The role of interactive whiteboards in English as a foreign language classes in Greece

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ABSTRACT
This study investigates the potential of the interactive board to affect the interaction in English as a Foreign Language (EFL) classes in Greece.

In Greece, the long term goals of the EFL classes are to prepare learners to cope with the demands of our times, that is, to use the target language appropriately to handle real world information in a wide range of interactional transactions. The Greek Ministry of Education, acknowledging these needs and the importance of interaction in EFL classes, proposes a syllabus that encourages communicative classrooms and activities that inspire interaction. Despite the innovations the curriculum suggests, there is research reporting that the teaching of English as a foreign language in Greece remains unchanged over the years.

Research in language classrooms has identified the positive effects of the multimodality and interactivity of the IWB on classroom interaction. Hence, I argue that IWBs have the potential to address the current lack of interactive communication in EFL classes in Greece. Currently, interactive whiteboards (IWBs) are being introduced in Greek state schools as part of a pilot project run by the Ministry of Education. Therefore, to study the potential of the IWB to encourage interaction and real communication in EFL classes in Greece is timely and important.

This research explores the extent to which the multimodality of the IWB can inspire pedagogical practices that would encourage further classroom interaction. This is achieved by studying the nature of interaction developed in EFL classrooms when the IWB is used. The research was conducted in private language institutes in Greece, where a number of classes were video recorded, transcribed and finally the data were analysed using the conversation analysis (CA) method. The findings indicated a change in relation to the participation patterns observed. The IWB was seen to act mainly as a mediator between the teacher’s questions and students’ speech by providing students with the scaffold to manage interpersonal transactions. In these transactions, students were observed to take an active role by participating when addressed as individuals, but also when not directly addressed. This occurred by producing utterances cooperatively as a whole class.
or, as individuals by producing private speech or overlapping. The teachers’ extensive use of the spoken mode and body language concurrently with a variety of combinations of the IWB modes, resulted in ‘high intensity actions’ which appeared to encourage multiple response sequences (MRSs).

It was concluded that a key factor in bringing about substantial difference in the classroom interaction was the way the teacher managed to organize the concurrent presentation of different modes as well as the way s/he navigated students to handle constructively their exchanges, rather than the multi-sensory input presented on the IWB or the functionalities of the medium itself. Thus, it was the teacher who made more effective use of the material presented through the IWB, which eventually encouraged more interaction in the classroom.

These findings are drawn from research into real classrooms, something which is missing from the Greek EFL literature. The research used a holistic approach, with interaction being studied in relation to the input that inspired it, together with the roles the participants took and the actions which were performed during these interactions. This holistic approach has led to new insights into how interpersonal interactions and the IWB affordances, interactivity and multimodality, intertwine and affect classroom interaction.
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ACRONYMS

AP: Adjacency pair
BECTA: British Educational Communications and Technology Agency
BERA: British Educational Research Association
CAE: Certificate in Advanced English
CEFR: Common European Framework for Reference for Languages
CIC: Classroom Interactional Competence
CLT: Communicative Language Teaching
CPE: Certificate of Proficiency in English
DCSF: Department for Children, Schools and Families
DfES: Department for Education and Skills
EFL: English as a Foreign Language
ESOL: English for Speakers of other languages
FCE: First Certificate in English
FFP: First Pair Part
FL: Foreign Language
IATEFL: International Association of Teachers of English Language
ICTs: Information and Communication Technologies
IRF: Initiate Respond Feedback
L2: Second language
MRS: Multiple Response Sequences
MLJ: Modern Language Journal
MoE: Ministry of Education
NSRF: National Strategic Reference Framework
OPIS: Operational Programme Information Society
OECD: Organization for Economic Cooperation and Development
PALSO: Panhellenic Federation of Language School Owners
SCT: Sequence Closing Third
SIG: Special Interest Group
SL: Second Language
SLA: Second Language Acquisition
SPP: Second Pair Part
TBLT: Task based Language Teaching
TCU: Turn Constructional Unit
TEFL: Teaching English as a Foreign Language
TL: Target Language
TRP: Transition Relevance Place
UoA: University of Athens
www: world wide web

ΥΠΔΒΜΘ: Υπουργείο Παιδείας, δια βίου Μάθησης και Θρησκευμάτων (Ministry of Education, Lifelong Learning and Religious Affairs)

Ε.Π.Ε.Α.Ε.Κ: Εκπαίδευση και Αρχική Επαγγελματική Κατάρτιση (Operational Programme for Education and Initial Vocational Training)

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I declare that the research contained in this thesis, unless otherwise formally indicated within the text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree, and does not incorporate any material already submitted for a degree.

