community within the scope of a communicatively relevant context (see Section II.4). Therefore, our design includes (i) a common course for both the experimental and control groups that includes communication facilities and exercises for the controlled practice of grammar and

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[117] The reader can see examples of implementations of LMS together with Web 2.0 in Tay *et al* (2011:352-353) and Tu *et al* (2012:13) as well as supporting arguments in Section II.1.2.5 of the currect research study.

vocabulary labelled as '*The Interactive Area*;'[118] (ii) two separate reading sections that are similar for both groups with connections to the *Mahara* portfolio facility, with the experimental group having additional references to a range of different reading strategies, labelled in a section as '*The Reading Corner*,' and (iii) a section only for the experimental group where overt training on strategies is implemented labelled '*The Strategy Workshop*.' We will describe them in this order in the following sections, with more detailed information in the sections focusing on reading skills and strategy training.

All these elements have been carefully integrated so that they all have a common rationale. Of course, the main agglutinating element in the design of the LMS was the established curriculum for English for the second year of upper-secondary education, which also helped us to make sure that all the groups, regardless of whether they were control or experimental groups, were following similar instructional processes. Regarding our Corporate Learning Environment, we supplemented this cohesion with the use of two extra modules from *Moodle*: a conditional module and an outcomes module. With these two modules we also wanted to add relevance to the whole process, but we will describe them in more detail within the sections where they are relevant, not as separate venues. We should never forget, however, that this course has a blended design, that is, we are running a learning platform for students in a teaching and learning context that also has a physical, in-class element. The contents included on the platform are not a reinforcement of what we do in class or an extension, but they have a relevance of their own.[119] In a sense, the use of this kind of CLE could be a possible solution to the difficulties posed by the integration of strategy instruction: e.g. lack of time, or the number of students in groups being too high (Sung, Chang and Huang, 2008:1553).

For intelligibility reasons, we consider it necessary to clarify some terms that will be used from now on. We need to differentiate between 'course,' 'section,' 'block,' 'resource' and 'activity.' In the first place, "courses are the spaces on *Moodle* where teachers add learning materials for their students" (*Moodle Docs* 2.4, n.d.:np). Courses, in turn, are distributed into sections and blocks. The former are subdivisions within a course that help organize the content,

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[119] We believe, along the same lines as Macaro *et al* (2012:7) , that research on Computer Assisted Language Learning has to be contextualized regarding the reasons for doing it, when to do it, and why is it relevant for that specific population. We are attempting here to provide ample arguments for those three parameters.

which could be in a weekly or topic-based format; and the latter are widgets we can add on the sides of the sections to supply the participants with a certain number of general-aim tools: e.g. calendars, RSS feeds, or messages awaiting answers (*Moodle Docs* 1.9 [b], n.d.:np). Within every section, we can add resources and activities: "a resource is an item that a teacher can use to support learning, such as a file or link" (*Moodle Docs* 2.3, n.d.:np) and the term 'activity' describes the tasks the learner does that normally require some kind of interaction with the teacher and/ or another learner (*Moodle Docs* 1.9 [c]: n.d.:np). The activities we will use in the different courses are 'assignments,' which are tasks where the student has to submit a report of some sort either by attaching a file, editing a text online, or submitting a portfolio page; 'lessons,' where learners are offered some input, with the possibility of requiring interaction from them; 'discussion forums,' for communication and reflection; a 'choice' activity, where the learner is asked to choose from a list of possibilities that can be used for assessing or simply for opinion survey; a 'wiki,' which is a cooperative writing facility; and SCORM (explained later when describing the section dedicated to grammar and vocabulary). Although we will try to make our description as clear as possible, these terms can cause misunderstanding. We have used different versions of *Moodle* in the references since there are no contradictions with the *Moodle* version we are using, and we wished to provide as clear a reference to the terms as possible.

III.3.2.1 Common Sections '*The Interactive Area*'

'*The Interactive Area*' (TIA) is the core area of the whole application in the sense that it is the course that every student, both in the control and experimental groups, is directed towards for most daily learning issues. It was designed to be a metacourse hosting child courses (the ones described below as '*The Reading Corner*' and '*The Strategy Workshop*'). Therefore, its participants were inherited from child courses: every student was assigned one of the child courses, or two in the case of the experimental group, as we will see in Section III.2.2 and III.2.3, and, thus, they were automatically enrolled in TIA. In this way, we made sure that the groups were kept separate in the key areas of the research project, but at the same time guaranteed that there was relevant communication within a more dynamic context, since a higher number of participants should produce a higher number of exchanges if the rest of the parameters are catered for.

Basically, TIA is a reference point and a place for communication, practising grammar and vocabulary and task submission. Therefore, it has considerable importance. Nevertheless, students are not expected to be acquainted with the functioning of the platform.[120] Bearing this in mind, together with the fact that every student should follow their own pace in the completion of the different activities to a certain extent,[121] we decided to use the *Moodle* conditional module, enhanced by the CICEI (*Centro de Innovación para la Sociedad de la Información*) at the University of Las Palmas de Gran Canaria. This module provides the possibility of conditioning the accessibility of the different activities and resources available in accordance with a wide variety of parameters[122] such as a mark for a specific activity, a choice made by the student, or sending an instant message; this lets students move around at their own pace, and the teacher can concentrate on monitoring and tutoring students inside and outside the platform. Thus, although we decided to use the topic-based format of the platform, which helped us distribute the different contents of the course in separate sections for the purpose of clarity, at the same time we provided a chronological distribution of the subject contents through conditionals. By way of example, this means that the vocabulary section and grammar section are in different areas of TIA, and, as we progress, students should be able to access either vocabulary or grammar at will. However, at the beginning of the course, none of them will be available until they submit a message to the teacher after reading some instructions on the use of the platform. Even when they have done so, successive individual vocabulary and grammar exercises will be displayed as they finish and submit the previous ones, sometimes with the further condition of the teacher evaluating the exercise as appropriate or above a given mark (see Figure 2 for an example of the conditions of a grammar exercise).

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[120] See Section II.4.3 for the debate on what to expect from the generations long regarded as 'digital natives.'

[121] See Section II.4 for further argumentation on the issue of learners' control over their own learning. As we have also argued in Section III.2, however, we expect our students to be very teacher-dependent, so our plan is to progressively build students' autonomy by providing freer production activities as we progress in the course, as we describe in Section III.3. Therefore, especially at the beginning, there should be some kind of guidance in the timing and the quality of production as we will see in the different exercises in the current section.

[122] To see a complete list of possible conditions visit the *Moodle Docs* page on conditionals (*Moodle Docs* Add-ons, n.d.:np). We will also describe them in detail in some of the activities in subsequent sections. However, we did not use all the possibilities that the conditional module provides.
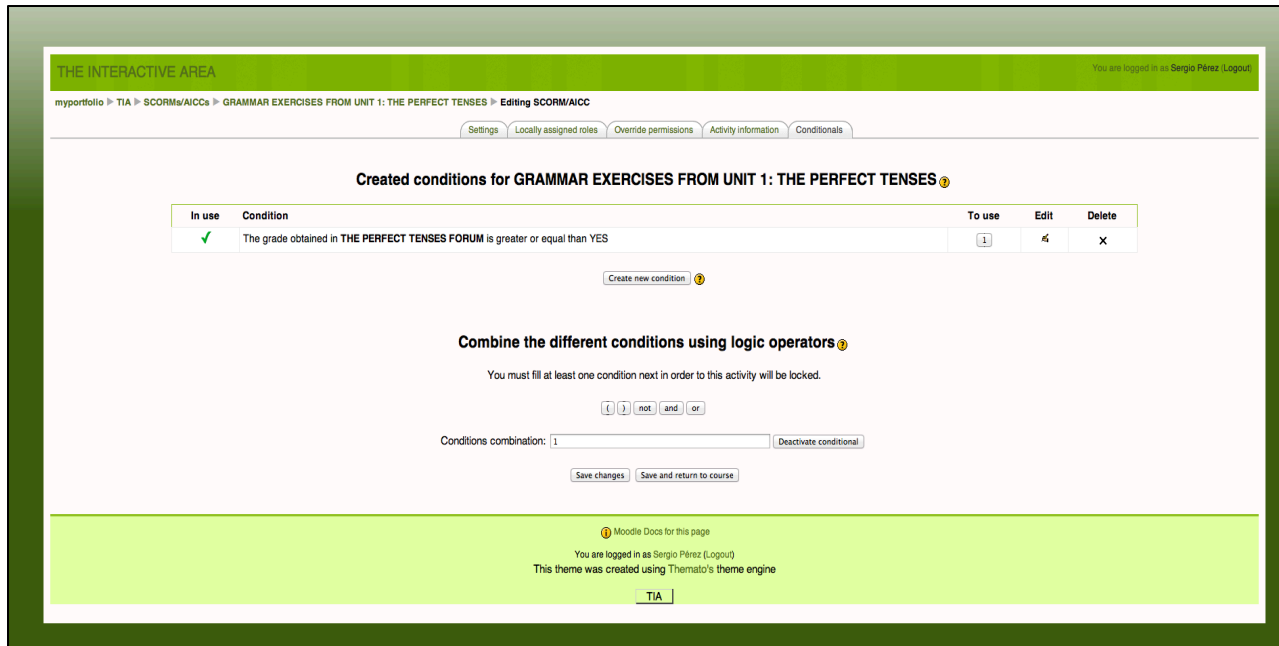
[Figure 2: screenshot of an example condition set for a grammar exercise.]

Apart from the vocabulary and grammar sections, TIA also has a special interest area, a communication section, and two sections dedicated to writing skills development and the university entry exams. Starting from the top of the page,[123] that is section zero in TIA, the area that we labelled above as 'special interest' is the area that users see first when the page loads. We included a video here with some initial instructions for learners to start using the platform in L2, but with visual prompts to scaffold understanding. At the end of the video, students are invited to send a message to the teacher, which will trigger the appearance of other elements in other sections, and, therefore, initiate the course. We decided to also include here an important-message marquee, which will change when there is a need to remind students about something relevant to the online or the offline part of the subject, or simply to provide an encouraging or congratulating message. Figure 3 shows how the course will look for the starting participants the first time they log in.

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[123] For a similar distribution see Martín-Blas and Serrano-Fernández (2009:36). They use a topic layout as well, devoting the top sections for common issues, e.g. administrative, common forums, or timetables.
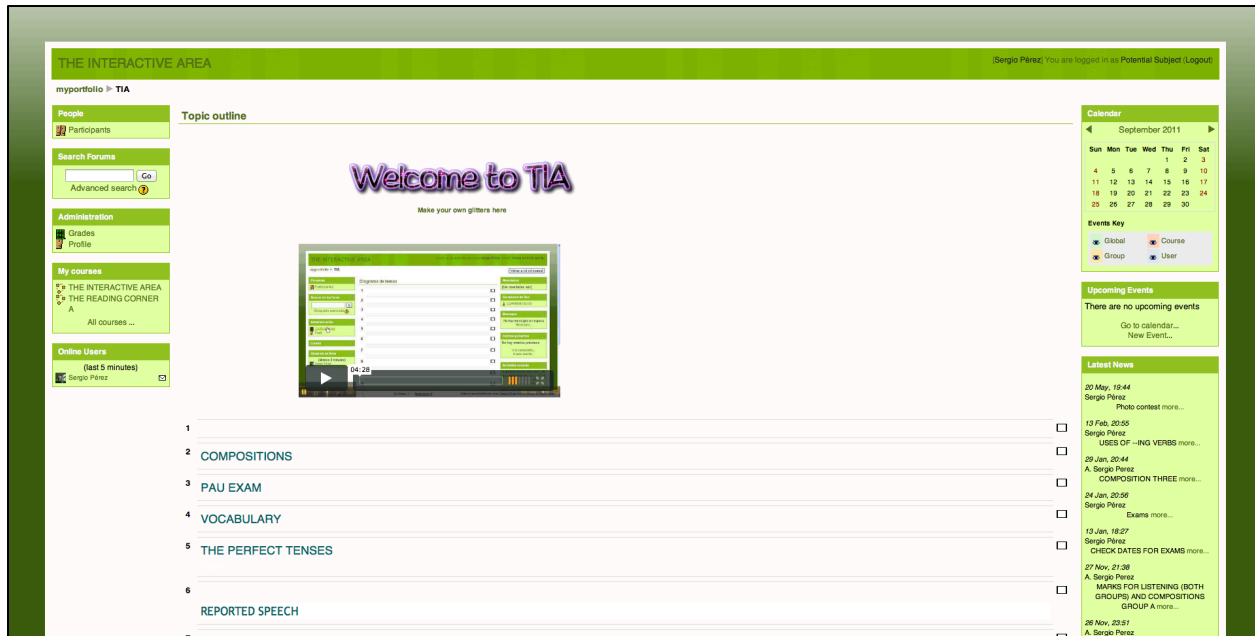
[Figure 3: a screenshot of the course showing only the first elements displayed when the participants first log in.]

In the second section, which is in fact number 1 in the course, we included some resources and activities to help students start getting acquainted with both the course and the whole platform (Figure 4). Thus, we included different introduction documents for the control and experimental groups, with a brief introduction to the platform and detailed reference to the evaluation of the course, including both the offline and the online sections,[124] a netiquette document with short recommendations on how to participate in the forums; a link to a bilingual and a monolingual dictionary; and a video with instructions on how to embed videos in a forum message, together with a *Moodle* activity of choice to let learners decide whether they wanted to have access to it or not. With the purpose of giving our subjects some scope for decision making from the very beginning, and also with the intention of letting them discover new tools, we added a wiki called 'What would you like to do in this course,' expecting them to add some suggestions that the teacher would implement if technically possible. Also with the intention of giving the learner more control over their own learning processes, we decided to include a choice of several *Moodle* activities for deciding on the dates for exams, so that it is the students who decide when

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[124] We will refer back to evaluation in this same section in a later paragraph for this specific purpose, since it has relative importance for the success of the application.

exams are set.[125] When dates are decided, we will update the calendar block they have in the top right-hand corner. Also, for the sake of enhancing communication, we also included a news forum for the teacher to communicate subject-wide news in, and another discussion forum called the 'cafeteria' to give it an informal flavour for students to exchange information in that is not necessarily linked to a specific topic, and for small talk as well. We strongly believed that this 'cafeteria' forum would provide a greater opportunity for more introverted students, or those who might have more problems speaking in class, to communicate in the target language (Gutiérrez-Colon Plana and Pladevall 2009: 8-9; Rodríguez-Juárez and Oxbrow, 2010:156). We also included a chat room for the specific purpose of having a synchronous facility for communication in case any learner might have a problem while away from class. Students could use it at will.
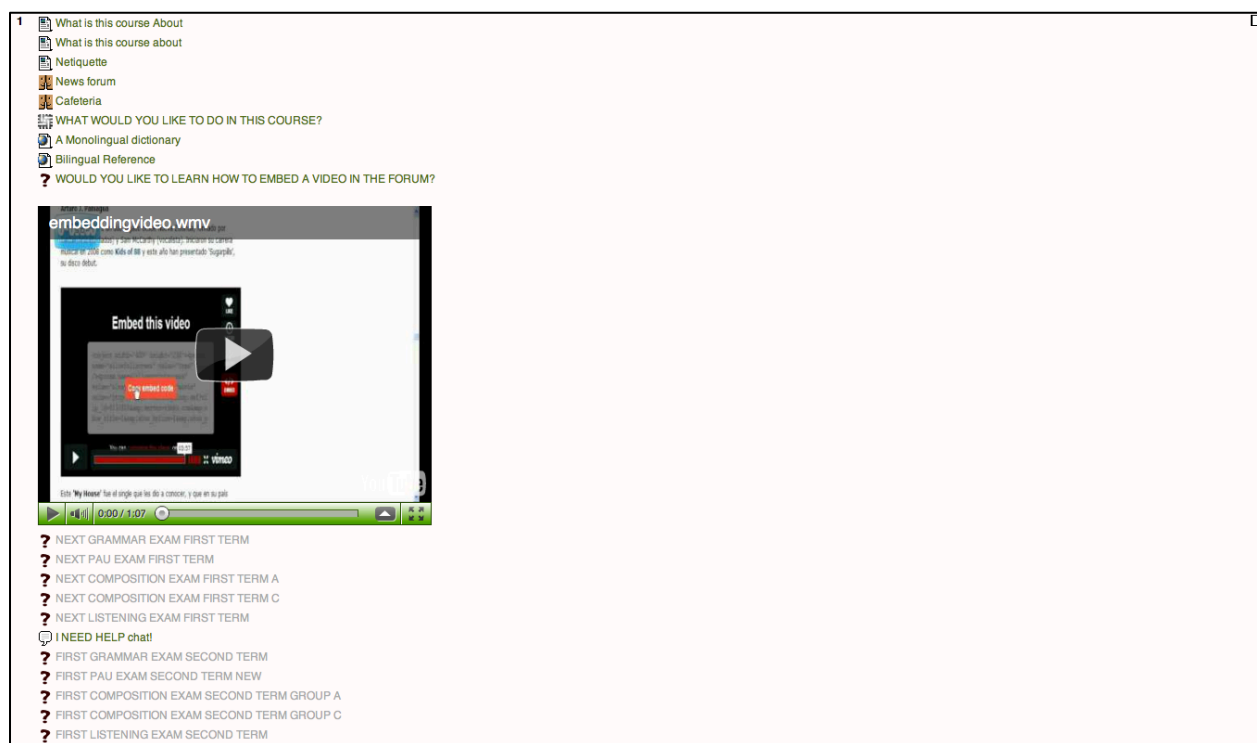
[Figure 4: Section 1 of TIA.]

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[125] We are conscious that this is not the same as giving control to the learners, or letting the learner discover their own learning processes, and decide when and how to be evaluated. We are not exam advocates ourselves. However, as we have already stated, this implementation has to fulfill the requirements and expectations, at least to a certain extent, of the established curriculum

Writing is the topic for Section 2, which is the third section in order of appearance (Figure 5). Here we included a discussion forum for doubts and discussions on composition writing,[126] some directions for effective writing, the composition correction code for reference[127] and a wiki for story writing. The rest of the activities included are in relation to assignment submission: some of them have the objective of providing the learner with a space for submitting out-of-class work (compositions zero, one, and so on) and the others will be used by the teacher to submit the marks for the compositions written in class. One of the assignments allows the submission of portfolio pages, which will be further explained later on when we describe the reading courses. There are not many resources for the learner to work autonomously on yet, since writing is one of the topics we will devote a lot of classroom time to. Although writing is a key competence for university entrance, it is normally a competence that students have not sufficiently developed when they reach the second year of upper-secondary education. Therefore, students will need a lot of classroom time to closely guide them through the process of writing.


[Figure 5: Section 2.]

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[126] The importance of writing in the second year of upper-secondary education comes from the fact that the university entry exam places a great amount of importance on composition writing, and writing in general.

[127] We will follow Cassany's correcting paradigm (e.g. 2007), which, basically, sees writing as a learning process. Thus, instead of giving them the corrections of all their mistakes, the teacher will signal the most important mistakes with a code to help learners to identify the nature of the mistake (e.g. G for grammar, Sp for spelling, or WO for word order). The learner will correct the composition, sometimes with the help of fellow learners, sometimes alone and sometimes with the teacher. The composition will then be resent and remarked. Regarding writing assignments on the platform, each composition submission will not be activated until the previous composition is marked with a five so that there is always a sense of improvement. Of course, the teacher will have to use a great deal of common sense for some cases, due to our previous experience with the same task. At least twice every term students will sit a composition exam that will serve as university entry examination preparation.

Section 3 is specifically devoted to the other required contents of the university entry examination (Figure 6), including reading comprehension. These resources and activities are only associated with pre-examination practice, with the intention of providing a constant reference for counselling purposes. Here, students will find an example of the official entry examination through an embedded magazine-like copy, or through download, and the teacher will publish the marks of the different classroom examnations related to this matter. The language practice associated with the examination, and the whole subject for that matter, is present in other sections.
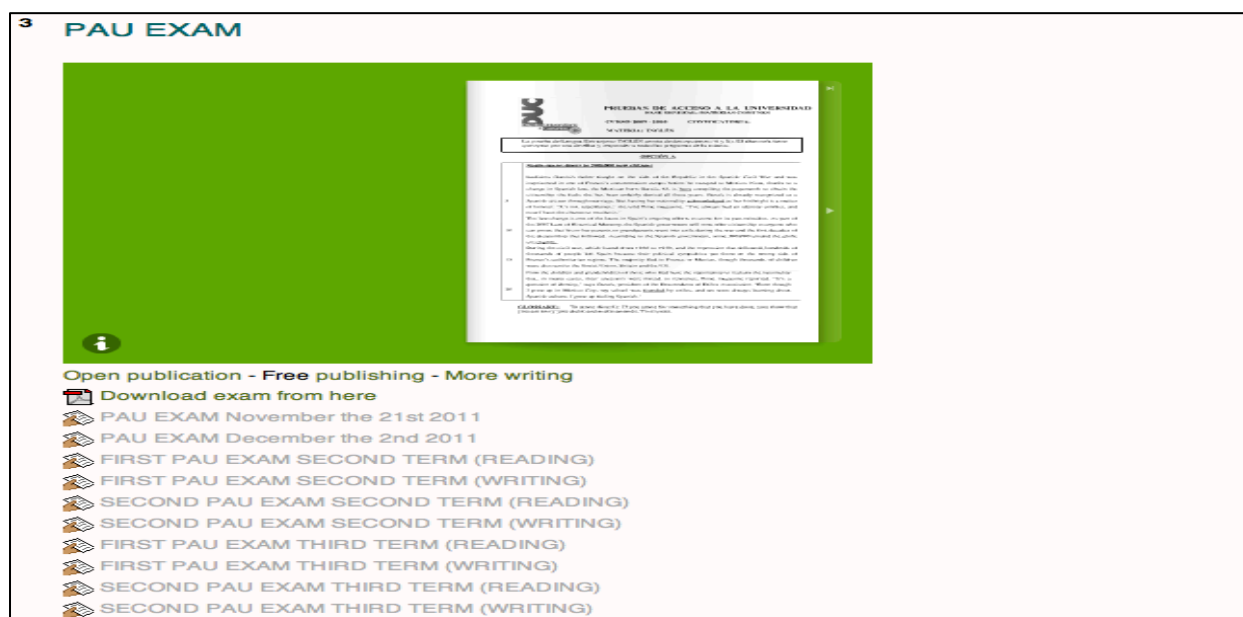

[Figure 6: Section 3.]

Controlled practice of vocabulary and grammar, as opposed to free in-context use, is included in Sections 4, and from 5 to 9 respectively. These sections are structured following the textbook plan. Thus, the vocabulary activities within each unit of their textbook are reproduced in the same order as the book in one vocabulary section, with self-correcting capabilities using SCORM[128] activities (Figure 7). In the case of grammar, we designed one section for every

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[128] The *Moodle* community defines SCORM (Sharable Content Object Reference Model) as a "collection of specifications that enable interoperability, accessibility and reusability of web-based learning content. SCORM content can be delivered to learners via any SCORM-compliant Learning Management System (LMS) using the

grammar point. Every section has the same structure (Figure 8): (i) an embedded video, taken from YouTube, with a presentation of the grammar point; (ii) one choice activity where they have to state whether they would like to do a pre-listening and a post-listening activity to get assistance for comprehension (answering the choice activity, regardless of their answer, will trigger the appearance of the vocabulary activities associated with the same unit of the students' textbook); (iii) a Question-and-Answer (Q-A) forum[129] with a discussion activity, but that is also the place to ask for help in; (iv) the drilling exercises they have in the book in self-correcting SCORM format which will be displayed only when the teacher has marked the forum with a 'yes' (as seen in Figure 1); (v) a wiki where students are invited to start or continue a sentence using the grammar point that is the focus of the section, trying to make it more complex, or correcting possible mistakes the other students have made; and finally the assignments where the mark for the classroom exams will be published by the teacher. Students will be expected to work on these sections from the first few weeks of the course at their own pace, but with no time spent in class. As we have described above, every grammar section has a specific forum for students to ask for help in at any time, if they need to. However, they will also be invited to ask any questions within classroom time if necessary, in which case we will devote as much time as necessary with the rationale of having been identified as something relevant by a learner. We want to avoid, as much as possible, traditional teacher-led grammar-translation methodology, since our goal is to build a communicatively rich environment, and not a drill-and-kill context that detracts from relevance. However, students' choices have an enormous importance in language learning (see Section II.4.2), so letting them decide on some aspects of what should be in the classroom lesson is mandatory.

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same version of SCORM" (*Moodle Docs* 1.9 [d]:n.d.:np). In our case, we built activities using *'Hot Potatoes'*, an interactive activities software (hotpot.uvic.ca).

[129] A question and answer forum differs from other forums basically in that participants have to submit a message before they see the responses from the rest of the participants.
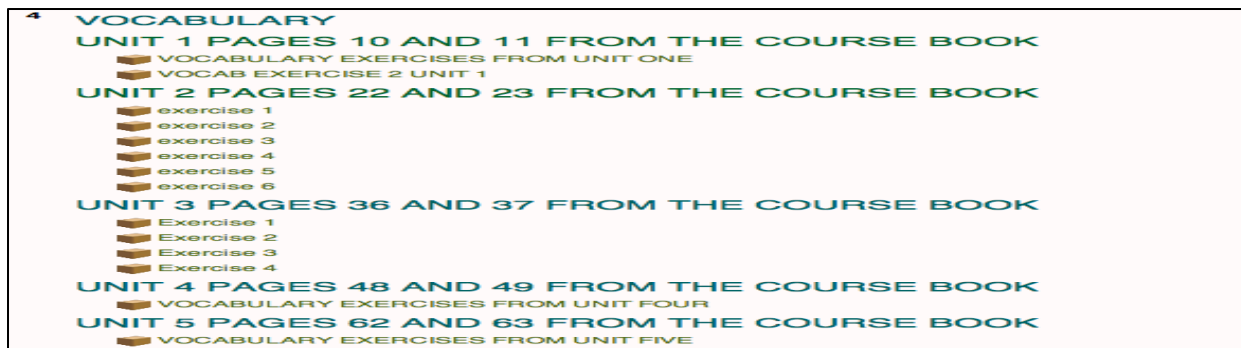
[Figure 7: Vocabulary Section.]
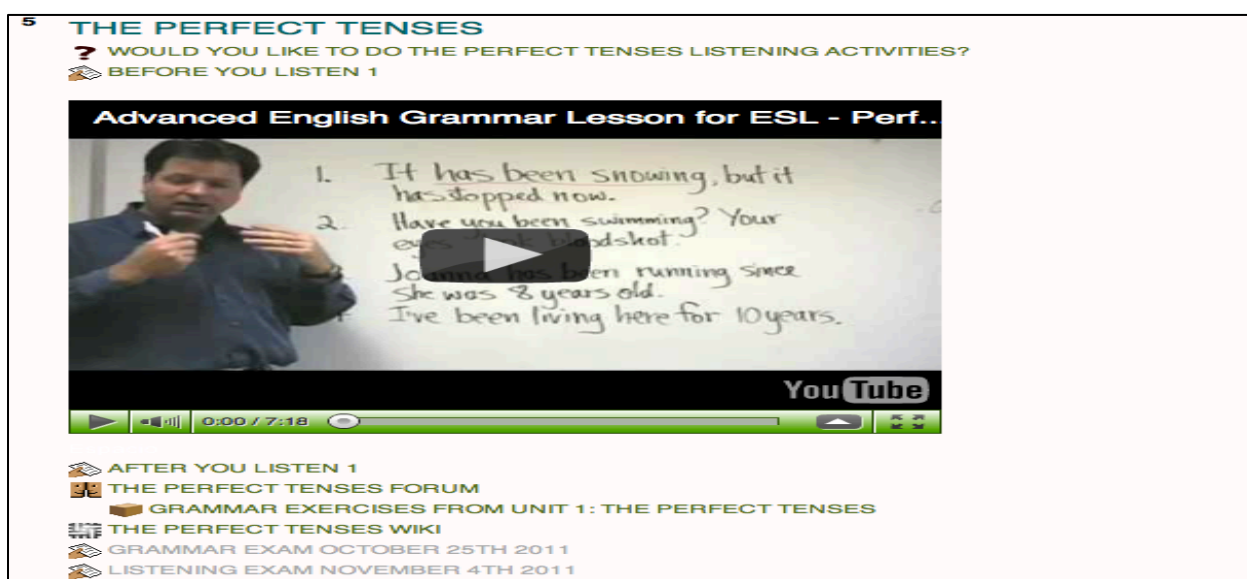
[Figure 8: example of the structure of grammar sections.]

Evaluation is a key issue if we expect our students to feel the application is worthwhile. [130] However, our students will probably be accustomed to a traditional vision of evaluation based on exams and studying, far from actual capacity building and authentic evaluation which is our current goal. Although we cannot realistically expect our students to self-assess their learning process and their end result, which is the ideal condition over the course of a school year (Bobb Wolff, 2006:2), we do want to improve the learners' knowledge of the evaluation process

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[130] See Oxford (1990:206) for a reference to evaluation and strategy training and Section II.4.1 for a more in-depth, general analysis of the relationship between evaluation and motivation.

through daily work with the evaluation criteria, which could trigger a process of internalization (Ryan and Deci, 2000:61). For this purpose, we implemented the *Moodle* module of 'outcomes.' With this module, we will be able to provide a complete set of rubrics for every activity that the student has to submit. Thus, a learner submitting a composition, for instance, will receive correction of the writing with the correction code described above, but at the end of the process, a mark will be given for every evaluation outcome item (taken from university entry exams) according to a qualitative scale, and not only a number. The final mark will be the weighted average of those marks (Figure 9). The fact that these outcomes modules are used for every activity they will do in the online courses as well as the offline part of the subject will produce a complex assessment plan. That is why we consider it important to give them the plan on paper from the very beginning of the course, and devote one offline session in class to make sure they understand it. In any case, they will have constant access to their grades on the platform (Figure 10).
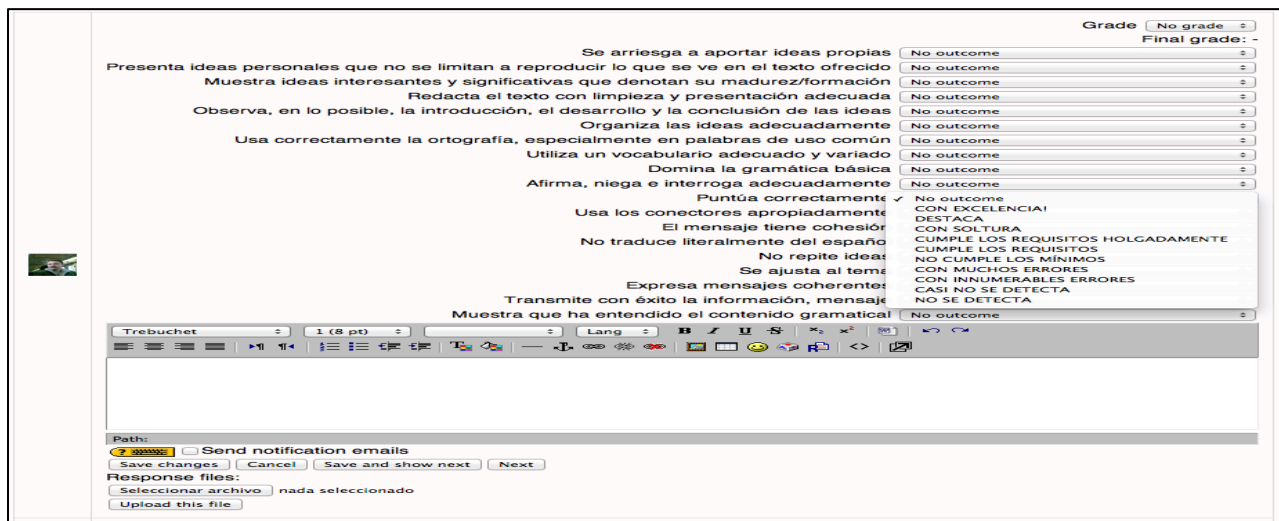
[Figure 9: outcomes for a composition with scales deployed.]

Grade item	Grade	Range	Percentage	Feedback
ASSESSMENT				
FIRST TERM				
USE OF ENGLISH FIRST TERM				
GRAMMAR EXAM OCTOBER 25TH 2011	-	0.00—10.00	-	
2nd GRAMMAR EXAM FIRST TERM 29th NOVEMBER	-	0.00—10.00	-	
GRAMMAR FIRST TERM				
GRAMMAR EXERCISES FROM UNIT 1: THE PERFECT TENSES	0.00	0.00—100.00	0.00 %	
exercise 1	-	0.00—100.00	-	
exercise 2	-	0.00—100.00	-	
exercise 3	-	0.00—100.00	-	
exercise 4	-	0.00—100.00	-	
exercise 5	-	0.00—100.00	-	
Category total	*0.00*	*0.00—10.00*	*0.00 %*	
VOCABULARY FIRST TERM				
exercise 1	-	0.00—100.00	-	
exercise 2	-	0.00—100.00	-	
exercise 3	-	0.00—100.00	-	
exercise 4	-	0.00—100.00	-	
exercise 5	-	0.00—100.00	-	
exercise 6	-	0.00—100.00	-	
VOCABULARY EXERCISES FROM UNIT ONE	0.00	0.00—100.00	0.00 %	
VOCAB EXERCISE 2 UNIT 1	-	0.00—100.00	-	
Category total	*0.00*	*0.00—10.00*	*0.00 %*	
Category total	*-*	*0.00—10.00*	*-*	
WRITING FIRST TERM				
FORA FIRST TERM				
THE PERFECT TENSES FORUM	-	NO—YES	-	
CREATIVIDAD	-	NO SE DETECTA—CON EXCELENCIA!	-	
CORRECCIÓN	-	NO SE DETECTA—CON EXCELENCIA!	-	
RELEVANCIA	-	NO SE DETECTA—CON EXCELENCIA!	-	
THE REPORTED SPEECH FORUM	-	NO—YES	-	
CREATIVIDAD	-	NO SE DETECTA—CON EXCELENCIA!	-	

User report - Sergio Pérez

[Figure 10: top section of sample grades grid.]

Also related to evaluation, one of the risks of e-learning is that students try to produce illegitimate work (e.g. work done by somebody else, or by using translation facilities excessively) which would spoil all our efforts to produce relevant learning. That is why we decided to give our learners the instruction that any production in the online part of the course that shows a difference of two or more points from the mark they get for class productions will not be taken into account for their final mark. Our goal, as we argued above, is to provide a context where they can build their communicative competence which can be assessed by means of production, product and process. It is not only their products, *per se*, we are interested in. According to Ion (2008:82), Knowledge Management (see II.1.2.1) and e-learning have the same grounding: "learning, improved capacity to perform work tasks, ability to make effective decisions, and positively impact our environment." If their production in the online venue is not equivalent to their capacity, we are, in fact, encouraging fraud.

### III.*3.2.2* Reading Sections *'The Reading Corner'*

The aim of this course is autonomous, yet guided, intensive reading.[131] As we have argued in Section II.2, reading is a key skill for the future academic progress of our students, but also for their future language learning itself since, in a context where English is not spoken in their everyday lives, reading will probably be the most accessible source of exposure and input for acquiring the foreign language. However, reading requires that the individual takes conscious action (Section II.2.2) thus it makes sense that we take the reading skill out of classroom time and assign some homework time to it through the use of the online platform. Despite the fact that we are conscious that our students will probably see it as an extra load, we believe it is more appropriate than simply giving them extra practice at home in the guise of a repetition of what they did in class. Therefore, we have devised a course with a number of topics that follow the same themes, to a certain extent, as the topics we use in class which are pre-assigned by the textbook. It includes a variety of texts for intensive reading:[132] sometimes they are in the form of an article, and with others we provide simple notes, or how-to web pages.[133] We also give them different kinds of tasks that help them implement different types of strategies. All the texts and activities benefit from the versatility of ICT. Both the control group and the experimental group have the same activities in their respective reading courses, again with the conditional module and outcomes available. There is only the difference with the experimental group having explicit reference to the possible reading strategies associated with every activity. Therefore, we will describe the reading course for the experimental group in detail here, and at the end of the section we will specify what the differences are.

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[131] However, we designed activities planned for the end of the course that try to encourage the learner to choose what they want to read that we will see later on in this section.

[132] Susser and Robb (1990:sec.2.2) define extensive reading as a language teaching/learning procedure which implies the "reading (a) of large quantities of material or long texts; (b) for global or general understanding; (c) with the intention of obtaining pleasure from the text. Further, because (d) reading is individualized, with students choosing the books they want to read, (e) the books are not discussed in class." Intensive reading, then is the opposite, that is to say reading short texts normally for language work or for the sake of improving the reading skill itself (Laufer-Dvorkin, 1981:41). Time, then is a key issue. As we progress in the course, we will encourage learners to resort more to the extensive type of reading skill, but we will take into account how heavy the burden of traditional reading they bring with them is.

[133] One of the strategies learners have to develop is practicing naturalistically (Oxford, 1990:74), which, related to reading, implies accessing different types of written texts available in the target language (*ibid*:76). Therefore, in the context of this reading course, we have the intention of letting the learner see an ample variety of texts. This variety is also present in the standard tests we will give them at the beginning and at the end of the course.

For the reading courses, we have used the same topic-based format. This time we have 11 sections, from 0 to 10. The first Section, that is, Section 0, has a news forum that will be used by the teacher for announcements related to this course, a 'lesson' activity on strategies, and a glossary with different strategies and their definitions. The lesson includes examples[134] of strategy use for every group of strategies for reference (Figure 11), since they will have already worked on most strategies in *'The Strategy Workshop.'* The glossary includes the definitions of the different strategies which will be linked to any reference made to those strategies within *'The Reading Corner'*. That is, as we can see in Figure 12, in every activity throughout the course we mention the different strategies that could be applied in that specific task which are especially highlighted and hyperlinked. If the learner wants to know what one of these strategies implies exactly, they can click on the label of the strategy and a new window will open where an explanation will be displayed. Students, therefore, have a reference resource for learning strategies which is always available,[135] further raising the possibilities of gaining greater awareness.
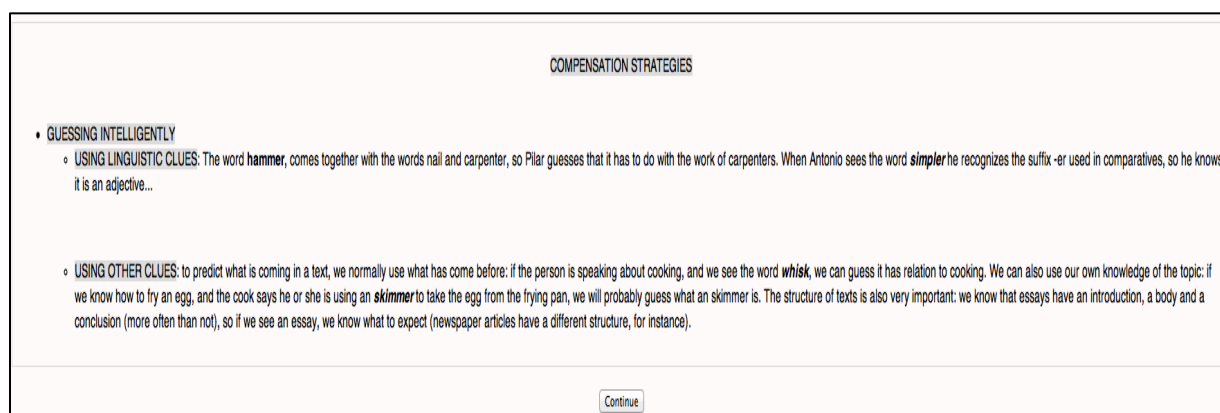
[Figure 11: example of a section with a strategy lesson.]

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[134] After Oxford (1990).

[135] In this way we are providing the chance to have access to what the proficient reader could be doing, as in the case of Alfassi (2004:172), although this time it is not through think-aloud protocols but through definitions and examples.

> **HIGH-FAT DIET, OBESITY, WEIGHT, INSULIN, INTAKE OF SUGAR**
>
> Once you have modified the mind map, scan it (or take a clear picture of it, whatever is easier for you) and upload it in the forum. Make sure that the file is not bigger than 5 megabytes (changing it to JPG format should help). There is no single correct answer. Your vision would work fine as long as it is logical. If you think that your representation needs explanation, go ahead. If not simply say hello in the message and add the file to the message. When you send your message you will see the rest of the students' options. Comment on the ones you like (or don't like☺ but with sensitivity).
> Marking would be on relevance, language correction (mistakes will not be taken into account as long as they don't make understanding impossible), and creativity.
>
> **RELATED STRATEGIES:**
>
> MEMORY
> grouping
> using imagery
> semantic mapping
>
> COGNITIVE
> reasoning deductively
> transferring
>
> COMPENSATION
> using linguistic clues
> using other clues
>
> AFFECTIVE
> Taking risks wisely
> Rewarding yourself
>
> SOCIAL
> cooperating with peers
> cooperating with proficient users of the new language
> Developing cultural understanding
> Becoming aware of others' thoughts and feelings
>
> [Add a new question]

[Figure 12: example of an activity with reference to possible associated strategies.]

Section 1 (Figure 13) includes another glossary, although this time it is a cooperative one. For any new word they encounter, learners are invited to write a definition with their own words, including the context where they found it and why they decided to include it. This glossary helps them keep a record of the words they discover in a reading section in this course, or in any text they might read on their own. Students could also add any extra element they might want to add.[136] They have to use these words at least once in this course during the school year. The glossary automatically links every word when they appear again anywhere inside the course, with the definition opening in a new window. Evaluation is based on the number of words they include, with 30 or above being the maximum mark, and 5 being the minimum for a pass. Grammatical accuracy is not taken into account in the evaluation of the glossary.

> **Topic outline**
>
> 📢 News forum
> 🗂 Estrategias
> 📖 STRATEGIES
>
> **1** 📖 THE VOCAB TANK

[Figure 13: Sections 0 and 1.]

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[136] Embedding a video will probably be the most popular activity, since we expect students will get words from songs.

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The following sections have a text associated with the activities, so we could say that formal reading activities are presented from now on.[137] This first reading activity in Section 2 (Figure 14) revolves around a short text taken from the internet ("Heavy snacking may be a higher risk factor for pre-diabetes than high-fat diet" from the website *diabeticlifestyle.com*). The first activity students have to do is complete a vocabulary mind map related to useful vocabulary in this section (see Oxford, 1990:101-103; and Scarcella and Oxford, 1992:107-108). They are then asked to download the image of the mind map provided in the instructions for the activity (*mindmapart.com*), place some words in it given by the teacher and that they will find later on in the text, and submit it again to a question-and-answer (Q-A) forum set for that purpose. Once learners have submitted a message to the forum, the text will be displayed. Once the text is accessed, it will trigger the next exercise which is also based on vocabulary: learners have to guess the meaning of some words written in bold letters in the text they have just read, and send their definitions to another Q-A forum without using a dictionary. Only when one message is sent by the user to the forum, will the next activity become available. In this case, the activity consists of answering some comprehension questions about the text and submitting them as an online text assignment.[138]

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[137] The learner will not have access to the first formal reading activity in section 2 however, until they add the first word to the cooperative glossary. In this way, we guarantee that we identify any student that may be having trouble with the initial steps so we can take some remedial action.

[138] Appendix III shows a table with the strategies associated with every activity, including the glossary in section 1, which are also displayed to all students in the experimental group, as we described earlier).
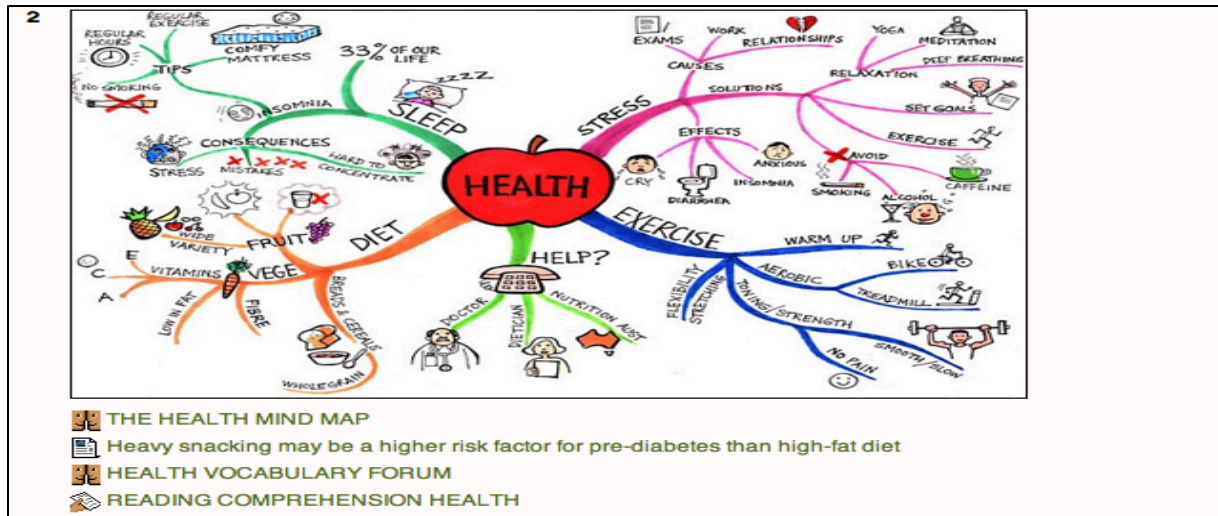
[Figure 14: Section 2, first formal reading exercises.]

Travelling abroad is the topic of Section 3 (Figure 15). The first activity tries to activate students' previous knowledge. We invite the learner to provide a list of countries they would like to live or study in and why. This will be done in an online assignment. They do not need to write a long text, and grammatical accuracy will not be taken into account in the assessment. Sending this assignment will trigger yet another online assignment where they have to explain what they know about the 'Erasmus' programme, with the same aim as in the previous assignment. Then they will be invited to write a message in a Q-A forum predicting the possible contents of a text by only seeing its title, which is given in the instructions.[139] Learners then access the reading text. After accessing the text, the next activity will be displayed: a forum where they are invited to focus on the structure of the text.[140] They are asked to reflect on the textual functions related to the titles of the different sections of the text. Once submitted, the last exercise becomes available, which is a reading comprehension online assignment containing questions about the text.[141]

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[139] Although the process of reading has been amply described for the purpose of this study in Section II.2.2, the reader can see further support for the importance of pre-reading activities in, for example, Scarcella and Oxford (1992:107).

[140] See the reference to Stanovich's superstructure in Section II.2.2, and in II.2.3 the reference to Carrell (1985:727) regarding training.

[141] Appendix III shows a table with the strategies associated with each of the exercises included in section 3 for greater clarity.
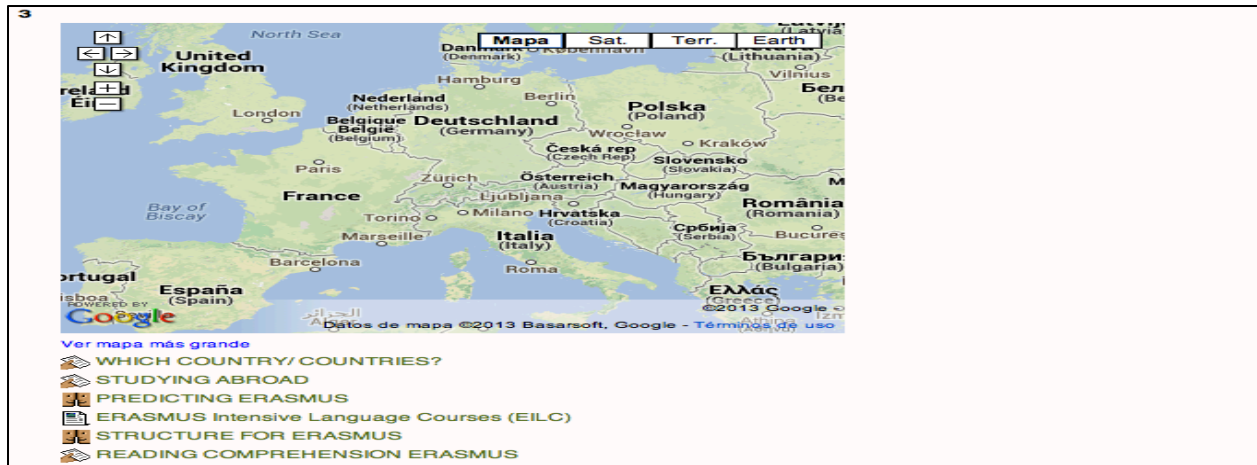
[Figure 15: Section 3.]

The following section, that is Section 4 (Figure 16), does not follow the same structure as the previous ones. We expected this section to be available for the majority of students by the end of the first term, although we would probably need to tell them about it in advance because of its nature. It will also be repeated at the end of each term (in Sections 7 and 10, for the second and third terms respectively). In this section, students are invited to develop a cooperative project, with an associated digital artifact that they need to produce. In groups of three, students choose a topic from one of the other subjects in high school that they might need to study for, select some reading material about the topic, and produce a poster or a 'glogster' (*glogster.com*), a slide presentation to be digitally shared, a classroom presentation, a video or a cooperative essay. Their showcase is the portfolio facility *Mahara*,[142] which we have implemented together with *Moodle*, and where they can include the texts they have read and the product they have developed. This activity tries to encourage a freer, more extensive kind of reading, closely

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[142] *Mahara* is an electronic portfolio system that allows the uploading of pictures, files, or the embedding of online resources. Its perceived relevance and usefulness over other possible electronic portfolio venues has already been empirically tested (Balaban and Bubas, 2010:333). However, it is also claimed to be sensitive to student maturity: it is only when students have reached a certain level of maturity as learners that *Mahara* can be fully taken advantage of (*ibid*:335). *Moodle* and *Mahara* will probably account for much of the emergent learning mentioned in Section II.1.2.1 (footnote 16) and that, by definition, cannot be predictable (Snowden and Boone, 2007:5; Williams *et al*, 2011:42). One of the features, for instance, that *Mahara* incorporates in learners` pages is a Facebook 'like' button, which could, if students finally follow that thread, open a door to wider- learning environments, and bring in some fresh air from informal learning, although this is not an aim in itself in the current study for the reasons stated in Section II.4. Our aim with an e-portfolio is simply to provide a place for students to make their work publicly available. For this purpose, *Mahara* provides a great variety of features for students to discover. Besides, *Mahara* can be fully integrated into *Moodle* so that students do not have to log in twice, and the work students do in *Mahara* can be imported into *Moodle* to be accessed and graded using the outcomes module referred above.

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connected with students' own interests (e.g. Scarcella and Oxford, 1992:106). We are also emphasising relevance since we are encouraging students to use content that they are already using elsewhere, thus using language for the content and not for its own sake as in CLIL contexts (e.g. Mehisto, Marsh and Frigols, 2008:11; Tsai and Shang, 2010:78). Appendix III shows the strategies associated with the activity in this section.

What do you do when you want to know something about a specific topic? In most cases, you probably read: Internet, most probably, or books... It's true that you could also watch. There are many resources now in Internet that use video to teach you "how-to" do things. However, reading is still the most common skill for autonomous learning. For instance, you want to know what is the **Battles of the Somme** what do you do? Yes, I would probably do the same at first: visit the Wikipedia and READ.

Let's use the same in English. From the different subjects you have this year, choose one topic you would like to make a project about. I would recommend a topic that would help you in your exams afterwards. You will need to prepare in groups of three a product. To do this all the members would have to have read three texts. The information in these texts should have been included in the "product" somehow. You will present the product both in class and in your blog, or only in your blog. And afterwards we will have an interview (individual) where you will tell me about your texts: what is the relation with the topic you chose, how did you find it, what strategies do you think helped you to understand the text. You would also have to show your texts on your page, together with the product.
Your requirements would be:

- Groups of three
- topic of your choice related to one subject you three share
- common product: ppt, video, shared essay, classroom presentation, poster (http://www.ncsu.edu/project/posters/NewSite/), Glogster (http://www.glogster.com). It has to be shown on the page of the three members
- each member should have read a minimum of three texts
- show the texts on your pesonal blog (Mahara) together with the product
- in a personal interview with the teacher, you would talk about what is the relation with the topic you chose, how did you find it, what strategies do you think helped you to understand the text
- marking criteria for the product and reading: understanding of the texts, using the language we have learnt in class, communication and ICT, and knowledge you transmit.
- marking criteria for the interview: communication, connection with the product.

Have fun!!

[Figure 16: the instructions given to students for the activity in Sections 4, 7 and 10.]

Relevance is also one of the features used for Section 5 (Figure 17), with the same motto of using language to access content. We decided to wait for the second term for this activity. In this activity, learners are given an article from a photography web page ("Beginning Photography Tips: Top 10 Techniques for Better Pictures," at *betterphoto.com*) with ten tips on how to take successful pictures. The class will go out on an excursion with the teacher during class time to a place of special interest in their own town, and they will take pictures following the tips given. Once at home, students will post five of them on their *Mahara* page and add an explanation of how those tips apply to their pictures. They will need to use at least four of those ten tips. Every student will be invited to visit as many pages of their classmates as possible to see the pictures and give a vote for the page. To do this, students' posts will need to be accessible for logged-in users. The fact that students have to see one another's pages also allows the creation of networks, which could eventually translate into emergent learning. The strategies associated with this activity are shown in Appendix III.

Let's have some fun!!! Second thoughts!! Let's have a photo session about places. I'm sure you will guess what is one of my favorite places in Telde. Yes!! You guessed: San Francisco! We are going to San Francisco Friday, April 27th to take some pictures of the places we think are more attractive about the place. To do this, you will have to follow the tips to make a good picture you will find here . You will publish your pictures in your BLOG (Mahara) and we will all act as a jury.
Of course, we will evaluate what you do and it will part of your marks.