Adamantia Gkiouzeli
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CHAPTER ONE

1 INTRODUCTION
This research deals with the teaching of English as a foreign language (TEFL) using the interactive whiteboard (IWB) in English Foreign Language (EFL) classes in Greece. More specifically, it describes the interaction developed in classes where the IWB is used and examines whether this interaction is enhanced as a result of the IWB integration in the classroom pedagogy.

1.1 Research requirement for EFL classes in Greece
The primary factors which signify the requirement of researching EFL classroom interaction in Greece and more specifically of considering in depth any factors which might influence classroom interaction are as follows: the status of learning English as a foreign language in Greece which prescribes the importance of classroom research; the limited volume of EFL classroom research in the country, as well as the prominence classroom interaction holds in the literature on foreign language teaching and learning. The current research approaches the above requirements via a consideration of the use of the IWB. In particular, this study concentrates on classroom interaction as a result of the enhancement of the IWB functionalities during a lesson. The IWB is chosen as a factor which might affect interaction in EFL classes and deserves to be studied for the following reasons:

First of all, there are indications reported in the literature that the IWB holds the potential to turn classes into being more interactive. Secondly, this technology is a novel application in the Greek education world. The IWB was originally introduced to a small number of Greek private and state schools due to individuals’ initiative, but since 2011, the IWB has been integrated in a small number of state schools, as part of a big project known as P78 ‘Pilot introduction of interactive systems and related equipment in the classroom for a digitally supported teaching’ (Legontis and Dagdilelis, 2013), run by the Ministry of Education (MoE). In-service Teachers’ training on how to use and integrate the IWB in their classes is also in progress (Legontis and Dagdilelis, 2013). As a result, at the moment there is a lot of discussion and concern as to what this medium could offer to Greek classes, or how the Greek education system could possibly benefit from it (Náppou,
This research could contribute towards this direction, therefore is considered timely and important.

The literature review on interaction in EFL classes, as this is presented in chapter two, as well as my personal experience, both as a student and as a teacher, concerning the importance of classroom communication promoted through meaningful interaction, gave the impetus to this research but also outlined the issues that this research is founded on. In the following pages I present the rationale of this research and the issues that it raises. I start with the presentation of the status of English language in Greek society as this would explain the importance the teaching and the learning of the language hold in the Greek educational system and this would prescribe the requirement of research contributing to these fields. I particularly concentrate on the needs of the EFL learners of today, because as it is discussed in the following sections and in chapter two, these define the teaching goals and the teaching methodologies which eventually affect classroom interaction.

Then, I present the nature of the Greek educational system and its limitations as these are described in the literature in relation to students' needs and to what the teaching and learning theories prescribe as conducive to language learning. Due consideration is paid to the use of Information and Communication Technologies (ICTs) in Greek classes, and the issue whether the IWB, which has recently been introduced in Greece, could possibly fit effectively in English language classes is raised. To this effect, what worldwide research discloses about the IWB use in classrooms so far is presented. In short, considering the needs that Greek reality prescribes, along with what the literature gaps indicate (concerning language learning and teaching theories as well as the classroom IWB use worldwide), I arrive at the aims of the current research which I present.