Minimum requirements:

- Minimum of three pictures and a maximum of five, with a number assigned to each
- using a minimum of 4 of the tips in the web page mentioned
- in the page you post your pictures, you will add an explanation of the pictures and of the tips you used
- Say what strategies you think helped you understand the text.
- the marking would be on creativity, relevance and language

The criteria to choose the winning picture would be creativity, amount of tips used, and the "story it tells". We will all visit the different pages and add a comment and points from 1 to 5 for every criteria.
We will have three weeks for the contest. After these three weeks you will add your page here to be evaluated.
Good luck

[Figure 17: instructions for the learners to do the activity in Section 5.]

Following the maxim mentioned in Scarcella and Oxford (1992:106) of providing sufficient reading materials and not only books, we devised the activities in Section 6 (Figure 18). Learners will see a "How to be Interesting" card (*thisisindexed.com*) with a message that needs to be deduced. They are cards with messages normally combining only words and doodles which aim to represent a more or less transcendental reality of humankind, and where titles play a vital role in interpreting messages. There is no single answer, and there should not be. In this set of activities, we are trying to emphasise the meaning of the message and not the words. After the practice in the previous activities, students should be able to see the importance of concentrating on the message and not on simply decoding words.[143] The sequence of activities starts this time with the display of the picture and the first Q-A forum, which will be deployed at the same time. In the forum they are invited to provide a tentative title for the card in the message heading and provide a small explanation in the body of the message. Once they have submitted their message, they will be able to access the next activity which is another Q-A forum, where they are encouraged to provide an explanation of three cards of the same kind (thisisindexed.com), this time specifically related to human relations, and to reflect on how they came to those conclusions by using elements from the pictures. They are also invited to read the rest of the messages once they have posted their own, and comment on some of them. In the last activity they have to produce a card of their own with any title and any content they consider appropriate, that they will post on their *Mahara* page and submit as an assignment. The strategies associated with the activities in this section can be viewed in Appendix III.

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[143] See the debate on what reading actually involves in Section II.2.2.

143
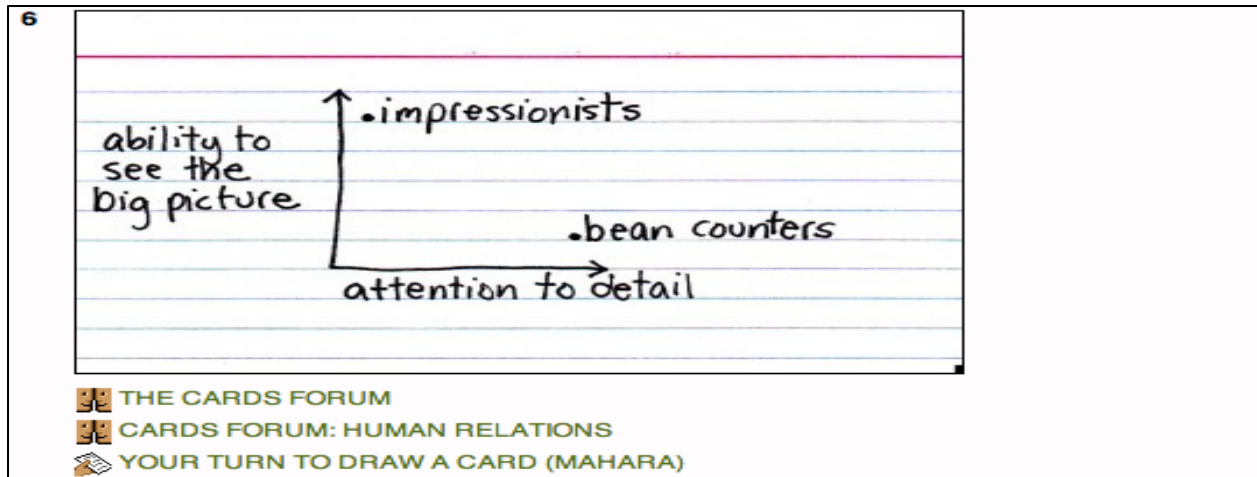
[Figure 18: Section 6.]

The next section (Figure 19), Section 8 (since Section 7 is exactly the same as Section 4), is based on a combination of text and pictures. After submitting the assignment for Section 7, learners will have access to a Q-A forum. There, students are encouraged to produce a prediction about a future text based on some words provided in the introduction to the activity and which were taken from that text. Students are also invited to read the rest of the messages sent by their classmates. Once the message is sent, a choice activity is made available. Together with that choice, they see some pictures that are linked to the coming text. Based on those pictures, they are asked to decide whether they want to change their prediction or not. If they confirm their prediction, those students will be taken to the next activity. However, if they want to change their predictions, they will be taken back to the previous Q-A forum to change it by sending a comment to their first message. After the confirmation or the repair of their predictions, they will all have access to the actual text (http://www.darkroastedblend.com/2010/06/battleship-island-other-ruined-urban.html) together with the pictures. Reading the text grants them access to the next activity, a different Q-A forum where they have to deduce the function of some words in the text that use the gerund form. They are invited to make guesses even if they do not actually know the meaning of the word. The last activity is displayed after sending their message to the forum. As in previous sections, the last activity is a list of comprehension questions for the text they have to write online (see Appendix III for the list of strategies associated with each activity in this section)

[Figure 19: Section 8.]

As we have been moving forward in the course, we have been trying to produce freer, more open reading activities, giving more scope to the learner so they do not feel so encapsulated by simply having to produce a single expected answer to reading questions. In Section 9 (Figure 20), we even give them the chance to choose their own text to read. However, this section roughly follows the same rationale as previous sections. For the first activity, we set up a Q-A forum. There, we invite the reader to produce a mind map[144] to represent the content of the text they have chosen in before they actually read it, using possible pictures, the title, or the layout of the text. They are encouraged to take a picture or scan the mind map and send it in a message to the forum. Once they have submitted the message, they will see another Q-A forum where they are invited to choose six words they do not understand in the text and guess their meaning without using any dictionary and to comment on what they consider helped them to deduce the meaning. The following activity is based on the structure of the text: in an online assignment, they have to explain the structure of the text by following some prompts provided by the teacher in the instructions for the assignment (e.g. number of paragraphs, or sub-headings of the paragraphs). To make the text available for the teacher and the rest of classmates, the student is then invited in the next activity to open a personal page in *Mahara* and post the text and an explanation of their reasons for choosing the text. The last activity is writing some questions on

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[144] We provide a webpage where they can learn how to make a mind map. Nevertheless, we are not expecting our students to actually produce a formal mind map, but simply to reflect on the different aspects of the text they are about to read.

that same page for the teacher to answer. Since this section carries a heavier workload, we will assign extra credits for their marks. Students will be informed about this in the introduction to the activity. This activity also has a wide scope for strategy use. A complete account of all the possible strategies readers may be using is provided in Appendix III.

[Figure 20: Section 9.]

As we said at the beginning of the current section, although the control group will be assigned a different course for reading they will have access to roughly the same activities and resources as the experimental group. The connection with reading strategies is the only difference. Thus, in Section 0 (Figure 21), the control group only has a news forum. The rest of the sections have exactly the same number of activities with the same rubrics and the same kind of assessment. The only difference in the different activities is the list of strategies linked to the strategies glossary (e.g. Figure 22). Students are not overtly invited to reflect on strategies, either. However, the potential use of strategies is still implicitly there, since the nature of the activities does promote their development. It is up to learners to use them or not, or become aware of their deployment.

[Figure 21: Section 0 for the control group.]

[Figure 22: example of instructions without the reference to strategies.]

III.*3.2.3* Strategy Instruction Section: *'The Strategy Workshop'* (experimental group only)

One of aims of the current study is to test whether overt instruction in strategy use for the development of reading comprehension skills through the use of a *Moodle* platform improves reading performance of foreign language learners. Despite the fact that top researchers in the language learning strategy field believe that explicit strategy instruction is a significant feature to

bear in mind when articulating language courses (e.g. Oxford, 1990:2001; 2011:181: see Section II.3.1 for further argumentation), to date there is no empirical study on how effective Learning Management Systems are in overt strategy instruction in secondary education in the context of English as a Foreign Language.[145] Therefore, the current course is a key feature of our Corporate Learning Environment. What we will describe here is an attempt to put theoretical premises into practice using the possibilities available in a *Moodle* platform, arguably one of the most valuable Learning Management Systems available nowadays (see Section II.1.2.5).

The rationale behind *'The Strategy Workshop'* area is to help the learners reflect on their own use of pertinent learning strategies and give them examples of which strategies successful readers could be using at every moment and how. That is to say our model corresponds to Oxford's level 4 of instruction in strategies (2011:181), 'completely informed strategy instruction.[146] Therefore, the activities designed should be seen through that prism: every activity is designed by integrating one or several strategies, and students are not only informed about what to do, but also instructed on what strategies are for, how to use them and why, as well as providing examples that serve as demonstrations. Activities will also ask learners to use strategies, but will also guide them through reflection on those strategies and through the

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[145] As we reported in Section II.1.2.5, Tsai and Talley (2013) carried out research on the use of *Moodle* for strategy instruction. However, it differs from our study in a number of aspects. The subjects were university students, majoring in English, and enrolled in specific reading courses for the previous two years which means that the subjects were already language-sensitive. The training was done for only a limited number of reading strategies, namely "identifying grammatical errors, monitoring comprehension, lexical inferencing, summarizing, identifying main ideas and the strategy of transferring syntactic knowledge from L1 to L2" *(ibid.*:6), for the cognitive and metacognitive spectrum, and questioning for clarification and lowering anxiety for the social-affective strategies (*ibid.*:5). The testing of reading comprehension skills was also limited in scope (*ibid.*:14). Besides, there is no reference to the specific nature of the tools used for strategy instruction other than saying that it was done within a *Moodle* platform. In the case described by Dreyer and Nel (2003:352), they used a very limited design of an LMS based on learning object repositories which lacks communication capabilities. They do not provide any hints on the nature of the activities either. Our study incorporates a greater number of strategies, which is seen as more beneficial by Oxford (1990:203) and tests reading within a wider reading programme (Carrell, 1985:741).

[146] Oxford (2011:181) claims that there are four levels of strategy instruction, either by teachers or textbooks, depending on the degree of explicitness. Thus (i) level one, or blind 'strategy instruction' implies building a methodology based on instructions, but without overtly mentioning instructions to the learners; (ii) level two, or 'somewhat informed strategy instruction,' overtly names the strategy, says what it is for and overtly asks the student to use it; in the case of (iii) level three, or 'informed strategy instruction,' the teacher further demonstrates the use of the strategy, identifies both the context where the strategy is useful and its purpose; and (iv) level four, 'completely informed strategy instruction' which adds to level three practical instruction for learners to reflect not only on the use of the strategy, but also to evaluate their success using those strategies and how and when to transfer them to new tasks.

evaluation of their success in using them. Learners will then have the chance to transfer those strategies in '*The Reading Corner*.'

Regarding layout, this course only has three sections, although they are larger than in the previously described courses, apart from Section 0 which is, again, devoted to the news forum. The first section is aimed at raising learners' sensitivity towards strategies. The other two include pre-reading strategies in section number 2, and while-reading strategies in number 3. We use this division (Williams, 1987:2) instead of Oxford's (1990) 'direct' and 'indirect' strategies division because it is simpler for students to understand. Furthermore, Williams' division between pre-reading, reading and post-reading activities is widely used in textbooks and methodology. In order to help foster greater autonomy in learners, the activities are also organized using the *Moodle* conditionals module. Therefore, as learners complete activities others will be displayed. These activities will be further organized in small clusters signalled using a label with the name of the strategy in order to make sure that if students devote small portions of their time to the platform they can complete a group of activities with a rationale of their own. As in the other courses, the teacher will monitor and tutor all the learners, e.g. doing remedial work when necessary, sending encouraging messages, or simply livening up a dying forum.

The aim of the first section (Figure 23) is to let them experience how strategies can help to develop reading skills. The first activity is a choice activity with a very short and partial definition of what a learning strategy is, with learners having to choose one of the options to complete the definition. Then, we start with a series of activities where we gradually provide ingredients in a text for students to use some of these strategies. Learners are advised to do this series without interruption. These activities all revolve around a text taken from the students' textbook. To start with, they read the text with a time limit of three minutes, and with no picture and no title associated. Once the time is over, they are asked how difficult they thought the text had been, with options extending from 0 to 10 % to 90 to 100 %. Once the learners answer the activity, they will be provided with another instance of the same text with pictures accompanying it and they will be asked to rate their understanding again. This is repeated, providing first the title and then comprehension questions. At the end, they are invited to post their comments in a Q-A forum, regarding the evolution of the comprehension of the text. The expected answer is that the different elements have made the reading easier.

1. ☑ WHAT IS STRATEGY?
   🖼 READING STRATEGIES
   ☑ WHY STRATEGIES?
   ❓ HOW MUCH DID YOU UNDERSTAND?
   ☑ SECOND READING
   ❓ HOW MUCH DID YOU UNDERSTAND NOW!
   📖 ANSWER THE FOLLOWING QUESTIONS.
   ☑ THIRD READING
   ❓ HOW MUCH DID YOU UNDERSTAND NOW!
   ☑ NOW READ AND ANSWER THE QUESTIONS
   👥 THE STRATEGY FORUM
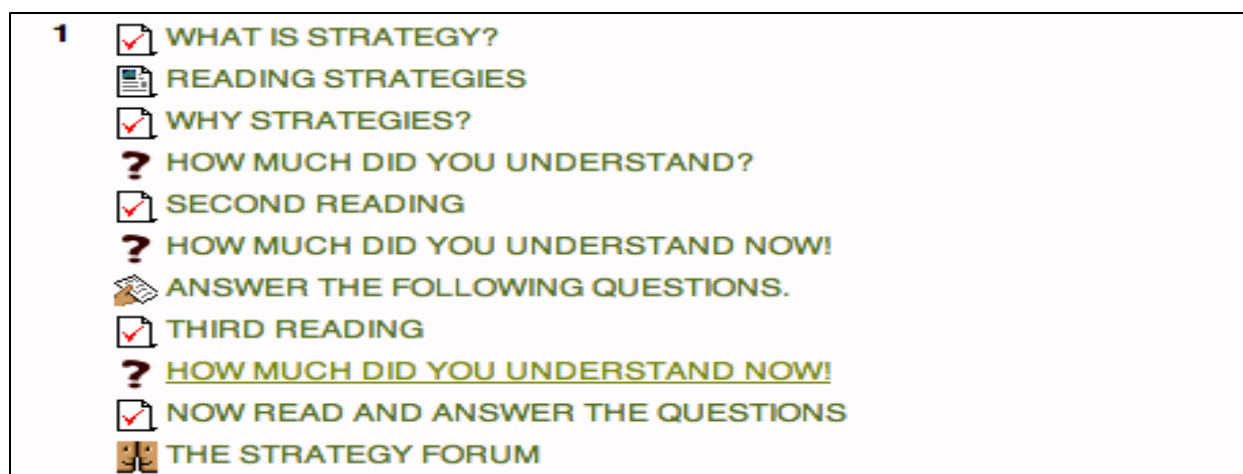
[Figure 23: Section 1.]

As soon as they post their comment in the previous forum, the activities in Section number 2 (Figure 24) start to be displayed. As we anticipated above, the aim here is to present and practise pre-reading strategies. The focus is on 'using linguistic and other clues for guessing intelligently' from the compensation strategies sub-group, along with 'overviewing and linking with already known material' and 'centering learning' from the metacognitive strategies sub-group. The tactics[147] implemented are predicting using comprehension questions[148] and the title of the text. The first two clusters of activities are devoted to using comprehension questions, and both clusters have an introductory Q-A forum where they have questions about a text that they need to answer without actually seeing the text. When their answer is sent, the text will be displayed and after reading the text they will have access to another Q-A forum where they are asked whether answering the questions before reading the text helped and why or why not. The third cluster within Section 2 is based on the tactic of using the title to predict. First, the student is given the title of a text in a Q-A forum, and asked what they think the text will be about. Once this forum question is answered, learners can access the text. After reading the text, they are

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[147] Oxford (2011:31) defines tactics as "the highly specific, 'ground level' [author's quotation marks] application of strategies or metastrategies in real life situations for specific purposes and needs." All the strategies included in this course will be explained as such, but sometimes we will add additional instances of tactics, and sometimes we will use the label for the strategy and the actual implementation of that strategy. It will depend on the nature of the strategy at hand.

[148] Although our objective is overall reading comprehension, we must never lose sight of the goals of the second year of upper-secondary education, traditionally programmed to prepare for the university entry examination, which, in the case of English, is based on reading comprehension questions. Taking these probable expectations from students into account, we need to provide clear connections to that examination, otherwise we might lose motivation due to a lack of perceived relevance of the learning materials provided.

invited to reflect, in another Q-A forum, whether their prediction about the text helped them understand the text, even if their predictions were not accurate. After this, the platform provides practice in linking titles and texts using a SCORM activity. Immediately afterwards, students are encouraged to share their opinions about the level of difficulty of the titles activity, and what tactics they used in order to find which title matched every text.
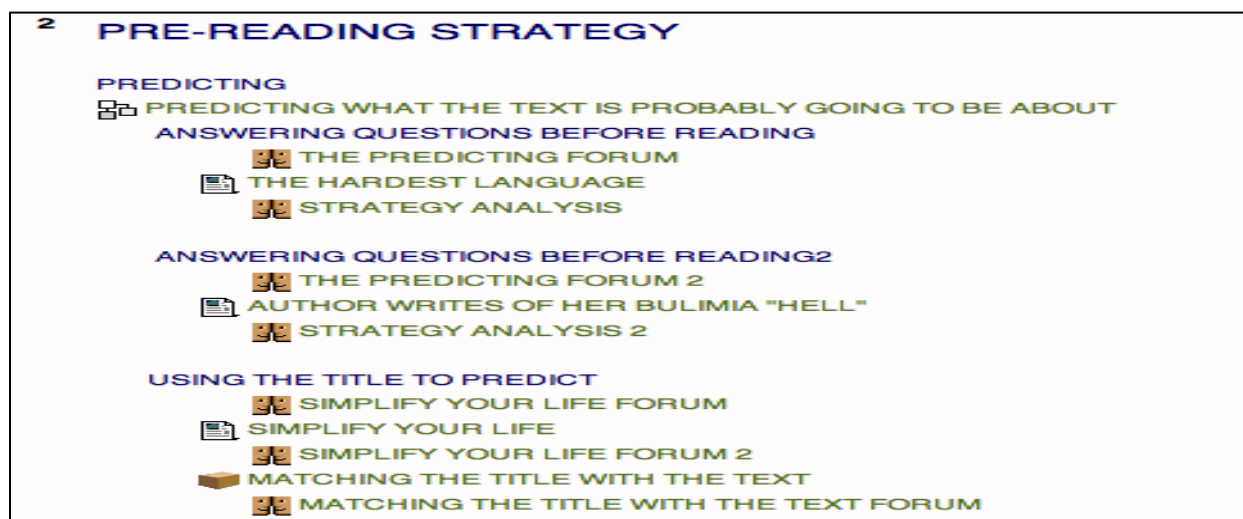
[Figure 24: Section 2.]

Once the learner submits their answer to the previous forum, the last and longest section, Section 3 (Figure 25), opens up. As we said above, this section focuses on the use of while-reading strategies. Each cluster of activities is initiated by a lesson activity where there is a short explanation of the strategy and a task to help the student understand the content, and to make sure that there is some active involvement on the part of the learner. After the student has finished the lesson, there is always one activity, at least, for the learner to put the information from the lesson into practice. The strategies included in this section are 'getting the idea quickly,' 'recognizing formulas and patterns,' 'predicting,' [149] 'reasoning deductively,' 'analyzing expressions,' 'analyzing contrastively,' 'translating,' 'transferring,' 'organizing your

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[149] This tactic is also present in the previous section, but this time it will be predicting what is coming next in the text while we are reading.

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ideas,' 'taking notes,' 'summarizing,' 'highlighting,' 'guessing,' 'using linguistic clues,' 'using other clues,' 'connecting,' and 'analyzing and linking with already known material.'[150]

[Figure 25: Section 3.]

Since all the clusters follow approximately the same structure, we will provide two examples here that we believe are representative of the whole section. Thus, in the cluster under the heading of 'analyzing expressions,' the students are introduced in a lesson activity (Figure 26) to the concept of the strategy in question and asked to analyze one compound word. After this activity is submitted, they are invited in a Q-A forum (Figure 27) to provide a tentative definition of some compound words which they will probably not know, but can easily guess through the analysis of affixes. As another example, in the cluster labelled 'taking notes,'

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[150] Not all the strategies in Oxford's model are present in the current course. This is because some of them are not applicable to reading (the whole section of compensation strategies for speaking and writing is the most obvious one) and others are used in *'The Reading Corner'*, as is the case of the group of metacognitive strategies for arranging and planning your learning and for evaluating your learning. Affective strategies and social strategies will also be included in *'The Reading Corner'*.

students are introduced to the concept of mind maps and are asked about their opinion about their importance (Figure 28). Then, students are encouraged to draw one simple mind map and upload it to the platform in an *Moodle* assignment activity (Figure 29).

When we have compound words (words with more than one element), we tend to devide the word into parts that we can understand, or that are easier to understand. For instance, if we have **overestimated** and we don't understand it, we would take **over**, that we know is a preposition meaning "por encima" and make guesses depending on the context. We would probably combine the analysis with the fact that **estimated** is similar to Spanish (we will see this afterwards) and we could correctly guess that it is something we appreciate more than we should.

1.- What do you think could be the meaning of undereducated?

2.- What about overeat?

Your answer:

Please enter your answer in the box

[Figure 26: lesson on the use of analyzing expressions, like the first cluster example in Section 3.]

You will see here some sentences with compound words (two or more words together) in bold. Write a message saying what you think the expressions mean. Explain why. Use Spanish if you think it is necessary.

The streets before the football match were full **loud-mouthed** hooligans.

The students were asked to draw a **five-sided** polygon in the maths class.

The pub had designed **eyecatching** posters to announce the party.

The tourists were driving their **four-wheel drive** in the dessert.

Add a new discussion topic

[Figure 27: forum as a follow-up activity for the explanation of analyzing expressions, like the first cluster example in Section 3.]

Do you normally take notes when you read? It is very useful!! Specially with difficult readings having a paper and taking organised notes do help a lot! What does "organised" mean? The ideas you decide to write down should be put together in a way that they are logical together. One nice way of doing this is with mind maps. This will help you to clearly see what is important in a text and what is not important.

Texts are normally organised in paragraphs, which include different ideas. So a nice thing to do is trying to have an idea per paragraph, at least. Then you decide if you include it or not, or if you add more ideas than just one per paragraph.
Mind maps are a visual way of organising your ideas (when reading or when planning your writting) 😊 Here you have a nice example from the Wikipedia of how to make a mind map:

They can be very complex or simple. They can even include drawings that could represent the content. Some of them are very creative. Have a look at the ones you find in Mind Map Art:

Why is it helpful to take notes when reading?

Your answer:

Please enter your answer in the box

[Figure 28: lesson on the use of taking notes, like the second cluster example in Section 3.]

Cadbury Drinking Chocolate

Drinking chocolate. It seems so simple – but it actually took all sorts of tinkering to come up with the drinking chocolate we know and love today…

Because there was so much cocoa butter in the cocoa – a whopping 50% or more – manufacturers at the time had to add things to it, like potato flour and sago (a type of starch), to try and absorb the fat and mask the taste. Some ruthless manufacturers added brick dust and even poisonous red lead to their products.

So, how did the Cadbury family get involved in chocolate? John Cadbury opened a grocer's shop in Bull Street, Birmingham in 1824. He sold tea and coffee, but experimented with cocoa and drinking chocolate too. It really was a hands-on business, breaking up the cocoa beans with a pestle and mortar and adding common contemporary ingredients such as treacle and starches.

By 1831 John Cadbury's cocoa and drinking chocolate was getting more and more popular. So he rented a small factory in Crooked Lane not far from his shop and became a 'manufacturer of drinking chocolate and cocoa'. It was the start of Cadbury as we know it today.

Draw a mind map with the information on this text, scan it and upload it here. You don't have to make a complex mind map, but you can if you want.

Upload a file (Max size: 2MB)

Seleccionar archivo   nada seleccionado
Upload this file

[Figure 29: assignment as a follow-up activity for the explanation of taking notes, like the second cluster example in Section 3.]

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III.3.3 Course Material

The prescribed coursebook used at the high school in the current research project is *Bridges for Bachillerato 2* (Williams and Rubio, 2008). It is the book the English department decided to use for the second year of upper-secondary education. The topics used by the book to organize their activities are, in order of appearance, 'health,' 'jobs,' 'shopping,' 'relationships,' 'tourism,' and 'celebrations.' The book will be used as a reference both for the learners and the teacher with regard to the topics used, but also the grammar and vocabulary exercises. Some of the activities in the book will be used in class, but sometimes the book will only be the stimulus for activities designed by the teacher. When we describe the implementation of the study, we will refer to some instances of the use of the textbook. However, the textbook is not part of our research. Its reference here is only for the purpose of acknowledging its use.

III.4 Procedure

Since our application is multifaceted, we will provide an account of the administration of the different instruments in separate sections in order to guarantee clarity. There will be a chronological account to a certain extent, but within the instrument at hand. Therefore, we will start with the questionnaires and we will continue with different layers of the Corporate Learning Environment. All the instruments were used within the rationale of a subject curriculum, and were, naturally, accompanied by the offline classroom sessions.

III.4.1 Questionnaires

We devoted one session at the beginning of the academic year, for every questionnaire, except the attitude questionnaire for the reasons referred to below. Thus, the context questionnaire was applied in the third session after the students had begun the syllabus; the fourth and the fifth sessions were dedicated to reading comprehension due to its length, with one session dedicated to parts 1, 2 and 3 of the test, and another session to parts 4 and 5 with the last introductory session dedicated to the SILL. During the sessions, we administered the questionnaires and students were sitting in such a way that they could not comment on their answers to avoid students influencing each other. We also informed the students that their

answers would have no effect on their marks. In the case of the attitude questionnaire, as we remarked above, the application date was not at the beginning of the course. We decided to collect students' perceptions after the first term had finished, since we considered that having gone through a term gave students enough exposure to have an idea of what the new methodology implied, including the assessment process. All the questionnaires were exactly the same for the control and the experimental group, with the reading test having some peculiarities since we used 2 different tests that were exchanged at the end of the course. That is, test A was used for the experimental group as the pre-test and test C was administered to the control group as the pre-test. For the post-test, we used test C with the experimental and A with the control group. With this procedure we guaranteed that results were not contaminated by students sharing information from the questionnaires. In any case, by using the same validated tests for both groups we achieved a high level of equivalence between results from both groups.

The subsequent application was done at the end of the course, with the same guarantees described above for the initial application. Since at this stage students were undergoing the assessment processes that would grant them, or not, access to the degree they would like to pursue from that moment on we decided to insist again on the informative nature of the results in the questionnaires with no influence on their final grades. In the case of the attitude questionnaire, which had opinions they could consider sensitive for the teacher, we decided to let the students formulate their perceptions anonymously.[151] Since we needed to collate their opinions with the rest of the data collected during the course to potentially draw conclusions from their results and use of the platform, we decided to devise a system to guarantee anonymity but only until the decisions about grades were already taken. Thus, every student randomly handpicked a number they would write on the heading of the questionnaire, together with their names. The code was also written on the body of the test, but this time the name was omitted. The body and the heading were split apart, with the former being kept inside a sealed envelope by a student. The teacher only had access to the envelope after the grades were made official.

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[151] We also applied this process in the implementation of the attitude questionnaire in January, although it was at the end of the course when students were more worried about grades.

III.4.2 The Corporate Learning Environment

As we were expecting and have already pointed out in different parts of this research study, our subjects were not acquainted with the use of an online learning platform. Therefore, we decided to introduce the whole CLE in the second session right at the beginning of the academic year, especially the necessary first steps for the student to start discovering on their own from that point on. The contents in that session[152] were basically the benefits of using the platform, the parts the platform had and what the classroom sessions were going to be like; we also explained where to find the platform, the procedure to log in, and, finally, the principles behind the activities.[153] We devoted a considerable amount of time during that session to explaining what those principles were, since we expected the mechanics to be somewhat misleading at the beginning. The information we considered that could help students in their first steps were as follows: (i) some insights on what the different courses were for; (ii) the fact that the different activities were subject to some conditions for the student to be able to continue within the platform; and (iii) signalling where some important links were, such as the connection to *Mahara* and the calendar. As we proceeded in the course, we found it necessary to provide a map of the activities students would find in the course as they unveiled them, so that students had access to a general picture of the different *Moodle* courses. This was just a screenshot of the different courses with all the activities displayed; we left the rest for the students to discover, with the teacher closely following their progress and doing repair work where necessary.

In this second session we asked the students to provide a functional email to the teacher, which was associated with their profile in the platform. With this email and their first name and last name, we bulk-enrolled both classes, each one in their respective reading course ('Reading Corner' A and C). With this method we guaranteed that all the students had immediate access to the platform, and that we could identify any problems with the assimilation of users in the common course ('*The Interactive Area*') by *Moodle*. The students in the experimental group were further enrolled in the strategies course ('*The Strategy Workshop*'). Therefore, a week after the beginning of the course all the students had a *Moodle* profile, so they soon started logging in and discovering the different elements.

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[153] We do not give too much insight on this part since it has been amply explained in Section III.3.

We also used a session at the beginning of the school year to introduce the concept of 'learning strategy' through active reflection.[154] In this seventh session, we asked the control and the experimental group, in turns, to record a video with their mobile phones. Students were organized in groups of four. The teacher provided each group with a recipe of a chocolate cake and some pictures representing the different ingredients, and the actions needed in its preparation. Within the groups, students had to arrange themselves so that there was a student who would carry the mobile, one or two people actually speaking and/or appearing on the video, and one or two people helping with the pictures provided. The product had to be a video with the instructions of how to make a cake, but no further directions were given to the students regarding how the video should look like with the purpose of giving as much creative freedom as possible. Each group was asked to upload the video to YouTube, as soon as they had finished, and to send the link by email to the teacher. To add a certain ingredient of competition, we agreed that the first group to send the video would win the game. Although all students actually did this game, there was a difference with the experimental group. As we were offering overt strategy instruction to students in the experimental group, we decided to give a practical example of what a strategy was, in a global sense, and not specifically related to reading. Hence, apart from all the directions mentioned above, this group was further given the instruction of writing down all the steps they took to produce the video: they first had to come to an agreement on how to get organized, and then to actually record the video. At the end of the class, students shared the steps they had taken with the rest of the class and the teacher. We identified the different steps as different strategies[155] and we came to a common working definition of strategies[156] and how they apply to reading. We emphasized the importance strategies were going to have during the current school year.

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[154] Means *et al*, (2010:48), for instance, emphasize the importance of computer activities promoting active reflection on the part of the learner to improve outcomes. This activity will also serve as a sample of what students will be invited to do during the course, both in class but also on the platform.

[155] Since they were actual realizations they could have probably been better described as tactics, if we follow Oxford (2011:31). However we considered these nuances could have impeded more than helped the process.

[156] Starting from the general definition Oxford (1990:7) uses, which includes elements such as "planning, [...] conscious manipulation, and movement toward a goal," we came to the concept of language learning strategies, and hence to reading strategies.

Once the introductory stage was finished, the CLE started functioning. The experimental group had access to '*The Interactive Area*' first, like the control group. But over the course of a week, the control group had access to their '*The Reading Corner*,' whereas the experimental group had access to '*The Strategy Workshop*.' Hence, the experimental group had two weeks of explicit strategy training before they had access to their 'Reading Corner.' The rationale of the platform, as we mentioned in Section III.3.2.3, was also the sequential disclosure of the different activities. Learners always had access to some instructions on the platform and the teacher was always available as a resource for them.

Tutoring the learners in the CLE, hence, was a key parameter. We applied the features in Gutiérrez-Colon Plana and Pladevall (2009:8-9)[157] for effective tutoring, especially related to a successful learners' experience. For instance, we encouraged our students in both groups to use the 'Cafeteria' forum to speak about any topic they wanted to talk about; we participated in that forum in particular, and all the forums in general, as an active member of the community, not overtly correcting but giving opinions or giving suggestions on the topics the students chose (see Klobas and McGill (2010:132) for further insight on the importance of teachers' involvement in the success of a LMS); we also made sure that none of their messages were left unanswered; we also guaranteed that reactions to students, in the form of answers, but also comments or grading, were close to immediate (within the same day at the most). Since the main objective of the application was increasing exposure, all the communication was done in L2.

III.4.3 Difficulties Encountered

Once the implementation of the learning platform had started, a number of significant obstacles arose that we consider could have influenced the results we will present in chapter IV. One of these obstacles was the learners' lack of autonomy which, although it had been expected to some extent, slowed down the tempo of the course. By way of example, a great majority of students had to be given the username and password several times during the year, using this as an excuse for not submitting assignments on a regular basis, at least at the beginning, even though they knew they had a way to ask the platform to resend the password. Furthermore, some

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[157] See Appendix IV for a complete account of Gutiérrez-Colon Plana and Pladevall's (2009:8-9) parameters.

students demanded at different points during the academic year that the compositions were given to the teacher on paper in class, and one student actually demanded grammar explanations in class and a traditional grammar exam, since that way he could "study and forget about that content," instead of having to try to understand it on the platform. Therefore some of the objectives were not reached at the moment we expected.

Another problem was technical issues with the platform. In such an infrastructure-sensitive application, any difficulty coming from that area causes serious damage to the implementation. In our case, although we had really helpful people on the technical side of the platform, there were moments when the loading of a single page took 20 minutes, without actually knowing what the problem was. This especially affected the correction time spans. Uploading one composition to the platform took seconds for the students. However, the teacher had to spend more than 30 minutes simply to get a complete display of the assignment page, due to the amount of data that needed to be handled. The outcomes module, which we believe is one of the key components in *Moodle* nowadays, if we want to implement a sound evaluation scheme where the learner is fully conscious of it, overloaded the resources of the platform. Therefore, as we will argue in detail in our conclusions, the outcomes module needs some reformulation to be applied without the rest of the platform seriously suffering. We are not aware, however, of what the real technical problems were. All this extra time taken impeded the teacher following the progress of all the learners more closely.

CHAPTER IV
RESULTS

CHAPTER IV

<u>RESULTS</u>

In the following chapter, we will present the results of our research study, in four separate sections, following the structure established by the four research questions that provide a framework for our investigation. Thus, Section IV.1 will be associated with the first question (i) 'Does using a Corporate Learning Environment, based on the use of Information and Communication Technology, in a blended design in our teaching context enhance the language learning experience?' Section IV.2 will be based on the results related to the second research question (ii) 'After the application of a Corporate Learning Environment, do learners perceive it is a relevant learning means?' Further on, Section IV.3 will provide an account of the results in relation to the third question (iii) 'Do learners improve their reading comprehension skills by means of explicit training in the use of strategies through the use of a Corporate Learning Environment?' Finally, Section IV.4 will provide our results pertaining to the question 'Do learners improve their perceived use of reading strategies after overt instruction on reading strategies?' Furthermore, each research question will be analyzed here in connection with the relevant items from the different research instruments utilized to gather data as a means to shed light on that specific aspect of our investigation.

With the aim of providing a clearer picture of all aspects of the investigation, each section will first describe the results of the different items from a quantitative perspective, offering objective data gathered by means of the application of the different research instruments we have employed, emphasizing the significant results obtained in the analysis. Initially, the results obtained by the experimental group will be compared to those obtained by the control group, making reference to the initial and final applications when relevant. We will then compare the

results obtained by the learners within the two groups if relevant, in this case always comparing the initial and final application. Where applicable, we will also compare the average results of the two groups together with the aim of detecting possible significant differences that our research model could be accountable for. Furthermore, where available, we will also provide qualitative data supplied by the subjects in the questionnaires or on the platform. After analyzing all these data, we will offer our initial conclusions that will attempt to interpret our results in relation to the paradigms we established in the theoretical background in Chapter II.

IV.1 Potential Improvement of the Language Learning Experience by Using a Corporate Learning Environment

The results we will analyze in this section correspond to the first research question we wished to address, namely 'Does using a Corporate Learning Environment in a blended design, based on the use of Information and Communication Technology, enhance the language learning experience in our teaching context?' The instrument used to evaluate this research question was the Attitude Questionnaire (AQ). More specifically, we will focus this section on the results obtained in items AQ1 to AQ9 (see Appendix VII for a complete reproduction of the questionnaire). We will start with our analysis of the quantitative items, and we will then continue to describe the qualitative data provided by the participants in our study, which are limited to AQ3 and AQ9. The latter will substantiate the conclusions we might draw from the data.

Figure 30 shows the results elicited by the first question (AQ1), "What concept of the language did you have at the beginning of the course?"[158] with all the subjects considered as one group. We probed the learners both in January and in May to check the influence our model had had on students' perceptions of the language after the application. The aim of the question was gauging, at least to some extent, the use and levels of our learners' affective filters in relation to their language learning experience[159].

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[158] Although the questionnaires were implemented in Spanish, we will use a close translation here with the purpose of facilitating comprehension. The questionnaire, as produced for the students, is available in Appendix VII

[159] Xiaoyan Du (2009:162) defines the affective filter as "a filter which filtrates the amount of input in learners' brains." According to Krashen (2002:22), learners with a high filter will be less likely to acquire the language, since
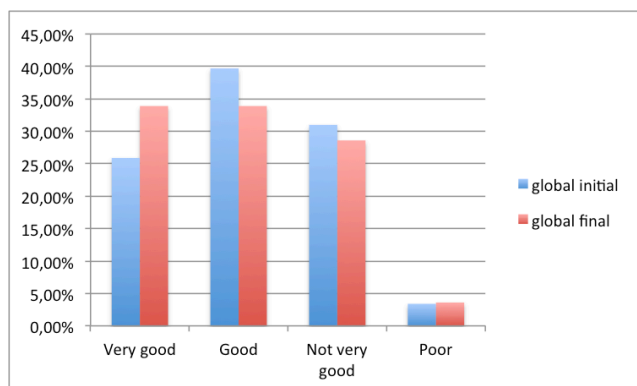
Figure 30.
Change in concept of the foreign language

Taking into account the fact that we are working with ordinal quantitative data, we have used the Mann-Whitney U test to compare the answers coming from the experimental and the control group, since this test allows the comparison of means coming from different groups. In the case of item AQ1 the results do not show any significant difference between the two groups, neither in the initial application nor in the final application.

However, our intention was also to test whether our learners had evolved within their own groups, which. is why we compared the global results of both groups at the beginning and at the end of the research period. Therefore, as we were also working with ordinal quantitative data, we used the Wilcoxon test, which allows the comparison of two mean values belonging to the same group. Although there are no significant differences between the initial and the final applications, we do see a notable improvement in our subjects' opinions towards the L2. We can see this improvement in the percentage of learners answering "very good" or "not very good," where there is growth in the former and a decrease in the latter.

The second item in the AQ (AQ2) tried to elicit from learners whether they had the perception that their concept of the foreign language had changed in relation to the beginning of the course. The item was literally formulated as "I believe that the concept I had of the language has changed as compared to the beginning of the course." Our aim with this question was to cross-check their perceptions of the evolution in their concept of the foreign language, since they were asked what their concept was at different moments during the academic year, but also what

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they would "allow in" less input. Some of the parameters influencing the affective filter have been dealt with in Sections I.4.1 and I.4.2.

their perceptions might be, bearing in mind that they did not have access to their former answers. We used a four-point Likert scale, as described in Section III.3.1.1.
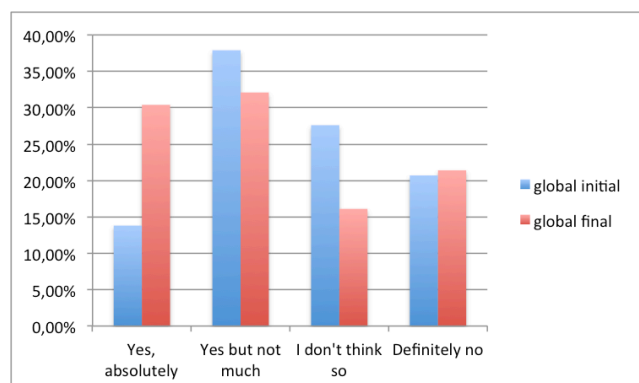
Figure 31.
Perceived evolution of the concept of L2

Taking the global results from all the subjects in both groups, there seems to be a majority of students who think that there has been a change in their concept of the language (Figure 31). There is, as well, an evolution of their perceptions between the initial application and the final application, since only 51,7 % thought their concept had changed after the first term with the application of the questionnaire in January, but this percentage climbed to 62,5 % in May. Nevertheless, on using the Mann-Whitney U test for the comparison between the control group and the experimental group, and the Wilcoxon test for the comparison of the results within both groups in the initial and final applications, we did not find a significant difference.

With the intention of checking whether the learners' potential change of attitude was perceived as lasting beyond the school year by the learners themselves, we introduced item AQ4[160] which was "although I previously thought otherwise, I would currently like to continue learning English once this course is finished." There is a clear evolution in the answers elicited towards the positive end of the scale (Figure 32), if we compare the application in January and in May, with the former yielding 37,9% of positive answers, i.e. "a" or "b," and 64,3% the latter. However, this difference does not reach significant levels when we compare the results from the experimental and the control group. Nevertheless, when we compare the global results in the first and the second application obtained from both groups together, we perceive significant results as we can see in Figure 31. There is an evident increase in the number of learners stating that they have the intention of extending their learning of the language beyond the end of the course; and

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[160] As we anticipated in the introduction to the current section, questions AQ3 and AQ9 include qualitative comments provided by the learners, which will be used to support our conclusions further on in the current section.

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there is also a parallel decrease in the number of students choosing the most negative answer on the scale. The significance of the difference between the initial and the final administration was confirmed by the Wilcoxon test (Z= -2,996), which yields a significant difference (0,003), as we can see in Table 1. The Wilcoxon test also provides the following information: 27 students chose the same option in both administrations, 23 made a more positive choice in the final test and only 6 chose a more negative option.

Figure 32.

Contrast between initial and final application AQ4

Test Statistics[b]

	AQ4F - AQ4I
Z	-2,996[a]
Asymp. Sig. (2-tailed)	,003

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

[Table 1: Wilcoxon test for AQ4I and AQ4F.]

AQ5 opens a group of questions related to language skills development. In this case, we asked students "Do you think writing is now easier than at the beginning?" Taking the data included in Tables 2 and 3 below into consideration, there was a clear positive development in the average perception of improvement in writing skills between the questionnaire answered in January and the one answered in May. Thus, 88,5% of learners in the experimental group gave a positive answer, i.e. "a" or "b" in January, but this figure rose to 96,1% in the final application. Regarding the negative answers there was also an evident improvement, since 11,5% of learners in the experimental group answered "I don't think so" or "definitely no" whereas in the final application this number dropped to 3,8%. Regarding the subjects belonging to the control group, the evolution is similar. In their case, 62,5% students chose a positive option in the January application, with 76,7% doing so in May. The negative options had a similar evolution, since

37,6% of students chose either "c" or "d" in January and this number decreased to 23,3% at the end of the course.

AQ5I * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ5I	Yes, absolutely	Count	4	7	11
		% within Group	15,4%	21,9%	19,0%
	Yes, but not much	Count	19	13	32
		% within Group	73,1%	40,6%	55,2%
	I don't think so	Count	1	10	11
		% within Group	3,8%	31,3%	19,0%
	Definitely no	Count	2	2	4
		% within Group	7,7%	6,3%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 2: learners' perceived improvement in writing in initial application.]

AQ5F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ5F	Yes, absolutely	Count	9	12	21
		% within Group	34,6%	40,0%	37,5%
	Yes, but not much	Count	16	11	27
		% within Group	61,5%	36,7%	48,2%
	I don't think so	Count	0	6	6
		% within Group	,0%	20,0%	10,7%
	Definitely no	Count	1	1	2
		% within Group	3,8%	3,3%	3,6%
Total		Count	26	30	56
		% within Group	100,0%	100,0%	100,0%

[Table 3: learners' perceived improvement in writing in final application.]

The Mann-Whitney U-test proves, nevertheless, that there is no significant difference between the experimental and control groups, neither in their initial nor in their final answers. Nevertheless, taking the results of the two groups together, the data represented in Figure 33 does show a difference in learner-perceived improvement of writing skills from the initial to the final application. The Wilcoxon test confirms the significance of this difference, as we can see in Table 4. This last test also yields the following information: 23 students chose the same option in both tests; 24 made a more positive choice in the final questionnaire and only 9 made a more negative choice.
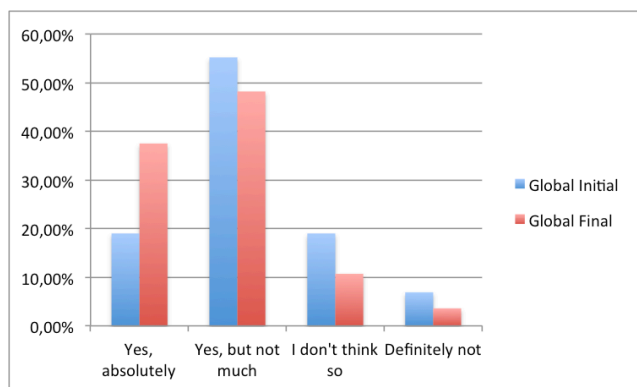
Figure 33.

Contrast in perceived writing skill in initial and final <u>*administration for all the students in AQ5*</u>

Test Statistics[b]

	AQ5F - AQ5I
Z	-2,399[a]
Asymp. Sig. (2-tailed)	,016

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

[Table 4: significant evolution of learners' perception of improvement of writing skills.]

The next question in the AQ is also related to skills development. In this case, the skill involved is reading comprehension, which is the key skill in our research. Learners were asked whether they considered that "Doing tasks that involve reading is easier for me now at the end of the course than at the beginning." As we can see in Figure 33, a great majority of students chose the more positive grades from the scale both in the initial application and in the final application of the questionnaires. Thus, in the initial application 81,1% of the learners chose either option "a" or "b," which rose to 85,7% in the final application. The number of students choosing either "I don't think so" or "Definitely no" decreased from 19% in the initial application to 14,2% in the final application.

Therefore, although the results from each of the groups separately does not yield significant results in neither the initial nor the final administrations, if we consider the results obtained by all the learners as belonging to one single group as described above, we can perceive that there is a significant evolution towards the positive end of the scale. This contrast is represented in Figure 34. The Wilcoxon test confirms (Z=-2,062) the significance (0,039) of this difference, as seen in table 5 below. This test also provides the following information: 25 students chose the same option in both administrations, 21 made a more positive choice in the final administration, and only 10 made a more negative choice.
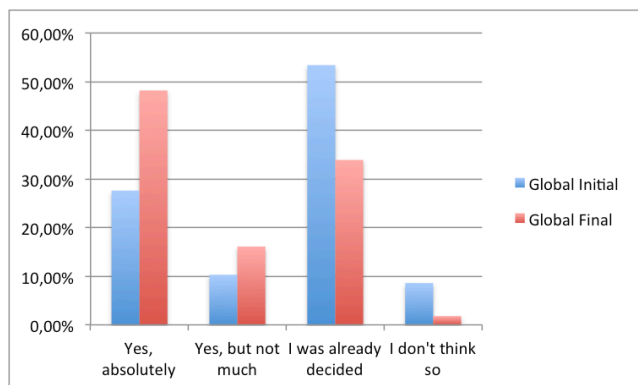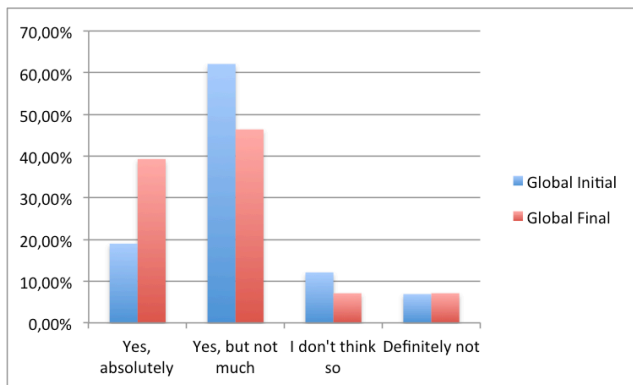
Figure 34.
Contrast between perceived reading skill in initial and
<u>*final administration in AQ6*</u>

Test Statistics[b]

	AQ6F - AQ6I
Z	-2,062[a]
Asymp. Sig. (2-tailed)	,039

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

[Table 5: significant evolution of learners' perception of reading improvement.]

Item number seven is yet another skill-related item from the AQ. In this case, the students are asked to give their opinion regarding their perceived level of improvement in the skill of listening. The exact formulation of the statement was the following: "I believe that it is easier for me now than at the beginning of the course to understand what I listen to in English, regardless of whether it is from a recording, from the teacher or a class mate." Again, the answers from the students fall mostly between the two most positive options (Figure 34), with "yes, absolutely" and "yes but not much" receiving 79.4% of all the answers, rising to 87,5% at the end of the course. However, the Mann-Whitney U test does not confirm significant differences between the results of the experimental group and the control group, neither in the initial administration nor in the final administration of the questionnaires, The Wilcoxon test (Z=-1,995) does yield significant differences (0,046), as seen in Table 6, between the results obtained by all the learners as a single group comparing the initial and in the final administration (see Figure 35). On taking additional information from the Wilcoxon test, we can see that 26 students chose the same option in both administrations, but 22 made a more positive choice in the final administration, and only 8 chose a more negative option.

Test Statistics[b]

	AQ7F - AQ7I
Z	-1,995[a]
Asymp. Sig. (2-tailed)	,046

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

[Table 6: significant evolution of learners' perception of listening improvement.]
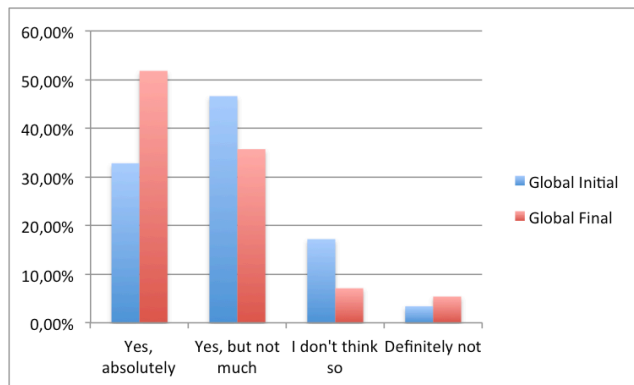
Figure 35.

Contrast between perceived listening skill in initial and final administration in AQ7

The last item associated with this research question which is susceptible to quantitative data analysis is question number 8. This item is also the last one specifically related to language skills development. The skill in question on this occasion is speaking. The statement we asked the learners to agree or disagree with was formulated in the following manner: "I feel that I am more successful when I speak English, even though I make mistakes." As in the cases depicted above, the students show a tendency to improve their perceptions of their own learning process: again, most of the students answered positively in the initial administration in January (74,1%) and their answers improved in May (83,9%), as we can see in figure 36. Nevertheless, after implementing the Mann-Whitney U test, we could not confirm any significant difference between the experimental and the control group. The Wilcoxon test did not yield any significant result between initial and final administration either.
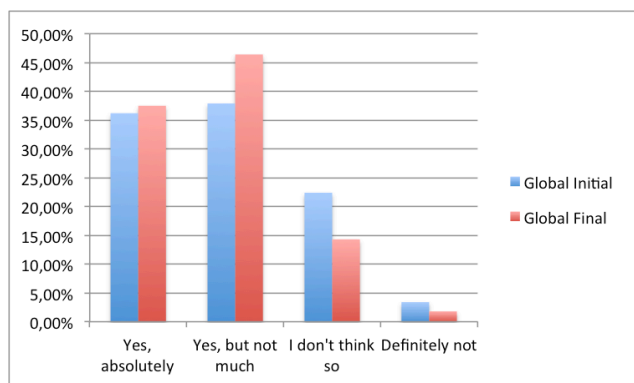
Figure 36.

Contrast of perceived speaking skill in initial and final administration in AQ8

IV.1.1 Final Considerations in Relation to the First Research Question

In all the items from the AQ dealt with in this section, there are evident positive results. Furthermore, the data analyzed in the final application show improvements compared to the initial application, even though some of them are not significant. Taking into account that the subjects were asked to take the tests after having experienced our teaching/ learning model, we can conclude that their tendency to improve their perceptions of their learning has a direct relationship with the model. Moreover, we could expect the significance in the different parameters to increase if the time of application of the model could be extended beyond the standard school year.[161]. Furthermore, the items that yield significant improvements are especially relevant. These items were AQ4, AQ5, AQ6 and AQ7 when the results from the initial and final application were compared by taking the learners as comprising a single group. Their relevance is connected to the fact that they are linked to the improvement of writing, reading and listening skills, with respect to AQ5, AQ6 and AQ7 respectively, which are key objectives in any foreign language learning context. In the case of AQ4, which deals with the will and motivation to carry on with the learning of the language after the course has finished, our students show a significant change of attitude that will be a precious asset for life-long learning prospects. It is also worth mentioning that speaking, represented in AQ8, does not yield any significant results.

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[161] Time is definitely a parameter to have into account when trying to assess the validity of a technology enhanced model of teaching and learning (Zapata and Sagarra, 2007:167; Assareha and Bidokhtb, 2011:792; de Juan, 2011:246; Macaro, Handley and Walter, 2012:25).

This could be connected to the situational anxiety speaking produces in speakers (Plastina, 2004:116) that may be hindering their perceived evolution in this skill.

These conclusions are further supported by some of the comments made by students in items 3 and 9 in the form of qualitative data. For instance, a student from the experimental group in answer to the question "How do you think your concept of the language has changed?"(AQI3) claims that "the classroom dynamics and the tasks in the platform have encouraged [him] to be more engaged, and to improve both [his] results and [his] learning." The same student states in the final application (AQF3) that our model improved his predisposition to learn the language. Most of the comments from the experimental group emphasize this idea of having improved their perceptions of both of the language and of the learning process itself, with direct references to the offline, as well as the online part of the teaching/ learning model. The results in the control group parallel those from the experimental group, with again most of the students perceiving their concept of the language as having improved thanks to our model. This can be seen, for instance, in the answer provided by a student from the control group who considers that her concept of the language has changed positively because "after three years with the same teacher [not the author of this research] always doing the same, [she] feel[s] there is some improvement in [her] language. Besides, [she] consider[s] that the platform and the work we do on our own is considerably helpful."

IV.2 The Relevance of the CLE

The current section is based on the second research question: "After the application of a Corporate Learning Environment, do learners perceive it as a relevant learning means?" The instrument used to help us attempt to answer this question is also the attitude questionnaire (AQ), although this time we will concentrate on the second (IV.2.1) and third section (IV.2.2) of the questionnaire, which are items from AQ10 to AQ24. As we did in IV.1, we will start with the quantitative data, providing all the relevant information and giving emphasis to those parameters we consider worth highlighting. We will continue with an account of some of the qualitative data provided by the learners in items AQ19 and AQ24, which will help us ground our conclusions.

IV.2.1 Use of the Platform

In this section, we specifically probed our subjects on their perceptions regarding the online learning platform. The first statement in the section (AQ10) tries to elicit whether the learners perceived the platform as having made their learning of English easier. They were invited to answer using a four-point Likert scale, the different levels being "yes, absolutely," "yes, but not much," "I don't think so" and "absolutely no." The results from the initial and the final administration are displayed in Tables 7 and 8 respectively.

AQ10I * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ10I	Yes, absolutely	Count	6	7	13
		% within Group	23,1%	21,9%	22,4%
	Yes, but not much	Count	14	14	28
		% within Group	53,8%	43,8%	48,3%
	I don't think so	Count	5	10	15
		% within Group	19,2%	31,3%	25,9%
	Definitely no	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 7: initial learners' perception of CLE as making learning easier.]

AQ10F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ10F	Yes, absolutely	Count	3	5	8
		% within Group	12,0%	16,7%	14,5%
	Yes, but not much	Count	14	19	33
		% within Group	56,0%	63,3%	60,0%
	I don't think so	Count	6	5	11
		% within Group	24,0%	16,7%	20,0%
	Definitely no	Count	2	1	3
		% within Group	8,0%	3,3%	5,5%
Total		Count	25	30	55
		% within Group	100,0%	100,0%	100,0%

[Table 8: final learners' perceptions of the CLE as making learning easier.]

The great majority of participants (70,7% in the initial administration of the questionnaire and 74,5% in the final administration) consider that the platform does help with their learning of

English to some extent (answers "a" or "b"). In relation to the differences between the groups, it is interesting to note that while in the initial administration there was a considerably higher number of participants in the experimental group who considered that the platform made learning English easier (76'9% in contrast to 65,7% in the control group), this difference changed completely in the final administration, with individuals in the control group answering "a" or "b" outnumbering those in the experimental group (80% in the control group and 68% in the experimental group). After performing both the Mann-Whitney U test and the Wilcoxon test, we confirmed, however, that these differences were not significant.

Statement AQ11 examines the level of acceptance of the appearance that the platform had. The statement was formulated as follows: "I have liked the look of the platform." Learners were asked to measure their level of agreement using the same four-point Likert scale mentioned above. The results are displayed in Figure 37, which shows the initial and final applications.
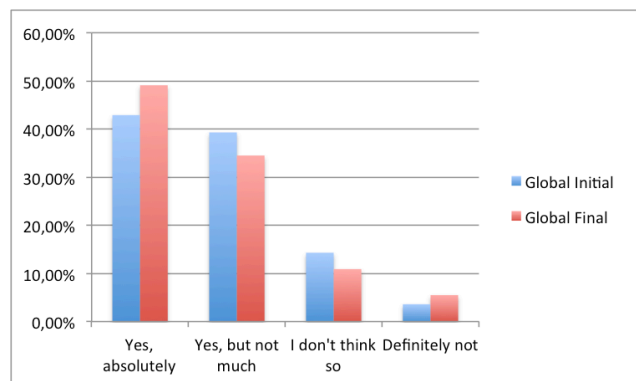
Figure 37.

Contrast of opinion about the appearance of the

platform in the initial and final in AQ11

Although we did notice some variation in the number of students choosing the options from the more negative side of the scale, we consider the great amount of learners giving a positive answer is more notable: 82,2% of participants in the initial administration and 83,6% in the final administration reported that they liked the appearance of the platform. What is more, more than 49% of those giving a positive answer chose "yes, absolutely." However, regarding the possible differences between the two groups, or between the two administrations within the groups, we did not find any significant data.

In the following item (AQ12), we wanted to determine the extent to which our learners perceived this kind of learning platforms to be relevant for their learning of a foreign language.

We asked the participants to select their degree of agreement with the following statement: "I believe that this kind of platform is a very important tool for the learning of a language." We can see the results in Table 9, for the initial administration of the questionnaire, and Table 10 for the final administration.

AQ12I * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ12I	Yes, absolutely	Count	16	16	32
		% within Group	61,5%	53,3%	57,1%
	Yes, but not much	Count	7	8	15
		% within Group	26,9%	26,7%	26,8%
	I don't think so	Count	3	5	8
		% within Group	11,5%	16,7%	14,3%
	Definitely no	Count	0	1	1
		% within Group	,0%	3,3%	1,8%
Total		Count	26	30	56
		% within Group	100,0%	100,0%	100,0%

[Table 9: learners' perceived importance of the CLE for the learning of languages in the initial analysis.]

AQ12F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ12F	Yes, absolutely	Count	9	15	24
		% within Group	34,6%	50,0%	42,9%
	Yes, but not much	Count	13	13	26
		% within Group	50,0%	43,3%	46,4%
	I don't think so	Count	4	1	5
		% within Group	15,4%	3,3%	8,9%
	Definitely no	Count	0	1	1
		% within Group	,0%	3,3%	1,8%
Total		Count	26	30	56
		% within Group	100,0%	100,0%	100,0%

[Table 10: learners' perceived importance of the CLE for the learning of languages in the final analysis.]

Again, a great majority of learners (a total of 83,9% in the administration in January and 89,3% in May) believed our CLE provided an important tool for the learning of the language. Nevertheless, we consider it noteworthy that learners from the control group who believed that the platform was an important tool grew from an 80% in the initial administration to 93,3% in the final administration, which contrasts with the slight regression from 88,4% to 84,6% in the

experimental group. However, none of these data represent a significant result, as confirmed by both the Mann-Whitney U test and Wilcoxon test, coming from the different groups and within the groups, respectively.

With the intention of analyzing our learners' perceptions of how the platform fostered their self-learning skills, we introduced statement AQ13. From the Likert scale, they were asked to select from agreeing to a maximum degree to not agreeing at all. The results can be seen in Tables 11 and 12 for the initial and the final administrations respectively.

AQ13I * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ13I	Yes, absolutely	Count	11	11	22
		% within Group	42,3%	35,5%	38,6%
	Yes, but not much	Count	10	14	24
		% within Group	38,5%	45,2%	42,1%
	I don't think so	Count	3	5	8
		% within Group	11,5%	16,1%	14,0%
	Definitely no	Count	2	1	3
		% within Group	7,7%	3,2%	5,3%
Total		Count	26	31	57
		% within Group	100,0%	100,0%	100,0%

[Table 11: learners' perceived promotion of self-learning skill by the CLE in the initial analysis.]

AQ13F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ13F	Yes, absolutely	Count	9	11	20
		% within Group	36,0%	36,7%	36,4%
	Yes, but not much	Count	9	15	24
		% within Group	36,0%	50,0%	43,6%
	I don't think so	Count	4	4	8
		% within Group	16,0%	13,3%	14,5%
	Definitely no	Count	3	0	3
		% within Group	12,0%	,0%	5,5%
Total		Count	25	30	55
		% within Group	100,0%	100,0%	100,0%

[Table 12: learners' perceived promotion of self-learning skill by the CLE in the final analysis.]

The amount of learners choosing from between the two positive options is also very high (80,7% in the initial and 80% in the final administrations). Once more, the control group shows higher results than the experimental group in their increase from the initial to the final administrations. The control group rose from 80,7% of learners answering "yes, absolutely" or "yes, but not much" in January to 86,7% in May. On the other hand, the experimental group decreased from 80,8% in January to 72% in May. Nevertheless, these data do not reach significance levels, neither in the comparison between the two groups, nor within the groups, as confirmed by the Mann-Whitney U test and the Wilcoxon test.

The following item (AQ14) deals with the difficulties learners had experienced in understanding the activities on the platform by themselves: "As I have moved on in the course and finished activities I have been able to understand the different activities." Using a four-level Likert scale, students were invited to decide to what degree they agreed with this statement. Their answers are shown in Table 13 for the initial and in Table 14 for the final administrations of the questionnaire.

AQ14I * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
AQ14I	Yes, absolutely	Count	16	17	33
		% within Group	61,5%	54,8%	57,9%
	Yes, but not much	Count	6	10	16
		% within Group	23,1%	32,3%	28,1%
	I don't think so	Count	2	3	5
		% within Group	7,7%	9,7%	8,8%
	Definitely no	Count	2	1	3
		% within Group	7,7%	3,2%	5,3%
Total		Count	26	31	57
		% within Group	100,0%	100,0%	100,0%

[Table 13: learners' perceived difficulty in understanding the activities in the CLE in the initial analysis.]

AQ14F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ14F	Yes, absolutely	Count	11	17	28
		% within Group	44,0%	56,7%	50,9%
	Yes, but not much	Count	11	12	23
		% within Group	44,0%	40,0%	41,8%
	I don't think so	Count	3	1	4
		% within Group	12,0%	3,3%	7,3%
Total		Count	25	30	55
		% within Group	100,0%	100,0%	100,0%

[Table 14: learners' perceived difficulty in understanding the activities in the CLE in the final.]

In both the experimental and control groups, more than 80% of our subjects considered that they were able to understand the activities. In the case of the control group, this figure reached 96,7% in the final administration. In spite of this, it is notable that, in the case of the experimental group, the number of participants selecting the option "yes absolutely" decreased from 61,5% in January to a 44% in May, most of them selecting "yes, but not much." In the case of the control group, the same parameter increased from 54,8% to 56,7%. Nonetheless, the results do not reach significance level, neither regarding the differences between the experimental and the control group, nor within the groups themselves, as confirmed by the Mann-Whitney U t and Wilcoxon tests.

In relation to the participants' perceptions of the performance of the platform, we invited them to decide on their level of agreement regarding the following statement: "I have felt that the platform has worked well." Once more, the subjects were provided with the same four-point Likert scale. The results for this statement are shown in Figure 38 for both questionnaire administrations in January and May.
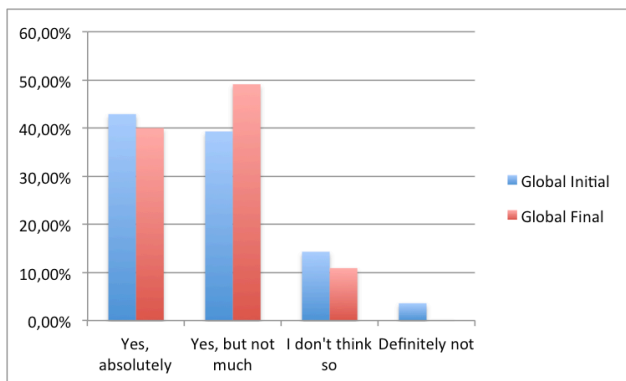
Figure 38.

Contrast of opinion about the performance level of the platform in initial and final questionnaire administration (AQ15)

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Although around a total of 85% of participants in both administrations considered that the platform worked well, at least to some extent, we regard as noteworthy the fact that, especially in the final administration, a higher number of students selected option "yes, but not much." In the final administration, a total of 60% of students in both the experimental and the control groups considered there were issues, at least to some extent, in the use of the platform. However, the results do not constitute significant differences between the experimental and control groups, or within the groups themselves, as confirmed by the Mann-Whitney U and Wilcoxon tests.

In item AQ16, reference was made to the possible issues that might have arisen during the administration, although this time connected to the level of satisfaction participants felt towards the handling of those problems on the part of the teacher/ researcher. The statement was formulated as "The problems or questions have been solved to my satisfaction." Learners were given a four-point Likert scale to select from. The results are displayed in Table 15 for the initial administration and Table 16 for the final administration.

AQ16I * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
AQ16I	Yes, absolutely	Count	18	20	38
		% within Group	72,0%	62,5%	66,7%
	Yes, but not much	Count	3	9	12
		% within Group	12,0%	28,1%	21,1%
	I don't think so	Count	3	1	4
		% within Group	12,0%	3,1%	7,0%
	Definitely no	Count	1	2	3
		% within Group	4,0%	6,3%	5,3%
Total		Count	25	32	57
		% within Group	100,0%	100,0%	100,0%

[Table 15: learners' satisfaction regarding the answers provided for problems arising in the CLE in the initial.]

AQ16F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ16F	Yes, absolutely	Count	18	24	42
		% within Group	72,0%	80,0%	76,4%
	Yes, but not much	Count	4	5	9
		% within Group	16,0%	16,7%	16,4%
	I don't think so	Count	3	1	4
		% within Group	12,0%	3,3%	7,3%
Total		Count	25	30	55
		% within Group	100,0%	100,0%	100,0%

[Table 16: learners' satisfaction regarding the answers provided for problems arising in the CLE in the final.]

In the case of the solutions given for problems or questions posed by the learners, 92,8% felt, at least relatively satisfied at the end of the whole process in May. In the case of the experimental group, the number of learners who were absolutely satisfied remained the same from the initial to the final (72%). In the case of the control group, who started with 62,5% of the participants feeling absolutely satisfied, by the end of the whole process this number increased to 80% reporting they were completely satisfied. These results do not reach significance level, however, as confirmed by the Mann-Whitney U and Wilcoxon tests.

Apart from gauging learners' satisfaction levels regarding the problems and questions posed, we also wanted to explore their perceptions in relation to our capacity for guiding them during the administration process. Thus we invited participants to report their level of agreement with the following assertion: "I believe the teacher has enough knowledge of the platform to guide me in the learning process in the platform." The results are displayed in Tables 17 and 18 for the January and the May questionnaire administrations respectively.

AQ17I * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ17I	Yes, absolutely	Count	25	31	56
		% within Group	96,2%	96,9%	96,6%
	Yes, but not much	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 17: Learners' concept of teacher's capacity for guiding them in the CLE: initial questionnaire.]

AQ17F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ17F	Yes, absolutely	Count	24	30	54
		% within Group	92,3%	100,0%	96,4%
	Yes, but not much	Count	1	0	1
		% within Group	3,8%	,0%	1,8%
	I don't think so	Count	1	0	1
		% within Group	3,8%	,0%	1,8%
Total		Count	26	30	56
		% within Group	100,0%	100,0%	100,0%

[Table 18: Learners' concept of teacher's capacity for guiding them in the CLE: final questionnaire]

The number of participants selecting the highest degree of agreement is very high. Both in the experimental and the control groups, the percentage of learners selecting "yes, absolutely" is above 90% in the initial and in the final administrations. There is a remarkable response of 100% in the control group in the May administration. Nevertheless, as in the previous cases, these data do not yield any significant difference, neither between the two groups, nor between the two administrations within the groups themselves. This was also confirmed by the Mann-Whitney U and Wilcoxon tests.

Fulfilling the objective of creating a safe atmosphere is of utmost importance both within the context of the classroom and the CLE. That is why we decided to gauge participants' levels of comfort with interacting inside the platform in item AQ18. We invited them to express their level of agreement with the statement "I have felt comfortable at the time of posting and sending messages, and I felt I was listened to." Figure 39 displays the results for the initial and administrations.
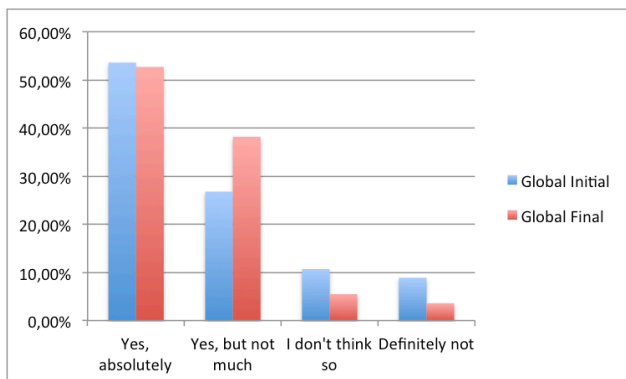
Figure 39.

Contrast in comfort levels of learners in initial and *final questionnaire administrations in AQ18*

The answers that correspond to the positive side of the scale are above 80% in the initial administration and above 90% in the final administration for both groups. What is more, the percentage of learners answering "yes, absolutely" is always above 50%, except for the experimental group in the final administration, which is 48%. Nevertheless, we should not underestimate the fact that 26,8% of learners in the initial administration and 38,2% in the final administration felt some kind of uneasiness when interacting in the platform.[162] In any event, the results do not prove any significant difference between the two groups, or between the initial and the final administrations within the groups, as confirmed by the Mann-Whitney U and Wilcoxon tests.

Up to this moment, therefore, subjects have been asked on the different parameters we considered important to gauge their (i) level of usefulness of the platform, how they (ii) perceived the platform worked, their degree of (iii) perceived self-efficacy using it (iv) and the perceived degree of appropriateness of our platform for language learning.[163] In the following section, we will describe how these concepts affected, in turn, their perceptions regarding the work in the context of the classroom.

IV.2.2 Influence of the Platform on the Perceived Relevance of Classroom Work

We started the third section of the questionnaire with item AQ20 which addresses the individual work done on the platform and its effect on learners' perceptions of classroom work. The statement was formulated in the following manner: "The fact that part of the individual work has been done on the platform has made the classroom sessions more entertaining." In Figure 40 we can see the results from the administration of the AQ in both January and May.

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[162] In Section V.1.3 we will argument with the aim of providing insight into some of the factors that might have had an influence on this parameter.
[163] The importance of these constructs was argued in Section II.4.3.
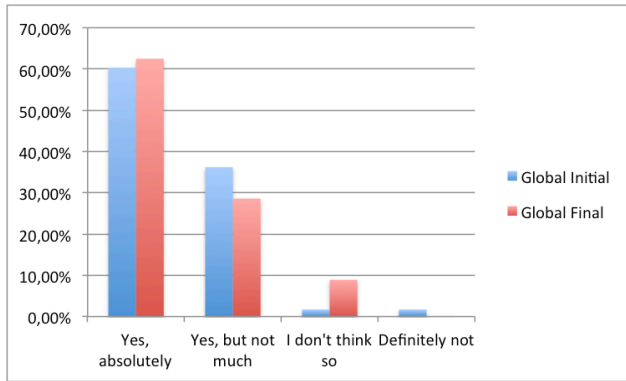
Figure 40.

Contrast of the comfort level of learners in the initial and final administration in AQ20

Again, the perceptions of the utility of the platform for classroom work is clearly positive as we see in the results shown for the options "yes, absolutely" and "yes, but not much," with no students answering "absolutely no" in the final administration. However, there was a slight decrease in the number of positive answers in the administration in May, compared to the answers in January. Thus, 96,5% of the students answered positively in January, whereas only 91,1% did the same in the application in May. In any case, after using the Mann-Whitney U test we could not confirm significant differences between the two groups. The Wilcoxon test did not show any differences between initial and final within the groups either.

In AQ21, emphasis was given to the relevance of the offline sessions to class work. The learners were asked whether they considered that the classroom sessions were more relevant thanks to the fact that part of the content was dealt with on the platform. Students were asked to agree or disagree following the same procedure as in the previous question. Table 19 shows the results gathered in January and Table 20 shows the results in May.

AQ21I * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ21I	Yes, absolutely	Count	11	5	16
		% within Group	45,8%	15,6%	28,6%
	Yes, but not much	Count	9	13	22
		% within Group	37,5%	40,6%	39,3%
	I don't think so	Count	4	12	16
		% within Group	16,7%	37,5%	28,6%
	Definitely no	Count	0	2	2
		% within Group	,0%	6,3%	3,6%
Total		Count	24	32	56
		% within Group	100,0%	100,0%	100,0%

[Table 19: perceived relevance of classroom activities thanks to CLE in initial questionnaire application.]

AQ21F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ21F	Yes, absolutely	Count	8	6	14
		% within Group	30,8%	20,0%	25,0%
	Yes, but not much	Count	14	19	33
		% within Group	53,8%	63,3%	58,9%
	I don't think so	Count	4	5	9
		% within Group	15,4%	16,7%	16,1%
Total		Count	26	30	56
		% within Group	100,0%	100,0%	100,0%

[Table 20: perceived relevance of classroom activities thanks to CLE in final questionnaire application.]

In this questionnaire item, there is a notable difference between the answers given by students from the experimental and the control groups in the initial questionnaire administration (see Figure 41). This difference is significant, as can be seen in the Mann-Whitney U test in Table 21, since it yields a result (227,000) with an associated probability of 0,0006 (below 0,05). The control group has a mean of 33,45, which constitutes an unfavorable result since scores were higher in the negative aspects. In the final administration, this difference seems to disappear. In fact, there is an evident improvement in the responses of the control group, as opposed to the experimental group. Whereas the number of students answering "yes, absolutely" in the experimental group dropped from 45,8% in the initial administration to 30,8% in the final administration, in the control group, the number of learners choosing the same option grew from 15,6% to a 20%. A similar evolution is seen in the response "yes, but not much," and "I don't

think so," with the control group displaying a more positive tendency. No significant difference was found here either between the answers given in the initial and final application within the groups.
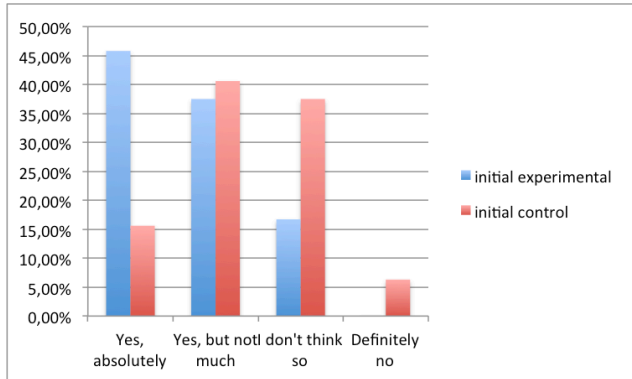
Figure 41.

Contrast of perceived increase of relevance of

classroom activities thanks to CLE initial questionnaire

administration with experimental and control group

Ranks

	Group	N	Mean Rank	Sum of Ranks
AQ21I	Experimental	24	21,96	527,00
	Control	32	33,41	1069,00
	Total	56		

Test Statistics^a

	AQ21I
Mann-Whitney U	227,000
Wilcoxon W	527,000
Z	-2,751
Asymp. Sig. (2-tailed)	,006

a. Grouping Variable: Group

[Table 21: significant difference in perception of relevance of classroom work thanks to CLE.]

In the case of item 22, the focus was on the perceived relationship between the elements dealt with in class and in the Corporate Learning Environment (CLE). The subjects were asked whether they perceived to be a direct relationship between what they did in class and what they were working with on the platform. We present the results from the January and the May questionnaire administrations in Tables 22 and 23, respectively.

AQ22I * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ22I	Yes, absolutely	Count	10	15	25
		% within Group	38,5%	46,9%	43,1%
	Yes, but not much	Count	7	14	21
		% within Group	26,9%	43,8%	36,2%
	I don't think so	Count	9	2	11
		% within Group	34,6%	6,3%	19,0%
	Definitely no	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 22: initial perceived relationship between work done in class and in the CLE.]

AQ22F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ22F	Yes, absolutely	Count	9	18	27
		% within Group	36,0%	60,0%	49,1%
	Yes, but not much	Count	12	9	21
		% within Group	48,0%	30,0%	38,2%
	I don't think so	Count	4	3	7
		% within Group	16,0%	10,0%	12,7%
Total		Count	25	30	55
		% within Group	100,0%	100,0%	100,0%

[Table 23: final perceived relationship between work done in class and on the CLE.]

In the current item, we can also note the positive tendency of learners' perceptions, since 79,3% of them in the first administration and 87,3% in the second administration selected a positive answer, with a notable increase from the former to the latter. This increase is especially evident in the control group, where there is a growth in the number of students answering "yes, absolutely." Nevertheless, there is evident improvement too in the experimental group, with a considerable decrease in the number of learners answering "I don't think so" from the initial administration to the final one. However, none of these differences reach significance level, as confirmed by the Mann-Whitney U test and the Wilcoxon test, for both the differences between the two groups and the differences between the initial and final administration within the groups respectively.

In an attempt to identify possible significant data related to the social interactions potentially fostered by our CLE, we questioned the participants with the following statement that focuses on whether they considered there to be an improvement in the relationships in the classroom context with some of their peers thanks to the use of an online learning platform. The possible answers were also based on a four-point Likert scale. The results obtained are displayed in Table 24, for the initial questionnaire administration, and Table 25 for the final administration.

AQ23I * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ23I	Yes, absolutely	Count	2	0	2
		% within Group	7,7%	,0%	3,4%
	Yes, but not much	Count	3	10	13
		% within Group	11,5%	31,3%	22,4%
	I don't think so	Count	14	16	30
		% within Group	53,8%	50,0%	51,7%
	Definitely no	Count	7	6	13
		% within Group	26,9%	18,8%	22,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 24: initial perceived relationship between the use of the CLE and improvement in social relations in the classroom.]

AQ23F * Group Crosstabulation

			Group		Total
			Experimental	Control	
AQ23F	Yes, absolutely	Count	2	5	7
		% within Group	8,0%	16,7%	12,7%
	Yes, but not much	Count	5	8	13
		% within Group	20,0%	26,7%	23,6%
	I don't think so	Count	9	14	23
		% within Group	36,0%	46,7%	41,8%
	Definitely no	Count	9	3	12
		% within Group	36,0%	10,0%	21,8%
Total		Count	25	30	55
		% within Group	100,0%	100,0%	100,0%

[Table 25: final perceived relationship between the use of the CLE and improvement in social relations in the classroom.]

Although there was a slight improvement between the initial and the last analysis (74,1% selected a negative option in the administration in January, whereas this figure decreased to

63,6% in May), there is a clear tendency towards the negative side of the scale. In fact, the data obtained from the experimental group in the final analysis yield significant differences with the control group (see Table 26 below). The Mann-Whitney U test indicates that there is a significant difference between the two groups since it returns a result that has an associated probability of 0,047 (below 0,05). The experimental group has a mean of 32,46, which yields an unfavorable result, with the negative aspects having higher scores (see Figure 42).

Ranks

	Group	N	Mean Rank	Sum of Ranks
AQ23F	Experimental	25	32,46	811,50
	Control	30	24,28	728,50
	Total	55		

Test Statistics^a

	AQ23F
Mann-Whitney U	263,500
Wilcoxon W	728,500
Z	-1,985
Asymp. Sig. (2-tailed)	,047

a. Grouping Variable: Group

[Table 26: significant difference of perceived relationship between the use of the CLE and improvement in social relations in the classroom.]
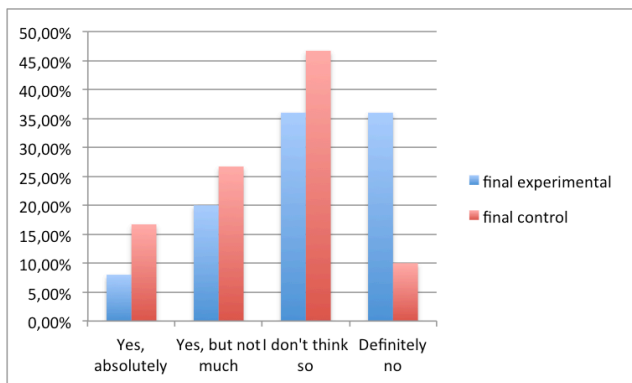
Figure 42.

Contrast between the perceived relationship between the use of the CLE and the improvement of social relations in the classroom: final administration

Since we are working on a construct of learning environment that encompasses an online and an offline element, it is critical to analyze the influence that they have on each other. Along this line, the results presented in this section provide a description of the subjects' perceptions regarding the influence of the platform on the evolution of the teaching and learning process in

the context of the classroom. Even though only some of the items yield significant results, we consider that there are parameters that need further analysis since they present a notable evolution on some of the participants. We will provide this analysis in the following section.

IV.2.3 Final Considerations in Relation to Research Question Number Two

Most of the items dealt with in this section show positive responses regarding the perceptions of our subjects in relation to the administration of our CLE. Although the results do not yield significant data in terms of clearly differentiating the experimental and the control group regarding the use of the CLE, or point to a significant evolution from the initial to the final questionnaire administrations, there was a remarkable tendency to consider it a good means for learning as the course progressed in all the subjects. In a key statement (AQ12), 89,3% of learners report that they perceive the platform to be a relevant tool for language learning. Besides, although there does not seem to be an improvement in the experimental group, in the control group, the number of learners claiming to believe it to be a relevant learning tool rises from 80% to 93,6%. Furthermore, there is an evident decrease in the number of learners from the first term to the third who think it is not a relevant way of learning, since in questions 10, 11 and 12 fewer respondents answer "c" or "d" (namely "I don't think so" and "definitely no").

Both in the results from the initial and final questionnaire administration, lack of time for using the platform seems to be a key factor for not choosing option "a." For instance, one of the students in the experimental group who answered "yes, but not much" (option "b") states that "it is a tool that helps you learn by your own means but if you cannot regularly login, it is practically useless to you." This student only participated actively on the platform on 9 occasions, including the compulsory submission of compositions done at home and the choice of dates for the offline examinations, hardly consulted the activities beyond the first introductory section of '*The Strategy Workshop*' and did not actually actively participate in '*The Reading Corner*.' In the case of the options "I don't think so" and "definitely no," that is options "c" and "d" respectively, a majority of 11 out of 14 students have the same profile as this learner. From those 11, 9 explicitly say it is a "good tool," although, for some reason unknown to us, they could not benefit from it.

In the data from the final questionnaire administration, most of the students who answered "I don't think so" or "no, absolutely" to the question "Has the platform made the language practice easier," (item 10 in the attitude questionnaire) were those who hardly ever entered the platform, and when they did, they hardly ever participated actively. In the case of those who did participate and provided negative responses, their responses corresponded to a complaint about the workload, together with the demands of the second year of upper-secondary education. One of the students actually said that it is difficult to find time for the activities on the platform during the examination period . We tend to believe that they consider the platform an extra burden rather than the examinations due to the demands of a traditional system, since, at the same time, they acknowledge that the platform is a "good work tool" (although it is a translation by the researcher, their words in Spanish were almost identical).

All things considered, we can conclude that the learners who used our CLE did perceive it was a relevant means for learning, at least to a certain degree. As we contended in Section II.4.3, the parameter of perceived usefulness is a key parameter for IT innovations to have a chance to succeed, albeit not the only one. Other related factors will be analyzed in subsequent sections of this research study.

IV.*3* Improvement of Reading Comprehension Skills through CLE Administration

The current section is based on the third research question "Do learners improve their reading comprehension skills by means of explicit training in the use of strategies through the use of a Corporate Learning Environment?" We will analyze the results obtained in the administration of standardized reading tests to answer this research question and we will start this section with a comprehensive account of the results. However, we will refer back to some of the data obtained in the Attitude Questionnaire to support some of our initial conclusions, which will be included in subsection IV.3.1, and further analyzed in Chapter V.

The standard reading pretests were used not only to establish the starting point for each subject, but also to guarantee that there was no significant difference between the control and the experimental groups. Thus, immediately after administering the pre-tests we analyzed the data.

Table 27 shows the data collected from the initial reading comprehension test for both the control and experimental groups.

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Initial_Total	Experimental	26	21,92	6,318	1,239
	Control	32	18,56	7,220	1,276

[Table 27: overall analysis of the results obtained by control and experimental groups in the initial test.]

At a first glance, there does not seem to be a significant difference between the mean result in both groups. In order to check whether this is so, we used the t-test for an independent sample, with the results shown in Table 28.

Independent Sample Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Initial_Total	Equal variances not assumed	,541	,465	1,863	56	,068	3,361	1,804	-,253	6,974
	Equal variances assumed			1,889	55,662	,064	3,361	1,779	-,203	6,924

[Table 28: t-test for an independent sample for the results of the pre-test.]

In this table, we can see that the programme we used first carried out Levene's test before the actual comparison of the means, since we needed to verify whether the variances were the same or not between the two independent groups. This test yielded a value of F which equal to 0,541, having a probability (0,465) above the assumed critical level (0,05). Therefore, it was confirmed that there were no significant differences between the variances of the groups in question; that is to say, both groups are similar. Once this information was obtained, we could

now analyze the column showing the t-test for Equality of Means, where we appreciate that the test result (1,863), with a probability of 0,068 which is above 0,05, proves that there are no significant differences between the two groups. Besides, the confidence interval (from -0,253 to 6,947) includes the value 0, which further confirms that the initial differences between the experimental and the control group are not significant.

The results for the post-test shown in Table 29 apparently showed the same results, in which case our research question would have a negative answer. To confirm it, we followed the same procedure as with the pre-test and, we consulted the preliminary Lavene's test (Table 30), which yielded an F value of 0,067, with a probability (0,796) above the critical level (0,05), which indicated that their variances are the same. Having obtained this information, we referred to the column for the t-test for Equality of Means and we saw that the result of the test (0,458), with a probability of 0,648 which is above 0,05, confirms that there is no significant difference between the two groups, as we predicted from Table 29. Besides, the confidence interval (from -2,690 to 4,286) includes the value 0, further confirming that the difference in the final reading comprehension tests between the two groups is not significant.

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Final_Total	Experimental	26	21,92	6,910	1,355
	Control	32	21,13	6,328	1,119

[Table 29: overall analysis of the results obtained by control and experimental groups in the final test.]

		Levene's Test for Equality of Variances		t-test for Equality of Means							
										95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
Final_Total	Equal variances assumed	,067	,796	,458	56	,648	,798	1,741		-2,690	4,286
	Equal variances not assumed			,454	51,423	,652	,798	1,757		-2,729	4,325

[Table 30: t-test for the independent sample for the results of the post-test confirming there is no significant difference.]

Hence, these results represent the participants' potential evolution in their reading comprehension during the school year, related to the standard tests taken in September and in May. Their aim is shedding light on the possible answer to the research question number three, namely, "Do learners improve their reading comprehension skills by means of explicit training in the use of strategies through the use of a Corporate Learning Environment?" We now proceed, in the following section, to provide a closer analysis that will guarantee a better understanding of this part and parcel of our study.

IV.3.1 Final Considerations in Relation to the Third Research Question

As we saw in Chapter III, there is a direct connection with the time spent learning a language and the learning produced. Along the same lines as Lim and Shen (2006:226), we believe that the time factor has probably been a critical parameter for the results not to yield significant improvement in our learners' reading skills. The time allocated for the subject (as described in chapter III) proved to be insufficient for the learners to get used to a technological innovation that introduced new pedagogical implications (also seen in detail in the different sections of Chapter III), in order to significantly improve their reading skills.

In Section III.3.4.3, we also referred to the technical issues that we had to face during the administration of the Corporate Learning Environment, which might have also produced a negative influence on the learners' involvement within the context of the CLE[164]. We can see this possible influence in the results for item AQ15 in the Attitude Questionnaire, analyzed above in Section IV.2, where 60% of the learners chose either the options "yes, but not much," "I don't think so" or "definitely no" to the question "I have felt that the platform has worked well." Despite the fact that a great majority of students selected an option within the positive spectrum of the scale (an average of 85.65%), we consider it worthy of attention that more than 50% percent of the participants considered at some point, and at least to some extent, that the platform did not work properly. Although this could be considered as part of the participants' inexperience with online learning, we cannot dismiss the possibility of this parameter not having affected the results of research questions three or four.

Yet another issue that might have influenced the results in relation to the development of reading skills is the learners' lack of autonomy. As we have seen in Section IV.2.1, where we reached conclusions related to the learners' perception of the Corporate Learning Environment as a relevant means for learning, there was a high number of learners who perceived it to be relevant, but hardly ever used it. Similar conclusions were drawn in Rodríguez-Juárez and Oxbrow (2010:155). There also seems to be a certain kind of conflict, within the learners' concept of what might be relevant, and between innovations and tradition in their academic lives. According to Margaryan and Littlejohn (2008:4):

> A key finding of this study is that despite a dramatic increase in students' use of various technologies, their expectations of how they might learn at university – via lecture, textbooks and lecture handouts- remained relatively static over the four year period. This study found that the expectations of learning at university appear to be influenced more by students' prior experience of learning in formal situations -for example at school- rather than their use of technology outside educational settings.

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[164] In Section II.4.3, we described the importance of perceived usefulness, perceived ease of use and perceived fit for predicting the actual use of an IT innovation. Perceiving that the platform has not worked properly, at least to some extent, may have had an impact on these three parameters.

This further emphasizes the importance of learner training, since it is only through providing the opportunity to adapt to new methodologies and resources that we can expect our learners to evolve in the way they learn.

IV.4 Improvement in Perceived Reading Strategy Use

In this section, we will focus on providing an answer to the fourth research question 'Do learners improve their perceived use of reading strategies after overt instruction on reading strategies?' The instrument used to gain insight into the current research question was Oxford's (1990) Strategy Inventory for Language Learning (SILL). The answers provided by the subjects both at the beginning and at the end of the implementation of the CLE were analyzed (i) to identify possible significant differences between the two groups from the outset; (ii) to look for possible significant differences between potential improvement in the experimental and the control groups after the differentiated treatment; and (iii) to describe the possible evolution within the groups themselves. In the current section, following the structure of the previous sections in this chapter, we will describe the results from the initial and final administrations of each SQ questionnaire item which is connected, at least to a certain extent, to reading, providing an analysis of the possible significance of the data. To account for the possible differences between the experimental and the control group, and taking into account that we are working with ordinal quantitative variables, we have used the Mann-Whitney U test to compare the answers in both the experimental and control groups, since this test allows the comparison of mean values coming from different groups. In the case of the differences within the groups between the initial and the final questionnaire administrations, and although we were also working with ordinal quantitative data, we used the Wilcoxon test, which allows the comparison of two means belonging to the same group.

As the SILL is divided into six sections[165], we will make reference to them in order to provide a clearer account for the reader.[166] The first section (IV.4.1), focusing on memory

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[165] Albeit there are only some items which overtly mention reading in their formulation, most of the items do have a certain relation to reading, as well as to other skills. Oxford (e.g.1990:90-97) depicts this circumstance by linking the different strategies described in her book to the different language skills (see Section II.4.2 for an account of the difference between strategies and skills, among other related concepts) in the sections where she provides examples of activities to train learners on the use of strategies. Other strategies are included here because they were also part

strategies, will deal with strategy sub-groups such as 'creating mental images' and 'applying images and sounds,' for instance,[167] and will be represented in items SQ1 to SQ9. The following section (IV.4.2), including items SQ10 to SQ23, is focused on cognitive strategies, encompassing strategy sub-groups 'practicing' and 'analyzing and reasoning.' The group of compensation strategies, which includes strategy sub-groups such as 'guessing intelligently,' will be the focus of Section IV.4.3 in items SQ24 to SQ30. Section IV.4.4, which encompasses questionnaire items SQ31 to SQ39, will be based on metacognitive strategies, which include 'centering your learning,' for example. Affective strategies, items SQ40 to SQ45, will be included in Section IV.4.5, including strategy groups such as 'lowering your anxiety,' for instance. The last section is IV.4.6, which is focused on social strategy sub-groups such as 'asking questions' or 'cooperating with others,' and will encompass items SQ48 and SQ50. For all the items, independently of the section they are included in, learners were provided with a five-level Likert scale for expressing their level of agreement with the statement in question: "never true" (1), "usually not true" (2), "somewhat true" (3), "usually true" (4), and "always true" (5).

IV.4.1 Memory Strategies

Thus, the first section, which focuses on memory strategies, starts in SQ1 with a reference to the connection that the language user makes of new and previous knowledge (creating mental linkages). The statement is formulated as "I think of relationships between what I already know and new things I learn in English." In Tables 31 and 32, we present the results for the initial and final administrations respectively.

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of the process of explicit or implicit training (see Section III.3.2.3 for a complete explanation about this dichotomy) in the online section of our CLE, as presented in III.3.2.2 and III.3.2.3. Appendix III will include the relation between each activity in the platform with the different strategies.

[166] See III.3.1.2 for a description of the SILL. See also Oxford (1990:299) for an explicit account of the focus in every section of SILL.

[167] See Appendix I for a complete account of Oxford's strategy taxonomy. Our intention here is to present the structure of the current section to help the reader. by associating each questionnaire item with a strategy or a group of strategies in the taxonomy, assuming that some of them may be interpreted as incorporating different strategies at the same time. Therefore we will simply try to follow the rationale of the instrument by assigning each block to a different strategy group.

SQ1I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ1I	Never true	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
	Usually not true	Count	2	11	13
		% within Group	7,7%	34,4%	22,4%
	Somewhat true	Count	7	12	19
		% within Group	26,9%	37,5%	32,8%
	Usually true	Count	9	5	14
		% within Group	34,6%	15,6%	24,1%
	Always true	Count	7	3	10
		% within Group	26,9%	9,4%	17,2%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 31: learners' perceived use of previous knowledge when learning a language in the initial administration.]

SQ1F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ1F	Usually not true	Count	2	10	12
		% within Group	7,7%	31,3%	20,7%
	Somewhat true	Count	11	7	18
		% within Group	42,3%	21,9%	31,0%
	Usually true	Count	7	11	18
		% within Group	26,9%	34,4%	31,0%
	Always true	Count	6	4	10
		% within Group	23,1%	12,5%	17,2%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 32: learners' perceived use of previous knowledge when learning a language in the final administration.]

The Mann-Whitney U test (Table 33) indicates that there is a significant difference between the two groups in the initial administration since it yields a result (240,500) with a coupled probability of 0,005 (below 0,05). The experimental group has a mean value of 36,25, which indicates a favourable result since, in this test, positive aspects yielded higher scores. Therefore, the experimental group was especially sensitive to this specific item in SILL, as we can see in Figure 43.

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ1I	Experimental	26	36,25	942,50
	Control	32	24,02	768,50
	Total	58		

Test Statistics[a]

	SQ1I
Mann-Whitney U	240,500
Wilcoxon W	768,500
Z	-2,838
Asymp. Sig. (2-tailed)	,005

a. Grouping Variable: Group

[Table 33: significant difference between the experimental and control groups in learners' perceived use of previous knowledge when learning a language in the initial administration.]
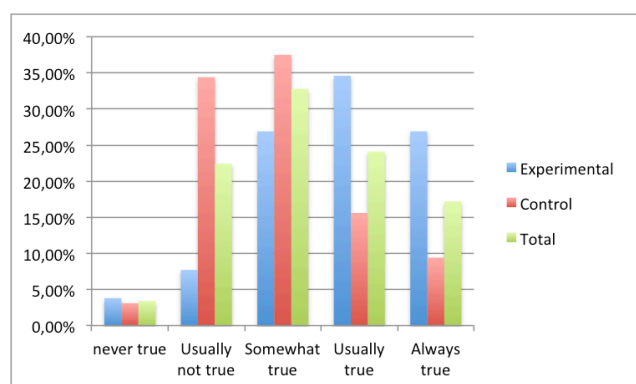

Figure 43.

Contrast between the experimental and control groups' perceived use of previous knowledge for language <u>*learning*</u>

Regarding the final administration, there is no significant difference, neither between the two groups, nor within the groups themselves. Nevertheless, we consider it worthwhile to mention the remarkable difference between the percentage of students in the control group answering with the options "usually true" and "always true" in the initial questionnaire administration as compared to the final one: the results rose from 25% to 46,9%, with "usually true" showing the highest difference.

The second item in the questionnaire (SQ2) refers to the use of vocabulary within context to facilitate remembering: "I use new English words in a sentence so I can remember them." The results are shown in Tables 34 for the initial administration and 35 for the final administration.

SQ2I * Group Crosstabulation

203

			Group		Total
			Experimental	Control	
SQ2I	Never true	Count	2	3	5
		% within Group	7,7%	9,4%	8,6%
	Usually not true	Count	6	13	19
		% within Group	23,1%	40,6%	32,8%
	Somewhat true	Count	6	6	12
		% within Group	23,1%	18,8%	20,7%
	Usually true	Count	9	9	18
		% within Group	34,6%	28,1%	31,0%
	Always true	Count	3	1	4
		% within Group	11,5%	3,1%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 34: learners' perceived use of new vocabulary in context in the initial administration.]

SQ2F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ2F	Never true	Count	2	1	3
		% within Group	7,7%	3,1%	5,2%
	Usually not true	Count	4	6	10
		% within Group	15,4%	18,8%	17,2%
	Somewhat true	Count	13	14	27
		% within Group	50,0%	43,8%	46,6%
	Usually true	Count	4	10	14
		% within Group	15,4%	31,3%	24,1%
	Always true	Count	3	1	4
		% within Group	11,5%	3,1%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 35: learners' perceived use of new vocabulary in context in the final administration.]

The Mann-Whitney U test does not yield any significant difference between the experimental and the control groups, both in the initial and the final administration. However, there seems to be a different evolution within the experimental and the control groups as can be appreciated, for instance, in the percentages for the option "usually true" for both groups: whereas there is an increase towards the positive side of the scale in the control group in the case of "usually true" which goes from 28,1% in the administration in January to 31,3% in May, the experimental group decreases from 34,6% to 15,4%. In fact, there is a significant difference

between the results obtained in the initial and the final application of the questionnaire in the control group (Table 36), as verified by the Wilcoxon test (Z= -2,100), which yields a significant difference (0,036) below 0,05 as can be seen in Figure 44.

Test Statistics[b]

	SQ2F - SQ2I
Z	-2,100[a]
Asymp. Sig. (2-tailed)	,036

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

[Table 36: significant difference between the initial and final questionnaire administration within the control group regarding the use of new words in context.]

The above mentioned Wilcoxon test also yields the following information (Table 37): 9 learners selected the same option in both tests, 17 showed a more positive appreciation in the final administration and only six had a more negative one.

Ranks

		N	Mean Rank	Sum of Ranks
SQ2F - SQ2I	Negative Ranks	6[a]	12,42	74,50
	Positive Ranks	17[b]	11,85	201,50
	Ties	9[c]		
	Total	32		

a. SQ2F < SQ2I

b. SQ2F > SQ2I

c. SQ2F = SQ2I

[Table 37: differences in the option selected by learners in the control group in the initial and final administration regarding the use of new words in context.]
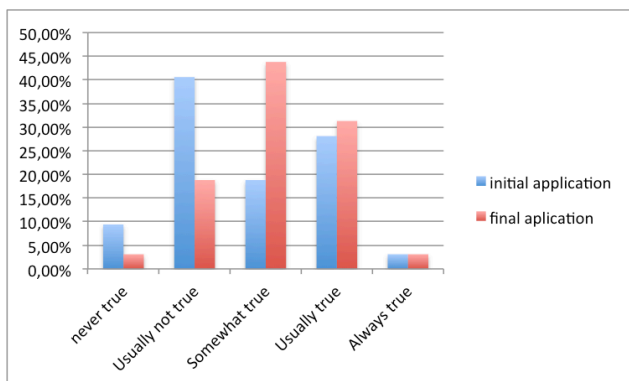

Figure 44.

Contrast between the initial and final administration within the control group for item SQ2

Item number 3 (SQ3) deals with the strategy of connecting the sound or an image of the word to make it more memorable (applying images and sounds): "I connect the sound of a new English word and an image or picture of the word to help me remember the word." In Table 38, we can see the results from the initial administration. The results for the final administration are displayed in Table 39.

SQ3I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ3I	Never true	Count	5	4	9
		% within Group	19,2%	12,5%	15,5%
	Usually not true	Count	6	11	17
		% within Group	23,1%	34,4%	29,3%
	Somewhat true	Count	8	7	15
		% within Group	30,8%	21,9%	25,9%
	Usually true	Count	3	4	7
		% within Group	11,5%	12,5%	12,1%
	Always true	Count	4	6	10
		% within Group	15,4%	18,8%	17,2%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 38: learners' perceived use of sounds and images to remember new words in the initial administration.]

SQ3F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ3F	Never true	Count	7	5	12
		% within Group	26,9%	15,6%	20,7%
	Usually not true	Count	6	8	14
		% within Group	23,1%	25,0%	24,1%
	Somewhat true	Count	7	9	16
		% within Group	26,9%	28,1%	27,6%
	Usually true	Count	4	3	7
		% within Group	15,4%	9,4%	12,1%
	Always true	Count	2	7	9
		% within Group	7,7%	21,9%	15,5%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 39: learners' perceived use of sounds and images to remember new words in the final administration.]

We did not find any significant differences after implementing both the Mann-Whitney U and Wilcoxon tests. Notwithstanding the fact that the differences are not significant, there does seem to be a tendency, although a slight one, towards the negative side of the spectrum in the experimental group. Thus, in the control group, while 68,8% of learners chose either the options "never true," "usually not true" or "somewhat true"[168] in the initial, and 68,7% in the final questionnaire administration, in the case of the experimental group 73,1% of them chose the same options in the initial application, and 76,9% in the final one.

With the next item (SQ4), the SILL survey addresses the use of the strategy of using mental images of the context where new words are first encountered to be able to remember them afterwards. The exact formulation of the statement is: "I remember a new English word by making a mental picture of a situation in which the word might be used." Again, students were invited to choose from the five options present in the Likert scale. The results for the initial and the final administrations are shown in Tables 40 and 41 respectively.

SQ4I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ4I	Never true	Count	3	6	9
		% within Group	11,5%	18,8%	15,5%
	Usually not true	Count	4	4	8
		% within Group	15,4%	12,5%	13,8%
	Somewhat true	Count	11	9	20
		% within Group	42,3%	28,1%	34,5%
	Usually true	Count	5	9	14
		% within Group	19,2%	28,1%	24,1%
	Always true	Count	3	4	7
		% within Group	11,5%	12,5%	12,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 40: learners' perceived use of mental pictures of the context of use of new words in the initial administration.]

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[168] Despite the fact that "somewhat true" seems to be a positive value, we consider it belongs to the negative side of the spectrum due to the probable influence of the Hawthorne effect (Wickstrom and Bendix, 2000:363), whereby students are led to choose this compromise option instead of giving a clearly negative answer in order to avoid acknowledging a lack of productivity in terms of learning. We consider this to constitute a negative attitude for the purpose of our research.

SQ4F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ4F	Never true	Count	3	3	6
		% within Group	11,5%	9,4%	10,3%
	Usually not true	Count	8	8	16
		% within Group	30,8%	25,0%	27,6%
	Somewhat true	Count	3	11	14
		% within Group	11,5%	34,4%	24,1%
	Usually true	Count	7	6	13
		% within Group	26,9%	18,8%	22,4%
	Always true	Count	5	4	9
		% within Group	19,2%	12,5%	15,5%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 41: learners' perceived use of mental pictures of the context of use of new words in the final administration.]

In the responses for the current item, there were no significant differences between the two groups, neither in the initial, nor in the final administration as confirmed by the Mann-Whitney U test. The Wilcoxon test did not yield any significant difference between the initial and the final administration within the groups either. Nevertheless, there appears to be an increase in the negative answers and a slight decline in the positive answers in both groups. In the case of the control group, 31,3% of respondents chose either "never true" or "usually not true" in the initial survey. This percentage became 34,4% in the final analysis. This tendency was more evident in the experimental group, with 26,9% in the initial analysis and 42,3% in the final one. The global percentage of learners who chose the options "somewhat true," "usually true" or "always true" fell from 70,7% to 62%.

Discovering whether our learners used rhymes to remember new words for future use was the aim of item number five (SQ5) by assigning a number between one and five from the Likert scale. Tables 42 and 43 display the results from the questionnaire distributions in September (initial) and May (final) respectively.

SQ5I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ5I	Never true	Count	15	13	28
		% within Group	57,7%	40,6%	48,3%
	Usually not true	Count	5	12	17
		% within Group	19,2%	37,5%	29,3%
	Somewhat true	Count	3	5	8
		% within Group	11,5%	15,6%	13,8%
	Usually true	Count	2	1	3
		% within Group	7,7%	3,1%	5,2%
	Always true	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 42: learners' perceived use of rhymes for remembering new words: September.]

SQ5F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ5F	Never true	Count	15	14	29
		% within Group	57,7%	43,8%	50,0%
	Usually not true	Count	7	11	18
		% within Group	26,9%	34,4%	31,0%
	Somewhat true	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
	Usually true	Count	3	3	6
		% within Group	11,5%	9,4%	10,3%
	Always true	Count	1	3	4
		% within Group	3,8%	9,4%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 43: learners' perceived use of rhymes for remembering new words in May.]

Although there is a slight increase in the choice of the options "usually true" and "always true" for both the experimental and the control groups in the final analysis in May (15,3% in the experimental group and a 18,8% in the control group), as compared to the initial application (11,5% and 6,2%, respectively), these differences are not significant. This was confirmed both by the Mann-Whitney U test and Wilcoxon test.