1.2 The Importance of English Language in Greece

Acknowledging the status of English as a global language with regard to business and prosperity, millions of people worldwide want to improve their knowledge of the language. For that reason, English has become the most widely taught foreign language in over 100 countries (Crystal, 2003). Clark, quoting the British Council, reports that by 2020 two billion people will be studying English (Clark, 2012).
In Greece, English has always been treated as a ‘de facto’ International language (Dendrinos, 2013). It has been the language that Greeks use abundantly in the fields of commerce, economy and technology. The knowledge of English improves the quality of Greek citizens’ communication with the citizens of other countries, who also use English as an international language, and at the same time facilitates their mobility. Moreover, it offers them the opportunity to take advantage of the permission for work and study in other member states of Europe. It is indicative, that due to the economic downturn the country has been experiencing since 2009 (Damme 2013), the number of emigrating Greeks has considerably increased compared to previous years. According to the Greek newspaper TA NEA (2013), during 2012-2013, the Greek immigrants in Canada increased by 155%, in Great Britain by 44%, in Norway by 49% and in many other countries, mainly within the European Union, and the facilitative role of the English language in this movement is underscored (TA NEA, 2013). The same newspaper reports that English language proficiency and academic qualifications were the main characteristics of the immigrants, who supported this mobility (TA NEA, 2013). Furthermore, Greece appears to send more students on a per capita basis to universities abroad, especially to Britain, than any other country in the world (Antoninis and Tsakloglou, 2001; The Economist, 2002).

Apart from the aforementioned opportunities that the knowledge of the English language offers to Greek citizens, there are additional gains which relate to children’s development. Research indicates that learning a foreign language can enhance global awareness, extend students’ understanding of the language as a phenomenon, promote opportunities to expand thinking, and above all, it can support the cognitive development of the child. In particular, Curtain (1990) and Walker (2004) contend that learning a language improves the overall performance of students. The Greek Ministry of Education (MoE) acknowledges the aforementioned gains of learning a foreign language and supports the usefulness of it (Diamandopoulou, 2002). As a result, today in Greece the learning of a foreign language, and in particular English, is considered as important as literacy, and numeracy (Diamandopoulou, 2002).
1.3 The status of EFL in the Greek curriculum.

The teaching of English as a foreign language has been holding a prominent position in the Greek education, both in the state and in the private sector for a long time (Greek Ministry of Education, Pedagogical Institute, 2003). Greece, being a member of the European Union which encourages multilingualism and pluriculturalism (European programme: ‘Promoting Language Learning and Linguistic Diversity’ Action Plan 2004-2006), has in the last few years expanded the teaching of foreign languages in the public sector from only English to include French and German. These languages, along with Spanish and Italian, are the most frequently taught languages in the Union (Commission Communication, 2005). However, English, has retained its status and is taught as ‘a first-priority foreign language’ (Sifakis and Fay, 2011) among the five languages mentioned above.

In 1992, the teaching of English was introduced in the fourth, fifth and sixth year of primary schools (dimotiko) as a compulsory subject for three hours per week. In 2003, the programme was expanded to the third year. In 2010, within the context of realizing the project known as: ‘New Foreign Language Education Policy in Schools: English for Young Learners’, English was experimentally introduced to 20% of the first Year (6-7 years old) of primary education: that means in 800 of the largest state schools of the country. In 2011-12 this project was expanded to 961 schools (Dendrinos, 2013). In lower secondary education (Gymnasio) English is taught 3 hours per week during the first year, and subsequently, in years 2 and 3 pupils are taught English for 2 hours per week and it is resumed later on in a number of universities.

It is noteworthy, that despite the fact that Greek students are taught English in state schools, the majority of them, attend additional classes in private language institutes, known as ‘frondistiria’, or receive private tuition on a one-to-one basis after school (Tsagari, 2009). As a result, today there are approximately 7,350 English language institutes in the country, where students of all ages spend at least five hours per week (ΤΟ ΕΘΝΟΣ, 2009). The Hellenic Statistical Authority (2009) reports, that Greek families are estimated to spend approximately 600 million euros in fees to English language institutes As well as for the purchase of EFL books (Εθνική Στατιστική Υπηρεσία, 2009).
One of the reasons why, in addition to school, learners attend EFL classes in private institutes is their aspiration to obtain language certificates (FCE, CAE, CPE) offered by the University of Cambridge, local syndicates (UCLES, ESOL), the University of Michigan and local testing agencies (PALSO, RCeI) (Gabrielatos, 2002, 2003), as these would facilitate them to realize their professional or educational plans (Tsagari, 2009). Additionally, as Tsagari advocates, there are also learners who hunt certificates for personal reasons such as self-esteem, as a result of belonging to the group of successful students (Tsagari, 2012).