The following item (SQ6) deals with the use of flashcards. Students were asked whether they used "flashcards to remember new English words" using the five options provided. The results are displayed in Tables 44 (September) and 45 (May).

SQ6I * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
SQ6I	Never true	Count	14	22	36
		% within Group	53,8%	68,8%	62,1%
	Usually not true	Count	6	7	13
		% within Group	23,1%	21,9%	22,4%
	Somewhat true	Count	4	1	5
		% within Group	15,4%	3,1%	8,6%
	Usually true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
	Always true	Count	1	2	3
		% within Group	3,8%	6,3%	5,2%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 44: learners' perceived use of flashcards for remembering new words: September.]

SQ6F * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
SQ6F	Never true	Count	18	20	38
		% within Group	69,2%	62,5%	65,5%
	Usually not true	Count	3	10	13
		% within Group	11,5%	31,3%	22,4%
	Somewhat true	Count	2	1	3
		% within Group	7,7%	3,1%	5,2%
	Usually true	Count	3	1	4
		% within Group	11,5%	3,1%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 45: learners' perceived use of flashcards for remembering new words: May.]

On using the Mann-Whitney U test and Wilcoxon tests we confirmed that the differences in the current item were not significant. In fact, the only notable information in SQ6 is the high percentage, in both groups, who never, or hardly ever, use this strategy. 76,9% of learners in the experimental group selected either "never true" or "usually not true." In the case of the control group, that percentage increases to 90,7%. The difference between the two groups decreases in

the May survey, but because a greater number of learners in the experimental group stated that they never or hardly ever used that strategy (80,7% and 93,8%,respectively).

The strategy of physically acting out new words is the focus of item number seven (SQ7). Students were again requested to assign a number to the statement depending on the degree it was true for them. We can see the results in Tables 46 and 47 for from both sessions of data collection (September and May).

SQ7I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ7I	Never true	Count	6	6	12
		% within Group	23,1%	18,8%	20,7%
	Usually not true	Count	9	12	21
		% within Group	34,6%	37,5%	36,2%
	Somewhat true	Count	4	8	12
		% within Group	15,4%	25,0%	20,7%
	Usually true	Count	5	4	9
		% within Group	19,2%	12,5%	15,5%
	Always true	Count	2	2	4
		% within Group	7,7%	6,3%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 46: learners' perceived use of physically acting out new words to remember them.]

SQ7F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ7F	Never true	Count	8	5	13
		% within Group	30,8%	15,6%	22,4%
	Usually not true	Count	3	10	13
		% within Group	11,5%	31,3%	22,4%
	Somewhat true	Count	8	10	18
		% within Group	30,8%	31,3%	31,0%
	Usually true	Count	5	6	11
		% within Group	19,2%	18,8%	19,0%
	Always true	Count	2	1	3
		% within Group	7,7%	3,1%	5,2%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 47: learners' perceived use of physically acting out new words to remember them.]

Once again, the number of learners providing a response from the more negative side of the continuum (1 or 2) is considerably higher than those who chose the more positive responses (4 or 5)[169]. The former accounts for 57,7% and 56,3% of the learners at the beginning of the project for the experimental and the control group respectively; and 42,3% and 46,9% at the end, whereas the more negative responses would only account for 26,9% in both analyses for the experimental group, and 18,8% in the initial and 21,9% in the final data for the control group. There is a certain increase, especially in the number of learners choosing the most negative options. However, the Mann-Whitney U and Wilcoxon tests confirmed that these differences are not significant.

Item number 8 (SQ8) is formulated as "I revise English lessons often." The results are shown in Tables 48 and 49. Most of the answers fell within the options "usually not true" and "somewhat true" both in the initial and in the final questionnaire data: 75,9% of the total answers in the former and 74,2% in the latter. There is nearly no evolution at all in the results from beginning to the end of the study. It is noteworthy that this is the first time that a student, both in the experimental and the control group, does not respond to a statement. None of the differences present in the current item yield significance levels after applying the Mann-Whitney U and Wilcoxon tests.

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[169] Although the option "somewhat true" could also be considered a positive answer, our intention in the analysis of this item was to emphasize the fact that it was the more negative responses that actually attracted most of the answers in the initial and final analyses.

SQ8I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ8I	0	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
	Never true	Count	1	2	3
		% within Group	3,8%	6,3%	5,2%
	Usually not true	Count	9	11	20
		% within Group	34,6%	34,4%	34,5%
	Somewhat true	Count	9	15	24
		% within Group	34,6%	46,9%	41,4%
	Usually true	Count	2	2	4
		% within Group	7,7%	6,3%	6,9%
	Always true	Count	4	1	5
		% within Group	15,4%	3,1%	8,6%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 48: learners' perceived use of lesson revision.]

SQ8F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ8F	Never true	Count	3	1	4
		% within Group	11,5%	3,1%	6,9%
	Usually not true	Count	9	11	20
		% within Group	34,6%	34,4%	34,5%
	Somewhat true	Count	9	14	23
		% within Group	34,6%	43,8%	39,7%
	Usually true	Count	5	5	10
		% within Group	19,2%	15,6%	17,2%
	Always true	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 49: learners' perceived use of lesson revision.]

Focusing on visual memory and closing the section on memory strategies corresponds to item number nine (SQ9) which is formulated in the following manner: "I remember new English words or phrases by remembering their location on the page or on a board." The results are shown in Tables 50 and 51 respectively.

SQ91 * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ91	Never true	Count	2	2	4
		% within Group	7,7%	6,3%	6,9%
	Usually not true	Count	1	6	7
		% within Group	3,8%	18,8%	12,1%
	Somewhat true	Count	8	13	21
		% within Group	30,8%	40,6%	36,2%
	Usually true	Count	5	7	12
		% within Group	19,2%	21,9%	20,7%
	Always true	Count	10	4	14
		% within Group	38,5%	12,5%	24,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 50: learners' perceived use of the location of new words to remember them in the future.]

SQ9F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ9F	Never true	Count	3	3	6
		% within Group	11,5%	9,4%	10,3%
	Usually not true	Count	2	4	6
		% within Group	7,7%	12,5%	10,3%
	Somewhat true	Count	8	9	17
		% within Group	30,8%	28,1%	29,3%
	Usually true	Count	9	12	21
		% within Group	34,6%	37,5%	36,2%
	Always true	Count	4	4	8
		% within Group	15,4%	12,5%	13,8%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 51: learners' perceived use of the location of new words to remember them in the future.]

In the initial analysis 38,5% of learners from the experimental group stated that they always remembered new words or phrases by remembering their location on the page or board in contrast to 12,5% of students from the control group. What is more, 18,8% of learners from the control group think that this statement is "usually not true" for them as opposed to only 3,8% from the experimental group (see Figure 45). As we can see in Table 52, these differences do reach significance level. The Mann-Whitney U test indicates this significance between both groups since it yields a result (286,500) that has an associated probability of 0,036 (below 0,05).

The experimental group reaches a mean value of 34,48, which indicates a favourable result since positive responses reached higher scores. These differences diminish in the second application, as we can see in Table 51, although not to a significant level.
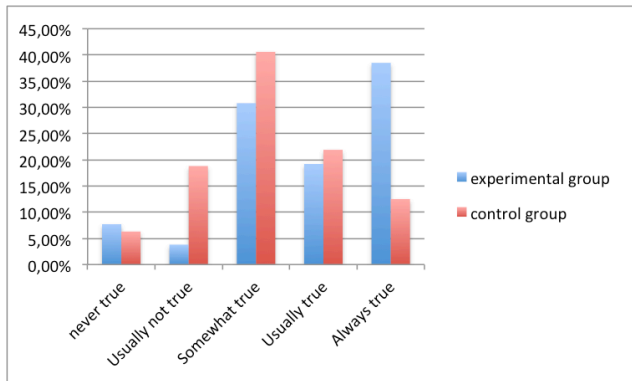
Figure 45.
Contrast between experimental and control groups in initial administration for item SQ9: remembering location of new words

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ9I	Experimental	26	34,48	896,50
	Control	32	25,45	814,50
	Total	58		

Test Statistics^a

	SQ9I
Mann–Whitney U	286,500
Wilcoxon W	814,500
Z	-2,102
Asymp. Sig. (2-tailed)	,036

a. Grouping Variable: Group

[Table 52: differences regarding the use of location of new words in learners from experimental and control groups in initial administration.]

Hence, participants were invited to state the degree they perceived they used the Memory Strategies represented in items from SQ1 to SQ9. In the study of the results of the different items, (i) SQ1, on the use of previous knowledge on the process of learning a language, (ii) SQ2, on using new words in sentences to be able to remember them, and (iii) SQ9, on remembering the location of new words, reach significance level. However, there are other features that are noteworthy, as will be analyzed in more depth in Section IV.4.7. The following sub-section will consider the results related to the Cognitive Strategies presented to the subjects in the SILL.

IV.4.2 Cognitive Strategies

Item number ten (SQ10) opens the section that explores learners' perceived use of cognitive strategies. This item is formulated as follows: "I say or write new English words several times." We will see the results in Tables 53 for those obtained in September at the beginning of our research project, and 54 for the results from May.

SQ10I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ10I	Never true	Count	6	4	10
		% within Group	23,1%	12,5%	17,2%
	Usually not true	Count	4	12	16
		% within Group	15,4%	37,5%	27,6%
	Somewhat true	Count	6	7	13
		% within Group	23,1%	21,9%	22,4%
	Usually true	Count	4	7	11
		% within Group	15,4%	21,9%	19,0%
	Always true	Count	6	2	8
		% within Group	23,1%	6,3%	13,8%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 53: learners' perceived use of writing or saying new words several times.]

SQ10F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ10F	Never true	Count	7	4	11
		% within Group	26,9%	12,5%	19,0%
	Usually not true	Count	7	10	17
		% within Group	26,9%	31,3%	29,3%
	Somewhat true	Count	2	12	14
		% within Group	7,7%	37,5%	24,1%
	Usually true	Count	6	5	11
		% within Group	23,1%	15,6%	19,0%
	Always true	Count	4	1	5
		% within Group	15,4%	3,1%	8,6%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 54: learners' perceived use of writing or saying new words several times.]

These results show that according to both sets of data, learners do not normally use this strategy. In the case of the experimental group, 38,5% in the initial analysis and 53,8% in the final one acknowledge not using it either on a usual basis or not at all. In the case of the control group, these figures reach 50% of learners at the beginning, and decreases slightly at the end, with only 43,8% of learners admitting to not using it regularly or ever. In the latter case, the number of students usually using it or always using it notably decreases from the initial to the final analysis. These differences, however, do not reach significance level.

Learners are asked in item number 13 (SQ13) whether they practice the words they know in a number of different ways. Students are again invited to express how true they consider this statement to be for them using a five-point Likert scale. The results obtained for this item are shown in Tables 55 and 56 below.

SQ13I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ13I	0	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
	Never true	Count	1	4	5
		% within Group	3,8%	12,5%	8,6%
	Usually not true	Count	3	4	7
		% within Group	11,5%	12,5%	12,1%
	Somewhat true	Count	6	13	19
		% within Group	23,1%	40,6%	32,8%
	Usually true	Count	13	8	21
		% within Group	50,0%	25,0%	36,2%
	Always true	Count	3	2	5
		% within Group	11,5%	6,3%	8,6%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 55: learners' perceived use of practicing words in different ways.]

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SQ13F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ13F	Never true	Count	1	2	3
		% within Group	3,8%	6,3%	5,2%
	Usually not true	Count	4	3	7
		% within Group	15,4%	9,4%	12,1%
	Somewhat true	Count	6	13	19
		% within Group	23,1%	40,6%	32,8%
	Usually true	Count	8	10	18
		% within Group	30,8%	31,3%	31,0%
	Always true	Count	7	4	11
		% within Group	26,9%	12,5%	19,0%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 56: learners' perceived use of practicing practicing words in different ways.]

Learners from the experimental group were significantly more sensitive to this strategy, with 3,1% of students from the control group not responding to this statement as we can see in Figure 46. As we can see in Table 57, this difference was confirmed as being significant by the Mann-Whitney U test with a result of 284,000, which has an associated probability of 0,031 (below 0,05). The experimental group has a mean of 34,58, which yields a favourable result since the most positive aspects of the test obtained the highest scores.

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ13I	Experimental	26	34,58	899,00
	Control	32	25,38	812,00
	Total	58		

Test Statistics[a]

	SQ13I
Mann–Whitney U	284,000
Wilcoxon W	812,000
Z	-2,158
Asymp. Sig. (2-tailed)	,031

a. Grouping Variable: Group

[Table 57: differences regarding the use of practicing the words they know in different ways from experimental and control groups.]
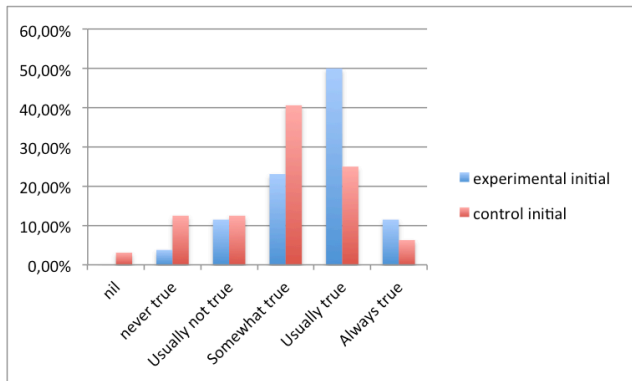
Figure 46.

Contrast between experimental and control groups in initial administration for item SQ13: practicing the <u>*words they know in different ways*</u>

The difference between the two groups decreased in the final administration; whereas only 31,3% of students in the control group selected either the option "usually true" or "always true" in the initial survey, this increased to 43,8% in the final administration. This difference between the results obtained in the initial and the final application by the control group is significant (Table 58) as verified by the Wilcoxon test (Z= -2,374), which yields a significant difference (0,018) below 0,05. This evolution is represented in Figure 47.

Test Statistics[b]

	SQ13F - SQ13I
Z	-2,374[a]
Asymp. Sig. (2-tailed)	,018

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

[Table 58: significant difference between the initial and final analysis within the control group regarding the use of words they know in different ways.]
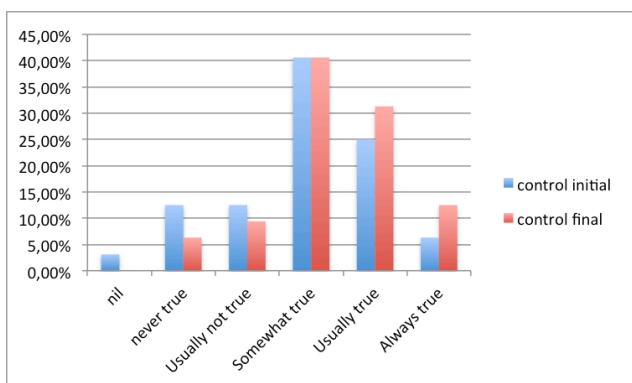
Figure 47.

Evolution of learners from the control group in item <u>*SQ13: practicing the words they know in different ways*</u>

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The abovementioned Wilcoxon test also yields the following information (Table 59): 15 learners selected the same option in both tests, 14 made a more positive appreciation in the final administration and only three made a more negative one.

Ranks

		N	Mean Rank	Sum of Ranks
SQ13F - SQ13I	Negative Ranks	3[a]	9,67	29,00
	Positive Ranks	14[b]	8,86	124,00
	Ties	15[c]		
	Total	32		

a. SQ13F < SQ13I
b. SQ13F > SQ13I
c. SQ13F = SQ13I

[Table 59: differences in choice selected by learners in the control group in September or May regarding practicing the words they know in different ways.]

In item SQ16, this time specifically relating strategy use to reading skills, learners were requested to express to what degree they considered the following statement to be true for them: "I read for pleasure in English." The results are displayed in Tables 60 and 61. In the initial data 70,7% of learners answered that the statement was either "never true" or "usually not true" for them. These numbers slightly improve in the final administration, but only to 67,2%, with only 17,3% of learners acknowledging that the statement was "usually true" or "always true" for them. No student admitted that it was "always true" for them in the control group. However, the possible differences between the two groups, or between the two data collection procedures within the groups did not reach significance levels, as confirmed by the Mann-Whitney U t and Wilcoxon tests.

Q16I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ16I	0	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
	Never true	Count	11	16	27
		% within Group	42,3%	50,0%	46,6%
	Usually not true	Count	5	9	14
		% within Group	19,2%	28,1%	24,1%
	Somewhat true	Count	4	2	6
		% within Group	15,4%	6,3%	10,3%
	Usually true	Count	2	4	6
		% within Group	7,7%	12,5%	10,3%
	Always true	Count	3	1	4
		% within Group	11,5%	3,1%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 60: learners' perceived use of reading for pleasure in English.]

SQ16F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ16F	Never true	Count	11	15	26
		% within Group	42,3%	46,9%	44,8%
	Usually not true	Count	6	7	13
		% within Group	23,1%	21,9%	22,4%
	Somewhat true	Count	4	5	9
		% within Group	15,4%	15,6%	15,5%
	Usually true	Count	2	5	7
		% within Group	7,7%	15,6%	12,1%
	Always true	Count	3	0	3
		% within Group	11,5%	,0%	5,2%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 61: learners' perceived use of reading for pleasure in English.]

Writing is the next skill to be overtly dealt with within the SILL (SQ17). Learners were invited to respond to the statement "I write notes, messages, letters, or reports in English" by acknowledging the degree that this statement was true for them. Tables 62 and 63 show the results obtained in the initial and final analyses respectively.

SQ17I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ17I	Never true	Count	3	7	10
		% within Group	11,5%	21,9%	17,2%
	Usually not true	Count	9	12	21
		% within Group	34,6%	37,5%	36,2%
	Somewhat true	Count	6	7	13
		% within Group	23,1%	21,9%	22,4%
	Usually true	Count	3	4	7
		% within Group	11,5%	12,5%	12,1%
	Always true	Count	5	2	7
		% within Group	19,2%	6,3%	12,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 62: learners' perceived use of writing in English.]

SQ17F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ17F	Never true	Count	3	1	4
		% within Group	11,5%	3,1%	6,9%
	Usually not true	Count	4	9	13
		% within Group	15,4%	28,1%	22,4%
	Somewhat true	Count	6	11	17
		% within Group	23,1%	34,4%	29,3%
	Usually true	Count	9	8	17
		% within Group	34,6%	25,0%	29,3%
	Always true	Count	4	3	7
		% within Group	15,4%	9,4%	12,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 63: learners' perceived use of writing in English.]

In the initial analysis, a remarkably high number of learners selected either "never true," "usually not true" or "somewhat true": 69,2% of learners from the experimental group and 81,3% from the control group. Consequently, there were relatively few students who chose the two most positive options: only 30,7% of them in the experimental group and 18,8% in the control group. Nevertheless, the situation notably changes in the final application: the learners who selected "usually true" and "always true" rose to 50% in the experimental group and to 34,4% in the control group. These differences are not significant if we compare the results

obtained by the experimental group and the control group. However, the changes produced by the control group (see Figure 48) from the initial to the final application do reach significance level (Table 64), as verified by the Wilcoxon test ($Z= -2,556$) which yields a significant difference (0,011) below 0,05.
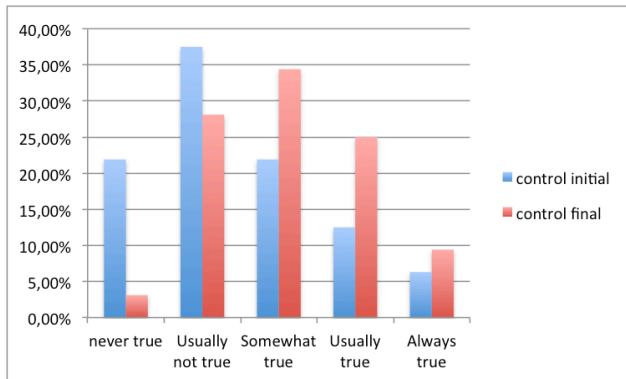
Figure 48.
Evolution of learners from the control group in item _SQ17: using writing_

Test Statistics[b]

	SQ17F - SQ17I
Z	-2,556[a]
Asymp. Sig. (2-tailed)	,011

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

[Table 64: significant difference between the initial and final analyses within the control group regarding the use of writing.]

The above mentioned Wilcoxon test also yields the following information (Table 65): 12 learners selected the same option in both tests, 16 made a more positive appreciation in the final administration and only 4 made a more negative one.

Ranks

		N	Mean Rank	Sum of Ranks
SQ17F - SQ17I	Negative Ranks	4[a]	9,50	38,00
	Positive Ranks	16[b]	10,75	172,00
	Ties	12[c]		
	Total	32		

a. SQ17F < SQ17I

b. SQ17F > SQ17I

c. SQ17F = SQ17I

[Table 65: differences in choice selected by learners in the control group in the initial and final analyses regarding using writing.]

The following item (SQ18) deals again with reading as it addresses a strategy associated with receiving messages. Learners are invited to express their degree of agreement with the following statement: "I first skim an English passage (read over the passage quickly) and then go back and read carefully." The results obtained in the current item are shown in Tables 66, and 67.

SQ18I * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
SQ18I	Never true	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
	Usually not true	Count	3	4	7
		% within Group	11,5%	12,5%	12,1%
	Somewhat true	Count	5	10	15
		% within Group	19,2%	31,3%	25,9%
	Usually true	Count	9	10	19
		% within Group	34,6%	31,3%	32,8%
	Always true	Count	8	7	15
		% within Group	30,8%	21,9%	25,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 66: learners' perceived use of skimming in English.]

SQ18F * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
SQ18F	Never true	Count	0	2	2
		% within Group	,0%	6,3%	3,4%
	Usually not true	Count	2	7	9
		% within Group	7,7%	21,9%	15,5%
	Somewhat true	Count	5	3	8
		% within Group	19,2%	9,4%	13,8%
	Usually true	Count	9	11	20
		% within Group	34,6%	34,4%	34,5%
	Always true	Count	10	9	19
		% within Group	38,5%	28,1%	32,8%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 67: learners' perceived use of skimming in English.]

It is noteworthy that most learners, from the very first moment, responded positively to this statement: 65,4% of learners from the experimental group and 53,2% of learners from the control group chose either "usually true" or "always true" in the initial administration. These

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percentages grew to a remarkable amount of 73,1% and 63,5%, respectively, in the final analysis. However, these figures do not represent significant differences, neither between the groups, nor between the initial and the final data collection procedures.

Analyzing is the focus of the following item (SQ19). Learners are requested to respond to what degree they perceive the statement "I look for words in my own language that are similar to new words in English" to be true for them. The results are displayed in Tables 68 and 69. In the initial administration, there was a notable, although not significant, difference between the answers given by the experimental and the control groups, with the former only having 34,6% choosing either "usually true" or "always true," and the latter 53,1%. Nevertheless, in the final analysis, these same options were selected by 73,1% of the learners from the experimental group, and only by 40,7% of the subjects from the control group (see Figure 49). As we can see in Table 70, this difference was confirmed as being significant by the Mann-Whitney U test. This test yields a result of 279,500, which has an associated probability of 0,028 (below 0,05). The experimental group has a mean of 34,75, which yields a favourable result since the most positive aspects of the test obtained the highest scores.

SQ19I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ19I	Never true	Count	5	5	10
		% within Group	19,2%	15,6%	17,2%
	Usually not true	Count	5	5	10
		% within Group	19,2%	15,6%	17,2%
	Somewhat true	Count	7	5	12
		% within Group	26,9%	15,6%	20,7%
	Usually true	Count	5	13	18
		% within Group	19,2%	40,6%	31,0%
	Always true	Count	4	4	8
		% within Group	15,4%	12,5%	13,8%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 68: learners' perceived use of comparing words from own language.]

SQ19F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ19F	Never true	Count	2	4	6
		% within Group	7,7%	12,5%	10,3%
	Usually not true	Count	2	8	10
		% within Group	7,7%	25,0%	17,2%
	Somewhat true	Count	3	7	10
		% within Group	11,5%	21,9%	17,2%
	Usually true	Count	10	7	17
		% within Group	38,5%	21,9%	29,3%
	Always true	Count	9	6	15
		% within Group	34,6%	18,8%	25,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 69: learners' perceived use of comparing words from own language.]
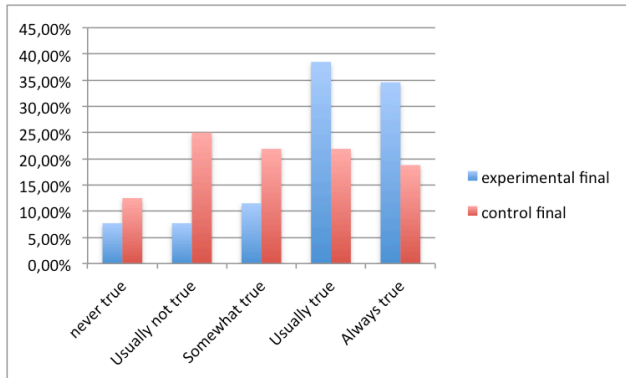
Figure 49.

Significant difference between the experimental and control groups for SQ19: comparing words from own <u>*language*</u>

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ19F	Experimental	26	34,75	903,50
	Control	32	25,23	807,50
	Total	58		

Test Statistics[a]

	SQ19F
Mann-Whitney U	279,500
Wilcoxon W	807,500
Z	-2,194
Asymp. Sig. (2-tailed)	,028

a. Grouping Variable: Group

[Table 70: differences regarding the use of comparing words from own language from experimental and control groups in the final analysis.]

With regard to practicing strategies sub-group, the next item (SQ20) requests respondents to specify to what degree the statement "I try to find patterns in English" is true for them. The results for this item are shown in Tables 71 and 72. Most students chose from the most negative options, with 88,4% from the experimental group and 65,6% from the control group acknowledging that this statement was either "never true," "usually not true" or simply "somewhat true" for them in the initial analysis. Besides, 3,8% in the experimental group and a 12,5% in the control group, decided not to respond to this statement in the same survey. Learners in the experimental group showed a slight change in the final analysis, but 69,3% of them still believed that they hardly considered this statement to be true. In the case of the control group, the percentage stayed at 81,3%, this time with no student not responding to the statement. There were, however, no significant differences between the two groups, neither at the beginning of the course, nor at the end and there was no significant evolution within the groups themselves either.

SQ20I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ20I	0	Count	1	4	5
		% within Group	3,8%	12,5%	8,6%
	Never true	Count	4	6	10
		% within Group	15,4%	18,8%	17,2%
	Usually not true	Count	5	10	15
		% within Group	19,2%	31,3%	25,9%
	Somewhat true	Count	14	5	19
		% within Group	53,8%	15,6%	32,8%
	Usually true	Count	0	6	6
		% within Group	,0%	18,8%	10,3%
	Always true	Count	2	1	3
		% within Group	7,7%	3,1%	5,2%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 71: learners' perceived use of looking for patterns.]

SQ20F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ20F	Never true	Count	0	2	2
		% within Group	,0%	6,3%	3,4%
	Usually not true	Count	8	15	23
		% within Group	30,8%	46,9%	39,7%
	Somewhat true	Count	10	9	19
		% within Group	38,5%	28,1%	32,8%
	Usually true	Count	6	5	11
		% within Group	23,1%	15,6%	19,0%
	Always true	Count	2	1	3
		% within Group	7,7%	3,1%	5,2%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 72: learners' perceived use of looking for patterns.]

The following item (SQ21) is from the sub-group of analyzing and reasoning. Learners are invited to express to what degree the statement "I find the meaning of an English word by dividing it into parts that I understand" to be true for them from a five-point Likert scale The results are displayed in Tables 73 for the initial survey and 74 for the final one. In the experimental group, only 34,6% of learners assigned either a '4' or a '5' to the statement in the

initial analysis and 26,9% in the final one. In the control group, this percentage was a mere 12,5% in both administrations. Thus, most learners were on the most negative side of the spectrum, with the experimental group yielding a result of 46,2% in the initial analysis and 42,3% in the final one; and the control group yielding a 59,4% and a 65,6%, respectively. Although there is a remarkable difference in the initial and in the final analyses between the experimental and the control groups, this difference is not significant as confirmed both by the Mann-Whitney U test and Wilcoxon test.

SQ21I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ21I	Never true	Count	8	13	21
		% within Group	30,8%	40,6%	36,2%
	Usually not true	Count	4	6	10
		% within Group	15,4%	18,8%	17,2%
	Somewhat true	Count	5	9	14
		% within Group	19,2%	28,1%	24,1%
	Usually true	Count	8	4	12
		% within Group	30,8%	12,5%	20,7%
	Always true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 73: learners' perceived use of dividing new words in English into parts.]

SQ21F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ21F	Never true	Count	8	9	17
		% within Group	30,8%	28,1%	29,3%
	Usually not true	Count	3	12	15
		% within Group	11,5%	37,5%	25,9%
	Somewhat true	Count	8	7	15
		% within Group	30,8%	21,9%	25,9%
	Usually true	Count	1	4	5
		% within Group	3,8%	12,5%	8,6%
	Always true	Count	6	0	6
		% within Group	23,1%	,0%	10,3%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 74: learners' perceived use of dividing new words in English into parts.]

The following item deals once again with the strategy sub-group of analyzing and reasoning. Learners are invited to express to what degree the statement "I try not to translate word-for-word" was true for them. The results for the current item are displayed in Tables 75 and 76.

SQ22I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ22I	0	Count	1	2	3
		% within Group	3,8%	6,3%	5,2%
	Never true	Count	2	3	5
		% within Group	7,7%	9,4%	8,6%
	Usually not true	Count	3	6	9
		% within Group	11,5%	18,8%	15,5%
	Somewhat true	Count	5	9	14
		% within Group	19,2%	28,1%	24,1%
	Usually true	Count	8	7	15
		% within Group	30,8%	21,9%	25,9%
	Always true	Count	7	5	12
		% within Group	26,9%	15,6%	20,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 75: learners' perceived use of translating word-for-word.]

SQ22F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ22F	Never true	Count	0	2	2
		% within Group	,0%	6,3%	3,4%
	Usually not true	Count	4	7	11
		% within Group	15,4%	21,9%	19,0%
	Somewhat true	Count	5	8	13
		% within Group	19,2%	25,0%	22,4%
	Usually true	Count	10	10	20
		% within Group	38,5%	31,3%	34,5%
	Always true	Count	7	5	12
		% within Group	26,9%	15,6%	20,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 76: learners' perceived use of translating word-for-word.]

In both groups, a large number of students selected the options closer to the most positive side of the spectrum. Thus, 57,7% of learners in the experimental group and 37,5% in the control group chose either "usually true" or "always true" in the initial application. The number of students choosing the same options increased in both groups in the final questionnaire administration, reaching 65,4% in the experimental group and 46,9% in the control group. None of these results represent significant differences between the groups or between surveys.

Closing the section on cognitive strategies, we have item number 23 (SQ23) focused on creating structures for input and output. Learners are invited to express to what degree the statement "I make summaries of information that I hear or read in English" to be true for them. The results obtained are displayed in Tables 77 and 78.

SQ23I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ23I	Never true	Count	12	12	24
		% within Group	46,2%	37,5%	41,4%
	Usually not true	Count	9	12	21
		% within Group	34,6%	37,5%	36,2%
	Somewhat true	Count	0	6	6
		% within Group	,0%	18,8%	10,3%
	Usually true	Count	4	1	5
		% within Group	15,4%	3,1%	8,6%
	Always true	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 77: learners' perceived use of making summaries of information in English.]

SQ23F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ23F	Never true	Count	12	15	27
		% within Group	46,2%	46,9%	46,6%
	Usually not true	Count	7	11	18
		% within Group	26,9%	34,4%	31,0%
	Somewhat true	Count	4	5	9
		% within Group	15,4%	15,6%	15,5%
	Usually true	Count	3	0	3
		% within Group	11,5%	,0%	5,2%
	Always true	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 78: learners' perceived use of making summaries of information in English.]

The number of learners never or hardly ever applying this strategy is very high, as seen in both in the initial and in the final data. In the case of the experimental group, before the application of our research model, 80,8% of its learners acknowledged never or hardly ever using this strategy. This figure slightly decreased in the final analysis of the data to 73,1%. In the case of the control group, it was 75% in the initial data and 81,3% in the final analysis. These differences, however, do not reach significance levels.

Therefore, the Cognitive Strategies present in the SILL we administered to our subjects obtained significant data in several items. In the case of (i) item SQ13, on practicing the words they already know in different ways, we found significant data both in the initial administration, on the part of the experimental group, and also in the final administration, this time on the side of the control group. Regarding (ii) item SQ17, which focuses on the use of writing different kinds of texts, we see a significant evolution of the control group from the initial to the final administration of the SILL. Finally, (iii) item SQ19, on finding similarities between new words and words in the subjects' own mother language, we also detected a significant evolution although this time on the side of the experimental group. We will provide a complete, in-depth analysis of these and other notable data in Section IV.4.7.

IV.4.3 Compensation Strategies

The following block focuses on compensation strategies. The first item (SQ24) invites learners to express to what degree they perceive the statement "to understand unfamiliar English words I make guesses" to be true for them from a five-point Likert scale, as in all the previous statements. The results are presented in the following tables: 79 for the initial data and 80 for the final data.

SQ24I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ24I	Never true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
	Usually not true	Count	4	10	14
		% within Group	15,4%	31,3%	24,1%
	Somewhat true	Count	5	13	18
		% within Group	19,2%	40,6%	31,0%
	Usually true	Count	11	8	19
		% within Group	42,3%	25,0%	32,8%
	Always true	Count	5	1	6
		% within Group	19,2%	3,1%	10,3%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 79: learners' perceived use of making guesses for unfamiliar words.]

SQ24F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ24F	Never true	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
	Usually not true	Count	3	7	10
		% within Group	11,5%	21,9%	17,2%
	Somewhat true	Count	12	13	25
		% within Group	46,2%	40,6%	43,1%
	Usually true	Count	7	9	16
		% within Group	26,9%	28,1%	27,6%
	Always true	Count	3	2	5
		% within Group	11,5%	6,3%	8,6%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 80: learners' perceived use of making guesses for unfamiliar words.]

In the case of the experimental group, 61,5% of learners in the initial test considered that this statement was "usually true" or "always true" for them, in contrast to 28,1% of learners in the control group (see Figure 50). As we can see in Table 81, this difference was confirmed as being significant by the Mann-Whitney U test. This test yields a result of 275,000, which has an associated probability of 0,022 (below 0,05). The experimental group has a mean of 34,92, which yields a favorable result since the most positive aspects of the test obtained the highest scores. These differences decreased in the final administration, however: only 38,4% of learners in the experimental group and 34,4% in the control group considered that the statement was "usually true" or "always true" for them.
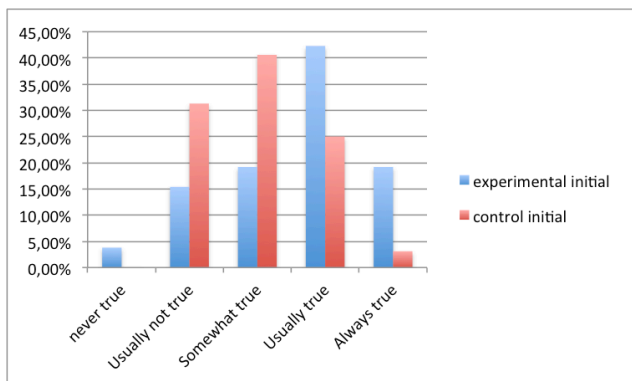
Figure 50

Significant difference between experimental and control for SQ24: making guesses for unfamiliar words

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ24I	Experimental	26	34,92	908,00
	Control	32	25,09	803,00
	Total	58		

Test Statistics^a

	SQ24I
Mann-Whitney U	275,000
Wilcoxon W	803,000
Z	-2,298
Asymp. Sig. (2-tailed)	,022

a. Grouping Variable: Group

[Table 81: differences regarding the use of making guesses for unfamiliar words from experimental and control groups in initial administration.]

The next item (SQ26) is focused on learners coining new words. Learners are requested to assert to what extent they think the statement "I make up new words if I do not know the right ones in English" to be true for them. The results are shown in Tables 82 and 83 respectively. Although it is true that most students responded with either "never true" or "usually not true" (63,8% of the total number of students in the initial survey and 53,5% in the final one), it is notable that the number of learners who consider that it is "usually true" for them in the final analysis rises (27,6%), as compared to the initial one (17,2%). This difference is especially notable in the experimental group (from 11,5% to 30,8%). Nevertheless, none of these differences are significant as confirmed by both the Mann-Whitney U test and the Wilcoxon test.

SQ26I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ26I	Never true	Count	11	10	21
		% within Group	42,3%	31,3%	36,2%
	Usually not true	Count	5	11	16
		% within Group	19,2%	34,4%	27,6%
	Somewhat true	Count	6	4	10
		% within Group	23,1%	12,5%	17,2%
	Usually true	Count	3	7	10
		% within Group	11,5%	21,9%	17,2%
	Always true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 82: learners' perceived use of making up new words.]

SQ26F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ26F	Never true	Count	9	7	16
		% within Group	34,6%	21,9%	27,6%
	Usually not true	Count	6	9	15
		% within Group	23,1%	28,1%	25,9%
	Somewhat true	Count	2	8	10
		% within Group	7,7%	25,0%	17,2%
	Usually true	Count	8	8	16
		% within Group	30,8%	25,0%	27,6%
	Always true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 83: learners' perceived use of making up words.]

The following item (SQ27) is related specifically to reading. Its focus is on getting help while reading. Learners are requested to assert to what extent they consider the statement "I read English without looking up every new word" to be true for them. Tables 84 and 85 display the results for the initial and the final analyses respectively.

SQ27I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ27I	Never true	Count	3	2	5
		% within Group	11,5%	6,3%	8,6%
	Usually not true	Count	2	9	11
		% within Group	7,7%	28,1%	19,0%
	Somewhat true	Count	8	8	16
		% within Group	30,8%	25,0%	27,6%
	Usually true	Count	10	9	19
		% within Group	38,5%	28,1%	32,8%
	Always true	Count	3	4	7
		% within Group	11,5%	12,5%	12,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 84: learners' perceived use of looking up new words when reading.]

SQ27F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ27F	Never true	Count	2	0	2
		% within Group	7,7%	,0%	3,4%
	Usually not true	Count	3	4	7
		% within Group	11,5%	12,5%	12,1%
	Somewhat true	Count	5	11	16
		% within Group	19,2%	34,4%	27,6%
	Usually true	Count	10	12	22
		% within Group	38,5%	37,5%	37,9%
	Always true	Count	6	5	11
		% within Group	23,1%	15,6%	19,0%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 85: learners' perceived use of looking up new words when reading.]

In the current item, both groups show high percentages of students who consider that they usually or always read without looking up every new word. In the case of the experimental group, it is 50% of the learners in the initial administration and 61,6% in the final administration. As for the control group, the percentages are 40,6% in the initial survey and 54,1% in the final one. Taking the differences between the two groups into consideration, we did not detect any significant changes. However, as we can see in Table 86 (see also Figure 51), the Wilcoxon test ($Z= -2,092$) did yield a significant difference (0,36), below 0,05 in the comparison between the initial and the final data in the control group.
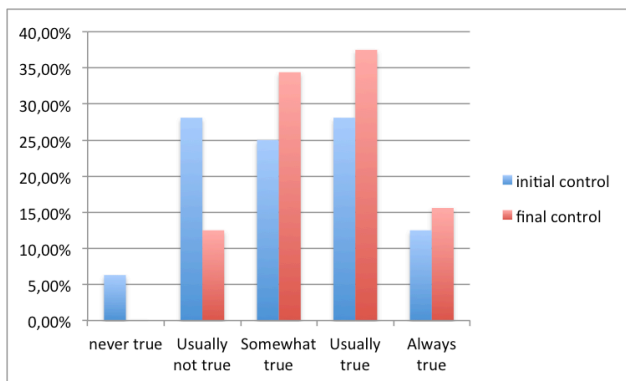
Figure 51.

Significant difference between initial and final analyses for the control group SQ27: looking up every new word when reading

Test Statistics[b]

	SQ27F - SQ27I
Z	-2,092[a]
Asymp. Sig. (2-tailed)	,036

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

[Table 86: significant difference between the initial and final analyses within the control group regarding the use of looking up new words when reading.]

The above mentioned Wilcoxon test also yields the following information (Table 87): 11 learners selected the same option in both tests, 15 made a more positive appreciation in the final administration and only 6 made a more negative one.

Ranks

		N	Mean Rank	Sum of Ranks
SQ27F - SQ27I	Negative Ranks	6[a]	9,67	58,00
	Positive Ranks	15[b]	11,53	173,00
	Ties	11[c]		
	Total	32		

a. SQ27F < SQ27I

b. SQ27F > SQ27I

c. SQ27F = SQ27I

[Table 87: differences in choice selected by learners in the control group in initial and final analyses regarding using looking up words when reading.]

Again focusing on guessing intelligently, and also explicitly related to reading, the following item (SQ28) invites the learner to express to what degree the statement "before I start reading a text, I make a picture in my head of what I think the text is going to be about" to be true for them. The results for the initial data are displayed in Table 88, and those for the final data are in Table 89.

SQ28I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ28I	Never true	Count	1	8	9
		% within Group	3,8%	25,0%	15,5%
	Usually not true	Count	6	8	14
		% within Group	23,1%	25,0%	24,1%
	Somewhat true	Count	7	6	13
		% within Group	26,9%	18,8%	22,4%
	Usually true	Count	10	6	16
		% within Group	38,5%	18,8%	27,6%
	Always true	Count	2	4	6
		% within Group	7,7%	12,5%	10,3%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 88: learners' perceived use of making a picture in the head before reading.]

SQ28F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ28F	Never true	Count	3	2	5
		% within Group	11,5%	6,3%	8,6%
	Usually not true	Count	2	8	10
		% within Group	7,7%	25,0%	17,2%
	Somewhat true	Count	11	6	17
		% within Group	42,3%	18,8%	29,3%
	Usually true	Count	7	13	20
		% within Group	26,9%	40,6%	34,5%
	Always true	Count	3	3	6
		% within Group	11,5%	9,4%	10,3%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 89: learners' perceived use of making a picture in the head before reading.]

In both the experimental and the control groups, there is considerable improvement from the initial to the final analyses. Thus, in the experimental group, in the case of the option "always true," there is an improvement from 7,7% in the initial to 11,5% in the final survey. This same degree decreased in the control group (from 12,5% to 9,4%). However, the number of learners who chose "usually true" increased from 18,8% to a 40,6%. The differences between the two groups did not reach significance levels, neither in the data collection in September, nor in the

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one in May. However, the differences within the control group from the first to the last surveys did yield significant results. As we can see in Table 90 (see also Figure 52), the Wilcoxon test (Z= -2,029) did yield a significant difference of (0,042) below 0,05 in the comparison between the initial and the final data in the control group.
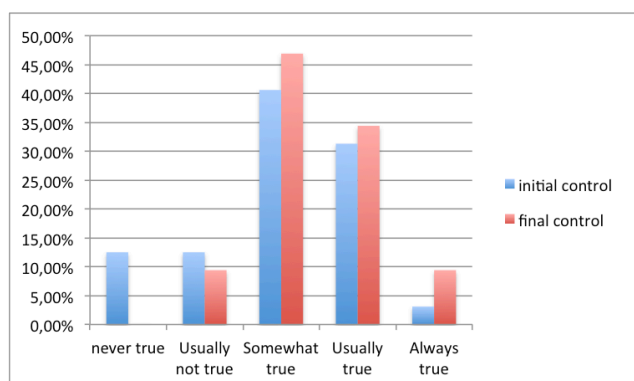
Test Statistics[b]

	SQ28F - SQ28I
Z	-2,029[a]
Asymp. Sig. (2-tailed)	,042

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

[Table 90: significant difference between the initial and final data within the control group regarding the use of making a picture in the head before reading.]
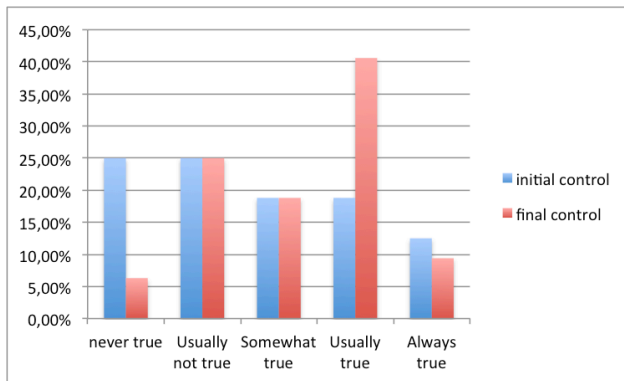
Figure 52.

Significant difference between initial and final data for the control group in SQ28: making a picture in the head before reading

The abovementioned Wilcoxon test also yields the following information (Table 91): 10 learners selected the same option in both tests, 16 made a more positive appreciation in the final administration and only 6 made a more negative one.

Ranks

		N	Mean Rank	Sum of Ranks
SQ28F - SQ28I	Negative Ranks	6[a]	11,00	66,00
	Positive Ranks	16[b]	11,69	187,00
	Ties	10[c]		
	Total	32		

a. SQ28F < SQ28I

b. SQ28F > SQ28I

c. SQ28F = SQ28I

[Table 91: differences in choice selected by learners in the control group in initial and final analyses regarding making a pictures in the head before reading.]

Closing the group of compensation strategies, item number 30 (SQ30) focuses on using a circumlocution or synonym to overcome limitations. Learners are requested to assert to what degree the statement "if I can't think of an English word I use a word or phrase that means the same thing" to be true for them. The results are displayed in Tables 92 and 93.

SQ30I * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
SQ30I	Never true	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
	Usually not true	Count	1	2	3
		% within Group	3,8%	6,3%	5,2%
	Somewhat true	Count	1	6	7
		% within Group	3,8%	18,8%	12,1%
	Usually true	Count	8	11	19
		% within Group	30,8%	34,4%	32,8%
	Always true	Count	16	12	28
		% within Group	61,5%	37,5%	48,3%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 92: learners' perceived use of using a word or phrase that means the same.]

SQ30F * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
SQ30F	Never true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
	Usually not true	Count	3	1	4
		% within Group	11,5%	3,1%	6,9%
	Somewhat true	Count	2	4	6
		% within Group	7,7%	12,5%	10,3%
	Usually true	Count	4	12	16
		% within Group	15,4%	37,5%	27,6%
	Always true	Count	16	15	31
		% within Group	61,5%	46,9%	53,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 93: learners' perceived use of using a word or phrase that means the same.]

A total of 92,3% of the subjects from the experimental group asserted that the statement was either "usually true" or "always true" for them, whereas in the control group it was only 71,9% of the learners. This difference was found to be significant (see Figure 53). As we can see

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in Table 94, the Mann-Whitney U test indicates that there is a significant difference since it yields a result (292,000) which has an associated probability of 0,036 (below 0,05). The experimental group has a mean value of 34,27, which yields a favourable result since the most positive responses obtained the highest scores. However, this significant difference disappears in the final administration. In fact, the learners from the control group selecting either "usually true" and "always true" outnumbered those from the experimental group (84,4% in the control group in contrast to 76,9% in the experimental group). However, this difference does not reach significance levels.
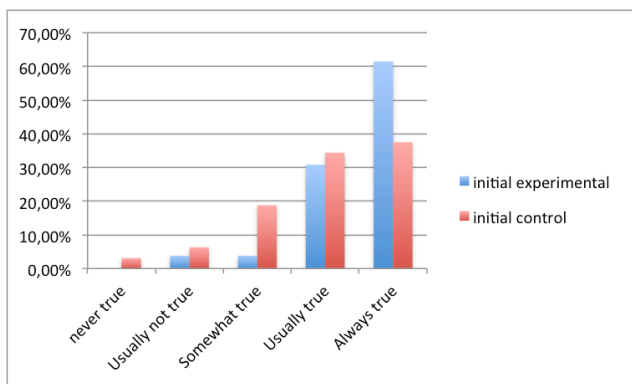
Figure 53.

Significant difference between experimental and control
for SQ30: using a word or phrase that means the same

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ30I	Experimental	26	34,27	891,00
	Control	32	25,63	820,00
	Total	58		

Test Statistics[a]

	SQ30I
Mann-Whitney U	292,000
Wilcoxon W	820,000
Z	-2,102
Asymp. Sig. (2-tailed)	,036

a. Grouping Variable: Group

[Table 94: differences regarding the use of using a word or phrase that means the same from experimental and control groups.]

From all the items present in the sub-section encompassing Compensating Strategies in the SILL, we found significant data in four different items. The first (i) item was SQ24, on making guesses to understand unfamiliar words, where the experimental group was significantly

more sensitive to this strategy than the control group in the administration in September, although not in that in May. After this, (ii) item SQ27, on reading in English without looking up every new word in the dictionary, we found a significant evolution of the control group from the initial to the final administration. We detected the same evolution in the case of (iii) item SQ28, on predicting the content before reading. In the case of (iv) item SQ30, on using alternative linguistic means to express ideas we do not have the word for, we detected a significant difference between the experimental and the control group in the initial implementation, with the experimental group being more sensitive. We will provide a more in-depth analysis of these and more notable data in Section IV.4.7.

IV.4.4 Metacognitive Strategies

The following item (SQ31) opens the section in the questionnaire corresponding to the sub-group of metacognitive strategies. The focus here is on arranging and planning learning, and respondents are requested to assert to what extent they perceive the statement "I try to find as many ways as I can to use my English" to be true for them from the five-point Likert scale used in all the previous items. The results are displayed in Tables 95 and 96 respectively.

SQ31I * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
SQ31I	Never true	Count	1	4	5
		% within Group	3,8%	12,5%	8,6%
	Usually not true	Count	1	4	5
		% within Group	3,8%	12,5%	8,6%
	Somewhat true	Count	11	13	24
		% within Group	42,3%	40,6%	41,4%
	Usually true	Count	7	10	17
		% within Group	26,9%	31,3%	29,3%
	Always true	Count	6	1	7
		% within Group	23,1%	3,1%	12,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 95: learners' perceived use of using finding ways to use English.]

SQ31F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ31F	Never true	Count	2	0	2
		% within Group	7,7%	,0%	3,4%
	Usually not true	Count	3	3	6
		% within Group	11,5%	9,4%	10,3%
	Somewhat true	Count	5	15	20
		% within Group	19,2%	46,9%	34,5%
	Usually true	Count	12	11	23
		% within Group	46,2%	34,4%	39,7%
	Always true	Count	4	3	7
		% within Group	15,4%	9,4%	12,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 96: learners' perceived use of using finding ways to use English.]

In the case of the experimental group, 50% of the learners perceived that in the initial test this strategy was "usually true" or "always true" for them, with a very low percentage of them selecting the option "never true," 3,8%, and "usually not true," also 3,8%. This was not the case in the control group, where only 34,4% of students perceived that the statement was usually true for them, whereas 25% of them believed that the statement was either "never true" or "usually not true" for them (see Figure 54). The Mann-Whitney U test (Table 97) indicates that this difference is significant since it yields a result (293,500) which has an associated probability of 0,044 (below 0,05). The experimental group has a mean value of 34,21, which yields a favourable result since the most positive responses obtained the highest scores.
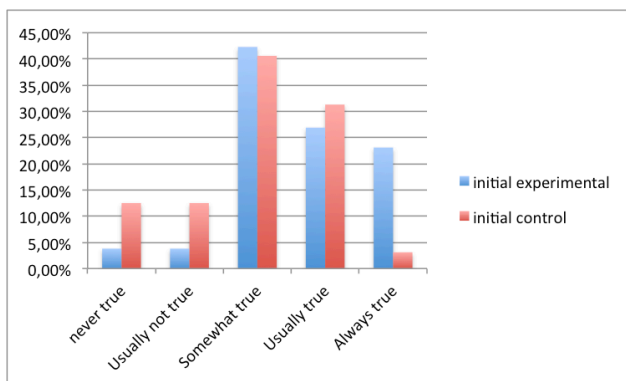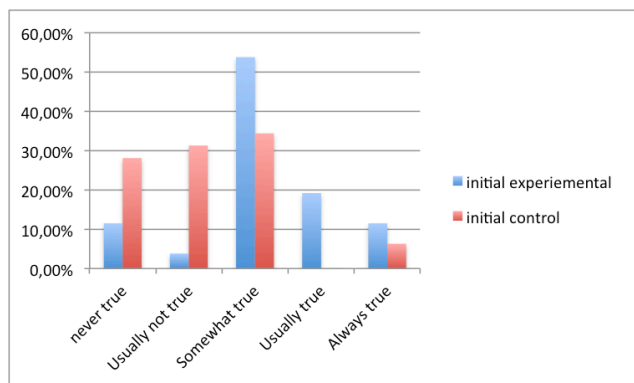

Figure 54.

Significant difference between experimental and control for SQ31: finding ways to use English

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ31I	Experimental	26	34,21	889,50
	Control	32	25,67	821,50
	Total	58		

Test Statistics[a]

	SQ31I
Mann-Whitney U	293,500
Wilcoxon W	821,500
Z	-2,018
Asymp. Sig. (2-tailed)	,044

a. Grouping Variable: Group

[Table 97: differences regarding the use of finding ways to use English from experimental and control groups.]

However, the control group did undergo a positive evolution during the application of the research project. Thus, although learners from the experimental group also improved their percentages of "usually true" and "always true" from 50% to 61,6%, which is notable but not significant, the control group did present a significant evolution from the initial to the final analysis (see Figure 55): 43,8% of learners from the control group selected either "usually true" or "always true" in the final survey, and only 9,4% of students selected "usually not true," with no student selecting "never true." As we can see in Table 98, the Wilcoxon test ($Z= -2,218$) did yield a significant difference of (0,027) below 0,05 in the comparison between the initial and the final data in the control group.

Figure 55.

Significant difference between initial and final analyses for the control group SQ31: finding ways to use English

Test Statistics[b]

	SQ31F - SQ31I
Z	-2,218[a]
Asymp. Sig. (2-tailed)	,027

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

[Table 98: significant difference between the initial and final analyses within the control group regarding the use of finding ways to use English.]

The above-mentioned Wilcoxon test also yields the following information (Table 99): 15 learners selected the same option in both tests, 12 made a more positive appreciation in the final survey and only 5 made a more negative one.

Ranks

		N	Mean Rank	Sum of Ranks
SQ31F - SQ31I	Negative Ranks	5[a]	6,20	31,00
	Positive Ranks	12[b]	10,17	122,00
	Ties	15[c]		
	Total	32		

a. SQ31F < SQ31I

b. SQ31F > SQ31I

c. SQ31F = SQ31I

[Table 99: differences in choice selected by learners in the control group regarding finding ways to use English.]

The following item (SQ32), focusing on self-evaluating and self-monitoring learning, requires learners to assert to what degree they perceive the statement "I notice my English mistakes and use that information to help me do better" to be true for them. The results are shown in Tables 100 and 101.

SQ32I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ32I	Usually not true	Count	0	3	3
		% within Group	,0%	9,4%	5,2%
	Somewhat true	Count	3	10	13
		% within Group	11,5%	31,3%	22,4%
	Usually true	Count	12	10	22
		% within Group	46,2%	31,3%	37,9%
	Always true	Count	11	9	20
		% within Group	42,3%	28,1%	34,5%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 100: learners' perceived use of using noticing mistakes.]

SQ32F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ32F	Never true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
	Usually not true	Count	1	3	4
		% within Group	3,8%	9,4%	6,9%
	Somewhat true	Count	7	8	15
		% within Group	26,9%	25,0%	25,9%
	Usually true	Count	8	13	21
		% within Group	30,8%	40,6%	36,2%
	Always true	Count	9	8	17
		% within Group	34,6%	25,0%	29,3%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 101: learners' perceived use of using noticing mistakes.]

The number of students from the experimental group who believe the statement is either "usually true" or "always true" for them in the initial analysis reaches 88,5%, with no subject selecting either "usually not true" or "never true;" whereas in the control group, only 59,4% of learners selected the two most positive options (see Figure 56). As we can see in Table 102, the Mann-Whitney U test indicates that this is a significant difference since it yields a result (289,500) which has an associated probability of 0,036 (below 0,05). The experimental group has a mean of 34,37, which yields a favourable result since the most positive aspects of the test obtained the highest scores.
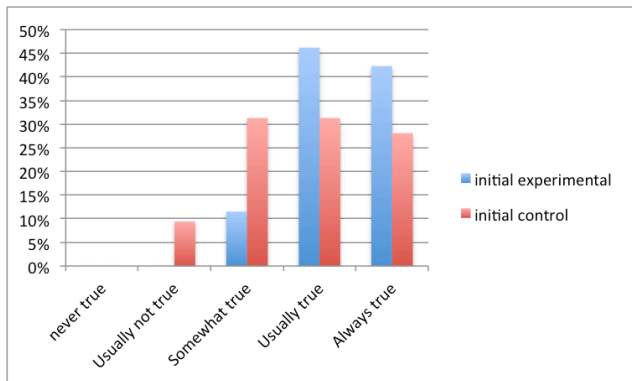
Figure 56.

Significant difference between experimental and control for SQ32: noticing mistakes

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ32I	Experimental	26	34,37	893,50
	Control	32	25,55	817,50
	Total	58		

Test Statistics[a]

	SQ32I
Mann-Whitney U	289,500
Wilcoxon W	817,500
Z	-2,093
Asymp. Sig. (2-tailed)	,036

a. Grouping Variable: Group

[Table 102: differences regarding the use of noticing mistakes from experimental and control groups.]

Nevertheless, this difference is again neutralized at the end of the process of application of our Corporate Learning Environment. The number of learners perceiving that the statement is "usually true" or "always true" in the experimental group in the final analysis is 65,4%. It is 65,6% in the control group.

In the following item (SQ34), the focus is again on self-monitoring learning. Learners are requested to assert to what degree the statement "I try to find out how to be a better learner of English" is true for them. Tables 103 and 104 show the results for the initial and final analyses respectively. Despite the fact that at the beginning of the course 73,1% of learners from the experimental group believed that the current statement was either "usually true" or "always true" for them, as compared to 59,4% in the control group, this remarkable difference disappeared in the final analysis. In fact, the results for those two options for the experimental group decreased to 57,7% whereas they increased in the control group to 71,9%. These differences are not significant, however.

SQ34I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ34I	Never true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
	Usually not true	Count	1	3	4
		% within Group	3,8%	9,4%	6,9%
	Somewhat true	Count	5	10	15
		% within Group	19,2%	31,3%	25,9%
	Usually true	Count	13	12	25
		% within Group	50,0%	37,5%	43,1%
	Always true	Count	6	7	13
		% within Group	23,1%	21,9%	22,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 103: learners' perceived use of using finding out how to be a better learner.]

SQ34F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ34F	Never true	Count	2	0	2
		% within Group	7,7%	,0%	3,4%
	Usually not true	Count	2	2	4
		% within Group	7,7%	6,3%	6,9%
	Somewhat true	Count	7	7	14
		% within Group	26,9%	21,9%	24,1%
	Usually true	Count	10	17	27
		% within Group	38,5%	53,1%	46,6%
	Always true	Count	5	6	11
		% within Group	19,2%	18,8%	19,0%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 104: learners' perceived use of using finding out how to be a better learner.]

The following item (SQ35), which focuses on the strategy sub-group of arranging and planning learning, invites learners to assert to what degree the statement "I plan my schedule so I will have enough time to study English" is true for them. The results are displayed in Tables 105 and 106 respectively.

SQ35I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ35I	Never true	Count	3	9	12
		% within Group	11,5%	28,1%	20,7%
	Usually not true	Count	1	10	11
		% within Group	3,8%	31,3%	19,0%
	Somewhat true	Count	14	11	25
		% within Group	53,8%	34,4%	43,1%
	Usually true	Count	5	0	5
		% within Group	19,2%	,0%	8,6%
	Always true	Count	3	2	5
		% within Group	11,5%	6,3%	8,6%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 105: learners' perceived use of using planning to have time to study English.]

SQ35F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ35F	Never true	Count	8	6	14
		% within Group	30,8%	18,8%	24,1%
	Usually not true	Count	6	12	18
		% within Group	23,1%	37,5%	31,0%
	Somewhat true	Count	9	9	18
		% within Group	34,6%	28,1%	31,0%
	Usually true	Count	3	5	8
		% within Group	11,5%	15,6%	13,8%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 106: learners' perceived use of using planning to have time to study English.]

The results from the initial data collection show a significant difference between the experimental and the control groups: 30,7% of learners from the experimental group perceived that the statement was either "usually true" or "always true" for them, in contrast to 6,3% in the control group. What is more, only 15,3% of learners in the experimental group perceived that that this statement was "usually not true" or "never true," as opposed to 59,4% in the control group (see Figure 57). As we can see in Table 107, the Mann-Whitney U test indicates that this is a significant difference since it yields a result (218,500) which has an associated probability of 0,01 (below 0,05). The experimental group has a mean value of 37,10, which yields a favourable result since the most positive aspects of the test obtained the highest scores.

Figure 57

Significant difference between experimental and control groups for SQ35: planning to have time to study *English*

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ35I	Experimental	26	37,10	964,50
	Control	32	23,33	746,50
	Total	58		

Test Statistics[a]

	SQ35I
Mann-Whitney U	218,500
Wilcoxon W	746,500
Z	-3,249
Asymp. Sig. (2-tailed)	,001

a. Grouping Variable: Group

[Table 107: differences regarding the use of planning to have time to study English from experimental and control groups.]

These differences are, however, neutralized after the application of our Corporate Learning Environment. Thus, only 46,1% of learners from the experimental group, and 43,7% of learners from the control group perceive that the statement is usually or always true for them. Therefore, whereas the control group increases the number of positive responses, the experimental group decreases. Nevertheless, the differences between the two groups in the final analysis, and the differences between the initial and the final data are not significant.

After questioning learners on their metacognitive strategy of looking for somebody to practise with, the SILL focuses on seeking opportunities to read in L2 (SQ37), belonging to the same strategy sub-group as the previous strategy. Learners are requested to assert to what degree they perceive the statement "I look for opportunities to read as much as possible in English" to be true for them. Tables 108 and 109 display the results for the initial and final analyses. The number of students responding with the options ranging from "somewhat true" to "never true" is

very high: from the total number of students, 77,6% selected one of these three options in the initial survey, and 79,3% did so in the final one. Therefore the numbers selecting the two most positive options, "usually true" and "always true," decreased or stayed the same in the first and the last analyses, with the exception of "usually true" in the control group which underwent a slight improvement from 6,3% to 18,8%. The differences, however, were not significant in any of the parameters.

SQ37I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ37I	Never true	Count	7	10	17
		% within Group	26,9%	31,3%	29,3%
	Usually not true	Count	6	11	17
		% within Group	23,1%	34,4%	29,3%
	Somewhat true	Count	3	8	11
		% within Group	11,5%	25,0%	19,0%
	Usually true	Count	6	2	8
		% within Group	23,1%	6,3%	13,8%
	Always true	Count	4	1	5
		% within Group	15,4%	3,1%	8,6%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 108: learners' perceived use of using seeking opportunities to read in L2.]

SQ37F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ37F	Never true	Count	7	4	11
		% within Group	26,9%	12,5%	19,0%
	Usually not true	Count	11	15	26
		% within Group	42,3%	46,9%	44,8%
	Somewhat true	Count	2	7	9
		% within Group	7,7%	21,9%	15,5%
	Usually true	Count	2	6	8
		% within Group	7,7%	18,8%	13,8%
	Always true	Count	4	0	4
		% within Group	15,4%	,0%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 109: learners' perceived use of using seeking opportunities to read in L2.]

In the following item (SQ38), it is the turn, again, of the strategy sub-group of arranging and planning learning. Learners are requested to assert to what degree they consider the statement "I have clear goals for improving my English skills" to be true for them. Table 110 shows the results for the September analysis and 111 those for the one in May.

SQ38I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ38I	Never true	Count	2	3	5
		% within Group	7,7%	9,4%	8,6%
	Usually not true	Count	4	6	10
		% within Group	15,4%	18,8%	17,2%
	Somewhat true	Count	8	17	25
		% within Group	30,8%	53,1%	43,1%
	Usually true	Count	7	4	11
		% within Group	26,9%	12,5%	19,0%
	Always true	Count	5	2	7
		% within Group	19,2%	6,3%	12,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 110: learners' perceived use of having clear goals for improving L2.]

SQ38F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ38F	Never true	Count	1	2	3
		% within Group	3,8%	6,3%	5,2%
	Usually not true	Count	4	7	11
		% within Group	15,4%	21,9%	19,0%
	Somewhat true	Count	6	10	16
		% within Group	23,1%	31,3%	27,6%
	Usually true	Count	8	11	19
		% within Group	30,8%	34,4%	32,8%
	Always true	Count	7	2	9
		% within Group	26,9%	6,3%	15,5%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 111: learners' perceived use of having clear goals for improving L2.]

Despite the fact that at the beginning of the course there was a remarkable difference between the choices made by the experimental and control groups (46,1% of learners in the experimental group perceived the statement was "usually true" or "always true" for them, but

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this was only the case for 18,8% of students in the control group), this differences was reduced by the end of the course (57,7% and 40,7% respectively). In any case, both groups underwent improvement, after the application of our Corporate Learning Environment. Nevertheless, none of these differences reached significance levels.

Going back to self-evaluating learning, and closing the section corresponding to the strategy group of metacognitive strategies, the following item (SQ39) focuses on progress. Learners are invited to assert to what degree they perceive the statement "I think about my progress in learning English" to be true for them. Tables 112 and 113 display the data for the initial and final, surveys respectively.

Both the experimental and the control groups improved from the initial to the final analysis. The number of learners who perceived that the statement was either "usually true" or "always true" rose from 50% in the experimental group to 57,7%; and in the case of the control group, this growth was from 28,1% to 43,7% after the application of our CLE. These differences, however, do not reach significance levels.

SQ39I * Group Crosstabulation

			Experimental	Control	Total
			Group		
SQ39I	0	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
	Never true	Count	2	1	3
		% within Group	7,7%	3,1%	5,2%
	Usually not true	Count	2	6	8
		% within Group	7,7%	18,8%	13,8%
	Somewhat true	Count	9	15	24
		% within Group	34,6%	46,9%	41,4%
	Usually true	Count	9	9	18
		% within Group	34,6%	28,1%	31,0%
	Always true	Count	4	0	4
		% within Group	15,4%	,0%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 112: learners' perceived use of thinking about self-progress.]

SQ39F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ39F	Never true	Count	2	2	4
		% within Group	7,7%	6,3%	6,9%
	Usually not true	Count	2	3	5
		% within Group	7,7%	9,4%	8,6%
	Somewhat true	Count	7	13	20
		% within Group	26,9%	40,6%	34,5%
	Usually true	Count	6	9	15
		% within Group	23,1%	28,1%	25,9%
	Always true	Count	9	5	14
		% within Group	34,6%	15,6%	24,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 113: learners' perceived use of thinking about self-progress.]

Regarding the sub-section that focuses on Metacognitive Strategies, there are three items that yield significant results. The first item to reach this significant level is (i) SQ31, on finding ways to use English. In this case, the experimental group presented a significant difference in the initial administration of the SILL, confirming their relative sensitivity to strategy use. However, in the final administration, it was the control group who presented a significant evolution in this same item, neutralizing that initial difference. The next item to present significance levels is (ii) item SQ32, on noticing mistakes and using them to improve their English. Again, the experimental group presented a significant difference with the control group in the initial administration, although this difference did not continue in the administration in May. This is also the case of (iii) item SQ35, on planning to study English, where the experimental group displays a significantly higher sensitivity to this strategy than the control group, this difference disappearing again at the end of the course. Again, as mentioned in the previous sections, we will provide a more detailed analysis of these and other notable data in Section IV.4.7.

IV.4.5 Affective Strategies

The following item (SQ40) opens the section in the questionnaire focusing on the group of affective strategies. In this case, the SILL explores the learners' perceived use of the strategies belonging to the 'lowering your anxiety' sub-group. They are requested to assert to what level the statement "I try to relax whenever I feel afraid of using English" is true for them. Tables 114 and 115 display the results for the initial and final analyses respectively. Both groups seem to be sensitive to this strategy, with 53,8% of learners from the experimental group selecting the options of "usually true" and "always true" in the initial administration, and 43,8% from the control group selecting the same options. This number rose to 80'8% for the experimental group and 53,1% in the control group, with a mere 18,9% of the total number of students selecting either "usually not true" or "never true." The differences between the groups are notable, although not significant, and neither are the differences between the two analyses.

SQ40I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ40I	Never true	Count	4	0	4
		% within Group	15,4%	,0%	6,9%
	Usually not true	Count	2	6	8
		% within Group	7,7%	18,8%	13,8%
	Somewhat true	Count	6	12	18
		% within Group	23,1%	37,5%	31,0%
	Usually true	Count	9	7	16
		% within Group	34,6%	21,9%	27,6%
	Always true	Count	5	7	12
		% within Group	19,2%	21,9%	20,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 114: learners' perceived use of trying to relax.]

SQ40F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ40F	Never true	Count	3	2	5
		% within Group	11,5%	6,3%	8,6%
	Usually not true	Count	2	4	6
		% within Group	7,7%	12,5%	10,3%
	Somewhat true	Count	0	9	9
		% within Group	,0%	28,1%	15,5%
	Usually true	Count	11	9	20
		% within Group	42,3%	28,1%	34,5%
	Always true	Count	10	8	18
		% within Group	38,5%	25,0%	31,0%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 115: learners' perceived use of trying to relax.]

The following item (SQ42) focuses on rewarding oneself. Learners are requested to express to what degree they perceive the statement "I give myself a reward or treat when I do well in English" to be true for them. The results are shown in tables 116 and 117 respectively. As was the case in items SQ6, SQ7, SQ8, and SQ23, this does not seem to be present in the great majority of students in any significant way. In the case of the experimental group, 88,4% of learners in the initial analysis and 92,3% in the final one believe that this is either "usually not true" or "never true." For the control group, the situation is very similar: 84,4% for both the initial and final analyses. What is more, at the end of the research period no student claimed that the statement was "always true." The possible differences between the two groups or between the two questionnaire administrations were not significant.

SQ42I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ42I	Never true	Count	14	18	32
		% within Group	53,8%	56,3%	55,2%
	Usually not true	Count	9	9	18
		% within Group	34,6%	28,1%	31,0%
	Somewhat true	Count	2	3	5
		% within Group	7,7%	9,4%	8,6%
	Usually true	Count	0	2	2
		% within Group	,0%	6,3%	3,4%
	Always true	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 116: learners' perceived use of rewarding yourself.]

SQ42F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ42F	Never true	Count	19	17	36
		% within Group	73,1%	53,1%	62,1%
	Usually not true	Count	5	10	15
		% within Group	19,2%	31,3%	25,9%
	Somewhat true	Count	2	4	6
		% within Group	7,7%	12,5%	10,3%
	Usually true	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 117: learners' perceived use of rewarding yourself.]

In the following item (SQ43), the focus is on the strategy sub-group of taking one's own emotional temperature. Learners are invited to express to what degree the statement "I notice if I am tense or nervous when I am studying or using English" is true for them. The initial results are displayed in Table 118 and the final ones in Table 119.

SQ43I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ43I	Never true	Count	6	4	10
		% within Group	23,1%	12,5%	17,2%
	Usually not true	Count	2	3	5
		% within Group	7,7%	9,4%	8,6%
	Somewhat true	Count	4	10	14
		% within Group	15,4%	31,3%	24,1%
	Usually true	Count	5	10	15
		% within Group	19,2%	31,3%	25,9%
	Always true	Count	9	5	14
		% within Group	34,6%	15,6%	24,1%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 118: learners' perceived use of noticing if one is nervous.]

SQ43F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ43F	Never true	Count	7	5	12
		% within Group	26,9%	15,6%	20,7%
	Usually not true	Count	5	10	15
		% within Group	19,2%	31,3%	25,9%
	Somewhat true	Count	2	2	4
		% within Group	7,7%	6,3%	6,9%
	Usually true	Count	6	8	14
		% within Group	23,1%	25,0%	24,1%
	Always true	Count	6	7	13
		% within Group	23,1%	21,9%	22,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 119: learners' perceived use of noticing if one is nervous.]

In this case, the percentages are more balanced. The percentage of learners claiming that the statement is "usually true" or "always true" in the initial analysis is 53,8% for the experimental group and 46,9% for the control group. The situation changed slightly in the final analysis: 46,2% in the experimental group and 46,9% in the control group reported the same perceptions. However, the number of learners selecting a more negative option did increase considerably: whereas only 30,8% of learners in the experimental group, and 21,9% in the control group believed the statement was "usually not true" or "never true" of them in the initial

data, this increased to 46,1% and 46,9% in the experimental and the control groups respectively. These differences, although worthy of mention, do not constitute significant differences between the questionnaire administrations or between the groups.

The next item (SQ44) focuses again on the strategies associated with the sub-group of taking one's own emotional temperature. Learners are requested to assert to what extent they perceive the statement "I write down my feelings in a language learning diary" to be true for them according to the five-point Likert scale described in previous items. The results shown in Tables 120 and 121 (initial and final administrations respectively) show there are very few learners who perceive the statement to be true within a medium to a high frequency. On taking the results from the two groups, 80,8% of the learners in the experimental group, and 87,5% of those in the control group, believe they never use this strategy in the initial analysis. There is an evolution in the situation in the final administration: while 100% of learners in the experimental group believe they never use this strategy, this parameter decreases to a 81,3% in the control group, and the number of learners who perceive it is "usually not true" or "somewhat true" increases, yielding a significant difference between the two groups in the final administration in favour of the control group (see Figure 58).

SQ44I * Group Crosstabulation

| | | | Group | | Total |
			Experimental	Control	
SQ44I	Never true	Count	21	28	49
		% within Group	80,8%	87,5%	84,5%
	Usually not true	Count	5	4	9
		% within Group	19,2%	12,5%	15,5%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 120: learners' perceived use of writing a language-learning diary.]

SQ44F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ44F	Never true	Count	26	26	52
		% within Group	100,0%	81,3%	89,7%
	Usually not true	Count	0	5	5
		% within Group	,0%	15,6%	8,6%
	Somewhat true	Count	0	1	1
		% within Group	,0%	3,1%	1,7%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 121: learners' perceived use of writing a language-learning diary.]
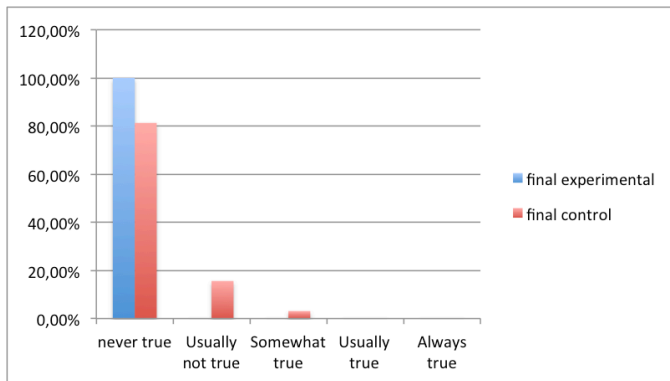
Figure 58.

Significant difference between experimental and control for SQ44: writing a language-learning diary

As we can see in Table 122, the Mann-Whitney U test confirms the significance of the difference between the experimental and control groups in the final analysis, since it yields a result (338,000) which has an associated probability of 0,021 (below 0,05). The control group has a mean of 31,94, which yields a favourable result since the most positive aspects of the test obtained the highest scores.

Ranks

	Group	N	Mean Rank	Sum of Ranks
SQ44F	Experimental	26	26,50	689,00
	Control	32	31,94	1022,00
	Total	58		

Test Statistics[a]

	SQ44F
Mann-Whitney U	338,000
Wilcoxon W	689,000
Z	-2,310
Asymp. Sig. (2-tailed)	,021

a. Grouping Variable: Group

[Table 122: differences regarding the use of planning to have time to study English from experimental and control groups.]

Closing the section addressing affective strategies, the next item (SQ45) deals, once again, with taking one's own emotional temperature. Learners are requested to express to what degree they perceive the statement "I talk to someone else about how I feel when I am learning English" to be true for them. They are invited to assign a number from the five-point Likert scale described in previous items. Tables 123 and 124 show the results for the initial and final data.

SQ45I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ45I	Never true	Count	14	18	32
		% within Group	53,8%	56,3%	55,2%
	Usually not true	Count	5	3	8
		% within Group	19,2%	9,4%	13,8%
	Somewhat true	Count	1	3	4
		% within Group	3,8%	9,4%	6,9%
	Usually true	Count	5	5	10
		% within Group	19,2%	15,6%	17,2%
	Always true	Count	1	3	4
		% within Group	3,8%	9,4%	6,9%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 123: learners' perceived use of talking to someone else how one feels.]

			Group		Total
			Experimental	Control	
SQ45F	Never true	Count	13	15	28
		% within Group	50,0%	46,9%	48,3%
	Usually not true	Count	9	7	16
		% within Group	34,6%	21,9%	27,6%
	Somewhat true	Count	2	6	8
		% within Group	7,7%	18,8%	13,8%
	Usually true	Count	1	3	4
		% within Group	3,8%	9,4%	6,9%
	Always true	Count	1	1	2
		% within Group	3,8%	3,1%	3,4%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 124: learners' perceived use of talking to someone else how one feels.]

In this case there is also a clear tendency to select options towards the negative side of the scale. In the data collected from initial questionnaire administration, 73% of the learners from the experimental group believe that the statement is "usually not true" or "never true" to them. In the final set of data, this percentage increased to 84,6%. In the case of the control group, 65,7% of its learners perceived the statement was "usually not true" or "never true" for them in the initial analysis, and 68,8% of them had the same perceptions in the final one. Although there is a remarkable difference between the two groups, it is not significant.

In the case of the sub-section on Affective Strategies, it was only in item SQ44, on the use of a learning diary on the part of the subject, that we confirmed a significance difference: subjects from the control group presented a significant positive evolution from the initial to the final administration, even though their choices were mainly negative in global terms. There are some other features that deserve further analysis, however. We will analyze all the intricacies of the data obtained related to the current strategies in Section IV.4.7.

IV.4.6 Social Strategies

The first item that is overtly relevant for our research (SQ48) focuses on the strategy sub-group of cooperating with others. The subjects are expected to express to what extent they believe the statement "I practise English with other students" to be true for them. They are

invited to assign a number from the five-point Likert scale described in previous items. Tables 125 and 126 show the results for the initial and final analyses respectively.

SQ48I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ48I	0	Count	1	0	1
		% within Group	3,8%	,0%	1,7%
	Never true	Count	4	9	13
		% within Group	15,4%	28,1%	22,4%
	Usually not true	Count	3	6	9
		% within Group	11,5%	18,8%	15,5%
	Somewhat true	Count	8	9	17
		% within Group	30,8%	28,1%	29,3%
	Usually true	Count	3	4	7
		% within Group	11,5%	12,5%	12,1%
	Always true	Count	7	4	11
		% within Group	26,9%	12,5%	19,0%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 125: learners' perceived use of practicing English with others.]

SQ48F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ48F	Never true	Count	4	2	6
		% within Group	15,4%	6,3%	10,3%
	Usually not true	Count	1	2	3
		% within Group	3,8%	6,3%	5,2%
	Somewhat true	Count	9	10	19
		% within Group	34,6%	31,3%	32,8%
	Usually true	Count	7	15	22
		% within Group	26,9%	46,9%	37,9%
	Always true	Count	5	3	8
		% within Group	19,2%	9,4%	13,8%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 126: learners' perceived use of practicing English with others.]

In the initial data analysis, 38,4% of the learners from the experimental group and 25% from the control groups selected "usually true" or "always true." This percentage increased in the final analysis, but in the control group this increase became more evident. Thus, 46,1% of the

learners from the experimental group and 56,3% from the control group chose those same two options in the final questionnaire administration. Besides, in the control group, the number of learners who had selected the options "usually not true" and "never true" decreased from 46,9% in the initial analysis to 12,6%. The difference between the initial and the final analyses is significant in the control group (see Figure 59). As we can see in Table 127, the Wilcoxon test (Z= -3,240) did yield a significant difference of (0,001) below 0,05 in the comparison between the initial and final data in the control group.
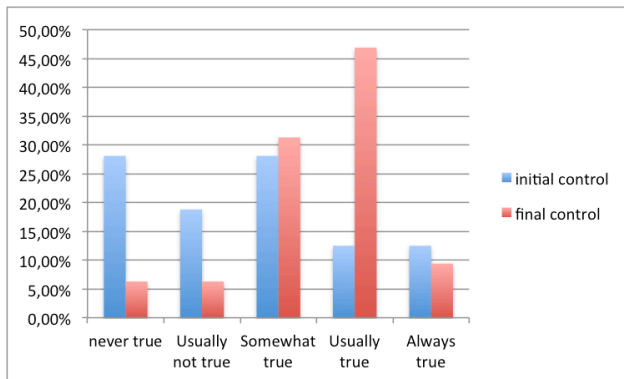
Figure 59.

Significant difference between initial and final administration for the control group SQ48: <u>encouraging oneself</u>

Test Statistics[b]

	SQ48F - SQ48I
Z	-3,240[a]
Asymp. Sig. (2-tailed)	,001

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test

[Table 127: significant difference between the initial and final administration within the control group regarding the use of practicing English with others.]

The above-mentioned Wilcoxon test also yields the following results (Table 128): 10 learners selected the same option in both tests, 19 gave a more positive appreciation in the final administration and only 3 a more negative one.

Ranks

		N	Mean Rank	Sum of Ranks
SQ48F - SQ48I	Negative Ranks	3[a]	9,67	29,00
	Positive Ranks	19[b]	11,79	224,00
	Ties	10[c]		
	Total	32		

a. SQ48F < SQ48I
b. SQ48F > SQ48I
c. SQ48F = SQ48I

[Table 128: differences in choice selected by learners in the control group regarding practicing English with others.]

The strategy sub-group of asking questions is the focus of item 50 (SQ50). Learners are requested to express to what degree they consider the statement "I ask questions in English" to be true for them with the appropriate value from the five-point Likert scale. The results for the initial administration are displayed in Table 129 and those for the final administration in Table 130. The number of learners in the experimental group that consider that they usually or always ask questions in English is markedly higher (57,7% in the initial and 65,4% in the final data) than those in the control group (37,5% and 34,4% respectively). It is also notable that the number of learners from the control group selecting the options "somewhat true" and "usually not true" in the final analysis is so high (65,6%).

SQ50I * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ50I	Never true	Count	2	0	2
		% within Group	7,7%	,0%	3,4%
	Usually not true	Count	2	9	11
		% within Group	7,7%	28,1%	19,0%
	Somewhat true	Count	7	11	18
		% within Group	26,9%	34,4%	31,0%
	Usually true	Count	11	11	22
		% within Group	42,3%	34,4%	37,9%
	Always true	Count	4	1	5
		% within Group	15,4%	3,1%	8,6%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 129: learners' perceived use of asking questions in English.]

SQ50F * Group Crosstabulation

			Group		Total
			Experimental	Control	
SQ50F	Never true	Count	3	0	3
		% within Group	11,5%	,0%	5,2%
	Usually not true	Count	2	8	10
		% within Group	7,7%	25,0%	17,2%
	Somewhat true	Count	4	13	17
		% within Group	15,4%	40,6%	29,3%
	Usually true	Count	10	7	17
		% within Group	38,5%	21,9%	29,3%
	Always true	Count	7	4	11
		% within Group	26,9%	12,5%	19,0%
Total		Count	26	32	58
		% within Group	100,0%	100,0%	100,0%

[Table 130: learners' perceived use of asking questions in English.]

In this final short sub-section, focusing on the use of Social Strategies by our subjects, we only included two items: SQ48, on practicing English with other learners, and SQ50, on asking questions in English. After analysing the results, we confirmed the existence of a significant evolution of the control group since the data in the administration in September and in May yield significant differences. In the following section, IV.4.7, we will provide a complete analysis of all the relevant data obtained from the administration of the SILL, which will help us answer our fourth research question: 'Do learners improve their perceived use of reading strategies after overt instruction on reading strategies?'

IV.4.7 Final Considerations in Relation to the Fourth Research Question

As we argued in chapter III.3.2.3, there are different levels of direct, overt strategy training. Two of these levels are the backbone of our current design: (i) level one, since the reading comprehension course ('*The Reading Corner*'), which was assigned to the control group, was designed following strategy training, albeit not including any explicit reference to them; and (ii) level four, which refers to completely informed strategy instruction, which was the one implemented in the experimental group, further including a specific strategy training course (Oxford, 2011:181). Although our initial focus is on the experimental group, we cannot ignore the improvements seen in the control group. Therefore, the results reported above will be analyzed regarding both the evolution of the experimental group and that of the control group.

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The only significant difference between the experimental group and the control group in the final data from the SILL questionnaire was in item SQ19, which referred to the comparison of new words in English with those of the learners' mother tongue, with 73,1% of the participants from the experimental group, and only 40,7% of the subjects from the control group selecting either "usually true" or "always true." Therefore we can conclude that *'The Strategy Workshop'* (see III.3.2.3) did not produce a significant change in learners' perceptions regarding their use of learning strategies in general terms. Some factors may have affected the administration of our design. The lack of autonomy of our learners, as seen in other sections within this chapter (IV.3.1), but also evident in the low results yielded by items that are closely related to taking the initiative in the current questionnaire, is one of these issues. For instance, SQ16, dealing with reading for pleasure, at the end of the school year, showed that 65,4% of learners in the experimental group and 68,8% in the control group acknowledged that they scarcely used this strategy. Another item with similar results was SQ37, focusing on trying to find opportunities to read in English. Furthermore, some other items seem to suggest that there are some other strategies (e.g. SQ6, SQ7, SQ8, SQ23, SQ42, SQ44, SQ45), apart from the ones mentioned above, that provided remarkably low results, since the answers fall mainly on the negative side of the spectrum, which emphasizes the lack of autonomy on learners.[170]

Besides, the difficulties we had during the school year in closely following their moves within the platform in order to provide more of a stimulus when needed (as seen in III.4.3) could have also influenced the results. The experimental group was especially sensitive to this problem, since they underwent a kind of instruction that was completely new to them: '*The Strategy Workshop.*' This block of the course required the learners in the experimental group to revisit some of their attitudes and routines when learning and using a language. This process needs close guidance on the part of the teacher, which was very difficult to guarantee taking into account the technical conditions experienced during the school year. In fact, many of the learners in the experimental group quit the block before actually finishing the whole process.

Apart from the technical issues that arose, the time spent for overt, completely informed, strategy instruction with the experimental group was probably too short.[171]. Learners spent most

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[170] You can see the connection between learner autonomy and strategies in Section II.3.2.
[171] See Section III.2.1 for arguments on the importance of the timing of implementation as a parameter for success.

of the first term completing *'The Strategy Workshop'*.[172] This left little time for the experimental group to start *'The Reading Corner'* together with the control group. Therefore, these learners could not grasp the actual relationship between what they learnt in *'The Strategy Workshop'* with actual reading tasks. Probably due to this fact, the level of engagement in *'The Reading Corner'* was always lower in the experimental group than in the control group.

However, if we take a broader look at the results, we see that there are a number of advances perceived from the results. Although the experimental group does not significantly improve strategy use, the control group does improve in a remarkable number of them. The results from the control group yield significant differencse from the initial analysis to the final analysis in 7 different items, SQ2, SQ13, SQ17, SQ27, SQ28, SQ31, and SQ48. Two of them have a direct relationship with reading (SQ27 and SQ28), although all of them have a direct relationship with the strategies we had into account when we design both our courses aiming strategy training, that is '*The Strategy Workshop*' and '*The Reading Corner*' (see Appendix III). As seen in Section III.3.2.3, *'The Reading Corner'* designed for the control group represents a level-one strategy instruction (Oxford, 2011:181). So we could conclude that level-one strategy training does improve students' perceived use of strategies, at least to a certain degree, as long as it reaches some level of success in terms of students' active completion.

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[172] Due to problems during the application of the design (Section III.4.3), there was a remarkable difference between the use the experimental group made of *'The Reading Corner'*, and that made by the control group. For instance, there were two blocks the experimental group could not do because they were struggling to finish the Strategy Workshop. When both groups were working on the reading tasks, the number of students actively involved from the control group was nearly always higher than those from the experimental group.

CHAPTER V

CONCLUSION

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<u>CONCLUSIONS</u>

       The enriching process of reflecting upon the teaching and learning which take place during the course of a school year both inside and outside our classroom context is, in itself, a constructive action, which will surely bring about improvements in the teacher's pedagogical practice. However, this reflection, when made within the scope of a scientific research project, should also induce progress in teaching and learning processes in a broader sense. In our case, the data described in the previous chapter represent an in-depth, conscientious description of the results yielded by our own investigative endeavour, although they only partially depict the teaching and learning processes that might occur during the course of a school year. The conclusions we can draw here and the implications related to them which would ultimately lead to an 'Integrated CALL' approach (Bax, 2003:24) will definitely influence the future teaching undertaken by the author, although we strongly believe that they could also be generalized for other foreign language teaching and learning contexts sharing similar characteristics. Nevertheless, we should also acknowledge certain limitations in our research reported here stemming mainly from the restricted nature of both our educational context and the tools implemented. With the objective of suggesting some possible ways to overcome these limitations, as well as potentially laying the foundations for further research, we will offer a number of considerations in the current concluding chapter that have arisen in the process of elaboration of the current research study.

V.1 Summary of Results

Our longitudinal research project principally aimed to corroborate the utility of implementing technological designs based on Web 2.0 in the learning of a foreign language. This objective, however, carries a myriad of implications that cannot be encompassed within a single investigation, both within the field of Information and Communication Technology for educational use and in the field of Foreign Language Learning and Teaching. Therefore, we limited the scope of our research to the field of the development of reading skills in a foreign language, with the aim of shedding light on the potential benefits of Corporate Learning Environments (CLEs). In order to accomplish our aims, we devised a CLE which included a Learning Management System and an e-portfolio in the context of a blended design,[173] where we customized courses[174] for the subjects in the experimental group to receive training in reading strategies in, and for both the control and the experimental groups to practise and develop their reading skills but also as a means to access supplementary grammar practice, discussion forums, announcements and resources of various kinds.[175]

By using the above-mentioned CLE, our specific intentions were (i) to measure the potential improvement of the learning experience by using a Corporate Learning Environment as perceived by the learners (Section IV.1); (ii) to explore the relevance and utility for foreign language learning of our CLE, at the same time as gauging our learners' perceptions of it (Section IV.2); (iii) to empirically test whether there was any improvement in the skill of reading comprehension after the implementation of our CLE; as well as (iv) to appraise our learners' perceptions on their use of reading strategies during our research procedure. In Section III.1 we established the research questions, associated with each one of these intentions. Thus, the research questions that guided our study were:

1. Does using a Corporate Learning Environment in a blended design, based on the use of Information and Communication Technology, enhance the language learning experience in our teaching context?

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[173] We consider as 'blended' those designs which encompass both online and physical elements of the learning process. See Section II.1.2.5.

[174] See Section III.3.2 for a detailed definition of what we have considered to be a 'ourse' in the current research study.

[175] See Chapter III for a detailed account of our CLE.

2. After the application of a Corporate Learning Environment, do learners perceive it as a relevant learning means?

3. Do learners improve their reading comprehension by means of explicit training in the use of reading strategies through the use of a Corporate Learning Environment?

4. Do learners improve their perceived use of reading strategies after overt instruction on reading strategies?

V.1.1 The Potential Improvement of the Learning Experience by Using a Corporate Learning Environment

In order to analyse our learners' perceptions regarding the improvement of their learning experience during the implementation of our experimental CLE (research question number one), and due to the fact that this online learning tool might have a critical role in intrinsic motivation and, consequently successful sustained deep learning as defined by Schumann (1998:33) [176], we devised a questionnaire that would explore our students' attitudes towards this innovation (see Attitude Questionnaire in Appendix VII). At the same time, we also decided to check whether there were differences between the experimental and the control group in relation to the use of a differentiated design incorporating strategy training. However, when we first analyzed the data collected from the Attitude Questionnaire (AQ), both at the beginning and at the end of the implementation period, we detected no evidence of significant differences between the control and the experimental group. Therefore, we decided to compare the learners' answers as one single group both at the beginning and at the end of the implementation period in order to ascertain whether there was significant improvement in our subjects' perceptions after the complete model had been implemented, since both groups shared most of the elements in our design (detailed in Chapter III). In this case, we did find a significant positive evolution.

Therefore, the results presented and analyzed in Section IV.1, with a detailed account of the conclusions we draw in Section IV.1.1, suggest that our experimental model, as described in chapter III, was perceived by our learners as providing an improved learning experience. We ground our assertion on the fact that a great majority of the answers provided by the learners in

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[176] See Sections II.5.1.1 and II.5.2 dealing with factors affecting motivation and autonomy.

the attitude questionnaire are positive at least to a certain level, which is in itself a relevant result. What is more, these positive answers constitute a significant statistical improvement in those questionnaire items which are of critical importance in relation to skills development, since learners perceived that there was development in their writing (AQ5), their reading (AQ6) and their listening (AQ7) skills. As regards speaking skills (AQ8), although the number of positive answers was also high, it did not reach statistical significance level. However, as we argued in Section IV1.1, this could be due to situational anxiety traditionally caused by using L2 in the context of the classroom. Apart from skills improvement, our subjects also perceived that the implementation of our online learning platform increased their willingness to continue studying English when the course was finished, thus enhancing their prospects for life-long learning, a key parameter in curriculum designs for formal upper-secondary education (BOC, 2008:19542-19543).

Furthermore, even those learners who claimed not to use the platform regularly did acknowledge that our model did, in fact, provide positive support for the learning process. When we consulted the platform logs where we can track students' actual use of the facilities provided by the platform, we could find cases of participants who, although they hardly ever used the platform, considered that their progress throughout the course (AQ9) had been "good, although [she is] sure it would have been better if [she] had dedicated more time [to the subject]." Even so, it is with those learners who regularly used the platform and perceived our model as a means to improve the learning experience that we can see more instances of explicitly positive opinions. For example, one student who used '*The Strategy Workshop*' to a high degree stated in the final application (AQ9) that her progress had been good, especially "in vocabulary, ways to express [her]self and writing," which were key ingredients of our online design, as described in Chapter III.

V.1.2 The Relevance of CLE as Perceived by Learners

In addition to this perceived improvement in their learning experience, we gauged our students' perceptions further, this time regarding the possible relevance of our platform as a learning tool (research question number two, as presented in Section IV.2). As we saw in Sections II.5.2 and II.5.4 which deal with the influence of motivation and context on

technological and methodological innovations, users' perceptions regarding the usefulness, ease of use, and their fit to the context and task at hand of a technological innovation can help predict attitude, intention and actual use in connection with IT tools (Al-Busaidi and Al-Shihi, 2010:3). Based on these assumptions, our intention was to discover whether our learners perceived our e-learning facility as a relevant means for their learning. In this way, we would be able to discard these factors as hindering parameters in our research study, as well as set a benchmark for possible future applications.

In line with the procedure outlined in relation to the previous research question, we analyzed the results from the two groups both in contrast with each other, and as a single group firstly in January and then at the end of the school year in May. Although there was no significant difference either between the groups or between the two applications, the results do yield very positive results. As we can see in Section IV.2, all the items generated positive answers of above 70%, with item number 17 (AQF17), related to the perceived competence of the teacher in managing the platform reaching 100% in the control group in the data from the final questionnaire application. Furthermore, there were remarkable improvements between the initial and the final responses in some key items. For instance, in item 10 (AQ10), in which we invited our subjects to assert whether they considered that the learning platform as a whole helped them in the process of learning a foreign language, 70,7% in the initial implementation and 74,5% in the final implementation reported that the platform did help their learning. Regarding their general perception of the platform as a relevant learning tool in the context of language learning (AQ12), this figure reaches 83,9% in the questionnaire data from January and 89,3% in May, although it is also highly notable that it reached 93,3% in the control group in the final data from the May analysis.

After all the items had been analyzed, we were able to conclude (see Section IV.2.1 for a more detailed account) that both groups did consider our CLE to be a relevant learning support. We base our assertion on the remarkably high number of students who responded positively to the different items, which increased during the process of the application of the research design. This conclusion was further confirmed by qualitative data in their comments and the data obtained from the platform logs. As a matter of fact, time seems to be a key issue for learners not having selected the most positive option ("yes, absolutely"), as we can see from their comments for item number 19 (AQ19) which invited them to openly give their opinion about the platform.

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For example, a learner who answered "yes, but not much," (option 'b' in the questionnaire) to item 12 (AQ12) on the relevance of our platform for language learning, claimed that "it is a tool that helps you learn by your own means but if you cannot regularly login, it is practically useless to you." In the case of learners who selected negative answers (that is, options "I don't think so" or "definitely no"), they hardly ever used the platform. More specifically, 78% of the learners who chose the most negative answers hardly ever entered any of the facilities provided through the platform. What is more, 81% of these learners who did not log into the platform overtly stated in item 19 (AQ19) that the platform is a "good tool." The case of the data pertaining to item 10 (AQ10) from the final questionnaire administration, which invited learners to assert to what extent they considered the platform to have facilitated their language practice, also helps us illustrate our conclusion. Those students who did take part in the activities proposed on the platform and interacted to a considerable degree, but who, even so, selected a negative answer for this item, did so as a complaint about the workload in a demanding second year of upper-secondary education, as is shown in their subsequent answers to item 19 (AQ19). We strongly believe that these learners tended to view the platform an extra burden, rather than the rest of the work they have to do for other subjects or other classroom activities in English due to the weight tradition already exerts on learners' educational schemata (Grant, 2009:114-115; Área, 2010:93; Wolpers *et al*, 2010:399). We also ground this assertion on the fact that they assert that, despite all this, the platform is a "good work tool."

V.1.3 The Improvement of Reading Comprehension through CLE Implementation

Having confirmed that our learners had positive perceptions regarding both our overall research design and our online learning tools, we then set out to analyze whether the implementation of a differentiated online facility to train our experimental group in the use of CLE reading strategies gave rise to better results regarding reading comprehension (research question number three), measured by means of a standard reading comprehension test as described in Section III.3.1.3. In the analysis of the results obtained in this reading test at the beginning of the course as presented in Section IV.3, we confirmed that neither our control nor our experimental groups showed significant differences regarding their overall initial reading competence, which

made the empirical study feasible. However, at the end of the application period there was no difference in the improvement of the reading competence of our learners either. Thus we conclude that the use of our CLE, as described in Chapter III, does not seem to improve learners' reading skills. In the interpretation of those results (Section IV.3.1), we contend that the short time span for its implementation, our learners' lack of autonomy, and the technical problems faced during the course may have been factors hindering their improvement.

In the case of time as a critical issue (see Lim and Shen, 2006:226), we need to reflect on both the time per week allocated to the subject in the curriculum for English as a Foreign Language in the second year of upper-secondary education, and also the time span of a single school year. We contend that having only three hours a week for the development of all the skills implied in learning a foreign language, apart from all the other general competences associated with the curriculum (BOC, 2008) does not suffice, especially when our learners will be with us only for the period of nine months. As we saw in the introduction to Chapter III, the time that a person needs to competently learn a language goes far beyond the course of a school year (Cummins, 2008:489). Furthermore, our goal also implied the introduction of a methodological as well as a technological innovation, which also required the learner to undergo an acceptance process,[177] which has, nevertheless, proved to be successful, as we argued in Section V.1.2.

Regarding autonomy, as seen in Section II.5, we should bear in mind that it is a key parameter for learning in general and for language learning in particular. The use of the facilities that we have incorporated in our CLE do, in fact, seem to foster the development of greater autonomy in our learners (Section II.5 amply supports this assertion) since the use of Web 2.0 facilities which encompass ingredients from informal learning bring with them "autonomy, diversity, openness, and connectedness" (Tu *et al:*13-14). However, our learners, who are used to

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[177] Both Rogers (2010:20) and Karamanos and Gibbs (2012:323) maintain that the process of acceptance of innovations does need time to develop. In the case of Rogers (*ibid*) he believes individuals involved in an innovation process would undergo the stages of (i) knowledge, (ii) persuasion, (iii) decision, (iv) implementation and (v) confirmation. In any event, Rogers (*ibid*) already includes time as a parameter when tackling the concept of innovation diffusion. In the case of Karamanos and Gibbs, as we saw in Section II.4.4, they believe that the individual's concerns towards a particular innovation undergo the stages that first (i) would have nothing to do with the innovation in itself, which would turn into (ii) concerns about themselves as individuals ('how would the innovation affect me'), then to (iii) concerns about the actual tasks to be developed, and finally to (iv) concerns about the impact the innovation would have. Both cases confirm, therefore, that time is definitely an issue in our own research project

a very traditional educational context, are normally prone to more teacher-led activities, which might hinder their actual development as more autonomous learners, and which further confirms Selwyn's (2009:372-373) description of the digital native[178] as a passive, individual user of the media provided online. Hence, the use of the platform on the students' own accord, although supported by the teacher's feedback and assistance as a means to try to boost their feeling of self-efficacy,[179] did not reach the level expected (see Section III.4.3 for further details). Similar conclusions were drawn both in Rodríguez-Juárez and Oxbrow (2010:155) and Margaryan and Littlejohn (2008:4).

These difficulties related to time and lack of autonomy which we encountered were further complicated by technical problems arising during the implementation process (as described in Section III.4.3). The amount of time the teacher had to spend to simply display the page at a given point during the application made it impossible for him to keep up the recommended pace for the successful management of a learning platform of this kind. This could have hampered the learners' innovation acceptance process and, thus, its immediate learning potential.[180] As a matter of fact, when analyzing the data collected from the Attitude Questionnaire, item 15 (AQ15), which asks learners whether they have "felt that the platform has worked well," a remarkable percentage of the learners considered that it did not work properly, at least to some degree. This could have been due to learner inexperience in using this type of online tool, however we cannot exclude the possibility of this circumstance having influenced the results.

V.1.4 The Improvement of Perceived Strategy Use

With regard to the fourth research question (as presented in Section IV.4) which seeks to gauge the effectiveness of using an e-learning platform to make learners more conscious of the strategies they deploy for reading in a foreign language, the analysis of the data yields interesting

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[178] See Section II.5.3 for what to really expect from the so-called 'digital native.'

[179] For a complete account of the management policy followed in our platform, see Gutiérrez-Colon Plana and Pladevall (2009), also included in Appendix IV, which provides a complete account of the factors they tested to enhance learners' experience.

[180] See Section II.4.4 for a complete reference to the importance of learners' perceptions regarding the adoption of a technological innovation.

results. As we saw in Section II.4.2, there is a significant connection between the use of strategies by learners and their success in language learning (among others, Block, 1986:485; Carrell, Pharis and Liberto, 1989:650; Oxford, 1990:1; Liping and Xiaoqing, 2006:104; Oxford, 2011:13). In our case, our intention was to link this process of building consciousness or awareness raising and the improvement of reading skills in a foreign language. This, as we discussed in Section V.1.3, was not empirically confirmed. However, we also needed to confirm that there was a process of awareness raising in relation to the use of learning strategies due to their critical role in language learning. As an instrument to evaluate this awareness, we decided to administer the Strategy Inventory for Language Learning, commonly known as SILL (Oxford, 1990).

Hence, having overtly trained the experimental group in the use of reading strategies, as described in Section III.2.3 and III.4, we expected to obtain higher levels of perceived strategy use from those learners. However, the experimental group only performs significantly better than the control group regarding their perceived use of the strategy related to comparing words from English with their mother tongue, that is item 19 in the Strategy Questionnaire (SQ19), even though they were significantly more sensitive to strategies in the initial implementation. On the other hand, the control group, which did not have any informed training in the use of strategies, shows significant improvement in as many as seven different strategies on comparing the data from the first administration of the SILL to the last. These strategies were SQ2, which deals with using new words in sentences to remember them; SQ13, using words the learner already knows in different ways; SQ17, asking whether the learner writes different kinds of texts in L2; SQ27, specifically related to reading, which asks learners whether they look up every new word in the dictionary when they are reading; SQ28, dealing with making predictions before reading; SQ31, which asks learners whether they try to find new ways to use the language; and SQ48 that surveys students' experience of language practice with other students.

We argue that this discrepancy in the results of the two groups could be associated with their differentiated training. Oxford (2011:181) establishes four levels of strategy training, which vary in the degree that strategies are overtly explained to the learner. Thus, in level one strategy training, (i) the teacher uses strategies to design the different learning activities, although the strategies are neither explained nor mentioned to the learner. The teacher simply (ii) names the strategy and explains what it is for and asks the learner to use it in the different activities in the

second level of strategy training. In the third level, (iii) the teacher not only names the strategy, but also demonstrates how to use it, explains the context and the purpose of the strategy, and asks the learner to use it. The last level (iv) includes the different elements of the previous level, but also implies that the learner also practices how to reflect on the strategy, how to evaluate their progress in their use of it, and the time and the manner of transferring the strategy at hand to new tasks.

Following this taxonomy, as we described in Section III.3.2.3, the strategy instruction course in our platform (*'The Strategy Workshop'*) was designed to be a level-four resource, since our learners are not only introduced to the strategy and the context with illustrative examples, but are also invited to practise and reflect on the different activities and their learning process. Furthermore, the learners from the experimental group were then invited to use their strategies in the course for reading (*'The Reading Corner A'*), with an easy-to-access reference to the strategies worked on in *'The Strategy Workshop'*.[181] On the other hand, our control group did not have access to any specific informed strategy training. Nonetheless, they did have access to a reading course (*'The Reading Corner C'*) which duplicated those activities in the course for the experimental group, and which were designed to foster strategy use but which did not make any explicit reference to the name of the strategies or to any kind of explanation of the context or use of strategies, thus representing level-one strategy training as defined above. Hence, taking into account the results analyzed in Section IV.4.1 to IV.4.7 and although it seems counter-intuitive, we could argue that level-one strategy training seems to lead to greater learning strategy sensitivity than level-four training. Nevertheless, we need to acknowledge that this could also be associated with parameters such as the time of implementation and level of learner engagement during the application of our CLE (see Section III.4.1 for further details).

V.2 Practical Implications of the Study

The results for each of the research questions we have presented here have implications regarding both the deployment of technological designs in education, especially those that involve the use of online facilities of some kind, and how this technology should be used in

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[181] See Chapter III for a detailed description of the different data collection tools designed for our study.

foreign language learning contexts. Although our implications will obviously guide our future teaching experience, we strongly believe they are also valid for contexts that share similar characteristics but with the limitations that we shall acknowledge in Section V.3. Therefore, we will formulate our implications with not only our own context in mind.

The first implications should deal with learners' perceptions regarding the learning experience incorporating our blended course design and the platform we used to complement classroom work, which correspond to research questions one and two. As we saw in Sections II.5.2 and II.5.4, perceptions are a key parameter for the analysis of the potential benefit an innovation could bring to the learning process. Although we have argued in the above-mentioned sections that these perceptions depend on a number of factors that we may not have influence on (the learners' previous experience, for instance), the fact that our blended design has been empirically tested to improve learners' perceived learning experience should be taken into account. Thus we suggest that foreign language learning and teaching, that takes place in upper-secondary education contexts be implemented following a blended-design model, taking the issues detailed in Section II.2 and II.5 into account. More specifically, considering the fact that it was in the area of skills development that learners felt they had improved the most (see Section V.1.1 above), the learning of a foreign language should complement skills development methodology with the use of online facilities.