Considering the needs of the Greek learners, as these have been presented above, and rehearsed by the European Commission in Brussels in 2005, the Greek Pedagogical Institute defines the goals of the EFL classes as follows.

The foreign language learners should be able:

- to communicate in different multicultural and multilingual environments.
- to respond to real world situations/demands outside the classroom.
- to familiarise learners with different ways of speech and thinking.
- to handle different types of information stemming from different educational resources (Greek Pedagogical Institute, Ministry of Education, 2003).

On the whole, the Greek Pedagogical Institute concludes that foreign language classes should aim at developing competent learners who would be able to face the challenges of the future. It is noteworthy, that the above goals as expressed above via the words ‘communicate’, ‘respond’ and ‘handle’ attribute a principal role to interaction.

1.4 Foreign language learning theories and the importance of interaction in EFL classes

Interaction and its relation to second language learning is an issue which has been researched for over 30 years and has raised a long, controversial debate especially during the last few decades (MLJ, 2007).

In fact, the importance of interaction in the foreign language classroom has been justified theoretically, as well as empirically by mainstream second language acquisition research (Long, 1983, 1985: Pica, Young and Doughty, 1987) as well
as by sociocultural theories (Lantolf: 2000; Lantolf and Appel, 1994; Donato, 2000; Lantolf, 2000; Swain, 2000). Though cognitive constructivists (Bruner, 1990; Piaget, 1972), sociocultural theorists and social constructivists (Vygotsky, 1978) all adopt perspectives that ascribe interaction an important role, they differentiate profoundly (Huitt, 2009) as to the degree to which social interaction influences the individual’s cognitive development. Cognitivists espouse an atomistic approach to discourse, highlight the individual construction of knowledge in response to the interaction with the physical world. Often cognitivism views interaction as neither important nor necessary. On the other hand, social theories assign interaction a central place which is of pivotal importance for language development (Alcon, 2002; Mackey and Gass, 2006; Mackey and Goo 2007; Spada and Lightbown, 2009). In this thesis I acknowledge that both cognitivism and sociocultural theories have contributed enormously towards our understanding of the nature of language learning development, each one from its own perspective: Cognitivists advocating the individual character of knowledge construction and sociocultural theories advocating the social character of knowledge, without however denying the role of mental processes. Therefore, although I have approached this research from the sociocultural point of view, I have done this without dismissing aspects of cognitivism which contribute to language development. After all, as Chapelle (2004) declares, ‘most researchers of instructed SLA would agree on the value of learner interaction for language development whether they take a cognitive, or a sociocultural stance’ (Chapelle, 2004:593).

1.5 Call for more communicative approaches in EFL classes in Greece
During the last few years, a number of factors, like the change of the principles of school pedagogy which is discussed in chapter 3; the adoption of the Common European Framework for language learning teaching and assessment (CEFR, 2008) and also the fact that Greece participates in the European programme, have enforced the government and the Pedagogical Institute to direct teaching practices towards the social character of knowledge by encouraging more communicative approaches (Pedagogical Institute, 2003). This attitude of the government is depicted in the aforementioned aims of the syllabus, at all levels of education, as well as in the different types of activities suggested for classroom use by the MoE (Pedagogical Institute) and by the National and Kapodistrian
University of Athens (UoA) (the Institute of Educational Policy and the Research Centre for Language Teaching, Testing and Assessment) (Dendrinos, 2013). Both of them view language as a social practice and suggest classroom activities which would stimulate interaction with the prospect of enhancing the development of young learners’ interpersonal communicative skills. In future, these skills are envisaged to facilitate students’ interaction with speakers of other languages in authentic social situations. The activities suggested by the Pedagogical Institute and the UoA (Dendrinos, 2013) are mainly of the type ‘learning by doing’, catering to individual pupils’ interests, preferences, learning styles, where learners are encouraged to take an active role in the learning process (Pedagogical Institute, 2003).