Since our own design is based on a Learning Management System (LMS) complemented by an e-portfolio, we also suggest that the use of an LMS should still be considered as a relevant tool to support the learning of a foreign language in higher-secondary education. The features they encompass (see Section II.1.2.5 for a complete account) guarantee that different language skills can be developed in an enriching context as concerns interaction and cooperation, while at the same time teachers can easily provide feedback, keep track of their learners' learning processes and facilitate the synergies that should lead to constructive interaction. To this respect, our design does meet the requirements in the literature as argued in Chapter III, and it has also yielded positive results in many of the parameters studied. Therefore, as a further implication, we believe that our model, as it stands, could be adapted to be successful in contexts that are similar to our own educational institution.

Hence, our research project might provide a basis for the further implementation of blended designs in educational institutions with similar characteristics to the one we have worked with. However, advance analysis of the parameters related to successfully implementing technology in education (extensively argued in Chapter II.1 of the current dissertation) is critical for achieving some level of integration and, consequently, higher degrees of learning. Nonetheless, time, learner autonomy and technological resources are critical factors as well, as argued in V.1.3. That is to say, if time and learning objectives are balanced appropriately against each other; if learner training in autonomy is incorporated; and the learning tools required are correctly audited and implemented, the introduction of a similar Corporate Learning Environment should give rise to significant learning improvement, especially regarding skills development.[182]

With regard to the factor of time, extending the application beyond one school year could produce a further evolution in learners' concepts of what learning involves in formal educational contexts towards the adoption of a less traditional stance (Lim and Shen, 2006:225; Blau and Hameiri, 2010:255; Karamanos and Gibbs, 2012:323). If the diffusion of the innovation is correctly managed by the corresponding agents (Rogers, 2010:335; Karamanos and Gibbs, 2012:324) leaners will, consequently, deploy higher levels of engagement and autonomy, thus paving the way for more in-depth changes.

As far as technology is concerned, the lack of significant improvements in the experimental group both in reading skills development and learners' perceptions regarding their strategy use, we advise reflection upon certain implications. Thus, educational institutions who intend to implement a similar design should gauge the appropriateness of the technological and personal resources that can be deployed for such an enterprise before actually generalizing blended models similar to the one described in the current research project. This by no means implies that some educational institutions can, and some cannot, implement this model. Nevertheless, we do need to customize our chosen model to the realities we have in our own teaching and learning contexts.

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[182] We are here taking for granted that the teacher is not a parameter that could eventually hinder the process, as argued in Smet *et al* (2012:694), Panagiotidis (2012:422-423), Ciccarelli *et al* (2011:409), Pynoo *et al* (2011:568), and Ellis and Calvo (2007:60) among others, since the author of this doctoral dissertation is both a researcher and teacher. If implemented otherwise, the factors associated with teachers' acceptances of technological and methodological innovations should obviously be taken into account.

V.3 Limitations and Contributions of our Study

Since our research project is a longitudinal case study and has been implemented with the learners the teacher-researcher was assigned for that school year, our major limitation within the current research has been convenience sampling (e.g. Cain, 2011:7; Saadé, Morin and Thomas, 2012:1615). All the learners involved were from the same school, so they potentially belong to the same socio-economic stratus which means there is no way to know whether learners belonging to other school districts, for instance in rural areas, could have produced different results. Despite the fact that social status can be considered to be a possible bias, as regards gender both groups were balanced, guaranteeing that this was not a factor that could have affected our research study. In the case of age, our intention was to address a specific level of formal secondary education, so we expected our students to belong to approximately the same age group, which was in fact confirmed from the very beginning of our research process. In any event, our results cannot be extrapolated to any other context since the resources needed to be able to embark on a project that is statistically solid to be able to account for a wider population are beyond our reach. We do consider, however, that there should be an institutional effort to undertake system-wide research that would account for the possibilities blended designs have regarding foreign language learning and teaching.

Apart from convenience sampling we also consider it important to acknowledge the limited scope of our profile as a researcher. The current research study was designed to probe the extent to which currently available technological designs using online facilities could be customized to meet the need of a specific educational aim. Our intention has never been to devise new technological tools, or to adjust software to meet those needs, or to analyze the technical intricacies that foster or hinder the fulfillment of our aims. Therefore, we cannot, and should not, draw any conclusions regarding the software used nor how it should be improved.

To finish with, we should also mention time yet once more as a key limitation in this research project. Apart from having insufficient time per week allocated to the subject, and one school year not being enough for complex learning development, we also consider that the task at hand implies further human resources apart from the single teacher-researcher taking part here. The same person designed the facility, with its complex nature, was responsible for teaching the

English course at school and managed the interactions happening on the platform. This was, at points, overwhelming, which could have influenced the results.

Nevertheless, we profoundly believe our research could make a valuable contribution to investigation within the field of English as a foreign language, at least in the context of formal upper-secondary education in the Spanish school system. Our main contribution has been the actual implementation of an empirical study to explore the possibilities current e-learning facilities have to improve the effectiveness of foreign language teaching and learning in this specific context. As we mentioned in Sections II.2 and II.4.6, there are very few studies involving non-university education in the field of educational technology (as confirmed in, for example, Means *et al*, 2010: xiv; Brown and Green, 2011:79). In the case of the Canary Islands, there have been no empirical studies at all, to our current knowledge, which involve the use of e-learning facilities in the context of secondary education for foreign language learning.

This situation is even more so in the case of strategy training. To our knowledge, there is currently no scientifically tested in-depth blended design (as defined in Section II.5) that seeks to train students in the use of language learner strategies following Oxford's taxonomy (1990) or any other; or to any level of explicitness. Therefore, although the results regarding reading comprehension have not been significantly positive, we strongly believe that our design can be described as promising due to the findings and advances in our own practice that we have accomplished.

V.4 Possible Areas for Future Research

The conclusions we have reached in the current study are limited in scope, context and means. As we argued in Chapter II, we decided to focus our research on the possible development of reading skills in the case of learners who were receiving explicit training in reading strategies. This means that there are other issues present in foreign language learning processes that were not included in our endeavour, like the development of other skills or linguistic competence, for instance. We also restricted our research to the second year of upper-secondary education, consequently leaving other levels of formal learning aside, together with

non-formal and informal learning.[183] Our choice of the means used to design our CLE has also been limited to the use of a single Learning Management System combined with an electronic portfolio, discarding a myriad of other possibilities.

However, apart from the reasonable extension of these fields to cover the features not contemplated in the current research, we believe that there are some other issues that could produce interesting results. One of these possibilities could be researching the impact methodological designs based on Ubiquitous Learning (Section II.1.2.6) have on reading skills and perceived use of reading strategies. By using this approach, overt training on the use of mobile applications could boost the benefits of informal learning thus positively influencing formal learning. It could also confirm whether the use of the learners' own tablets or mobile phones minimizes the effect of technical issues since we would not depend on a single facility. A further research study could also test whether extending the time of application could improve the results obtained in the current study. Since in two of the four research questions we have concluded that lack of time for the application of our CLE could have been an issue for having obtained limited success, a future investigation project could start the application in the first year of secondary education and extend it into the second year.

Another issue present in our conclusions is learner autonomy as a critical factor affecting our results. We believe a future research study could shed further light on this issue by implementing remedial work directly addressing autonomy and motivation before and during the application of the research design and analyzing how different approaches could produce different results. If students use of the platform directly affects the results regarding perceived strategy use, as was concluded in Chapter III.4.1, we could try to make more emphasis on the motivational issues inherent in the application.

From the analysis of our results, we also confirmed that there are strategies that are widely used by our learners: for example SQ18, the use of skimming and SQ38, related to having

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[183] In an article on learning validation practices throughout Europe, Colardyn and Bjornavold (2004:71) argue that formal learning is that which happens within a structured and organized context which is normally designed for the purpose of learning, and which normally leads to some kind of certification as is the case of, for instance, formal educational institutions; whereas non-formal learning happens in activities that are not normally exclusively designed for learning although it is an embedded goal. In both cases, learning is intentional on the part of the learner. However, in the case of informal learning, this is thought to, normally, happen accidentally. Informal learning is unstructured and not organized, and it does not commonly lead to certification.

goals when learning English. These strategies also obtained better results in the final application, which further emphasized the fact that students perceived them as being relevant. There are other strategies, however, that learners scarcely use: for example, SQ6, asking learners whether they use flashcards to help them remember new vocabulary; SQ7, on physically acting out new words; SQ8, on reviewing English lessons; SQ23, related to making summaries of the information obtained through reading or listening; SQ42, on self-rewarding; SQ44, which asks learners whether they write down their feelings in a learning diary; and SQ45, related to sharing their feelings with someone when learning English.[184] These strategies received remarkably low results both in the initial and in the final data. We consider that an analysis of the strategies currently present in mainstream foreign language teaching, either overtly or covertly, could contribute to more effective remedial work. This could be done either by analyzing the course books currently being used, exploring teachers' beliefs and practices, or both.

While the use of ICT is becoming an inherent part of learning in general, and of foreign language learning in particular, we should also admit that it is a highly complex field as well. As we have seen in the current research study reported here, areas such as motivation, pedagogy, language learning, innovation, and computer science itself, among others, are intertwined in our approach. This makes it a fascinating topic, although an elusive one as well. Identifying what factors produce the best results when successfully combined will continue to be the aim of our endeavour as both teachers and researchers.

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[184] See Chapter IV for further details.

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RESUMEN

Resumen

I. Objetivos

En el presente estudio buscamos indagar sobre las claves que ayudan a que las formulaciones de enseñanza combinada presencial-distancia, basadas en el uso de Tecnologías de la Información y las Comunicaciones (TIC) consigan mejorar los procesos de aprendizaje en el contexto de la educación secundaria post-obligatoria. Siendo nuestra disciplina de trabajo la enseñanza-aprendizaje de lenguas extranjeras, nuestros esfuerzos irán dirigidos hacia el desarrollo de las destrezas implicadas en la competencia comunicativa del aprendiz. Por lo tanto, nos encontramos ante un estudio multidisciplinar, teniendo por un lado el uso de las TIC, y por otro el aprendizaje de la lengua extranjera. Sin embargo, al tratarse de disciplinas con un destacado grado de complejidad, deberemos limitar nuestras variables si pretendemos que nuestro estudio alcance resultados conmensurables.

Por esta razón, hemos decidido estudiar el efecto que el uso de entornos personales y corporativos de aprendizaje (PLE y CLE respectivamente según sus siglas en inglés) para el entrenamiento en estrategias de lectura. Este entrenamiento en estrategias pretende, a su vez, conseguir una mejora en la destreza de la lectura comprensiva, medido a través de pruebas estándar de lectura comprensiva. Dado los complejo de los factores que entran en juego en nuestro estudio, hemos decidido recabar información del alumnado de forma que podamos vislumbrar las distintas sinergias que se puedan producir durante el proceso que puedan suponer circunstancias favorecedoras o desfavorecedoras para los objetivos principales del estudio actual. Es por ello que hemos establecido las siguientes preguntas de investigación:

- ¿Se produce una mejora en la experiencia de aprendizaje del idioma del alumnado con el uso de un entorno corporativo de aprendizaje en un modelo combinado de enseñanza en el contexto de un segundo curso de secundaria obligatoria?
- Después que aplicar un entorno corporativo de aprendizaje, ¿el alumnado lo percibe como un medio de aprendizaje relevante?
- ¿Se produce una mejora de la lectura comprensiva en el alumnado de segundo curso de enseñanza secundaria post-obligatoria con el entrenamiento explícito en estrategias de lectura a través de un entorno corporativo de aprendizaje?
- ¿Se produce una mejora en la percepción de uso de las estrategias de lectura después de que se realice un entrenamiento explícito en estrategias de lectura?

Con el fin de encontrar una respuesta a estas preguntas, fundamentada en datos empíricos, comenzamos nuestro estudio. Para conseguir tal fin, procedemos a investigar en profundidad tanto la literatura relacionada con el uso educativo de la Tecnología de la Información y las Comunicaciones, como de los estudios actualmente accesibles sobre la lectura y las estrategias de lectura. Esperamos aportar datos empíricos al corpus científico.

II. Planteamiento y Metodología

Durante una de mis primeras experiencias como docente conocí a uno de los alumnos que más ha quedado en mi memoria. Se trataba de un alumno de educación secundaria obligatoria. Su nivel competencial en inglés era muy bueno. Sin embargo, no era esa en la competencia en la que más destacaba. Él se consideraba músico. Tocaba la guitarra eléctrica en un grupo que él mismo había creado y mantenía unido. Había conseguido, de entre los recursos del barrio, el grupo de música pudiese contar con un local para realizar sus ensayos. El grupo había acondicionado el local. Dentro del ecosistema escolar, había conseguido ser un líder positivo: todo el alumnado de su grupo clase lo respetaba y muchos lo admiraban. Incluso en español, su dicción era exquisita, y tenía los recursos suficientes para defender en público cualquier idea siendo correcto en el trato y hábil en el debate. Con este despliegue de recursos, cabría esperar que tuviese éxito en el entorno escolar, ya que, en si, suponen gran parte de las competencias que el propio sistema educativo explícitamente busca desarrollar en el alumnado. Sin embargo, no era así. En lo referente a la vida escolar se mostraba totalmente apático.

Ninguna materia del currículum le atraía. Normalmente estaba distraído en las clases, según los comentarios de los y las compañeras docentes. El centro no le proporcionaba nada de interés. No habiendo ningún estímulo externo, ya que no parecía que la familia lo presionase, ni el centro parecia disponer de recursos a tal fin, nuestro alumno no mostraba motivación intrínseca, como sí la desplegaba de forma muy satisfactoria cuando se trataba de cuestiones más cercanas a él, ni extrínseca. La actividad dentro del centro no representaba la actividad fuera, en la que tan bien se desenvolvía.

Como este alumno, el resto de alumnado se enfrenta todos los días a dos realidades distintas, una la del centro escolar y otra muy distinta la vida fuera de este. El sistema educativo actual se diseñó para el entorno existente en el siglo XIX y el alumnado no lo acepta como propio. Conceptos como el de conocimiento y el del mismo aprendizaje han cambiado. En el contexto de la sociedad del conocimiento, el conocimiento se ha convertido en una necesidad fundamental de todos los ciudadanos a nivel global (Drucker, 1999:6). Distintas instituciones a nivel mundial ya han reconocido esta realidad (OCDE, APEC). Sin embargo, el conocimiento necesario para el ciudadano de la sociedad del conocimiento no se encuentra encapsulado en los libros, ni tampoco en las instituciones educativas. Ya no es lineal ni se encuentra agrupado en disciplinas estructuradas de forma aséptica (se podría decir que nunca lo han estado). El aprendizaje, según Siemens (2006:27-28) es (i) caótico ya que es diverso y desordenado, sin estar empaquetado de forma clara; también es (ii) continúo, ya que se produce en el desarrollo de la actividad y la comunicación; se produce en el contexto de la (iii) co-creación, ya que existe una constante negociación de la creación de conocimiento; es (iv) complejo ya que cualquier cambio en alguna de los nodos del sistema que conforma el conocimiento altera el propio sistema, siendo susceptible a los matices de los sistemas complejos adaptativos; asumiendo que ningún individuo en el sistema dispone de todo el conocimiento, el sistema convierte al aprendizaje en un proceso de (v) especialización conectada; y por lo tanto vivimos en una constante situación de (vi) certeza suspendida, ya que sólo conocemos en parte y de forma temporal, por lo que tenemos que desarrollar la habilidad de la tolerancia ante la ambigüedad y la falta de certeza.

Por lo tanto, tanto el concepto de conocimiento como el de creación de conocimiento han cambiado. En la actualidad se utiliza el concepto de 'ecologías de aprendizaje' para describir los entornos de aprendizaje: el conocimiento, como las esporas, crece como fruto de la

interacción y colaboración entre los individuos que forman parte del sistema (Looi, 2001:14; Siemens, 2006:39). Otro ejemplo lo proponen Nonaka et al. (2000) en su descripción de la actitud que debe tener el entorno empresarial hacia el conocimiento. En este caso, se plantea que las empresas, a través del proceso de creación de conocimiento no sólo modifica a la propia empresa, sino que acaba también modificando el entorno a través de la interacción con él. El uso de esta metáfora biológica, dentro de teorías más amplias de Sistemas Complejos Adaptativos, se utiliza para describir la creación de conocimiento, tanto en la sociedad en su conjunto, como dentro de grupos específicos.

Esta naturaleza compleja del proceso de creación de conocimiento no encaja dentro de un sistema basado en el uso tradicional de exámenes, ni en un calendario estricto en donde el alumno es forzado a aprender en base a una estructura horaria inflexible. Por lo tanto, el contexto del aula se puede decir que ha dejado de proporcionar el contexto idóneo para que se produzca el aprendizaje entre el alumnado de nuestra era. De hecho, se podría defender que el aula no sólo no ayuda sino que dificulta el propio proceso de desarrollo del alumnado, dependiendo del tipo de metodología que el docente, o el entorno, incorpore. Hemos de encontrar una salida a esta situación que encontramos en el contexto de la enseñanza formal a nivel global. Autores como Fitzpatrick and Davies (2003:4) reclaman que se produzca un cambio en los paradigmas docentes, en donde los roles del aprendiz y el profesor adquieran nuevas dimensiones, garantizando que, a través de la interacción y la colaboración, saquemos partido a todas las posibilidades que nos brindan las tecnologías de la información y las comunicaciones. Piden (ibid.) que el o la docente se acerque al alumnado más como un guía y mentor en el procesos de aprendizaje, adquiriendo al mismo tiempo el rol de aprendiz en lo referente al uso de los medios, convirtiéndose así en modelo a seguir.

Esta visión de la tecnología como herramienta clave en el proceso de creación del conocimiento y de aprendizaje ya está presente en las políticas de instituciones internacionales como la UNESCO que afirma (UNESCO, 2003:2) que se debe relacionar su uso con la garantía de acceso al conocimiento y al reconimiento de éste como la fuerza más poderosa de la sociedad actual, en sus dimensiones política, social, cultural e institucional del desarrollo, fundamentadas todas ellas en los derechos humanos. Debemos ser conscientes de la innumerable cantidad de herramientas que la tecnología actualmente nos brinda para hacer frente a la globalización del conocimiento, dado que las fronteras impuestas por las aulas

tradicionales ya no son capaces de proporcionar una respuesta eficaz. Los recursos puestos a disposición del aprendiz a través de la web 2.0 facilitan la interacción y el trabajo colaborativo, en la forma de redes sociales por ejemplo, que garantizan fácilmente el contacto de personas con los mismos intereses. Otros ejemplos de este tipo de herramientas serían los bookmarking sociales, la edición de textos y hojas de cálculo de forma colaborativa, los blogs, y todo ello de manera extremadamente fácil y a ningún o muy bajo coste.

En el caso de la presente tarea de investigación, nuestro trabajo busca encontrar el punto de encuentro entre las nuevas formas de ver el conocimiento y el aprendizaje, el uso de la tecnología de la información y las comunicaciones y el aprendizaje de la leña extranjera, de forma que podamos vislumbrar los cambios que se demandan. Por lo tanto el presente esfuerzo investigador debe tener, por un lado, una doble vertiente relacionada directamente con el uso de la tecnología en general, y las tecnologías de la información y las comunicaciones en el entorno educativo. Pero por otro lado debe garantizar una sólida base en el campo de la enseñanza y el aprendizaje de las lenguas estranjeras, siendo conscientes, sin embargo, de que en ambas disciplinas es imposible realizar un trabajo que sea mínimamente generalizable, dada la complejidad de ambas disciplinas. Con el fin de que nuestro trabajo sea factible, circunscribiremos el enfoque al uso de entornos personales de aprendizaje para entrenar al alumnado en el uso de estrategias de lectura como forma de constatar la utilidad de éstas en la mejora de su competencia lectora en una lengua extranjera.

Partimos de la base de que la inclusión de la tecnología en el entorno educativo siempre ha constituido un tema central en el debate educativo. Desde la introducción de la pizarra como recurso en el aula, hemos visto cómo las instituciones competentes en materia educativa han presionado para que los centros adopten esta nueva tecnología y el profesorado se forme en su uso, enarbolando siempre lo imprescindible de las ventajas que aportan. Existen innumerables estudios que avalan el uso de tecnología en el entorno educativo como forma de optimizar el esfuerzo implicado en el proceso de enseñanza aprendizaje (Gottschalk, 1965:90; Shaw, 1961:152; Fallahkhair et al, 2004:4337). Sin embargo, también existen voces Tyack and Cuban, 1995:121; Cuban, 2001:12-13; Macaro et al, 2012:26-27) que advierten de la escasez de evidencias empíricas de los beneficios que aportan las tecnologías en el desarrollo de los resultados en el contexto de la educación, debido a factores que sí tienen una incidencia crítica en ese desarrollo, como son, por ejemplo, las especiales dificultades que conlleva la labor

docente, como es la preparación de clases, la atención a la diversidad de necesidades, y otra serie de factores para lo que la tecnología, per se, no aporta soluciones. El principal argumento para esta forma de percibir el uso de tecnología en el entorno educativo es el hecho de que su implantación muy pocas veces parte de las necesidades detectadas por los agentes implicados en el proceso educativo, sino de una mera moda, o de afanes comerciales.

El término tecnología aplicado a la educación, como ya hemos visto abarca desde el uso de la pizarra en el entorno del ala en términos generales, como, por ejemplo en el manual de Bumstead (1841), al uso de los grabadores de video en el aula de lenguas extranjeras en el estudio de Farmer (1987:31). No obstante, no cabe duda que la inclusión de tecnología que podríamos considerar más significativa en la enseñanza de idiomas ha sido el ordenador. Ésta ha dado lugar a todo un campo de investigación por derecho propio: Computer Assisted Language Learning (CALL), o Aprendizaje de Lenguas Asistido por Ordenador. Desde los inicios de CALL hasta ahora, ha habido una constante evolución de los usos para los que se han puesto los ordenadores. Esta evolución ha ido, como es lógico, en paralelo con la evolución de los dispositivos disponibles en el mercado.

Una parte importante del esfuerzo investigativo del CALL se ha basado en el estudio y su consiguiente descripción, de esta evolución. Aunque hay varias tendencias, sí que existen alguno modelos que describen esta evolución que han obtenido una mayor aceptación que el resto. Warschauer y Healey (1998:57-58) establecieron una distribución en tres períodos principales, que se ha convertido en referente hasta el día de hoy. Esta distribución establece que, en los inicios, entre los años 60 y 70, el uso que se hacía de los ordenadores para el aprendizaje de idiomas respondía a un objetivo 'conductista.' El siguiente periodo, que abarcaría las décadas de los 70 y 80, el uso que se hacía del ordenador se conocería como perteneciente a la fase comunicativa, influenciado por la corriente 'cognitivista' de pensamiento. La fase final sería la que va desde la década de los 90 hasta la actualidad, y sería conocida como la fase integradora, influenciada por una perspectiva socio-cognitiva. Aunque se han llevado a cabo enmiendas a esta distribución (e.g. Bax, 2003), el constructo generado por Warschauer y Healey (1998) sigue siendo referente para muchos estudios (e.g. Macaro et al.:2). En cualquier caso, existe casi unanimidad al reconocer que la tendencia del uso del ordenador debe ser una integración en el proceso de enseñanza y aprendizaje del idioma. Es decir, el uso de este tipo de dispositivos debería formar parte de la actividad diaria que forma parte

intrínseca del proceso de aprendizaje, convirtiéndose en un medio para conseguir el aprendizaje, y no un fin en si mismo.

Esta evolución hacia un uso más integrado de las Tecnologías de la Información y las Comunicaciones (TIC) se podría enmarcar en una visión más abierta del conocimiento además de conllevar unas ciertas implicaciones en el proceso de enseñanza y aprendizaje. Al examinar la literatura relevante relacionada con el uso de las TIC a lo largo de los años hemos visto que existen muchos usos que representan una metodología en donde el profesor o la profesora son el centro del proceso de enseñanza-aprendizaje, relegando al aprendiz a un papel de reproductor o consumidor de lo que se le alimenta. Esta tendencia está presente en el uso de los ordenadores para la realización de ejercicios de respuesta múltiple, o para reproducir estructuras fijas previamente diseñadas por él o la docente. Aunque este tipo de usos de las TIC, todavía presentes en el campo de la enseñanza del idioma, no es desdeñable del todo, ya que puede llegar a cumplir objetivos en relación a promoción de la corrección, por ejemplo, sí que existe ya una voz casi unánime entre el profesorado y el mundo de la investigación, para que se evolucione hacia un uso más centrado en las necesidades comunicativas del alumnado. Estas necesidades coinciden con la evolución del propio proceso de aprendizaje en si, además del perfil del trabajador, dentro de una sociedad totalmente diferente a la del siglo XIX, que es donde surgió el sistema educativo actual.

En esta línea, Peter Drucker (1999) formula su ya universalmente aceptada descripción de la sociedad del conocimiento y del trabajador del conocimiento. Cuando el trabajador manual, basado en procesos de producción mecanizados, en donde su nivel de decisión era prácticamente nulo, se convierte en el trabajador del conocimiento, el ciudadano asume una serie de compromisos tácitos en cuanto a su proceso de aprendizaje y posterior producción dentro del entorno de esta nueva sociedad. Cuestiones como la toma de decisiones en el momento de la producción, la constante innovación del trabajador, y por lo tanto, su compromiso ante el proceso de aprendizaje y ante unos estándares de calidad y no de cantidad, lo convierten no en un coste en el proceso de producción, sino como un capital, ya que es propietario de los medios de producción en si (Drucker, 1999:10).

Estas nuevas características tanto del conocimiento como de los procesos de creación y diseminación del mismo también han sido el objeto de estudio de autores como Siemens (2006)

o Nonaka y Konno (1998). En ambos casos, se identifican las distintas sinergias que se deben producir para que el conocimiento, dentro de una sistema complejo, llegue a producirse, pero para que también llegue a enriquecer al propio sistema, se trate éste de un grupo de individuos con intereses comunes, o de la sociedad en general, entre otras posibilidades. El individuo deja de ser, en todos los modelos, un simple consumidor pasivo de información, para convertirse en un nodo fundamental de un sistema complejo que crea, disemina, aplica, evalúa y modifica el conocimiento, y por consiguiente la realidad que le rodea.

No obstante, aunque esta nueva concepción del proceso de creación de conocimiento y de aprendizaje es ya una realidad asumida por la mayoría de los sectores productivos, el propio sistema educativo no acaba de asumir también este cambio y promover reformas en sus propios mecanismos. Es por ello que se produce, a nivel global, un llamamiento para que los procesos formales de aprendizaje reflejen estos cambios (Zhang et al., 2004:2; Siemens, 2006:3; Solomon y Shrum, 2007:3) en todos los niveles educativos. Conceptos como el aprendizaje 'justo a tiempo' (just-in-time learning), la necesidad de incorporar el aprendizaje informal dentro del contexto de enseñanza formal como forma de promover que el alumnado tome un papel activo en su propio proceso de aprendizaje, están en el corazón de los debates educativos del momento.

Por supuesto, en estos debates el uso de las Tecnologías de la Información y las Comunicaciones se plantean como un factor crítico en este cambio. En este sentido, deberemos conocer cuáles son las formulaciones tecnológicas a las que tenemos acceso, pero también cuáles son las expectativas que tendríamos que tener, basándonos en los resultados obtenidos en los distintos estudios empíricos en el ámbito de nuestro proyecto científico. En todas la formulaciones, no obstante, que contemplan la introducción de la tecnología descrita en este estudio, buscan la necesaria introducción de las vertientes formal e informal en el desarrollo del aprendizaje. Esta combinación viene a garantizar no sólo cierta garantía de mejora en la motivación del alumnado, de la que hablaremos en secciones posteriores, sino que también es una forma de reflejar los procesos naturales de aprendizaje, y de garantizar que se forma al alumnado a ser más autónomos en el aprendizaje, y por consiguiente a producir aprendizaje a los largo de la vida. Así, deberemos explorar el uso de la web 2.0, en términos generales, y sus varias formulaciones más concretas. Pero deberemos también lanzar nuestra mirada hacia

dispositivos que, hoy por hoy, prometen revolucionar el concepto de aprendizaje, como es el caso de los dispositivos móviles, entendidos en su acepción más amplia.

En lo que se refiere a estudios empíricos sobre el uso del aprendizaje informal dentro del contexto de la enseñanza formal creemos que el proyecto descrito por Fenichel y Schweingruber (2010) es un buen ejemplo. En su publicación, describen el uso de un juego en tres dimensiones en donde el alumnado tiene que adoptar el rol de lobo dentro de una manada. El objetivo del juego es conseguir sobrevivir siguiendo las pautas proporcionadas por el profesorado en cuanto a cuáles son las condiciones en las que vive el lobo en el Parque Nacional de Yellowstone. Una de estas pautas tiene que ver con las costumbres de caza. El alumnado se ve aplicando en primera persona estas pautas a través de un juego. La voluntariedad en la participación en este proyecto por parte del alumnado lo convierte en un ejemplo de enseñanza informal, según aseveran sus autores.

La web 2.0, término acuñado por O'Reilly (2005), representa mejor que ninguna otra formulación tecnológica hasta ahora, el nuevo modelo complejo de producción de conocimiento: en un entorno caótico, como es en lo que se ha convertido internet, surgen de la nada nuevas herramientas colaborativas que permiten al usuario interactuar con la información que se le proporciona, ayudando éste a enriquecer la propia información que el recurso proporciona (adaptado de Downes, 2010:29). Como vemos, esta definición enlaza perfectamente con el concepto que veíamos anteriormente de cómo los individuos ayudan a crear, modificar y difundir el conocimiento. Y es que la web 2.0 ha crecido gracias a que es el propio usuario quien crea. De un papel pasivo, de consumo, el la web 1.0, el usuario puede crear su propio blog como forma de compartir información relativa a su pequeña empresa, o su experiencia en el uso de un producto en particular, o sus propios conocimientos en relación a un campo de interés en particular. Las posibilidades son prácticamente infinitas. Además el usuario puede crear sus propias taxonomías de páginas que ha visitado, y añadirles comentarios, etiquetas sociales que las identifican, con el fin de volver a encontrarlas fácilmente, o con el fin de compartirlas con otros usuarios con los que comparte también intereses. Por consiguiente, el potencial de la web 2.0 para con los procesos de aprendizaje en el entorno escolar es enorme.

Este potencial se ha intentado medir en estudios empíricos, tanto en el ámbito de primaria y secundaria, que son los campos más cercanos a nuestro estudio, como en el ámbito

universitario. De ahí que se hayan confirmado algunos de los beneficios de sus características. Por ejemplo, Tay et al. implementaron blogs y wikis con alumnado de primaria, consiguiendo que éste mejorase sus niveles de motivación, aunque fue difícil conseguir hacer un seguimiento exhaustivo del uso que el alumnado hizo de los recursos. Yuen y Yan (2010) también llevaron a cabo un estudio empírico, esta vez con alumnado universitario, que también arrojó resultados prometedores. Estos son sólo algunos ejemplos de los referidos en nuestro estudio, que ayudan a dibujar un futuro esperanzador.

Esta maleabilidad de la web 2.0 nos permite personalizar un sin fin de recursos. Dentro de las posibilidades que nos proporciona, esta la de obtener información de las páginas que nos interesan y añadirla a nuestra propia página de forma automática (agregadores RSS de contenido); construir sitios web con distintos niveles de acceso, de forma que podemos definir qué personas pueden conectarse y qué información le vamos a permitir ver; conectar de forma sencilla con las persona que comparten nuestros propios intereses, entre otras muchas posibilidades. Esta naturaleza versátil ha impulsado otro concepto fundamental en nuestro proyecto: entornos de aprendizaje. Un usuario, o una institución, con unos intereses determinados, puede elegir un conjunto de herramientas que le permita tener acceso más eficiente a la información que le es útil o necesaria, puede elegir a las personas con las que va a interactuar en las redes sociales, o de las que va a obtener información que considera relevante. Este entorno no tiene por qué tener una constitución física diferente, aunque también se podría, sino que es más un concepto o un uso determinado. Por ejemplo, un usuario podría utilizar un recurso como Netvibes para ordenar todos sus referentes, de forma que sólo tiene que acceder a su cuenta en este sitio web, para tener todo su entorno de aprendizaje accesible. Sin embargo, otro usuario podría simplemente utilizar la utilidad de marcadores en su ordenador para acceder a los mismos sitios. Una institución, a su vez, podría decidir que su alumnado, o su clientela, debe acceder a una serie de páginas, aglutinadas en un sólo acceso o en varios, que conforman su identidad en internet. En los primeros casos estaríamos hablando de entornos personales de aprendizaje, y en los segundos de entornos corporativos de aprendizaje (PLE y CLE respectivamente, según sus nombre en inglés).

Este tipo de entornos potencialmente garantizarían que el usuario tiene el control sobre su propio aprendizaje. El aprendiz, desplegando un alto grado de autonomía, aprende cuándo y dónde quiere o lo necesita. El ejemplo más conocido de este tipo de entornos de aprendizaje,

dentro de un estudio empírico, es el descrito por Mitra y Dangwal (2010) para alumnado comprendido en edades propias de primaria y secundaria. En su estudio, niños y niñas de entre diez y catorce años, que viven en barrios muy desfavorecidos, son estimulados para que aprendan por sus propios medios, utilizando de forma autónoma acceso a internet y juegos, a través de un ordenador facilitado para el pueblo ('whole-in-the-wall'). Sólo con el apoyo emocional de un adulto, sin conocimientos específicos en la materia, estos aprendices consiguen resultados parecidos, o mejores, que alumnado de barrios pudientes, y con profesorado especializado. En el caso de modelos aplicados en instituciones académicas tenemos el ejemplo que describe Shieh (2012). En un centro de secundaria, se aplica el Technology-Enabled Active Learning (TEAL) de la MIT en la enseñanza de ciencias y matemáticas. El diseño consistía en una combinación de lecciones, recursos de acceso discrecional, y herramientas de comunicación internas. Dentro de este entorno se promovió que el alumnado participase de forma autónoma en distintos debates, al mismo tiempo que iba completando las tareas asignadas por el profesorado. El grupo experimental, que era el que utilizaba este diseño, conigue, al final del proceso, una mejor consecución de los objetivos, concluyendo los autores que se consigue mejores resultados a través de este tipo de modelos. Existen otros ejemplos que también demuestran haber conseguido resultados positivos en este tipo de modelos, con lo que podemos concluir que existen beneficios, al menos en determinados contextos, en el uso de entornos de aprendizaje en línea.

Estos estudios vienen a convenir que existen datos concluyentes que demuestran que la aplicación de modelos en donde el alumnado utiliza entornos digitales consigue una mejora en el proceso de enseñanza aprendizaje en el contexto de la enseñanza formal. Ahora bien, nosotros partimos de la base de que en la enseñanza formal muy pocas veces se tiene la posibilidad de diseñar un modelo puramente virtual o en línea. Por lo tanto, nuestra opción gira en torno a modelos que mezclan la enseñanza en línea con la enseñanza tradicional en el aula. Este tipo de formulaciones mezclan lo mejor de los dos mundos, si el diseño se realiza de forma adecuada: tenemos la expansión que proporciona el uso de internet y las posibilidades de interacción y cooperación que garantiza el uso de la web 2.0, y la riqueza de la sociabilización y la inmediatez del aula física.

Aunque hemos hablado de los beneficios de la web 2.0 y de los resultados obtenidos en modelos muy abiertos, representados en los entornos personales y corporativos de aprendizaje,

hoy en día, el modelo de enseñanza en línea más habitual en los distintos niveles educativos es el modelo que utiliza Sistemas de Gestión del Aprendizaje (LMS, según sus siglas en inglés). Una definición de LMS podría ser programas escalables, accesibles a través de navegadores web, que hospedan iniciativas formativas y que facilitan la comunicación entre los usuarios de forma síncrona y asíncrona. Este tipo de programas, además, facilitan la gestión de altas y bajas de usuario de forma muy intuitiva, añadiendo la baza de que el o la docente puede hacer un seguimiento cercano de los movimientos que el aprendiz realiza dentro de este entorno, pudiendo guardar información detallada de las notas que va obteniendo en los ejercicios que realiza, los comentarios que publica en los foros y mensajes privados, el número de veces que ingresa en la plataforma y el tiempo que permanece. Además, como es en nuestro caso, permite que el usuario avanzado implemente mejoras en la aplicación para garantizar que la plataforma cumpla los objetivos que se esperan conseguir (módulos que añaden mejoras al programa base).

Dentro de todos los posibles programas disponibles en el mercado hay distintos estudios que avalan que moodle (modular object-oriented dynamic learning environment) es el que proporciona una mejor combinación de características. Así, el hecho de que sea un programa abierto y gratuito garantiza la escalabilidad dentro de una institución educativa, tanto en términos económicos como pedagógicos, ya que el propio usuario, habiendo el necesario proceso de aprendizaje, puede conseguir un grado de personalización del diseño muy alto, sin costes excesivos, que pudiesen hacer peligrar su futura implementación generalizada. Sin embargo, consideramos que su mejor baza es la ingente cantidad de instituciones, en todos los niveles educativos, que han sancionado su idoneidad con su implementación a gran escala. Según hemos comprobado en la literatura a la que hemos accedido se trata de la formulación más utilizada a nivel internacional.

Un ejemplo de este tipo de formulaciones es el descrito por Zarkoskie (2010), quien estudia el efecto del uso de los foros dentro del entorno de moodle en el aumento de la participación del alumnado. Así, su hipótesis de que el alumnado mejoraría si se utilizan foros de moodle quedó confirmada. Cuestiones como la importancia que el profesor aplique a esa participación, así como el seguimiento que el profesorado realice de los movimiento en la plataforma a través de los datos que moodle proporciona parecen tener vital importancia.

La mejor garantía, no obstante, de que el uso de modelos que mezclan la enseñanza presencial con la enseñanza en línea es la confirmación a través de estudios científicos. Staker (2011), por ejemplo proporciona una descripción de una serie de instituciones que demuestran estar obteniendo resultados positivos usando este tipo de modelos. Este estudio describe ejemplos de centros que lo utilizan para la práctica de matemáticas y para lenguas extranjeras. Hay otras instituciones que sirven un modelo pre-diseñado para que los centros lo implementen como la sección en línea de su modelo combinado. Existen modelos que sostienen haber conseguido mejores resultados en el distrito educativo con el uso de la plataforma moodle durante una gran parte de la jornada escolar. Obviamente, en nuestra investigación, garantizamos un mayor detalle en la descripción, que confirma los beneficios del uso de modelos combinados de enseñanza en línea y presencial.

Por lo tanto, cualquier fórmula planteada hasta ahora ha conseguido demostrar que existen los suficientes datos como para garantizar que su aplicación puede llegar a conseguir resultados positivos. Es por ello que desde el profesorado y los investigadores existe un ímpetu por producir cambios en la corriente principal en educación. En los últimos tiempos, este empuje, tanto de instituciones públicas como privadas, se ha orientado hacia la generalización del uso de dispositivos móviles para el aprendizaje formal e informal, como forma de llevar la generalización de la enseñanza en línea, o la combinada, a las distintas instituciones educativas, o para garantizar el acceso de toda la ciudadanía a modelos de aprendizaje durante toda la vida o de aprendizaje en el momento justo. Este tipo de aprendizaje ha dado lugar a una disciplina por derecho propio: aprendizaje ubicuo (u-learning).

La generalización del uso de dispositivos móviles por un porcentaje ingente de la población mundial ha abierto un mundo de posibilidades para su uso en infinidad de contextos. Hoy en día el teléfono móvil, por ejemplo, nos permite realizar innumerables actividades antes impensable, desde orientarnos en nuestra periplo por las ciudades, hasta pedir comida en un establecimiento que sirve comida para llevar. Este características de los dispositivos móviles son las que le otorgan una posición privilegiada para el fomento del aprendizaje ubicuo. Por lo tanto, no estamos hablando de un modelo necesariamente distinto a los expuestos anteriormente, sino la posibilidad de implementar los modelos anteriores independientemente del lugar en donde nos encontremos. No obstante, algunas de las características técnicas de estos dispositivos sí que nos añaden unas pequeñas mejoras a los distintos modelos expuestos.

Por ejemplo, la capacidad para la geolocalización del dispositivo y de todo lo que se haga con él permite combinar cualquier actividad de aprendizaje con la Realidad Aumentada (AR, por sus siglas en inglés): un simple texto expuesto en los pasillos de un instituto de enseñanza secundaria puede llevar al alumno a desplegar una serie de recursos que el profesor o la profesora haya previamente definido, con las repercusiones que eso pueda tener para la creatividad del alumnado, su autonomía, su estímulo.

Una de las vertientes que más potencialidad despliega es la capacidad que tiene la introducción de dispositivos móviles en la corriente principal en la enseñanza formal en términos globales es la capacidad que tiene para disminuir la brecha digital que existe entre los distintos países. Hasta hoy en día existen diferencias más que considerables entre los presupuestos que dedican a inversión en tecnología los distintos países de nuestro entorno. Sin embargo, con la introducción de políticas como las ejemplares BYOD (que responden a sus siglas en inglés Bring Your Own Device) en Estados Unidos, en donde se promueve que el alumnado venga al centro con sus propios dispositivos, generando el centro educativo sólo la infraestructura necesaria para promover la conectividad, el salto cualitativo en modernización tecnológico produciría, de la noche a la mañana, un avance considerable.

Aunque hoy por hoy no existen políticas educativas a nivel global sobre u-learning, sí que existen países de nuestro entorno que ya empiezan a generar un marco normativo en donde situar el avance imparable de esta tecnología. De hecho, ya podemos encontrar directrices europeas en donde se ofrecen pautas y se promueven avances en el uso de tecnología móvil en el contexto de la enseñanza formal, y como forma de mejorar las perspectivas de la población en términos de posibilidades para el aprendizaje a lo largo de la vida, que como hemos visto anteriormente, tienen una importancia primordial dentro del contexto de la sociedad del conocimiento en donde ya vivimos.

Pocos son los estudios que se han realizado utilizando los dispositivos móviles para el aprendizaje formal. Sin embargo, los que se han realizado obtienen resultados muy prometedores. Las experiencias van desde la práctica rutinaria de gramática, hasta el uso de los medios de comunicación de los que disponen los dispositivos móviles. En todos los casos hay dos cuestiones fundamentales que se observan. Por un lado la capacidad para generar actividades relevante y por consiguiente aumentar la motivación del aprendiz, pero por otro

lado también demuestran la necesidad del aprendiz de ser instruido en su uso, dado lo escaso de sus conocimientos del dispositivo en sí, pero también de su escasa autonomía e iniciativa.

Un ejemplo de estudio empírico de uso de u-learning en un contexto preuniversitario es el descrito por Kerawalla *et al.* (2007). En su estudio, dan cumplida cuenta de la utilición de tablet PCs en el contexto de la enseñanza de matemáticas para alumnado de cinco años. El proceso consistía en utilizar el software 'Homework' para que el alumnado trabajase los mismos contenidos, de forma coordinada en el centro y en casa, cumpliendo así con el requisito de ubiquidad de la formulación del u-learning. El resultado sobre todo arroja mejoras en el entusiasmo, confianza, responsabilidad e independencia en el desarrollo de los procesos numéricos.

No obstante, como plantean muchos autores, la tecnología sólo es un medio. Nunca se debe plantear la tecnología como un medio en si mismo. Ésta debe cumplir unos objetivos ulteriores. En nuestro caso, buscamos confirmar que el uso de esta tecnología, según el diseño realizado por nosotros, y que después describiremos, aumenta las posibilidades del alumnado de secundaria post-obligatoria para mejorar su aprendizaje del idioma. Sin embargo, el aprendizaje del idioma, como dijimos antes, es demasiado complejo. El objetivo de articular un estudio científico que dé respuesta a todos los matices presentes en el proceso de aprendizaje de un idioma es inalcanzable. Por lo tanto, nos hemos limitado a comprobar si el alumnado mejora su competencia lectora a través de la formación explícita en estrategias de lectura utilizando un entorno corporativo de aprendizaje que combina un LMS y un portfolio electrónico.

Debemos definir, por tanto, además de cuáles son las posibilidades tecnológicas de las que disponemos, como hemos realizado anteriormente, qué entendemos nosotros por lectura y estrategias de lectura, y qué se encuentra en la literatura científica sobre esas dos disciplinas tan extensas. Empezaremos estableciendo el por qué de elegir la lectura, además de qué modelos existen para su formación. Seguiremos estableciendo qué entendemos por estrategias, y más específicamente estrategias de lectura, y la razón de escoger la formación en estrategias para la mejora de la lectura.

Aunque el aprendizaje del idioma en enseñanza secundaria post-obligatoria debe implementar medios para garantizar que el alumnado desarrolle una competencia comunicativa global que incluya todas las destrezas, la destreza de reading goza de una importancia

estratégica a la hora de garantizar el acceso del alumnado al conocimiento, no sólo en el proceso de aprendizaje dentro del nivel educativo que nos ocupa, sino una vez terminado éste. En la literatura podemos encontrar muchos autores que avalan el hecho de que la lectura, como forma de acceder al conocimiento no sólo en la lengua extranjera, sino también en la lengua materna, cumple una función crítica a la hora de formar a aprendices autónomos. Su naturaleza instrumental, dentro y fuera del sistema educativo, nos anima a restringir nuestro estudio por esta vía.

Ahora bien, ¿qué entendemos por lectura? Todos los autores coinciden en la complejidad de los procesos que se ponen en marcha es esta destreza, pero también de su definición. Hay unanimidad en describir el proceso de lectura no como una destreza pasiva sino como una que conlleva la implicación activa del lector. Existen tres grandes corrientes en la disciplina que estudia la lectura como destreza. Por un lado se encuentra el enfoque bottom-up (de abajo hacia arriba) que defiende que el proceso de lectura implica que el lector identifique los elementos más pequeños de la lengua, y poco a poco va construyendo los elementos mayores, con la combinación de los anteriores, hasta que llega a entender los elementos discursivos y de contenido. Sin embargo, existe también un modelo de descripción del proceso de lectura que avala el proceso contrario (top-down o de arriba hacia abajo): el lector primero percibiría aquellos elementos discursivos y de contenido que le son familiares, contrastados con sus conocimientos previos, y luego empezaría a decodificar aquellas unidades lingüísticas menores, no de forma individual, sino en grupos de unidades, hasta llegar a los elementos menores. Más recientemente, no obstante, se han producido desarrollos descriptivos que defienden un modelo que combinaría características de estas dos corrientes.

Uno de estos modelos de compromiso es la teoría de esquemas, por la cual se defiende que, es este caso, el lector tiene una serie de concepciones mentales pre-establecidas que utilizará para contrastarlas con el texto al que se enfrenta, y así producir la comprensión. Estos esquemas incluirían tanto los elementos discursivos, como los contenidos, como los morfológicos. Por lo tanto, son las expectativas del lector las que ayudan en la comprensión del texto. Estas expectativas no son exclusivas de los individuos, ya que son el resultado de la interacción de este con su entorno, por lo que el bagaje cultural en el que ese individuo ejerza su actividad va a marcar sus expectativas. Esta teoría conlleva una serie de serias implicaciones cara a las repercusiones que pueden tener los diferentes constructos culturales en la activación

de estos esquemas a la hora de leer un mismo texto. De ahí que, por ejemplo, un lector procedente de un contexto islámico no entendería lo mismo en una fábula religiosa que un lector de un contexto cristiano.

Carrel (1987:476) y Casanave (1988:297) incluyen el esquema de las estrategias dentro del conjunto de esquemas que el lector posee. Se considera que se puede predecir quién va a desarrollar una buena habilidad de lectura dependiendo de la estrategias que sea capaz de desplegar. Algunas de estas estrategias que forman parte del esquema podrían ser (i) clarificar el objetivo de la lectura antes de iniciarla, (ii) identificar aspectos importantes del texto, (iii) o realizar actividades compensatorias cuando se detecte un fallo en la comprensión.

Estos modelos teóricos han traído consigo también los consiguientes estudios empíricos que parecen confirmar la relevancia de la teoría de los esquemas. Así, por ejemplo, Carrell (1987) realizó un estudio en donde afirma haber demostrado que lectores de diferente contexto cultural, cuando se les enfrenta a un texto en donde el contenido no responde a ningún esquema familiar, pero la forma sí, tienen mayor dificultad para alcanzar niveles críticos de comprensión que cuando el esquema de contenido es conocido pero el de la estructura no. De esta manera se confirma la existencia diacrítica de ambos esquemas.

En esa misma línea, Bell (2011) explora la influencia en el proceso de lectura de la educación cultural recibida. Estudiando un número determinado de inmigrantes australianos procedentes de Tailandia, llegó a la conclusión de que el alumnado, por un lado, traía un bagaje común en términos de esquemas de lectura, que demostraban la relevancia de la teoría de los esquemas. Una vez terminado el periodo de estancia en el país de estos inmigrantes Bell volvió a confirmar la evolución de estos esquemas en la mayor parte del alumnado, que había sido participe de una cultura con otros esquemas.

Aunque no hemos realizado una descripción detallada de los modelos que hemos relatado en nuestra tesis, sí que creemos que hemos ilustrado lo suficiente la complejidad del proceso de lectura, y los ingredientes necesarios para su comprensión. De hecho, consideramos que el docente de lenguas, que se enfrenta a la ardua tarea de conseguir que su alumnado mejore su destreza, en este caso, de lectura, debe conocer qué implica la lectura, y tomar una decisión, con conocimiento de causa, en cuánto a qué modelo mejor refleja su experiencia. Esta decisión debe marcar el modelo metodológico que implantará en el aula con su alumnado. Ya

que existen varios paradigmas, el docente deberá sopesar los pros y los contras y tomar una decisión. Entre otros, nosotros procuraremos ejemplos de estrategias de enseñanza recíproca, en donde se produce un diálogo entre docente y alumnado. También consideraremos el uso de instrucción de idioma basada en contenido, en donde el alumnado utiliza el idioma como instrumento y no como objetivo en si: el alumnado tiene como objetivo conseguir acceder a unos contenidos de su interés.

Como hemos observado, dentro de los distintos paradigmas de estudio de la lectura ya aparece singularizado de alguna forma el uso de las estrategias de lectura y su entrenamiento en el aprendiz. Autoras de la importancia de Block (1986:485), entre otros muchos autores, establece las estrategias de lectura como un factor determinante para definir a un buen lector, además de su flexibilidad para aplicarlas dependiendo del contexto y los objetivos que se persigan. Oxford (1990:1), de vital importancia para nuestro estudio, pero que también ha supuesto un figura clave en el estudio de las estrategias, considera que las estrategias intensifican la producción en el aprendizaje del idioma y en su uso.

Una de las dificultades a la que nos hemos enfrentado en el presente estudio es el de establecer una definición de estrategia de aprendizaje en donde sustentarnos, ya que dentro de la disciplina que engloba el estudio de las estrategias no existe consenso en cuanto a qué es una estrategia. Sin embargo, sí que existen características sobre las que se ha llegado a un consenso, y que han supuesto la base de nuestro trabajo. Rubin (1975:43), todavía una de las referencias más usadas en el campo del estudio de las estrategias de aprendizaje, define estrategia como las técnicas o mecanismos que usa el aprendiz para adquirir conocimiento. Para Oxford (1990:8) las estrategias hacen que el aprendizaje sea más fácil, más rápido, más entretenido, más auto-dirigido, más efectivo y más transferible a nuevas situaciones de aprendizaje. Sin embargo no sólo la definición genera debate, sino que su taxonomía también ha despertado amplios debates y ha generad diversidad de ellas. Sin embargo, existen varias que han conseguido mayor consenso.

Entre las más aclamadas está la de Oxford (1990), que se ha convertido en referente para innumerables estudios. Esto ha proporcionado una ingente cantidad de datos empíricos que validan tanto esta taxonomía como los instrumentos que han partido de ella. En una tipología basada en seis tipos diferentes de estrategias, Oxford consigue una descripción exhaustiva de

las estrategias implicadas en el aprendizaje. Estas estrategias pueden estar referidas todas las destrezas del idioma, o sólo a algunas.

Existen innumerables estudios empíricos que avalan el constructo de estrategia en general, y la taxonomía de Oxford en particular. En la mayoría de los casos, estos estudios empíricos demuestran que el alumnado, tanto de primaria y secundaria, como del resto de contextos, mejoran su aprendizaje del idioma tras el entrenamiento en estrategias. Por ejemplo, Alfassi (2004:180) sostiene que consigue mejoras en la producción en lengua extranjera en el grupo experimental tras recibir formación utilizando enseñanza recíproca y explicación directa. El proceso que se sigue en este estudio es el de primero explicar abiertamente en qué consisten las estrategias en el grupo experimental. Esta explicación se realiza al mismo tiempo que se realizan actividades de lectura. Una vez realizada esta fase, el alumnado es agrupado y se le encomiendan tareas de lectura. El proceso de comprensión del texto se realizará en voz alta de forma que el alumnado en el mismo grupo comparte, alternativamente, las estrategias que utiliza durante la lectura.

En otro ejemplo, esta vez con alumnado perteneciente a niveles universitarios, Liu, Chen y Chang afirman haber conseguido resultados positivos al aplicar mapas de concepto. En su caso, utilizaron un programa informático para que el alumnado, mientras realizaba el proceso de lectura, fuese haciendo anotaciones sobre el vocabulario y los conceptos que se iban encontrando. Se hace hincapié, sobre todo, en las estrategias de monitorización de sus propios procesos. Afirman que se consigue disminuir, a través de esta metodología, las diferencia entre el alumnado con buenas destrezas de lectura al principio de la aplicación, y aquellos que empezaron teniendo destrezas a un menor nivel.

Una vez presentados los conceptos que juegan un papel fundamental en nuestro trabajo, tendremos que definir nuestro modelo, primero haciendo nosotros una elección de herramientas de trabajo, y después un diseño de formación en estrategias para el alumnado objeto de estudio. Tanto la elección de herramientas como el diseño se han llevado a cabo basándonos en una serie de factores relacionados con las características del alumnado que será objeto de nuestro estudio, así como unas características que definen el contexto en donde vamos a implementar el estudio. Así, habrá una serie de características en relación a la motivación y la destreza del

alumnado, que van a constreñir la amplia gama de herramientas de las que disponemos, y el contexto producirá una serie de factores que marcarán nuestras expectativas.

Una de las cuestiones que aparecen relacionada al uso de formulaciones abiertas de uso de TIC para el aprendizaje es la motivación. Este factor también tiene una relación estrecha con el aprendizaje del idioma. De hecho uno de los axiomas del aprendizaje de idiomas es que, dada la necesaria motivación, cualquier persona aprenderá una lengua. Sin embargo, la definición de motivación no es tarea fácil de acometer. Distintos autores aportan distintos ingredientes que nos han ayudado a completar nuestro concepto de motivación. Autores como Van Lier (1996:103-104) considera que motivación, en un aprendiz, incluye intencionalidad, afecto, o emoción, y esfuerzo. A estos ingredientes añade conciencia y elección en el caso de motivación intrínseca. Esta dicotomía entre motivación intrínseca y extrínseca también está presente, por ejemplo, en Ushioda (2008:21).

Aunque no es necesariamente aquel alumnado que despliega una motivación intrínseca el único que consigue los objetivos propuestos, ya que existen evidencias de que aquel que tiene una motivación extrínseca puede alcanzar los mismos objetivos, sí es necesario tener en cuenta cuáles son los factores que acercan o alejan de ese nivel de motivación al alumnado, con el fin de servir de estímulo, y no de disuasión al alumnado con nuestras decisiones. De hecho, Ryan y Deci (2000:61) establecen distintos grados de motivación que van desde la 'amotivación' hasta la motivación extrínseca, dependiendo de las sinergias que se generen en el proceso de enseñanza-aprendizaje, que muchas veces se escapan al control del docente. Uno de estos factores, que tiene una importancia crítica, es el control sobre el propio proceso de aprendizaje. El alumnado aumenta su motivación intrínseca en la medida que es capaz de controlar los distintos elementos que influyen en su propio proceso de aprendizaje. Obviamente, esto está estrechamente relacionado con la autonomía. Por ejemplo, un alumno o alumna percibirá que las recompensas externas, las amenazas, las fechas límite, la presión competitiva, son formas de controlar el proceso de aprendizaje y por lo tanto lo alejarán de los grados más altos de motivación intrínseca.

Dentro del concepto de motivación, el factor del contexto adquiere una importancia crítica. La interacción entre el alumnado y sus iguales, o con el profesorado, en el caso del contexto educativo, puede ser un factor facilitador, o de dificultad, para el desarrollo de la

motivación. Algunos autores consideran que la motivación del aprendiz de idiomas puede tener dos naturalezas, una que emana del propio individuo y otra que emana de la percepción que el aprendiz tenga de la tarea que debe desarrollar, en lo que inciden factores como la atmósfera de la clase, el profesor, el currículum, entre muchos factores.

Para conseguir el mejor contexto, en términos de motivación el docente o la docente puede jugar con los estímulos que proporciona al estudiante. Según Dörnyei (1994:280), el profesorado puede contribuir incidiendo el concepto de utilidad que el aprendiz tiene del aprendizaje de idiomas, o favoreciendo la mejora del autoconcepto que el alumnado tenga de si mismo. Como forma de otorgar más control al alumnado sobre su propio proceso de aprendizaje, el profesorado también puede promover la autoevaluación, aumentando así los índices de autonomía en el proceso de aprendizaje. Estudios entre el propio profesorado, revelan que el deseo y el entusiasmo, tanto en el alumnado como en el profesorado, son factores críticos.

La autenticidad es también un factor clave. Esta autenticidad se mide tanto en los materiales que se usan en el proceso de enseñanza-aprendizaje de un idioma (textos obtenidos de fuentes auténticas, por ejemplo), pero también en los contextos comunicativos que se diseñan. Esta característica, lejos de suponer un barrera insuperable para el aprendizaje por su posible dificultad para el aprendiz, mejoran la percepción de diversión, y además no dificultan el proceso de aprendizaje. Dentro del contexto del aula, o dentro del contexto de nuestro entorno corporativo de aprendizaje, podremos, por lo tanto, mejorar el estímulo del alumnado utilizando textos genuinos dentro de un uso auténtico (utilizando la terminología acuñada por Widdowson)

Otro aspecto que nos va a marcar el uso de nuestro modelo y diseño es la actitud del alumnado. Gardner (2003:157) sostiene que la actitud, aunque en menor medida que la motivación, también influye sobre el proceso de aprendizaje de un idioma. Cuestiones como el nivel de pericia del alumnado ante el uso de las TIC, o su actitud van a macar el posible resultado que obtengamos. Esta experiencia y la actitud van a venir definidas por una serie de factores que están influenciados por el contexto socioeconómico del alumnado. El hecho de que se usen TIC en el aula, de acuerdo a resultados obtenidos en estudios realizados, ya mejora la atracción del alumnado hacia las actividades de clase, la asistencia y la motivación, además de

mejorar las propias percepciones del alumnado sobre el propio proceso de aprendizaje. Sin embargo, este ímpetu inicial proporcionado por el uso de las TIC, debe mantenerse a lo largo de todo el proceso de enseñanza-aprendizaje.

Con respecto al uso de modelos abiertos de enseñanza, que son los que se representan en formulaciones en donde el alumnado tiene más libertad para elegir, la literatura está de acuerdo en que el alumnado debe ser capaz de desplegar un alto grado de autonomía y motivación intrínseca (Rubio, 2009:58). Este tipo de formulaciones comprenderían el uso de entornos personales de aprendizaje puros, en donde el alumnado define con total libertad los entornos en donde se van a llevar a cabo sus aprendizajes, además de los contenidos, sus personas referentes. Este tipo de formulaciones van en contra de las expectativas del alumnado, quienes han sido entrenados durante toda su vida como aprendices que consumen lo que el sistema les da, de forma que ellos tienen que reproducir lo que el profesorado le proporciona. Las expectativas del alumnado, al mismo tiempo que las del profesorado, van a predecir, indiscutiblemente, lo que se consiga en las formulaciones que realicemos. Por ejemplo, factores como la percepción de la facilidad de uso (perceived ease of use) que el alumnado tenga del modelo que implementemos va a marcar la decisión de usarla o no. Otros factores importantes van a ser la percepción de utilidad del nuevo modelo (perceived usefulness), la auto-percepción de capacidad de eficacia.

Además de estos factores que están relacionados con el alumnado y con el contexto en donde vamos a aplicar nuestro modelo, la decisión de qué herramientas vamos a usar ha estado marcada también por las dudas en torno al uso de la web 2.0 en el aprendizaje formal. Además de las dificultades para hacer un seguimiento cercano de los pasos que el alumnado va dando a lo largo del proceso de aprendizaje, con el fin tanto de evaluar su aprendizaje como de irle dando indicaciones y refuerzos, el uso de la web 2.0 ha generado dudas en cuanto a, por ejemplo, las distracciones presentes en este tipo de modelos, o la necesidad de una formación específica del alumnado para enseñarlo a colaborar. Además, no existe un corpus extenso de estudios empíricos que prueben de manera irrefutable los beneficios de este tipo de formulaciones. Sin embargo, como ya dijimos antes, si que existe una plétora de estudios que demuestran los beneficios del uso de LMS. Sí que existen, a su vez, estudios que prueban que los diseños que combinan LMS con otra serie de elementos de la web 2.0, generando entornos corporativos de aprendizaje, obtienen resultados positivos.

Teniendo en cuenta todas estas consideraciones, hemos realizado un diseño que nos ayude a dar respuesta a las preguntas que nos realizábamos al inicio de este documento. Este diseño, que pasamos a describir, combina el uso de moodle, con unas características particulares, y un portfolio electrónico, mahara, conformando, junto con el aula en si, nuestro entorno de aprendizaje. Además de la plataforma en si, también aportaremos el diseño de los instrumentos que hemos diseñado para recabar la información necesaria del alumnado: cuestionarios para sondear tanto el proceso de aprendizaje del alumnado como la evolución en sus actitudes y creencias.

Para la aplicación del estudio, hemos utilizado dos grupos de alumnos y alumnas que cursan segundo de bachillerato en un centro público, dentro de un entorno urbano. Con el fin de comprobar que el alumnado de ambos grupos respondían a características similares en cuanto a número de alumnos y alumnas, actitudes previas hacia el idioma, nota en la asignatura en cursos anteriores, confeccionamos y aplicamos un cuestionario que hemos llamado de contexto. Con este instrumento confirmamos que ambos grupos eran compatibles para los fines que perseguíamos en este estudio: ambos grupos tienen un nivel competencial en el idioma que es heterogéneo, todos llevan el mismo tiempo expuestos al idioma como asignatura.

Además, de este instrumento que nos ayudó a determinar que los dos grupos eran compatibles con el estudio que íbamos a realizar, desarrollamos otra serie de instrumentos que nos sirvieron para medir los distintos aspectos que decidimos observar durante el proceso y al finalizar el estudio. Estos instrumentos responden, básicamente a dos tipos: (i) unos son cuestionarios que nos han servido para medir distintos parámetros, y (ii) otros nos han servido para diseñar el entorno corporativo y, por consiguiente, llevar a cabo nuestra formación. También utilizaremos un libro de texto que nos sirve de referente a todo el profesorado que impartimos docencia en el centro al mismo nivel educativo, y que nos ha ayudado a decidir los contenidos lingüísticos y la temática de los textos añadidos en el LMS.

Uno de los cuestionario que hemos utilizado es el test estándar de comprensión lectora, para el que hemos seleccionado el de Cambridge University Press correspondiente al nivel Preliminary English Test (PET), que equivale a un nivel B1 del Marco Común Europeo. Este test fue implementado tanto al principio del estudio como al final. El objetivo del test inicial fue el de garantizar que los grupos no eran significativamente diferentes entre sí. Al realizar este

test al inicio del curso, y tras el análisis de los resultados podemos afirmar que en la destreza de lectura comprensiva, que es el objetivo de este estudio, no existen diferencias significativas en el comienzo del curso entre el grupo de control y el experimental.

Además del test de comprensión lectora utilizamos un test para medir la actitud del alumnado del alumnado hacia el idioma, hacia nuestro CLE, como uno de los elementos de nuestro diseño combinado, y hacia la actividad de la asignatura en el aula, como complemento indispensable. Este instrumento, por tanto contiene tres partes diferenciadas. Este instrumento se administró en enero, unos meses después de haberse iniciado el curso, ya que el alumnado necesitaba disponer de cierta experiencia en el modelo para poder tener una opinión; y se volvió a administrar en mayo, con el fin de comprobar si se había producido alguna evolución. Como defendimos anteriormente, las actitudes del alumnado hacia la tecnología utilizada van a marcar las probabilidades de éxito de nuestro modelo. Sin embargo, la medición de la evolución de las actitudes también arrojan luz sobre los factores que van a afectar a nuestro modelo.

El tercer instrumento para la medición de los resultados del alumnado fue el Strategy Inventory for Language Learning (SILL), elaborado por Oxford (1990), y avalado por el su uso en innumerables estudios empíricos relacionados con la formación en estrategias de aprendizaje para la enseñanza y aprendizaje de idiomas. Dicho cuestionario contiene 51 ítems que representan al mismo número de estrategias. El cuestionario está dividido en seis subsecciones, correspondiendo cada una a los distintos grupos de estrategias, tres agrupadas en las estrategias directas, y tres en las indirectas, que Oxford propone en su taxonomía. Aunque no hay una correspondencia directa con todas y cada una de las estrategias que se proponen en el modelo de Oxford, que por razones de orden vemos pertinente, pero sí hay una representación más que validada por el uso de en diferentes estudios y por la propia práctica docente del autor del presente estudio. Este test se implementó, como en el caso del cuestionario de actitud descrito en el párrafo anterior, dos veces durante el curso. En este caso en particular, se estimó conveniente llevarlo a cabo al inicio del curso con el fin de detectar posibles diferencias significativas entre los dos grupos en cuanto a la sensibilidad en relación al uso de estrategias para el uso y el aprendizaje del idioma. Una vez analizados los resultados de la administración inicial del SILL, comprobamos que el grupo experimental y el de control eran compatibles, ya que ninguno de los dos presentaba diferencias significativas en relación al otro.

Además de los cuestionarios, como adelantamos en párrafos anteriores, nuestro trabajo de investigación se fundamenta en la elaboración de un entorno corporativo de aprendizaje que combina enseñanza presencial y a distancia a través de medios en línea. La sección en línea comprende el uso de un LMS, que en nuestro caso se trata de moodle, junto con un portfolio digital, en nuestro caso mahara. Ambos elementos electrónicos fueron combinados de forma que tanto el alumnado no tuviese que registrarse en ambos sitios, con lo que eso resta de motivación, como que el alumnado pudiese recibir feedback y calificación de las actividades realizadas en mahara a través de moodle, garantizando así una cierta claridad a la hora del diseño, que va a facilitar la aceptación por parte del alumnado. A esta formulación se la conoce como mahoodle.

El diseño de nuestro modelo combinado se ha fundamentado en la necesidad de optimizar el escaso tiempo del que disponemos en la asignatura para desarrollar nuestra labor con el alumnado en el centro. Al contar sólo con tres horas a la semana para guiar a nuestro alumnado en el proceso de aprendizaje, hemos tenido que tomar una decisión en cuanto a qué contenidos se deben circunscribir al aula y qué contenidos deben formar parte de la oferta a distancia. Teniendo en cuenta que de todas las destrezas que el alumnado debe desarrollar en el idioma, la más difícil de desarrollar de forma autónoma es la destreza de la expresión oral, decidimos que este sería el objetivo prioritario en el aula. La destreza de escritura sí que se puede desarrollar de forma autónoma. Sin embargo, los aspectos formales de las composiciones exigidos en los exámenes de acceso a la universidad, y las escasas destrezas que el alumnado es capaz de desplegar en la escritura en lengua extranjera, hacen aconsejable que dediquemos parte del esfuerzo presencial a la formación en la escritura formal. Utilizaremos el LMS para el despliegue del resto de destrezas, además de los contenidos lingüísticos y su trabajo cara al desarrollo de la corrección.

Hay que tener en cuenta que, por encima de nuestras necesidades de investigación, están las necesidades del alumnado y el currículum oficial de la asignatura que nos compete. Por lo tanto, nuestro diseño ha tenido que responder a una organización compleja. En cualquier caso, tanto la formación en estrategias de aprendizaje del idioma como el aprendizaje del idioma en sí debe realizarse desde una perspectiva holística. Es decir, aunque nuestro objeto de investigación sea la lectura, ésta debe estar, necesariamente incluida en un modelo que incluya también el resto de las destrezas, tanto en la vertiente en línea como en la presencial. Nuestro

diseño en línea contiene, por tanto, un LMS sin embargo ésta, a su vez, está constituida por diferentes cursos que intentan dar respuesta a las distintas necesidades del alumnado dentro del segundo curso de educación secundaria post-obligatoria.

Tomando como referente, entonces, esta visión holística, nuestro LMS tiene una estructura multidimensional que responde tanto al diseño de nuestra investigación, que incluye un grupo experimental y otro de control, como al diseño curricular de la asignatura, incluyendo las distintas destrezas aplicables. Por consiguiente, el LMS estará dividido en una parte general, común a los dos grupo, una parte de lectura diferenciada para el grupo experimental y otra distinta para el grupo de control. Además, el grupo experimental, exclusivamente, cuenta con un curso de formación en el uso de estrategias de aprendizaje del idioma, orientado hacia la mejora de la lectura.

En todos los cursos planteados en el LMS, se implementado un módulo de 'condicionales' y un módulo de 'descriptores.' El primer módulo nos permite realizar una planificación a gran escala de las actividades que el alumnado puede ir realizando en cada momento. Es decir, a medida que el alumnado va accediendo a los distintos recursos y realizando las distintas actividades, otros recursos y otras actividades se irán desplegando. Este despliegue puede estar condicionado al simple acceso del alumnado a un recurso en particular, o a la consecución de una calificación determinada, o al envío de una tarea. Las combinaciones son innumerables. Algunas de estos recursos, tareas o actividades van a estar condicionadas a la propia elección del alumnado, a través del uso de choices (actividades de elección). El objetivo es que el alumnado pueda ir desplegando los cursos a su ritmo, sin la presión añadida de tener la obligación de realizar todas las actividades, ni realizarlas en un tiempo determinado, intentando así otorgar mayor control sobre el proceso de aprendizaje. Sí somos conscientes de que seguimos siendo nosotros los que planificamos y no el alumnado, sin embargo recordamos al lector que la elección de este tipo de metodología ha sido fundamentada en la expectativa que tenemos de que nuestro alumnado va a desplegar poca autonomía, y puede carecer de las destrezas necesarias para una formulación más abierta. Estas expectativas, como planteamos en su momento, está fundamentada en datos empíricos.

El otro módulo que hemos implementado, conocido como 'outcomes' nos proporciona la posibilidad de añadir descriptores a cada una de las tareas y actividades propuestas en los

distintos cursos y, por lo tanto, poder otorgar al alumnado calificaciones transparentes, haciendo al alumnado más consciente de su propio proceso de aprendizaje. Al mismo tiempo, el módulo de 'outcomes' nos permite elaborar una tabla de referencia para el alumnado en donde se van desplegando las distintas calificaciones obtenidas, obteniendo el alumnado, así, una visión general de su trabajo en tiempo real. Con esto también pretendemos garantizar que el alumnado sea consciente de su propia evolución, y no perciba las calificaciones como algo externo, sobre lo que ellos no tienen control, y por lo tanto alienante. Pretendemos ayudar a que el alumnado no pierda el grado de motivación intrínseca que se pueda generar.

En la sección común, etiquetada como '*The Interactive Area*,' la organización se ha realizado tomando como referente la destreza de expresión escrita, los contenidos lingüísticos de gramática y vocabulario, y la gestión administrativa del curso (calificaciones de exámenes presenciales, calendario oficial del curso, comunicaciones del docente hacia el alumnado). Con el fin de distribuir de forma clara todo el contenido, este curso está distribuido en formato de bloques, según las características propias de moodle. El curso consta de diez bloque distintos, cada uno con una finalidad específica. El primer y segundo bloque tendrán un objetivo casi exclusivamente administrativo, en el sentido que mencionábamos anteriormente. El alumnado no tendrá todavía que desarrollar ninguna actividad con un peso curricular importante, más allá de adaptarse a un entorno nuevo y de comprender unas instrucciones sencillas. El el primer bloque en desplegarse es el número cero, y cumple una función meramente introductoria, incluyendo un video en donde se presenta de forma sucinta la plataforma y se pide al alumnado que realice una actividad que desencadenará el resto de contenidos. El bloque dos, identificado con el número uno, incluye un foro de noticias, a utilizar solamente por el profesor para realizar anuncios y llamamientos y un foro llamado "Cafetería," en donde, según avance el curso, el alumnado será invitado a que participe de manera informal, contribuyendo con el tema y los mensajes que estime oportuno. Además de los foros, el alumnado encontrará en este bloque la documentación necesaria relativa a los criterios de evaluación de la asignatura, especificando cómo se incluye el trabajo en la sección en línea del curso. También se incluyen normas de uso de la plataforma (netiquette) y sondeos. Estos sondeos buscan involucrar al alumnado en la toma de decisiones respecto a los posibles contenidos que se puedan ir añadiendo a la plataforma durante el curso, y en relación a las fechas de los exámenes presenciales que se irán realizando durante el curso. Además tendrán acceso a una serie de recursos, como son un video

para aprender a incrustar videos en los mensajes de los foros (nuestra experiencia nos dice que esto es una actividad muy motivadora para el alumnado que ayuda a dinamizar la participación en los foros), que el alumnado puede elegir visualizar o no, además de un diccionario bilingüe y otro monolingüe.

El tercer bloque en aparecer viene identificado con el número dos. El objetivo de este bloque es el de servir de enlace entre las actividades de escritura formal en el aula y nuestro LMS. Así, en este bloque, pondremos a disposición del alumnado una serie de documentos que servirán de referencia al alumnado para la correcta elaboración de las actividades de escritura dentro y fuera del aula (cómo evalúan las instituciones competentes los exámenes de escritura para el acceso a la universidad, guías de cómo elaborar una composición). Además incluiremos en este apartado espacios en donde el alumnado irá entregando los ejercicios de escritura que vayan elaborando en casa, además de unas tareas que nos servirán simplemente para publicar las calificaciones obtenidas por el alumnado en los ejercicios de escritura formal en el aula. Además, este bloque incluye un wiki donde ir confeccionando una historia colaborativa como actividad de escritura no-formal fuera del aula, y una tarea en donde ir enviando páginas del portfolio electrónico (descrito más abajo) como práctica para tareas que tendrán que realizar en otros cursos (también descritos más adelante en la narración). En el siguiente bloque, etiquetado con el número tres, contiene, simplemente, un ejemplo de examen inglés de acceso a la universidad, y tareas que nos servirán para ir publicando las calificaciones de los exámenes durante el curso.

Ya en el bloque identificado con el número cuatro, el alumnado tendrá acceso a una serie de actividades relativas a la práctica con vocabulario presente también en el libro de texto. Las actividades están basadas en objetos SCORM, realizados con el programa Hotpotatoes, que buscan una práctica, utilizando la repetición como metodología. Así, el alumnado dispone de ejercicios de rellenar huecos en blanco, completar oraciones inacabadas, conectar unas palabras con otras. La lógica de este tipo de actividades es que cada uno de los y las alumnas decida si debe realizar estas actividades o no, y en qué cantidad y cuándo. Al ser ejercicios autocorregidos, el alumnado puede marcar su propio ritmo, con el profesor siempre accesible tanto en el aula como en a través de la mensajería directa de la plataforma, o correo electrónico. La estructura de este bloque es paralela a las unidades temáticas presentes en el libro de textos.

A partir del bloque ocho y hasta el diez, la estructura se repite: cada uno de estos bloque está basado en un aspecto gramatical, presente también en el libro de textos que el alumnado tiene, y que se usa en el contexto del aula. El bloque se inicia con una actividad de choice (actividad que permite al alumnado elegir entre varias opciones) en donde se le pregunta al alumnado si quiere tener acceso a un video explicativo, y unas actividades de comprensión que le ayuden a comprenderlo, sobre el contenido gramatical sobre el que tienen posteriormente actividades. El razonamiento es que el alumnado puede elegir trabajar estos contenidos gramaticales a través de otros medios, y luego utilizar las actividades presentes en estos bloques o no. También puede elegir no utilizar estos bloques, y trabajar la gramática a través de otros medios. En cualquier de las opciones, el profesor siempre estará disponible para resolver cualquier duda que surja, tanto sea en el contexto del aula, como en la plataforma. El contenido de gramática nunca formará parte rutinaria del trabajo en el aula, pero si es a demanda de algún alumno o alumna, sí que se trabajará el tiempo que sea necesario. El resto de recursos que se provee en el bloque de gramática son un foro de preguntas y respuestas, en donde se le propone al alumnado una actividad relacionada con el ítem gramatical que se está trabajando, pero que sirve también para plantear las dudas que vayan surgiendo durante el proceso de la práctica. Acto seguido, el alumnado puede realizar una serie de actividades en formato SCORM, en las mismas condiciones que las actividades de vocabulario mencionadas en párrafos anteriores. Seguidamente, y una vez terminadas las actividades anteriores, el alumnado contará con un wiki en donde se propondrá la elaboración de textos colaborativos utilizando los elementos trabajados en esa sección. Por último, el alumnado tendrá acceso a las calificaciones de los exámenes sobre los contenidos de gramática que se realizarán en clase.

Al mismo tiempo que tiene acceso al curso '*The Interactive Area,*' el alumnado del grupo experimental tendrá acceso, durante el primer trimestre, al curso *'The Strategy Workshop'*, que es donde se supone que debe desarrollar su consciencia sobre el uso de estrategias y su importancia en el aprendizaje y uso del idioma. Este curso también aplica el módulo de condicionales. El diseño de este curso también fue realizado en base a la distribución por bloques. En el primer bloque, asumiendo que no hay que realizar ninguna presentación, ya que el alumnado ya ha sido introducido a la plataforma con '*The Interactive Area,*' sólo tendremos un foro de noticias en donde el profesor irá enviando mensaje relacionados con el curso en cuestión. Esta será la única actividad en este bloque. Si que se

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realizará una introducción al concepto de estrategia y su importancia en el bloque etiquetado con el número uno. En este, de facto, primer bloque, el alumnado irá realizando una serie de actividades encadenadas, utilizando las funciones disponibles en el módulo de condicionales. Se informará al alumnado que debe realizar estas actividades de una sola vez (unos 20 minutos). Este grupo de actividades en racimo pretende demostrar al alumnado que la lectura con el uso de estrategias y sin ellas conlleva una serie de diferencias que la hace más fácil en el segundo caso. Utilizando distintos tipos de recursos, actividades y tareas, del catálogo de moodle, se presentan textos y se pide al alumnado que tome una serie de pasos. Por ejemplo, se empieza con un pequeño cuestionario con el fin de activar los posibles conocimiento previos que tenga el alumnado. Después se dan al alumnado una serie de instrucciones en relación a la tarea que están a punto de acometer. En el paso siguiente el alumnado accede a un texto con un nivel lingüístico ligeramente por encima de su nivel competencial, y se le pregunta que porcentaje del texto creen ellos que han entendido, asumiendo que será un porcentaje bastante bajo. Una vez concluida esta primera encuesta sobre grado de comprensión, el alumnado tendrá acceso al mismo texto, pero esta vez con imágenes relativas al contenido del texto. Una vez terminado, se le volverá a preguntar por el grado de comprensión, asumiendo esta vez que subirá en todo el alumnado. De esta manera se irá exponiendo al alumnado a ejemplos de uso de estrategias particulares y a su efecto en la comprensión de la lectura de textos en lengua extranjera.

Una vez el alumnado ya ha obtenido una visión práctica de qué es una estrategia de lectura y del efecto que produce en la comprensión, se le va presentado en los sucesivos bloques las distintas estrategias que tienen una relación directa o indirecta con la lectura. En los dos siguientes bloque, por lo tanto, se presentará al alumnado estrategias que se utilizan antes de la lectura, en el bloque número dos; y en el bloque número tres, las estrategias que corresponden al momento mientras se lee (pre-reading y while-reading). La primera estrategia que se trabaja es la predicción. Utilizamos el recurso de moodle de lección, que permite establecer distintas unidades de contenido conectadas internamente entre sí y culminadas con una serie de preguntas que dan paso, o no, a las subsiguientes unidades de contenidos. En esta primera actividad presentamos el planteamiento teórico de la estrategia, utilizando ejemplos sencillos. Una vez el alumnado ha leído la lección se le pide que conteste a una pregunta basada en el contenido que acaba de leer. En caso de que la respuesta sea correcta pasa a la siguiente

actividad, en caso de que no lo sea se pide al alumnado que seleccione otra opción. En el caso de la predicción, las estrategias que se trabajan son las de contestar a las preguntas antes de empezar a leer (el lector debe recordar que se está entrenando al alumnado para un tipo muy particular de lectura, como es el caso de la lectura comprensiva) y la de utilizar el título del texto para predecir el posible contenido. En el primer caso, se pide al alumnado que conteste a una serie de preguntas, sin haber visto previamente el texto, en el contexto de una actividad de foro de preguntas y respuestas. Una vez ha realizado esta actividad el alumnado podrá dirigirse al texto y leerlo. Una vez haya terminado de leer, se le pedirá que, por un lado conteste otra vez a las preguntas, pero también valore la oportunidad de contestar a las preguntas antes de leer el texto, con el fin de hallar si ha habido mejoras. En el caso de utilizar el título del texto como forma de predecir el contenido, se le pedirá al alumnado que escriba un mensaje en un foro de pregunta y respuesta una predicción ante un título facilitado en las instrucciones. Una vez hayan añadido su respuesta, podrán proseguir con la lectura del texto. Cuando el alumnado ya haya accedido al texto se desplegará otro foro que les pide que reflexione sobre el uso de esta estrategia. Para terminar el alumnado deberá realizar un ejercicio en donde debe relacionar, con una actividad en formato SCORM utilizando las actividades propuestas por el software Hotpotatoes, textos con posibles títulos. Al finalizar se le volverá a pedir sus impresiones al realizar esta actividad.

Esta es la dinámica de trabajo también en el siguiente bloque, aunque utilizando, en ocasiones, actividades y tareas distintas. El procedimiento es siempre realizar una presentación en donde el alumnado tiene un papel activo, la realización de actividades o tareas, y la consiguiente reflexión sobre los efectos del proceso realizado. Con este trabajo pretendemos despertar en el alumnado el interés por el uso de las estrategias. Somos conscientes que una simple práctica no hace evolucionar de forma significativa. Sin embargo, este es sólo un paso dentro de un proceso que incluye, además de la práctica puntual y la reflexión, una proceso de aplicación mayor, y en un contexto relevante. Esta otra práctica se llevará a cabo en el siguiente curso, que tiene como objetivo la práctica de distintos tipos de lectura y de textos.

Este curso, que hemos denominado '*The Reading Corner*' tiene una serie de características que son comunes para los dos grupos, el experimental y el de control, y otras que son exclusivas para el grupo experimental. Empezaremos con la descripción del curso que hemos diseñado para el grupo experimental, añadiendo comentarios sobre las diferencias

cuando sea oportuno. Así, el curso empieza, como en el resto de los casos con un módulo cero en donde tendremos, en este caso, un foro de noticias, una lección en donde el alumnado tendrá acceso a todos los contenidos relacionados con las estrategias del curso *'The Strategy Workshop'*. Además de esta lección tendrá a su disposición un glosario con una definición de todas y cada una de las estrategias que se van a encontrar en posibilidad de usar en el presente curso. Además, como en cada actividad y tarea aparecerá especificada la estrategia o estrategia que el alumnado puede desplegar, este listado de estrategias se enlazará de forma automática a las definiciones que están presentes en este glosario, haciendo así muy fácil el acceso del alumnado a la información referente a las estrategias. Obviamente, el alumnado no tendrá acceso ni a este glosario ni a la lección sobre las estrategias. En el caso del curso de lectura del grupo de control el módulo cero sólo contará con un foro de noticias. Por lo tanto, no habrá ni referencias a las estrategias en las tareas y las actividades, y por lo tanto no habrá nada que enlazar. Esta será, en definitiva, la principal diferencia entre el curso de lectura comprensiva para el grupo experimental y el de control. Este curso, en ambos casos también está diseñado utilizando los módulos de condicionales y de descriptores.

En el bloque marcado con el número uno en el curso sobre lectura, el alumnado de ambos grupos dispondrá de una glosario colaborativo. Cada alumno y alumna será invitado a codificar palabras que se encuentre en los textos dentro del curso, o en cualquier otro contexto, dentro o fuera del LMS, añadiéndole, además de una definición, un ejemplo y el lugar donde encontró la palabra. Automáticamente, la palabra que se introduzca en el glosario aparecerá enlazada en cualquier otro lugar que sea usada en el curso, aumentando así las posibilidades para su uso relevante. Obviamente, el alumnado será evaluado por esta actividad, pero consideramos que la mejor baza de esta actividad es que el alumnado percibe que es autor, desde el inicio del curso, de una parte significativa de los contenidos del mismo.

A partir de este punto, el resto de bloques tendrá una estructura muy similar, por lo que en este resumen presentaremos los dos modelos que veremos, con más detalle en la tesis. En el caso del bloque identificado con el número dos, se presenta al alumnado una imagen de un mapa mental utilizando vocabulario relacionado con la salud. En el contexto de un foro se pide al alumnado que descargue ese mapa, y le añada tres palabras facilitadas por el profesor en las instrucciones del foro, de la forma que ellos consideren oportuna. También se les pide que escaneen el resultado final y lo publiquen en ese mismo foro. El profesor dará feedback a todo

el alumnado, pero se les alentará a que ellos también añadan comentarios a los mapas de los compañeros y compañeras. Una vez realizada la actividad, el alumnado podrá seguir con la siguiente tarea. En este caso, deberán realizar la lectura de un texto relacionado con la salud y la diabetes, en donde aparecerán las palabras que ya forman parte de su mapa mental. Una vez leído el texto se les pide que publique un mensaje en un foro subsiguiente. En ese mensaje deben definir esas mismas palabras sin mirar en un diccionario, además de añadir qué características del texto y/o de la palabra les ayudó a sacar esas conclusiones. La propia naturaleza de las palabras ya tienen asociadas características que están presentes en alguna de las estrategias. Como actividad final, el alumnado es invitado a contestar a unas preguntas sobre el texto que acaban de leer.

El diseño de los siguientes bloque es parecido. Sí que cambian las tareas, las actividades y los recursos, además de ajustarse a contenidos totalmente diferentes. La dinámica parte de la reflexión y el uso de estrategias, con conocimiento explícito o no. Cada dos o tres bloques, dependiendo del trimestre del curso en donde nos encontremos, el alumnado se enfrentará a un proyecto, con una naturaleza totalmente diferente. En el caso del primer trimestre, el alumnado deberá realizar una tarea en el e-portfolio mahara. Cada alumno o alumna, agrupados de tres en tres, leerá al menos tres textos. El grupo, con la información obtenida elaborará un producto final (presentación de diapositivas, o poster digital, o cualquier otro que se pueda incrustar) y lo incrustará en su página personal de mahara, que después compartirá con el profesor a efectos de calificación. Además, el tema elegido servirá de excusa para una entrevista con el profesor con el fin de evaluar la producción y la recepción oral.

En el primer módulo del segundo trimestre, la tarea también implica el uso de mahara. En el desarrollo de un concurso de fotografía, el alumnado saldrá del centro en horario escolar. Para su correcta participación el alumnado debe haber leído un texto, puesto a su disposición a través de la plataforma. En él se da una serie de ideas de cómo obtener los mejores resultados en las fotografías. La tarea que el alumnado deberá desarrollar concretamente será la de obtener un máximo de cinco instantáneas, alojarlas en una página de mahara, con una descripción haciendo referencia a las ideas obtenidas en el texto mencionado anteriormente, que deberán ser al menos cuatro. Esa página será publicada en formato abierto, y compartida con el profesor en moodle, con el fin de ser evaluadas. Sin embargo, el concurso se basará en las opiniones del resto de alumnos, que visitarán las páginas e irán valorando las fotos propuestas. Tratamos, con

este tipo de tareas, de acercar al alumnado a un uso relevante de las distintas destrezas comunicativas.

Como el lector probablemente ya haya llegado a la conclusión, todo el alumnado está expuesto al uso de las estrategias, que se encuentran, en cualquier caso, implícitas en las actividades y tareas propuestas. De hecho cabría plantear que sería imposible proceder de otro manera. Lo que nuestro trabajo persigue, en cualquier caso, es comprobar que es la instrucción explícita en el uso de las estrategias la que genera una mejora en el proceso de lectura ante actividades de lectura comprensiva. En cualquier caso, como veremos en el capítulo referido a las conclusiones, el hecho de que el alumnado del grupo de control también haya estado expuesto también tiene una gran repercusión, como ya adelantara Oxford (2011).

La aplicación de todos estos instrumentos se llevó a cabo durante el transcurso de un curso escolar, dentro del calendario propio del segundo curso de secundaria post-obligatoria. En el inicio del curso se implementaron los cuestionarios, durante las primeras semanas, una vez se hizo un pequeño trabajo de motivación con el alumnado, con el fin de ir generando la atmósfera adecuada. En ambos grupos el proceso fue idéntico, ya que la formación en estrategias se circunscribió exclusivamente a la sección en línea de nuestro diseño. Durante una sesión para cada grupo, se les mostró la plataforma de manera que el alumnado perdiese el miedo a ese primer momento. En cualquier caso, se dejó gran parte del aprendizaje al descubrimiento.

Durante el proceso de implementación se siguieron las pautas de gestión del CLE sugeridas por lo distintos autores consultados, garantizando que en todo momento se generase el mayor estímulo posible, y se guiase al alumnado de forma cercana. Se promovió en todo momento que el alumnado comunicase cualquier incidencia, y se siguió siempre la máxima de contestar en un plazo lo más breve posible. Se hizo también un seguimiento del alumnado a través del estudio esporádico de las estadísticas de la plataforma moodle, con el fin de detectar posibles problemas antes de que surgieran.

No obstante, si que hay que tener en cuenta que se dieron una serie de circunstancia que dificultaron sobremanera la aplicación de nuestro modelo. Por un lado, surgieron innumerables incidencias de orden tecnológico en la plataforma que estábamos utilizando: aunque el alumnado no parece haber tenido ningún problema a la hora de ingresar en la plataforma debido a problemas que fuesen más allá de su inexperiencia, el profesor sí que tuvo muchas

dificultades a la hora de desplegar algunas de las herramientas de moodle. Por ejemplo, en el caso de las tablas en donde se despliegan las calificaciones del alumnado, en ocasiones su carga en nuestro navegador podía prolongarse durante más de 20 minutos, llegando en muchas ocasiones a no desplegarse. Procesos tan vitales para el normal funcionamiento como la corrección inmediata de las actividades que el alumnado enviaba a la plataforma podían llevar al profesor más de 30 minutos por alumno o alumna. Si este tipo de incidencias las llevamos a las proporciones adecuadas, calculando el número de alumnos y alumnas tanto en el grupo experimental como de control, llegamos a la conclusión de que en momentos la gestión de la actividad en la plataforma era inviable. No tenemos forma de confirmar que estas circunstancias tuvieron efecto en los resultados, pero sí cabe plantearse que son factores a tener en cuenta para estudios posteriores.

III. Aportaciones Originales

Teniendo en cuenta que nuestro proyecto es un estudio de casos longitudinal y ha sido desarrollado con el alumnado que le fue asignado al profesor-investigador autor de la presente disertación, nuestra mayor limitación ha sido el muestreo de conveniencia. Todo el alumnado inmerso en el estudio eran del mismo centro educativo, por lo que, en potencia, pertenecen al mismo estrato socio-económico. Esto implica que no sabríamos si el alumnado que perteneciera a estratos socio-económicos diferentes obtendría otro tipo de resultados, por ejemplo zonas rurales. Hay que tener en cuenta que se ha demostrado que distinto contexto socio-económico no sólo puede producir una actitud hacia las tecnologías diferente, sino que además se ha demostrado que existen diferencias incluso en el tipo de uso que se hace de las tecnologías de la información y las comunicaciones dependiendo del contexto en donde se haya crecido.

A pesar del posible sesgo del estatus social de nuestro alumnado, en relación al género, otro factor importante en el estudio de fórmulas pedagógicas que implican la aplicación de tecnología, los dos grupos utilizados en nuestro estudio sí que ha sido equilibrado. En el caso de la edad, teniendo en cuenta que nuestro estudio se basa en un curso específico de educación secundaria post-obligatoria, nuestras expectativas siempre fueron tener un grupo de alumnos y alumnas que pertenecían a un mismo aproximado de edad. Esta situación se confirmó desde el inicio del estudio. Los recursos necesarios para aspirar a un estudio que abarque una muestra

que sea representativa de una población más amplia están más allá de nuestras posibilidades. Sin embargo, sí consideramos que es necesario acometer, desde las instituciones competentes, este tipo de estudios con unos horizontes que abarquen a todo o a una parte significativa del sistema, con el fin de comprobar las potencialidades de los diseños combinados de enseñanza presencial y a distancia utilizando Tecnologías de la Información y las comunicaciones en el proceso de enseñanza-aprendizaje de las lenguas extranjeras.

Además del muestro de conveniencia que hemos utilizado en el presente estudio, creemos también relevante reconocer las limitaciones de nuestro perfil como investigador. El presente estudio pretende vislumbrar hasta qué punto las tecnologías de las que disponemos actualmente pueden personalizarse para responder a nuestras necesidades y a las necesidades educativas del sistema actual. Nuestra intención nunca ha sido el diseño de ninguna nueva herramienta tecnológica, o el desarrollo de cambios en las ya existentes con el fin de aportar nuevas prestaciones. Tampoco hemos tratado de describir y analizar los entresijos técnicos que facilitan o dificultan los procesos de aprendizaje en las herramientas digitales que hemos utilizado. Por lo tanto, no vamos a sacar conclusiones sobre el software que hemos utilizado o cómo se podría mejorar, ni consideramos que debamos hacerlo.

Otra de las cuestiones a mencionar, llegado este momento, es el factor del tiempo, ya que consideramos que es otro de los factores que han limitado el presente estudio. Además de no tener suficiente tiempo para el desarrollo de la asignatura durante la semana (sólo contamos con tres horas), ni considerar suficiente el transcurso de un solo curso escolar para el desarrollo de una competencia tan compleja como la comprensión lectora, además consideramos que la escasez de recursos en la puesta en práctica del presente estudio, ya que sólo contamos con nuestro propio esfuerzo para llevarlo a término. La misma persona ha diseñado el recurso, con su naturaleza más que compleja, ha sido responsable del proceso de enseñanza-aprendizaje del alumnado asignado en el curso escolar, entre los que se incluyen los sujetos del presente estudio, además de gestionar las interacciones que se producían en la plataforma. Esta situación, por momentos, se convirtió en abrumadora, hecho que pudo haber influido en los resultados obtenidos.

Sin embargo, consideramos que nuestro estudio aporta valiosas contribuciones a la investigación en el campo del inglés como lengua extranjera, al menos en el contexto de la

educación secundaria post-obligatoria en el sistema educativo español. Nuestra principal contribución se podría decir que es el hecho de aportar un estudio empírico con el fin de explorar las posibilidades que los recursos de e-learning actuales ofrecen en la mejora de la efectividad de los procesos de enseñanza-aprendizaje de la lengua extranjera. Hoy por hoy, existen muy pocos estudios longitudinales de casos fundamentados en el uso de la tecnología con fines educativos que se basen en la enseñanza pre-universitaria. En el caso de las Islas Canarias, que es el contexto en donde se desarrolla nuestra tesis, no hemos encontrado ningún ejemplo de estudios de uso de tecnologías para la educación en el contexto del aprendizaje de lenguas extranjeras en la enseñanza secundaria.

Si consideramos el caso de las estrategias de aprendizaje, esta situación se intensifica. A día de hoy no conocemos ningún estudio que haya implementado un diseño combinado, fundamentado científicamente, que busque la formación del alumnado en el uso de las estrategias de aprendizaje como forma de mejorar su competencia en lenguas extranjeras, siguiendo el modelo de Oxford (1990) o cualquier otro. Por lo tanto, aunque los resultados sobre la mejora de la lectura comprensiva no han sido significativamente positivos, sí consideramos que nuestro modelo puede describirse como prometedor, dados los resultados que hemos obtenido en el resto de factores estudiados en el presente trabajo de investigación.

Las conclusiones a las que hemos llegado en el presente estudio son limitados en cuanto a su alcance. Como hemos defendido en varios puntos de este estudio, decidimos limitar, por razones de orden, nuestro trabajo al desarrollo de la lectura a través del entrenamiento explícito en estrategias de lectura. Por consiguiente, existen otra serie de cuestiones presentes en el proceso de enseñanza y aprendizaje de las lenguas extranjeras que no se han mencionado en esta tesis, como son el desarrollo del resto de las destrezas, por ejemplo, o de la competencia lingüística, por ejemplo. También restringimos nuestro estudio al nivel de segundo curso de educación secundaria post-obligatoria, consecuentemente dejando fuera el resto de posibles niveles educativos, además del resto de tipos de aprendizajes, que podrían ser relevantes en los procesos de aprendizaje de una lengua extranjera, como podrían ser el aprendizaje informal y el no formal. Otra limitación viene dada por el uso de una opción tecnológica frente a otros diseños posibles: hemos decido utilizar un Sistema de Gestión del Aprendizaje combinado con un portfolio electrónico, dejando fuera una ingente cantidad de otras posibilidades.

Sin embargo, además de la lógica extensión, en futuros estudios a los campos que nosotros hemos dejado atrás como fruto de nuestras elecciones, existen otra serie de campos, que han surgido a raíz de nuestro trabajo, que cabría plantear como posibilidad para futuras investigaciones, propias o de otros investigadores. Uno de estas posibilidades es el estudio en profundidad de metodologías basadas en el uso de u-learning para el desarrollo de la estrategia de lectura y la percepción de uso de las estrategias de lectura. Consideramos que, con la correcta formación explícita del alumnado en el uso competencial de los dispositivos móviles se podría impulsar la irrupción del aprendizaje informal en el desarrollo de las destrezas comunicativas en lengua extranjera en términos generales, y de la lectura en particular, trayendo al contexto de la enseñanza formal todos sus beneficios. Además, animando al alumnado a que utilice en el contexto del centro educativo sus propios dispositivos, que, en términos generales, suelen estar más actualizados que los de los centros educativos, consideramos que se pueden disminuir drásticamente el efecto de los problemas técnicos que pudiesen surgir. Hay que tener en cuenta que si contásemos con este supuesto, las posibilidades para el uso de alternativas a los LMS sí que serían más factibles.

La comprobación empírica de si la extensión del tiempo de aplicación traería mejores resultados podría ser otro estudio posterior. Teniendo en cuenta que en dos de las preguntas de investigación hemos concluido que la falta de tiempo para la aplicación de nuestro entorno corporativo de aprendizaje ha sido uno de los factores que han ido en detrimento de nuestros resultados, consideramos que podría mejorar los resultados el hecho de que, en vez de en el segundo curso de educación secundaria post-obligatoria, se podría comenzar su aplicación en el primer curso y extenderlo hasta el final de la etapa educativa.

Otro de las cuestiones presentes en nuestro estudio es la aparición del factor de la autonomía como un factor crítico que afecta al desarrollo de este tipo de diseños. Como hemos mantenido en varias secciones de esta tesis, el alumnado en los centros educativos adolecen de falta de autonomía. Se considera que la Net-generation, como se ha dado en llamar carece de las estrategias de autogestión del aprendizaje, como al principio se llego a pensar por la influencia de algunos estudios que claramente desplegaron excesivo optimismo. Además el sistema educativo formal, dado su foco en el control de los procesos de forma acérrima, ha conseguido que el alumnado se sienta totalmente alienado en este proceso, constituyéndose como entes pasivos en un proceso que parece no tener nada relevante que ofrecer (ver los

estudios sobre la motivación intrínseca y sus entresijos). El uso de modelos como el que nosotros hemos diseñado viene, sin embargo, aparejado con un uso autónomo de las herramientas desplegadas para conseguir el aprendizaje que se busca. Consideramos conveniente, por tanto, que se realice un estudio que pueda arrojar luz sobre esta cuestión a través de la aplicación de medidas correctoras que vayan encaminadas a mejorar la autonomía y la motivación del alumnado antes de comenzar el trabajo y durante el propio estudio. Como concluiremos, el porcentaje de uso de la plataforma afecta a la percepción de uso de las estrategias que tiene el alumnado al final de la aplicación, por lo tanto, cabría plantearse realizar un esfuerzo encaminado a mejorar la motivación del alumnado para el uso efectivo de la misma.

Dentro de nuestras conclusiones también hemos reseñado que existe un número determinado de estrategias que el alumnado, en términos generales utiliza de forma espontánea. En el análisis de las respuestas del alumnado a nuestro cuestionario existen preguntas relacionadas con las estrategias que el alumnado responde positivamente de forma masiva. No obstante, existe otro gran número de ellas que el alumnado, de forma masiva también declara no utilizar ni conocer. Teniendo en cuenta que hay más que pruebas concluyentes, en la literatura referida a las estrategias de aprendizaje, de que el uso de las estrategias de aprendizaje correctas predice el éxito en los procesos de aprendizaje de una lengua, cabría preguntarse cuáles son las sinergias que se están produciendo en nuestro sistema educativo que promueve una serie de estrategias, pero que relega al más absoluto olvido a otras. Por lo tanto, uno de los posibles estudios posteriores que se desprende del nuestro propio es el análisis de los materiales curriculares y recursos que el profesorado está actualmente utilizando en el aula, y qué estrategias son las que están presentes y cuáles no, y en base a qué principios pedagógicos. Por ejemplo, el uso de un libro de texto u otro, o el uso sistemático de una serie de actividades presentes en estos recursos frente a otras, puede estar potenciando algunas de las estrategias presentes en ellas. Una vez identificados, cabría realizar una propuesta de trabajo de reparación con el fin de reestructurar, si se concluye que es necesario, el esquema de estrategias que el alumnado que aprende idiomas en nuestro contexto educativo debería tener.

IV. Conclusiones

Nuestro estudio longitudinal buscaba, principalmente, corroborar la utilidad de implementar diseños tecnológicos basados en el uso de la web 2.0 en el aprendizaje de la lengua extranjera. Este objetivo, sin embargo, conlleva una innumerable cantidad de implicaciones que no pueden ser acometidas en el contexto de una sola investigación, tanto en el campo de las Tecnologías de la Información y las Comunicaciones aplicadas al contexto educativo, como al campo del aprendizaje de una lengua extranjera. Por lo tanto limitamos el alcance de nuestra investigación al campo del desarrollo de la destreza de la lectura en una lengua extranjera, con el objetivo de arrojar alguna luz sobre los beneficios potenciales de los entornos corporativos de aprendizaje (CLE). Con el fin de cumplir nuestros objetivos, personalizamos nuestro CLE incluyendo un sistema de gestión del aprendizaje (LMS) y un portfolio en el contexto de un modelo combinado de enseñanza en línea y presencial. En este entorno diseñamos cursos para que el alumnado del grupo experimental fuese instruido en el uso de las estrategias de lectura, y para que ambos grupos practicasen y desarrollasen su destreza de lectura, aunque también para que tuviesen práctica de gramática suplementaria, foros anuncios y recursos de varios tipos.

En el trascurso del presente estudio, hemos llevado a cabo el análisis de todos lo datos recabados a través del uso de los distintos instrumentos. Cada uno de los instrumentos utilizados se centraba en uno o varios de los aspectos propuestos en las preguntas de investigación que nos planteábamos al inicio de esta disertación. El cuestionario de actitud se centró en contestar a la primera pregunta (i) "¿se produce una mejora en la experiencia de aprendizaje del idioma del alumnado con el uso de un entorno corporativo de aprendizaje en un modelo combinado de enseñanza en el contexto de un segundo curso de secundaria obligatoria?" y a la segunda (ii) "después que aplicar un entorno corporativo de aprendizaje, ¿el alumnado lo percibe como un medio de aprendizaje relevante?" El cuestionario basado en el Strategy Inventory for Language Learning nos ayudó a clarificar la cuarta pregunta (iii) "¿se produce una mejora en la percepción de uso de las estrategias de lectura después de que se realice un entrenamiento explícito en estrategias de lectura?" Para contestar a la tercera pregunta, (iv) "¿se produce una mejora de la lectura comprensiva en el alumnado de segundo curso de enseñanza secundaria post-obligatoria con el entrenamiento explícito en estrategias de lectura a través de un entorno corporativo de aprendizaje?" utilizamos el instrumento que

denominamos test estándar de lectura comprensiva. En el capítulo cuatro de la presente tesis hicimos una pormenorización de los resultados obtenidos con el uso de los distintos instrumentos, añadiendo también algunas conclusiones previas, dada la naturaleza multidisciplinar de nuestro trabajo de investigación, con el fin de añadir guías al lector. La riqueza de datos que hemos obtenido nos ha servido para obtener conclusiones que consideramos mejorarán nuestra práctica docente e investigadora, además de hacer aportaciones originales a las disciplinas que nos ocupan.

En relación a la primera pregunta de investigación, para la que utilizamos el cuestionario de actitud, y una vez analizados los datos al principio y al final del periodo de administración de nuestro CLE, no detectamos ninguna diferencia significativa entre el grupo experimental y el grupo de control en ninguna de las dos aplicaciones. Por lo tanto tomamos la decisión de analizar los datos de todo el alumnado, englobados en un mismo grupo, con el fin de comprobar si el uso de nuestro diseño de CLE, sin tener en cuenta las diferencias en el diseño para los dos grupos, había producido alguna evolución en las percepciones del alumnado en relación a nuestro modelo y su evolución como aprendices de un idioma, independientemente del grupo donde se encontrase. Hay que tener en cuenta que ambos grupos han sido objeto de una innovación tanto a nivel metodológico como de uso de recursos, con lo que era relevante realizar este tipo de comprobaciones. Una vez adoptamos esta perspectiva sí encontramos diferencias significativas entre las respuestas del alumnado en la administración inicial en enero y en la final en mayo.

Por lo tanto, podemos concluir, tras el análisis realizado en el Capítulo IV, que el alumnado percibió que nuestro modelo de CLE, según está descrito en el capítulo III, mejora su percepción de la experiencia de aprendizaje. Fundamentamos nuestra afirmación en el hecho de que las respuestas del alumnado a la mayoría de los ítems analizados son positivos, al menos hasta cierto punto, hecho que es en si relevante. Además, esas respuestas positivas constituyen una mejora estadísticamente significativa en los ítems del cuestionario de actitud que son de importancia crítica en relación al desarrollo de las destrezas comunicativas del alumnado, que es el principal objetivo de la enseñanza de idiomas. Así, el alumnado mejora en la percepción del desarrollo de su escritura, de su lectura y de su comprensión oral. En relación a la expresión oral, a pesar de que el número de respuestas positivas también fue alto, éste no alcanzo los niveles de significatividad estadística. Este hecho puede haber sido consecuencia de la ansiedad

situacional tradicionalmente producida por esta destreza: el alumnado tiende a desarrollar en menor grado la destreza de expresión oral debido a las presiones emocionales que se producen en el contexto del aula. Aparte de la mejora de la destrezas, nuestro alumnado también percibió que la implementación de nuestro modelo de aprendizaje en línea mejoró su deseo de seguir aprendiendo el idioma una vez terminara la enseñanza de secundaria post-obligatoria, aumentando así sus perspectivas para un aprendizaje a lo largo de la vida, uno de los parámetros clave para el currículum de esta etapa educativa, como se puede comprobar en la normativa vigente.

Además, incluso el alumnado que afirma no haber utilizado la vertiente online de nuestro CLE de forma regular reconoce que nuestro modelo proporciona un andamiaje positivo para el proceso de aprendizaje. Si consultamos los datos estadísticos de uso de la plataforma (logs), en donde podemos comprobar el uso real que el alumnado ha hecho de la plataforma de e-learning, podemos encontrar casos de alumnos y alumnas que, aunque prácticamente nunca utilizaron la plataforma, contestan a la pregunta número nueve del cuestionario de actitud (apéndice VII), sobre su percepción de su evolución durante el curso, que "ha sido buena, aunque estoy seguro de que hubiese sido mejor si hubiese dedicado más tiempo a la asignatura." A pesar de todo, es con el alumnado que realmente utilizó las herramientas en línea en donde podemos apreciar el mayor número de opiniones positivas. Por ejemplo, una alumna explícitamente expresa que su progreso ha sido bueno, especialmente en el desarrollo de su vocabulario y en la escritura, que son elementos clave en nuestro diseño en línea.

En la siguiente pregunta de investigación nos centramos en la percepción de nuestro diseño como una herramienta relevante para el aprendizaje. En la sección II.5.2 y II.5.4 vimos que la percepción del alumnado de las innovaciones tecnológicas son claves para predecir el éxito que puedan tener en relación grado de uso que estos hagan de ellas. Así, factores como la percepción de facilidad de uso (PEU, según su nombre en inglés) o utilidad percibida (PU, también según su nombre en inglés) pueden mediatizar las decisiones del alumnado (o del profesorado) de usar o no la herramienta propuesta. Estos factores, según Al-Busaidi y Al-Shihi (2010:3), pueden predecir la actitud, la intención y el uso real que se haga de las Tecnologías de la Información y las Comunicaciones. Basándonos en estos preceptos, quisimos sondear estos indicadores entre nuestro alumnado, con el fin de descartarlos, o no, como factores que

influyeron en el resultado de nuestro estudio, además de servirnos como cota de referencia para futuros estudios.

En la misma línea que para la pregunta de investigación anterior, analizamos los resultados de los grupos experimental y de control por separado con el fin de comprobar si existían diferencias significativas, dadas las diferencias metodológicas aplicadas con cada una de ellas. En este caso se dio la misma circunstancia que en el caso anterior y ambos grupos no presentaban diferencias significativas ni en la aplicación inicial ni en la aplicación final. Sin embargo, a diferencia que el anterior, cuando se analizaron los resultados obtenidos como un solo grupo, los resultados tampoco arrojaron diferencias significativas entre la primera y última administración. No obstante, los resultados son indiscutiblemente muy positivos. En todos los ítems analizados, las respuestas positivas representan más del 70% del total de respuestas, con alguno de los ítems superando considerablemente ese nivel. Así, el ítem 17 (anexo VII), en donde se les pregunta sobre su percepción de la competencia del profesor para gestionar la plataforma, llega a tener un 100% de respuestas positivas en el caso del grupo de control en la administración final del cuestionario. Además, se produjeron mejoras notables en algunos ítems entre la primera y la última aplicación del cuestionario. Por ejemplo, en el ítem 10, en donde se les preguntaba si consideraban que la plataforma, en términos generales, les ayudaba en el proceso de aprendizaje de una lengua extranjera, el 70,7% del alumnado en la aplicación inicial y el 74,5% en la aplicación final, consideraron que efectivamente les había ayudado. En el caso del ítem 12, en donde se les pide abiertamente si consideran que la plataforma de aprendizaje es una herramienta relevante para el aprendizaje del idioma, las respuestas positivas llegan a alcanzar el 93% en el caso del grupo de control en la aplicación final, y una evolución global del 83,9% al 89,3% de la aplicación inicial a la final.

Una vez analizados todos lo datos, podemos concluir que ambos grupos, independientemente de las peculiaridades del diseño desarrollado para cada uno, consideraron que nuestra plataforma era una soporte al aprendizaje relevante. Basamos nuestra afirmación en el número de alumnos y alumnas que respondieron positivamente a los distintos ítems del cuestionario, que fue evolucionando positivamente a medida que fue avanzando el curso. Esta conclusión se confirmó al realizar el análisis de los datos cualitativos proporcionados por el alumnado y el análisis de los datos estadísticos obtenidos de la plataforma. De hecho, el tiempo, y no la naturaleza del CLE parece ser la razón principal para contestar de forma

negativa, como se puede apreciar en los comentarios cualitativos que hace el alumnado en el ítem 19, que permite que el alumnado conteste de forma abierta sobre su opinión en términos generales sobre la plataforma. Por ejemplo, un alumno que había contestado "sí, pero no mucho" al ítem 12 sobre la relevancia de la plataforma, responde en el ítem 19 que "es una buena herramienta que te ayuda a aprender por ti mismo pero si no te puedes conectar regularmente, es prácticamente inútil para uno." En el caso de las respuestas negativas, se trata de alumnado que casi nunca entró en la plataforma. Más concretamente, 78% del alumnado que escogió la opción más negativa prácticamente nunca entró en la plataforma. Además, el 81% de estos alumnos y alumnas declararon en el ítem 19 que nuestra plataforma era una "buena herramienta." Otro dato que nos ayuda a confirmar lo prometedor de los resultados obtenidos en relación a la pregunta de investigación que nos ocupa, es la respuesta que obtuvimos de muchos de los alumnos y alumnas en el ítem diez, que preguntaba al alumnado en qué grado consideraban ellos que la plataforma les había ayudado en la práctica de una lengua extranjera. El alumnado que sí participó de forma relevante pero, a pesar de eso proporción respuesta negativas en este ítem en particular lo hizo en forma de queja ante el gran volumen de trabajo que el alumnado considera que debe realizar en el segundo curso de enseñanza secundaria post-obligatoria. Este hecho se puede apreciar en las respuestas que este alumnado produjo en el ítem 19, en donde se les invitaba a que valorase la plataforma en términos generales. Creemos firmemente que el alumnado considera que es la plataforma lo que les produce una sobrecarga de trabajo y no el resto de tareas que deben realizar en nuestra asignatura y en el resto de asignaturas del currículum debido a la fuerza que la tradición tiene en el proceso de enseñanza y aprendizaje formal en España. Es decir, el alumnado concibe que los exámenes y trabajos para casa, que son la base de la enseñanza tradicional en el sistema educativo en el que hemos implementado nuestro diseño son parte intrínseca del proceso de aprendizaje "normal." Sin embargo, nuestro diseño, que es una experiencia totalmente nueva para ellos, y que ellos mismos consideran abiertamente una "buena herramienta de trabajo" (ítem 19), está fuera de la norma, y por lo tanto es evitable.

Habiendo confirmado que nuestro alumnado tiene una percepción positiva de nuestro diseño de investigación en términos generales, y de nuestra herramienta en línea en particular, comenzamos el análisis de los resultados obtenidos en el estudio de los datos relacionados con las pruebas estándar de lectura, al principio del curso y una vez realizada la formación

diferenciada del alumnado del grupo experimental y de control en el uso de las estrategias de aprendizaje. En este análisis confirmamos que el alumnado de los dos grupos habían obtenido resultados compatibles para este estudio al inicio del curso, ya que ninguno de los dos grupos presentaban resultados significativamente diferentes en términos de lectura comprensiva. No obstante, con el estudio de los resultados obtenidos por el alumnado de ambos grupos al final del curso, tampoco existen diferencias significativas en las mejoras en la destreza de lectura comprensiva de ambos grupos. Por lo tanto debemos concluir que el uso de nuestro CLE, según lo describimos en el Capítulo III, no produce mejorías significativas en el desarrollo de la destreza de lectura comprensiva. En la interpretación de esos resultados nosotros consideramos que los hechos de haber tenido un periodo de tiempo de implementación tan corto, la falta de autonomía del alumnado y los problemas técnicos que tuvimos que afrontar durante el periodo de implementación pueden haber sido factores que impidieron la mejoría de nuestro alumnado en esta destreza.

En el caso del tiempo, como factor crítico, debemos concentrar nuestra atención en el tiempo que se le asigna a la asignatura de inglés como lengua extranjera en el currículum del segundo curso de enseñanza secundaria post-obligatoria, y también en el periodo de un solo curso escolar para la implementación de nuestra investigación. Sostenemos que tener sólo tres horas a la semana para el desarrollo de todas las destrezas implicadas en el aprendizaje de una lengua extranjera, además del resto de competencias presentes en el currículum del curso no es suficiente, especialmente cuando el alumnado va a estar con nosotros durante sólo nueve meses. Como vimos en la introducción al Capítulo III, el tiempo que necesita un individuo para aprender de forma competente una lengua va mucho más allá del periodo de un curso escolar. Además, nuestra formulación implicaba la introducción de una innovación metodológica y tecnológica, que también implica un proceso de aceptación por parte del alumnado que, a pesar de todo, ha demostrado haberse producido.

En lo que se refiere a la autonomía, como vimos en la sección II.5, debemos tener en cuenta que se trata de un factor clave para el aprendizaje en términos general, pero también para el aprendizaje de un idioma en particular. El uso de los recursos que hemos incorporado a nuestro CLE parece que fomentan el desarrollo de un mayor grado de autonomía en el alumnado ya que el uso de recursos basados en la web 2.0, que incorporan ingredientes del aprendizaje informal, trae consigo autonomía, diversidad, apertura y conectividad (Tu *et al.*:13-

14). Sin embargo, nuestro alumnado, que demuestra estar más acostumbrado a un contexto tradicional de aprendizaje, tienden a aceptar mejor actividades dirigidas por el profesor, que puede, de por sí, dificultar el desarrollo de aprendices más autónomos, lo que confirma la descripción de Selwyn (2009:372-373) del nativo digital como un usuario pasivo de los contenidos suministrados en internet. Por consiguiente, el uso de la plataforma de forma autónoma por parte de nuestro alumnado, aunque respaldado por la retroalimentación del profesor y su ayuda constante como forma de impulsar el auto-concepto de eficiencia, no alcanzó los niveles esperados. Conclusiones similar se han obtenido varios estudios consultados.

Las dificultades relacionadas con el tiempo y la falta de autonomía por parte del alumnado se complicaron con la aparición de problemas técnicos durante la implementación de nuestra investigación. La porción de tiempo que el profesor-investigador tuvo que emplear en simplemente desplegar una página de la plataforma en un momento determinado durante el proceso de implementación hizo imposible mantener la política de tiempos de respuesta recomendada para la buena gestión de los entornos virtuales de aprendizaje de este tipo. Esto pudo haber perjudicado al proceso de aceptación de la innovación del alumnado y, por consiguiente, al potencial para la promoción del aprendizaje de nuestra plataforma. De hecho, al analizar los datos obtenidos en el cuestionario de actitud, en el ítem 15, que pregunta al alumnado sobre su percepción del funcionamiento de la plataforma, un porcentaje considerable de ellos respondió que, al menos a cierto nivel, la plataforma no funcionó apropiadamente. Debemos reconocer que esto puede tener relación con el hecho de que el alumnado era inexperto en el uso de este tipo de recursos, pero no podemos descartar el hecho de que estas circunstancias hayan podido haber influenciado los resultados.

En relación a la pregunta de investigación número cuatro, que busca sondear las percepciones del alumnado en cuanto al uso o no de un número determinado de estrategias que tienen algún tipo de relación con la lectura, de forma directa o indirecta, el análisis de los datos arroja resultados interesantes. Como vimos anteriormente, existe una relación entre el uso de las estrategias de aprendizaje y el éxito en el aprendizaje de la lengua extranjera (existen innumerables referencias bibliográficas que lo avalan). En nuestro caso, nuestra intención es vincular el aumento de la conciencia sobre estas estrategias y la mejora de la destreza de lectura comprensiva en una lengua extranjera. Esto no se pudo confirmar de forma empírica, como ya

confirmamos anteriormente. No obstante, necesitábamos confirmar que efectivamente se había producido un aumento de la conciencia en relación al uso de las estrategias, dado el valor crítico que tienen en el aprendizaje de la lengua extranjera. Como instrumento para medir este nivel de consciencia en relación al uso de las estrategias, decidimos utilizar el Strategy Inventory for Language Learning (SILL) desarrollado por Oxford (1990)

Por lo tanto, habiendo formado abiertamente al alumnado perteneciente al grupo experimental en el uso de las estrategias de aprendizaje relacionadas con la lectura, como describimos en las secciones III.2.3 y III.4, nuestras expectativas iban en la línea de esperar mejores resultados en su uso por parte de precisamente el alumnado perteneciente a ese grupo. Sin embargo, el grupo experimental sólo supera al grupo de control en la percepción de uso de la estrategia de comparar palabras de su propio idioma y aquella de la lengua extranjera, ítem 19 del SILL, aunque hubiesen demostrado tener mayor sensibilidad al uso de las estrategias, según se despendía del análisis de los datos obtenidos en la implementación inicial en septiembre. Por otro lado, el grupo de control, que no tuvo ningún tipo de formación explícita en el uso de las estrategias de aprendizaje, muestra una mejora significativa en hasta siete estrategias diferentes, al comparar los datos obtenidos en la implementación inicial y la final del SILL. Las estrategias en las que la evolución del grupo de control supera a la del grupo experimental son las relacionadas con las de (i) usar palabras nuevas con el fin de recordarlas (ítem 2); la destreza de (ii) utilizar las palabras que conoce en la lengua extranjera de diferentes formas (ítem 13); (iii) tener el hábito de escribir diferentes tipos de textos en la lengua extranjera (ítem 17); (iv) la estrategia relacionada con la búsqueda de cada palabra que no se conoce en el idioma extranjero en el diccionario cuando se está leyendo (ítem 27); la estrategia de (v) hacer predicciones mientras se lee (ítem 28); cuando se pregunta al alumnado si (vi) busca nuevas formas de utilizar el idioma extranjero (ítem 31); y la estrategia de (vii) utilizar el idioma con otros alumnos y alumnas (ítem 48).

Nosotros sostenemos que esta discrepancia en los resultados de los dos grupo tiene que ver con el hecho de que se podría argumentar que ambos grupos han tenido diferentes grados de formación en el uso de las estrategias de lectura. Oxford (2011:181) establece cuatro niveles de formación en el uso de las estrategias de aprendizaje, que varían en base al grado en el que esta formación se ha realizado de forma explícita para el alumnado. Así, en el grado uno de esta formación, (i) el profesor utiliza las estrategias para el diseño de diferentes actividades de

aprendizaje, aunque las estrategias no se explican ni mencionan al alumnado. El profesor en el segundo nivel de formación en el uso de estrategias de aprendizaje simplemente (ii) menciona las estrategias y explica para qué son, pidiendo seguidamente al alumnado que las utilice. En el tercer grado, (iii) el profesor no sólo menciona las estrategias de aprendizaje, sino que además demuestra cómo usarlas, explica el contexto y el objetivo de la estrategia, y pide al alumnado que las use. Ya en el último nivel (iv), en donde se incluyen los distintos niveles anteriores, el profesor pide, además, al alumnado que reflexione sobre el uso que han realizado de las estrategias, que evalúe la evolución que han desarrollado en su uso, y que reflexione sobre el momento y la forma de transferir la estrategia en cuestión a nuevas tareas.

Siguiendo esta taxonomía, descrita en la sección III.3.2.3, el modelo de instrucción en el uso de estrategias desarrollado en nuestro curso diseñado a tal fin (*'The Strategy Workshop'*) podría decirse que fue diseñado para ser un nivel cuatro de formación en estrategias, ya que nuestro alumnado no sólo fue introducido al concepto de estrategia, a los distintos contextos de uso, con ejemplos ilustrativos, sino que además se les invita a practicar y a reflexionar sobre las diferentes actividades y los procesos de aprendizaje. Asimismo, se invitó al alumnado perteneciente al grupo experimental a practicar las estrategias, que habían sido introducidas en el curso diseñado a tal fin, en el curso para la práctica de la lectura (*'The Reading Corner A'*), con una referencia, que era fácil de acceder, a las distintas estrategias que podía poner en práctica en cada uno de las actividades propuestas en este curso. Por otro lado, el alumnado perteneciente al grupo de control no tuvo acceso a una formación explícita e informada del uso de las estrategias de aprendizaje. Sin embargo, sí que tuvieron acceso a su propio curso de lectura (*'The Reading Corner C'*) que replicaba las actividades propuestas en el curso de lectura propuesto para el grupo experimental. Estas actividades, como dijimos, habían sido diseñadas para fomentar el uso de estrategias de lectura, pero no incluían, en el caso del curso de lectura para el grupo de control, ningún tipo de referencia explícita ni a explicaciones de qué es una estrategia, en términos generales ni en particular de ninguna estrategia, ni de cómo deben ponerse en uso. Por lo tanto, este segundo curso de lectura podría representa el grado uno de formación en estrategias, y, por consiguiente, se podría decir que el alumnado del grupo de control tuvo acceso a este grado de formación en estrategias, según la definición propuesta anteriormente. Por consiguiente, teniendo en cuenta los resultados relacionados con el desarrollo de la percepción de uso descritos anteriormente, y aunque podría tratarse de una

conclusión que va en contra de lo que cabría intuir, podríamos concluir que el grado uno de formación en estrategias produce un mayor nivel de sensibilidad hacia las estrategias que el grado cuatro. Sin embargo, debemos reconocer que esto podría estar también asociado a parámetros como el de tiempo de implementación y nivel de vinculación del alumnado durante la aplicación de nuestro CLE (ver sección III.4.1 para más detalles.)

Los resultados para cada una de las preguntas de investigación expuestos aquí contienen implicaciones relacionadas tanto con el despliegue de diseños tecnológicos en educación, sobre todo aquellos que utilizan herramientas en línea de algún tipo, como del uso que este tipo tecnología debería tener en el contexto de la enseñanza de la lengua extranjera. Aunque esta implicaciones guiarán, obviamente, nuestra experiencia docente futura, nosotros creemos firmemente que también son válidas para los contextos que comparten similares características. Por lo tanto, formularemos nuestras implicaciones teniendo no sólo nuestro contexto en mente.

La primera implicación tiene que ver con las percepciones del alumnado en relación a su experiencia en la implementación de nuestro diseño combinado y la plataforma en línea que utilizamos para complementar la formación tradicional en el contexto del aula, que corresponden a las preguntas de investigación uno y dos. Como vimos en apartados anteriores, las percepciones son parámetros clave para el análisis del beneficio potencial que una innovación podría aportar al proceso de aprendizaje. Aunque estas percepciones dependen de un número de factores sobre los que no podemos influir como docente o investigadores, se debe tener en cuenta el hecho de que hayamos corroborado empíricamente que nuestro modelo mejora la percepción de la experiencia de aprendizaje. Por lo tanto, sugerimos que el diseño de la asignatura de inglés como lengua extranjera en el contexto de los cursos de secundaria post-obligatoria se realice siguiendo parámetros de enseñanza combinada presencial y a distancia, teniendo en cuenta las consideraciones detalladas en las secciones II.2 y II.5. Es más, teniendo en cuenta que en donde se producen mejores resultados es en el desarrollo de las distintas destrezas, consideramos que en los cursos de secundaria post-obligatoria, se empleen diseños combinados que vayan especialmente encaminados al desarrollo de estas estrategias, utilizando recursos en línea.

Teniendo en cuenta que nuestro propio diseño se basa en el uso de una sistema de gestión del aprendizaje (LMS) complementado por un e-portfolio, consideramos que el uso de

este software debe seguir formando parte del corpus de recursos relevantes disponibles para el apoyo al aprendizaje de una lengua extranjera en el contexto de la enseñanza secundaria post-obligatoria. Las características que engloba garantizan que se puedan desarrollar las diferentes destrezas lingüísticas en un contexto enriquecedor en relación a sus posibilidades de interacción y cooperación, al mismo tiempo que el profesorado puede hacer un seguimiento muy cercano de forma eficiente, proporcionar retroalimentación y facilitar las sinergias que son necesarias para que emerja la interacción constructiva. Nuestro diseño ha tenido en cuenta los requisitos planteados en la literatura, como sostuvimos en el Capítulo III, y ha obtenido buenos resultados en un gran número de los parámetros estudiados. Por lo tanto, como implicación es ulterior, consideramos que nuestro modelo cumple los requisitos para ser adoptado con garantías de éxito en contextos similares al descrito en esta investigación.

Por ende, nuestro diseño podría servir como base para una potencial implementación en modelos combinados en instituciones educativas con similares características a las nuestras. Sin embargo, consideramos que se necesita un análisis en profundidad de los parámetros asociados al éxito de la implementación de diseños tecnológicos en educación para conseguir un mayor grado de integración y, por consiguiente, mayores grados de aprendizaje. Si se consigue equilibrar los objetivos educativos y el tiempo de aplicación; si se incorpora formación explícita en desarrollo de autonomía en el alumnado; y se lleva a cabo una auditoría de la tecnología implementada, la introducción de un entorno corporativo de aprendizaje debería producir mejoras del aprendizaje significativas, especialmente relacionada con el desarrollo de las destrezas.

En relación al factor tiempo, extender el desarrollo del estudio a un periodo de tiempo de más de un año podría dar lugar a un aumento de las posibilidades de que el alumnado adopte nuevos métodos de aprendizaje que van más allá de la enseñanza formal tradicional. Si el proceso de difusión de la innovación se gestiona de forma correcta por los correspondiente agentes los y las aprendices desplegarán mayores índices de autonomía y compromiso, allanando el camino para cambios más profundos.

Por último, y en relación a la tecnología, la ausencia de mejoras en el grupo experimental en relación a la percepción uso de estrategias de aprendizaje y en la implementación de la destreza de lectura, debemos reflexionar sobre algunas implicaciones.

Así, las instituciones que adquieran el compromiso de poner en práctica este tipo de diseños deben valorar profundamente sobre el tipo de recursos con los que cuenta, tanto técnicos como personales, antes de llevar a cabo una generalización de los modelos combinados de enseñanza presencial y a distancia, parecidos a los descritos en el presente proyecto. Esto no quiere decir que existan instituciones que sí pueden implementarlos y otras que no, sino que las instituciones deberán adaptar sus diseños a los recursos con los que cuenta o podría contar.

APPENDIX I
OXFORD'S TAXONOMY OF LANGUAGE LEARNING STRATEGIES (1990)

DIRECT STRATEGIES		
MEMORY STRATEGIES	CREATING MENTAL LINKAGES	Grouping
		Associating/ Elaborating
		Placing new words into a context
	APPLYING IMAGES AND SOUNDS	Using imagery
		Semantic mapping
		Using keywords
		Representing sounds in memory
	REVIEWING WELL	Structured reviewing
	EMPLOYING ACTIONS	Using physical response or sensation
		Using mechanical techniques
COGNITIVE STRATEGIES	PRACTICING	Repeating
		Formally practicing with sounds and writing systems
		Recognizing and using formulas and patterns
		Recombining
		Practicing naturalistically
	RECEIVING AND SENDING MESSAGES	Getting the idea quickly
		Using resources for receiving and sending messages
	ANALYZING AND REASONING	Reasoning deductively
		Analyzing expressions
		Analyzing contrastively (across languages)
		Translating
		Transferring
	CREATING STRUCTURE FOR INPUT AND OUTPUT	Taking notes
		Summarizing
		Highlighting
COMPENSATION STRATEGIES	GUESSING INTELLIGENTLY	Using linguistic clues
		Using other clues
	OVERCOMING LIMITATIONS IN SPEAKING AND WRITING	Switching to the mother tongue
		Getting help
		Using mime or gesture
		Avoiding communication partially or totally
		Selecting the topic
		Adjusting or approximating the message
		Coining words
		Using a circumlocution or synonym

INDIRECT STRATEGIES		
METACOGNITIVE STRATEGIES	CENTERING YOUR LEARNING	Overviewing and linking with already known material
		Paying attention
		Delaying speech production to focus on listening
	ARRANGING AND PLANNING YOUR LEARNING	Finding out about language learning
		Organizing
		Setting goals and objectives
		Identifying the purpose of a language task (purposeful listening/ reading/ speaking/writing)
		Planning for a language task
		Seeking practice opportunities
	EVALUATING YOUR LEARNING	Self-monitoring
		Self-evaluating
AFFECTIVE STRATEGIES	LOWERING YOUR ANXIETY	Using progressive relaxation, deep breathing or meditation
		Using music
		Using laughter
	ENCOURAGING YOURSELF	Making positive statements
		Taking risks wisely
		Rewarding yourself
	TAKING YOUR EMOTIONAL TEMPERATURE	Listening to your body
		Using a checklist
		Writing a language learning diary
		Discussing your feelings with someone else
SOCIAL STRATEGIES	ASKING QUESTIONS	Asking for clarification or verification
		Asking for correction
	COOPERATING WITH OTHERS	Cooperating with peers
		Cooperating with proficient users of the new language
	EMPATHIZING WITH OTHERS	Developing cultural understanding
		Becoming aware of others' thoughts and feelings

OXFORD'S TAXONOMY OF LANGUAGE LEARNING STRATEGIES (2011:16)

METASTRATEGIES AND STRATEGIES IN THE STRATEGIC SELF-REGULATION (S^{2}R) MODEL OF L2 LEARNING	
METASTRATEGIES AND STRATEGIES	PURPOSE
8 metastrategies (metacognitive, meta-affective, metasociocultural-interactive): Paying attention Planning Obtaining and Using Resources Organizing Implementing Plans Orchestrating Strategy Use Monitoring Evaluating	Managing and controlling L2 learning in a general sense, with a focus on understanding one's own needs and using and adjusting the other strategies to meet those needs.
6 strategies in the cognitive dimension: Using the Senses to Understand and Remember Activating Knowledge Reasoning Conceptualizing with Details Conceptualizing Broadly Going Beyond the Immediate Data	Remembering and processing the L2 (constructing, transforming, and applying L2 knowledge).
2 strategies in the affective dimension: Activating Supportive Emotions, Beliefs, and Attitudes Generating and Maintaining Motivation	Handling emotions, beliefs, attitudes, and motivation in L2 learning.

3 Strategies in the sociocultural-interactive dimension:
 	
Interacting to Learn and Communicate
Overcoming Knowledge Gaps in
     Communicating
Dealing with Sociocultural Contexts and
     Identities
	Dealing with issues of contexts, communication, and culture in L2 learning.

APPENDIX III
TABLES DISPLAYING THE RELATION BETWEEN THE ACTIVITIES IN THE READING CORNER AND A SELECTION OF POSSIBLE APPLICABLE STRATEGIES

	Glossary	The Health mind map	Health forum	Comprehension Health
MEMORY	• Associating/ elaborating • Placing new words into a context • Structured reviewing	• Grouping • Using imagery • Semantic mapping		
COGNITIVE	• Practicing naturalistically	• Reasoning deductively • Transferring	• Reasoning deductively • Analyzing Expressions • Analyzing Contrastively (across languages) • Transferring	• Recognizing and using formulas and patterns • Getting the idea quickly • Reasoning deductively • Analyzing expressions • Analyzing contrastively (across languages) • Translating • Transferring • Taking notes • Summarizing • Highlighting • Using linguistic clues • Using other clues
COMPENSATION		• Using linguistic clues • Using other clues	• Using Linguistic Clues • Using Other Clues	
METACOGNITIVE	• Paying attention • Self-monitoring • Self-evaluating			• Overviewing and linking with already known material • Paying attention • Organizing • Identifying the purpose of a language task • Planning for a language task • Self-monitoring • Self-evaluating
AFFECTIVE	• Taking risks wisely; • Rewarding yourself	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself • Listening to your body

SOCIAL	• Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Developing cultural understanding • Becoming aware of others' thoughts and feelings

[Table with a reference to the possible strategies used in each activity in section 2]

	Which Country	Studying abroad	Predicting Erasmus	Structure for Erasmus	Comprehension Erasmus
MEMORY		• Placing new words into a context	• Placing new words into a context	• Placing new words into a context	
COGNITIVE		• Getting the idea quickly • Using resources for receiving and sending messages • Taking notes • Summarising • Highlighting	• Recognising and using formulas and patterns • Practicing naturalistically • Analysing contrastively (across languages) • Transferring	• Recognising and using formulas and patterns • Reasoning deductively • Analysing expressions • Analysing contrastively (across languages) • Translating • Transferring	• Recognising and using formulas and patterns • Getting the idea quickly • Reasoning deductively • Analysing expressions • Analysing contrastively (across languages) • Translating • Transferring • Taking notes • Summarising • Highlighting
COMPENSATION		• Using linguistic clues • Using other clues	• Using Linguistic Clues • Using Other Clues	• Using linguistic clues • Using other clues	• Using linguistic clues • Using other clues

METACOGNITIVE	• Overviewing and linking with already known material • Paying attention	• Overviewing and linking with already known material • Paying attention • Self-monitoring • Self-evaluating	• Overviewing and linking with already known material • Paying attention • Self-monitoring • Self-evaluating	• Overviewing and linking with already known material • Paying attention • Self-monitoring • Self-evaluating	• Overviewing and linking with already known material • Paying attention • Organising • Identifying the purpose of a language task • Planning for a language task • Self-monitoring • Self-evaluating
AFFECTIVE	• Making possitive statements • Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself • Listening to your body
SOCIAL	• Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Developing cultural understanding • Becoming aware of others' thoughts and feelings

[Table with a reference to the possible strategies used in each activity in section 3]

	End-of-Term Projects
MEMORY	• Placing new words into a context
COGNITIVE	• Practicing naturalistically • Getting the idea quickly • Using resources for receiving and sending messages • Reasoning deductively • Analysing expressions • Analysing contrastively (across languages) • Translating • Transferring • Taking notes • Summarising • Highlighting
COMPENSATION	• Using linguistic clues • Using other clues
METACOGNITIVE	• Overviewing and linking with already known material • Paying attention • Identifying the purpose of a language task • Planning for a language task • Self-monitoring • Self-evaluating
AFFECTIVE	• Making positive statements • Taking risks wisely • Rewarding yourself • Writing a language learning diary
SOCIAL	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings

[The strategies associated to the activity in sections 4, 7 and 10]

	Photo Contest
MEMORY	
COGNITIVE	• Recognising and using formulas and patterns • Getting the idea quickly • Reasoning deductively • Analysing expressions • Analysing contrastively (across languages) • Translating • Transferring • Taking notes • Summarising • Highlighting
COMPENSATION	• Using linguistic clues • Using other clues
METACOGNITIVE	• Overviewing and linking with already known material • Paying attention • Organising • Identifying the purpose of a language task • Planning for a language task • Self-monitoring • Self-evaluating
AFFECTIVE	• Using laughter • Making positive statements • Taking risks wisely • Rewarding yourself
SOCIAL	• Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings

[Strategies associated to the activity in section 5.]

	The Cards forum	Forum: Human relations	Your turn Card
MEMORY	• Placing new words into a context	• Placing new words into a context	• Placing new words into a context • Semantic mapping • Structured reviewing
COGNITIVE	• Practicing naturalistically • Getting the idea quickly • Reasoning deductively • Analysing expressions • Analysing contrastively (across languages) • Translating • Transferring • Summarising	• Recognising and using formulas and patterns • Practicing naturalistically • Getting the idea quickly • Using resources for receiving and sending messages • Reasoning deductively • Analysing expressions • Analysing contrastively (across languages) • Translating • Transferring • Summarising	• Using resources for receiving and sending messages • Analysing contrastively (across languages) • Transferring • Taking notes • Summarising

COMPENSATION	• Using linguistic clues • Using other clues	• Using linguistic clues • Using other clues	• Using linguistic clues • Using other clues
METACOGNITIVE	• Overviewing and linking with already known material • Paying attention • Self-monitoring • Self-evaluating	• Overviewing and linking with already known material • Paying attention • Finding out about language learning • Identifying the purpose of a language task • Planning for a language task • Self-monitoring • Self-evaluating	• Overviewing and linking with already known material • Paying attention • Identifying the purpose of a language task • Self-monitoring • Self-evaluating
AFFECTIVE	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself • Listening to your body
SOCIAL	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Developing cultural understanding • Becoming aware of others' thoughts and feelings

[Strategies associated to the different exercises in section 6.]

	Predicting	Have a look (choice)	Words with -ing	Reading comprehension
MEMORY	• Placing new words into a context • Structured reviewing		• Placing new words into a context	
COGNITIVE	• Analysing contrastively (across languages) • Transferring	• Getting the idea quickly	• Reasoning deductively • Analysing expressions • Analysing contrastively (across languages) • Transferring	• Recognising and using formulas and patterns • Getting the idea quickly • Reasoning deductively • Analysing expressions • Analysing contrastively (across languages) • Translating • Transferring • Taking notes • Summarising • Highlighting
COMPENSATION	• Using linguistic clues • Using other clues		• Using linguistic clues	• Using linguistic clues Using other clues

METACOGNITIVE	• Overviewing and linking with already known material • Paying attention • Identifying the purpose of a language task • Self-monitoring • Self-evaluating	• Overviewing and linking with already known material • Paying attention • Self-monitoring • Self-evaluating	• Overviewing and linking with already known material • Self-monitoring	• Overviewing and linking with already known material • Paying attention • Organising • Identifying the purpose of a language task • Planning for a language task • Self-monitoring • Self-evaluating
AFFECTIVE	• Taking risks wisely • Rewarding yourself		• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself • Listening to your body
SOCIAL	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings		• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Developing cultural understanding • Becoming aware of others' thoughts and feelings

[Strategies associated to the different activities in section 8.]

	Wait!! Don't read	Vocab attack	Structure of text	Your blog	The backwards reading
MEMORY	• Using imagery • Semantic mapping			• Placing new words into a context	
COGNITIVE	• Transferring	• Recognising and using formulas and patterns • Reasoning deductively • Analysing expressions • Analysing contrastively	• Reasoning deductively • Analysing contrastively (across languages) • Transferring		• Recognising and using formulas and patterns • Getting the idea quickly • Reasoning deductively • Analysing expressions

		(across languages) • Translating • Transferring			• Analysing contrastively (across languages) • Translating • Transferring • Taking notes • Summarising • Highlighting
COMPENSATION	• Using other clues	• Using linguistic clues • Using other clues	• Using linguistic clues • Using other clues		• Using linguistic clues Using other clues
METACOGNITIVE	• Overviewing and linking with already known material • Paying attention	• Overviewing and linking with already known material • Paying attention • Finding out about language learning • Self-monitoring	• Overviewing and linking with already known material • Paying attention • Identifying the purpose of a language task • Self-monitoring	• Overviewing and linking with already known material • Self-monitoring • Self-evaluating	• Overviewing and linking with already known material • Paying attention • Organising • Identifying the purpose of a language task • Planning for a language task • Self-monitoring • Self-evaluating
AFFECTIVE	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself	• Taking risks wisely • Rewarding yourself	• Making positive statements • rewarding yourself • Discussing your feelings with someone else	• Taking risks wisely • Rewarding yourself • Listening to your body
SOCIAL	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Asking for clarification or verification • Asking for correction • Cooperating with peers • Cooperating with proficient users of the new language • Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Developing cultural understanding • Becoming aware of others' thoughts and feelings	• Cooperating with peers • Cooperating with proficient users of the new language • Becoming aware of others' thoughts and feelings	• Developing cultural understanding • Becoming aware of others' thoughts and feelings

[Strategies associated to the different activities in section 9.]

APPENDIX IV
GUIDELINES CONSIDERED TO MANAGE OUR CORPORATE LEARNING
ENVIRONMENT (Gutierrez-Colón and Pladeval, 2009:3)

- The information should be regularly updated.
- The teacher should play an active role when moderating the forums in order to keep an active discussion going on.
- In order to increase an active participation to the class' forum, the teacher should give an extra bonus to the final grade to the students who regularly send their contributions to the classroom.
- The teacher should clearly distinguish a virtual course from a blended course when calculating the amount of workload sent to the virtual class.
- The materials created for a virtual environment should have different characteristics from those created for a face-to-face class.
- All students' messages should be answered within a maximum period of 24 to 48 hours.
- *Warm up* activities are very useful and many times necessary. At the beginning of each course or even each lesson, the teacher should send a warm up activity. This is not only a starter for the activity, but also a way of 'connecting' with the students, a more relaxed way to be in contact with them and thus the students do not have the feeling of distance.
- Teachers should allow more informal communication among the students. This could be done by: • allowing students to send informal messages to the fórum,   • opening a special space in the classroom for this type of communication ,   • sending a more relaxing message, with general information, after the deadline of the activities is over,   • prompting students to answer to a funny comment.
- The design of the classroom should be eye-catching, and the materials sent to the classroom should be perfectly organized, so their icons can be quickly found (and clicked) on the screen.
- There should be more complementary exercises, resources and information ready to be used from the beginning of the semester than in a face-to-face course. With these, we foster students' autonomy.
- Teachers should be used to working in the virtual environment they are using before starting the course.
- Keys to the exercises should be posted some time after the exercises. In this way, students can check their progress.
- The documents created should be well structured, with an attractive layout and with a font size and colour which are comfortable to read. The links should be really useful (otherwise it is a waste of time) and updated.
- The documents sent to our classroom should be easy to download. Usually a Word or pdf format is the best for this purpose.
- The instructions of the exercises should be short and clear. They should never be longer than a screen, so the student can scan and then read them (scrolling down the screen is always an uncomfortable action for a rather short activity). In the case of longer instructions, they should be divided into different sections.

APPENDIX V
INDEX OF FIGURES AND TABLES IN THE RESEARCH

CUESTIONARIO DEL ALUMNADO

- ## **Características personales del alumno**

Sexo

P1

chico	1
chica	2

Contacto con la lengua extranjera

P2   ¿Cuál es tu lengua materna?

Español	1
Otra (especifica: ....)	2

P3   ¿A qué edad empezaste a estudiar inglés?
      A los ….. años

P4   Aparte del inglés, ¿conoces o estudias otra lengua?

Sí (especifica: ....)	1
No	2

P5   ¿Has suspendido alguna vez alguna asignatura de lengua extranjera?

Sí	1
No	2

P6   ¿Tienes o has tenido algún tipo de contacto o convivencia con el inglés al
      margen de tus estudios escolares?

Sí	1
No	2

P7   ¿Alguno de los miembros de tu familia habla correctamente o entiende alguna
      lengua extranjera?

Sí (especifica: ....)	1
No	2

P8   ¿Tienes o has tenido clases particulares de inglés?

Sí	1
No	2

En caso afirmativo, especifica el motivo marcando con un √
        - para conseguir aprobar la asignatura
        - para hacer más ejercicios de conversación
        - para tener más horas de contacto con el inglés
        - para entender y solucionar problemas con la gramática
        - otro motivo. Especifica: ....

P9   ¿Has realizado estudios de inglés fuera del instituto?

Sí	1
No	2

En caso afirmativo indica dónde marcando con un √
        - Escuela Oficial de Idiomas
        - Academia
        - Cursos de Verano organizados por Instituciones privadas
        - Cursos de Verano organizados por Instituciones Públicas / oficiales
        - Intercambio con estudiante de habla inglesa
        - Otro. Especifica: ....

El alumnado ante el idioma

P10   ¿Qué opinas sobre las siguientes cuestiones?

Conocer una o más lenguas extranjeras ...	Nada de acuerdo	Poco de acuerdo	Bastante de acuerdo	Muy de acuerdo
a) ... es conocer otra cultura	1	2	3	4
b) ... aumenta mi nivel cultural	1	2	3	4
c) ... me permite conocer mejor el mundo	1	2	3	4
d) ... me permite tener una visión más amplia y ser más abierto y tolerante	1	2	3	4

P11   Indica en qué grado los motivos siguientes influyen en tu interés hacia las lenguas extranjeras.

	No influye	Influye poco	Influye bastante	Influye mucho
a) Viajar por otros países y poder comunicarme	1	2	3	4
b) Comunicarme con los extranjeros que nos visitan	1	2	3	4
c) Poder integrarme y vivir en otros países	1	2	3	4
d) Conseguir un trabajo mejor en España	1	2	3	4
e) Disfrutar de una educación y formación más completa	1	2	3	4
f) Entender TV. y cine en otros idiomas	1	2	3	4
g) Poder estudiar una carrera en otro país	1	2	3	4
h) Es un requisito para aprobar el curso	1	2	3	4

P12   ¿Estás de acuerdo con las siguientes cuestiones?

	Nada de acuerdo	Poco de acuerdo	Bastante de acuerdo	Muy de acuerdo
a) En nuestra sociedad actual el conocimiento de una segunda lengua extranjera es necesario	1	2	3	4
b) El inglés es una lengua extranjera muy importante en nuestras islas, debido a su industria turística	1	2	3	4
c) El inglés es requisito importante para acceder a puestos de trabajo en nuestras islas	1	2	3	4
d) El inglés es útil para estudios posteriores	1	2	3	4

P13   Hasta el momento, por lo que he vivido, oído , leído o visto en la TV. mi actitud hacia los países y las personas de habla inglesa es

Muy negativa	1
Negativa	2
Positiva	3
Muy positiva	4

P14   Por lo que he oído, vivido, leído o visto hasta ahora, considero que mi

conocimiento sobre estos países y su cultura es

Muy escaso	1
Escaso	2
Bueno	3
Muy bueno	4

P15   ¿Crees que tienes que tienes habilidades y que "se te dan bien" los idiomas?

Sí	1
No	2

P16   ¿Te gusta estudiar inglés?

Nada	1
Poco	2
Bastante	3
Mucho	4

P17   ¿Tienes intención de continuar estudiando inglés?

Sí	1
No	2

P18   Mi nota media en inglés viene siendo de ...

Insuficiente	1
Suficiente	2
Bien	3
Notable	4
Sobresaliente	5

NOMBRE:_____

GRUPO:_____

NUMERO CONTROL:_____

NÚMERO CONTROL:_____

CONCEPTO DEL IDIOMA

1 ¿Qué concepto tenía del inglés al inicio del curso?
   a   muy bueno
   b   bueno
   c   regular
   d   malo

2 Creo que el concepto que tenía del idioma ha cambiado con respecto al inicio del curso
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

3 ¿Cómo crees que ha cambiado?

4 Aunque antes no lo pensaba, ahora me gustaría seguir aprendiendo inglés una vez salga de segundo de bachillerato.
   a   sí, absolutamente
   b   sí, pero no mucho
   c   ya yo antes tenía claro que iba a seguir estudiando inglés
   d   creo que no
   e   no, absolutamente

5 Creo que ahora me es más fácil que al principio escribir en inglés
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

6 Creo que ahora me es más fácil realizar las tareas en las que necesito leer algo en inglés
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

NOMBRE:_____

GRUPO:_____

NUMERO CONTROL:_____

7   Creo que ahora me es más fácil entender lo que escucho en inglés, tanto si es de una grabación como si es del profesor o un compañero o compañera que habla.
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

8   Tengo la sensación de que me comunico mejor cuando hablo en inglés, aunque cometa errores
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

9   ¿Cómo consideras tu progreso en este primer trimestre

PLATAFORMA
10 La plataforma me ha facilitado la práctica del idioma.
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

11 Me ha gustado el aspecto que tiene la plataforma
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

12 Creo que una plataforma de este estilo es una herramienta muy importante para el aprendizaje de un idioma.
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

13 La plataforma me ha ayudado a ver que soy capaz de aprender por mi mismo.
   a   sí, absolutamente
   b   sí, pero no mucho
   c   creo que no
   d   no, absolutamente

NOMBRE:_____

GRUPO:_____

NUMERO CONTROL:_____

14 A medida que he ido avanzando en el curso y he realizado actividades he ido entendiendo las actividades propuestas
    a   sí, absolutamente
    b   sí, pero no mucho
    c   creo que no
    d   no, absolutamente

15 He sentido que la plataforma ha funcionado bien
    a   sí, absolutamente
    b   sí, pero no mucho
    c   creo que no
    d   no, absolutamente

16 Los problemas o mis preguntas se han resuelto a mi agrado
    a   sí, absolutamente
    b   sí, pero no mucho
    c   creo que no
    d   no, absolutamente

17 Creo que el profesor conoce lo suficiente de la plataforma como para guiarme en el proceso de aprendizaje en la plataforma
    a   sí, absolutamente
    b   sí, pero no mucho
    c   creo que no
    d   no, absolutamente

18 Me he sentido cómodo a la hora de poner mensajes en los foros y al enviar mensajes y me he sentido escuchado
    a   sí, absolutamente
    b   sí, pero no mucho
    c   creo que no
    d   no, absolutamente

19 ¿Cuál es tu opinión general sobre la plataforma?

AULA

20 El hecho de que parte del trabajo individual se haya realizado en la plataforma ha hecho que las sesiones presenciales sean más amenas
    a   sí, absolutamente
    b   sí, pero no mucho
    c   creo que no
    d   no, absolutamente

21 El hecho de que parte del trabajo individual se haya realizado en la plataforma ha hecho que las sesiones presenciales sean más relevantes para lo que yo creo que necesito.
- a sí, absolutamente
- b sí, pero no mucho
- c creo que no
- d no, absolutamente

22 Creo que existe relación entre lo que hago en clase con lo que hago fuera del aula en la plataforma
- a sí, absolutamente
- b sí, pero no mucho
- c creo que no
- d no, absolutamente

23 Mi relación con algunos alumnos o alumnas en el aula ha mejorado gracias a la plataforma.
- a sí, absolutamente
- b sí, pero no mucho
- c creo que no
- d no, absolutamente

24 ¿Cuál es tu opinión global sobre las actividades realizadas en el aula?

STRATEGY INVENTORY FOR LANGUAGE LEARNING (SILL)
(CUESTIONARIO DE ESTRATEGIAS PARA
EL APRENDIZAJE DE LENGUAS)
(Adapted from version 7.0 (ESL/EFL), © R. Oxford, 1989)

In this form you will find statements about learning English. On the separate worksheet, write the RESPONSE (1, 2, 3, 4, or 5) that tells HOW TRUE OF YOU THE STATEMENT IS. There are no right or wrong answers to these statements. Work as quickly as you can without being careless. This usually takes about 20-30 minutes to complete.

En este cuestionario encontrarás enunciados acerca del aprendizaje del inglés. Completa la hoja de respuestas que se te ha entregado anotando la respuesta (1, 2, 3, 4, ó 5) que indica el grado de VERDAD DEL ENUNCIADO CON RESPECTO A TI. No hay respuestas correctas o incorrectas para estos enunciados. Trabaja tan rápido como puedas pero no seas descuidado. Normalmente se invierte unos 20-30 minutos en completar las respuestas.

No.	RESPONSES/*RESPUESTAS*
1	NEVER or ALMOST NEVER true of me (0-10%) *Nunca o casi nunca cierto con respecto a mí*
2	USUALLY not true of me (25%) *Normalmente no cierto con respecto a mí*
3	SOMEWHAT true of me (50%) *Algo cierto con respecto a mí*
4	USUALLY true of me (75%) *Normalmente cierto con respecto a mí*
5	ALWAYS or ALMOST ALWAYS true of me (90-100%) *Siempre o casi siempre cierto con respecto a mí*

PART A

- I think of relationships between what I already know and new things I learn in English / *Pienso en relaciones que se pueden establecer entre lo que ya sé en inglés y las cosas nuevas que aprendo.*
- I use new English words in a sentence so I can remember them/ *Utilizo palabras nuevas en inglés en una oración para poder recordarlas.*
- I connect the sound of a new English word and an image or picture of the word to help me remember the word / *Relaciono el sonido de una palabra nueva en inglés con una imagen o dibujo de la palabra para que me ayude a recordar la palabra.*
- I remember a new English word by making a mental picture of a situation in which the word might be used/ *Para recordar una palabra nueva en inglés, creo una imagen mental de una situación en la que esta palabra se podría utilizar.*
- I use rhymes to remember new English words / *Utilizo rimas para recordar palabras nuevas en inglés.*
- I use flashcards to remember new English words / *Utilizo fichas o tarjetas para recordar palabras nuevas en inglés.*
- I physically act out new English words / *Represento por medio de acciones palabras nuevas en inglés.*
- I review English lessons often / *Repaso las clases de inglés con frecuencia.*
- I remember new English words or phrases by remembering their location on the page or on a board / *Recuerdo palabras nuevas o expresiones en inglés al visualizar su posición en una página o en la pizarra.*

PART B

- I say or write new English words several times / *Repito o escribo palabras nuevas en inglés varias veces.*
- I try to talk like native English speakers / *Intento hablar como los hablantes nativos del inglés.*
- I practise the sounds of English / *Practico los sonidos del inglés.*
- I use the English words I know in different ways / *Utilizo las palabras que sé en inglés de distintas maneras.*
- I start conversations in English / *Empiezo conversaciones en inglés por iniciativa propia.*
- I watch English language TV shows spoken in English or go to movies spoken in English / *Veo programas de televisión o películas en version original en inglés.*
- I read for pleasure in English / *Leo en inglés por placer.*
- I write notes, messages, letters, or reports in English / *Escribo notas, mensajes, cartas o trabajos en inglés.*
- I first skim an English passage (read over the passage quickly) and then go back and read carefully / *A la hora de leer un texto en inglés, primero lo leo todo rápidamente y luego lo vuelvo a leer más cuidadosamente.*

- I look for words in my own language that are similar to new words in English / *Busco palabras en mi propio idioma que se parezcan a palabras nuevas en inglés.*
- I try to find patterns in English / *Intento buscar modelos recurrentes en inglés.*
- I find the meaning of an English word by dividing it into parts that I understand / *Descubro el significado de una palabra en inglés separándola en distintas partes.*
- I try not to translate word-for-word / *Intento no traducir palabra por palabra.*
- I make summaries of information that I hear or read in English / *Hago resúmenes de lo que escucho o leo en inglés.*

PART C

- To understand unfamiliar English words I make guesses / *Adivino el significado de palabras desconocidas en inglés.*
- When I can't think of a word during a conversation in English, I use gestures / *Cuando no se me ocurre una palabra durante una conversación en inglés utilizo gestos.*
- I make up new words if I do not know the right ones in English / *Invento palabras nuevas si no conozco las correctas en inglés.*
- I read English without looking up every new word / *Leo textos en inglés sin buscar todas las palabras nuevas.*
- *Before I start reading a text, I make a picture in my head of what I think the text is going to be about/ Antes de empezar a leer un texto me hago una imagen mental de lo que creo que el texto va a decir.*
- I try to guess what the other person will say next in English */ Intento adivinar lo que la otra persona va a decir en inglés.*
- If I can't think of an English word I use a word or phrase that means the same thing / *Si no recuerdo una palabra en inglés utilizo otra palabra o expresión que signifique lo mismo.*

PART D

- I try to find as many ways as I can to use my English / *Intento buscar todas las maneras posibles para practicar mi inglés.*
- I notice my English mistakes and use that information to help me do better / *Reconozco los errores que cometo en inglés y utilizo esa información para mejorar.*
- I pay attention when someone is speaking English / *Presto atención cuando alguién habla en inglés.*
- I try to find out how to be a better learner of English / *Intento averiguar cómo aprender mejor el inglés.*
- I plan my schedule so I will have enough time to study English / *Planifico mi horario para poder tener suficiente tiempo para estudiar inglés.*
- I look for people I can talk to in English / *Busco gente con quien conversar en inglés.*
- I look for opportunities to read as much as possible in English / *Busco oportunidades para leer todo lo posible en inglés.*

- I have clear goals for improving my English skills / *Tengo objetivos claros para mejorar mis habilidades en inglés.*
- I think about my progress in learning English / *Reflexiono sobre mi progreso en inglés.*

PART E

- I try to relax whenever I feel afraid of using English / *Intento relajarme siempre que siento miedo a la hora de expresarme en inglés.*
- I encourage myself to speak English even when I am afraid of making a mistake / *Me animo a hablar en inglés incluso cuando creo que voy a cometer un error.*
- I give myself a reward or treat when I do well in English / *Me doy algún premio o recompensa cuando reconozco algún progreso en inglés.*
- I notice if I am tense or nervous when I am studying or using English / *Me doy cuenta de si estoy tenso o nervioso cuando estoy estudiando o utilizando el inglés.*
- I write down my feelings in a language learning diary / *Anoto mis sentimientos en un diario de aprendizaje.*
- I talk to someone else about how I feel when I am learning English / *Le cuento a otra persona cómo me siento cuando estoy aprendiendo inglés.*

PART F

- If I do not understand something in English, I ask the other person to slow down or say it again / *Si no entiendo algo en inglés le pido a la otra persona que hable más despacio o que lo repita.*
- I ask English speakers to correct me when I talk / *Pido a los hablantes de inglés que me corrijan cuando hablo.*
- I practise English with other students /*Practico el inglés con otros estudiantes.*
- I ask for help from English speakers / *Pido ayuda a hablantes de inglés.*
- I ask questions in English / *Hago preguntas en inglés.*
- I try to learn about the culture of English speakers / *Intento informarme sobre la cultura de los países de habla inglesa.*