At the time of writing this research there was no classroom research reporting whether the aforementioned steps taken by the Pedagogical Institute and the UoA to encourage classroom interaction have been successful. However, there are a few studies (Karavas-Doukas, 1995; Mattheoudakis, 2007), based on in-service and pre-service teachers’ interviews accordingly, which report lack of interaction for real communication in Greek EFL classes. According to Karavas-Doukas’ study (1995), innovations that the curriculum suggests are rarely implemented as were initially intended, as teachers either reject the innovations entirely, or profess that they have changed their practices but in reality carry on as before (Karavas-Doukas, 1995). Mattheouthakis (2007) as well as Gabrielatos (2002) agree that the majority of teachers of English tend to place a heavy emphasis on the instruction of formal aspects of the language (grammar and vocabulary), which is considered to be a necessity, rather than a conscious choice. According to Mattheoudakis (2007), that comes as a result of the heavy emphasis the Greek educational system places on certified knowledge of foreign language learning (Mattheoudakis, 2007). Gabrielatos (2002, 2003) expresses a similar view, that most EFL teaching in Greece takes place in exam and certificate oriented classes (Gabrielatos, 2002, 2003). Mattheoudakis (2007) also argues that this emphasis on certificates leads to intensive teaching, exam-oriented, teacher centered approaches to language learning and teaching.
Thus, despite teachers’ awareness of the importance of classroom communication, it is common for teachers to adopt grammar based methodologies and the transmission model of teaching (Mattheoudakis, 2007). The teacher is the main mediator between the learners and the real world, the knowledgeable one, whose role is to impart knowledge, while the students often remain passive receivers of this knowledge. In these environments, the opportunities for real interaction and reflective activities are limited.

The vast majority of Greek students have been educated through this system (Mattheoudakis, 2007). Thus, despite student teachers’ and in service teachers’ academic background of the importance of classroom communication (Mattheoudakis, 2007), they appear unsuccessful in implementing practices which would encourage communicative approaches to language teaching. Apart from the studies of Karavas (1995) and Mattheoudakis (2007) which are based on interviews, I was unable to locate any classroom EFL research which would actually depict the particularities of classroom interaction and reveal the reality of the Greek EFL classes.

Therefore, firstly, given the importance the Greek EFL curriculum attributes to interaction and communication in order to prepare citizens to face the challenges of the future, secondly, given the decisive role language learning theories ascribe to interaction and thirdly, the lack of interaction for real communication in EFL classes in Greece, as this is reported in the studies of Mattheouthakis (2007) and Karavas-Doukas (1995), I reached the statement that to help Greek EFL students face the challenges of the future there is an imperative need for classroom research. To study possible reasons which hinder or enhance the implementation of curricular innovations, which ultimately encourage classroom interaction, or even to define the steps to be taken by the stakeholders to alter the situation, is out of the scope of this research. On the other hand, being a teacher myself, I thought that it would be more appropriate to examine ‘classroom interaction’ in EFL classes, from the point of view of a teacher and within the boundaries of my territory, which is EFL teaching and learning. Thus, the focus of this research is the pedagogical aspect of classroom interaction. More specifically, this research intends to offer a detailed description of the interaction in EFL classes in Greece.
It is envisaged that this description would provide invaluable information which could possibly direct teachers to reflect on steps that need to be taken to enhance classroom interaction. The conclusions from this research can subsequently direct stakeholders to specific routes that demand further research.

However, considering firstly that classrooms are embedded in our society and reflect its values and secondly that due to advancements in Information and Communication Technologies (ICTs) in the last few years, this society has undergone a number of changes that are reflected at school, at classroom level, it would be insufficient to concentrate on classroom interaction without examining the impact that information technologies, like computers, interactive whiteboards among others, may have on classroom interaction.

In the majority of the EFL classes in Greece, but also in the EFL classes of many other countries, where English is not an official language, students rely on their time in classrooms to learn the foreign language. The teacher and the course book are the main mediators between the students and the real world. Therefore, in these classes there is a constant demand for instances of real interaction and communication that would assist the EFL learning. There is a debate in the EFL teaching literature on how ICTs could best be implemented in classroom environments to promote interactive classes. Within this framework, at the time of writing this research, as it is presented in a following section (13), there is a developing debate on whether the IWB could enhance classroom interaction. At the same time, the Greek government has recently started investing in the IWB, by installing IWBs in classrooms and by training teachers, with the prospect of widely introducing this ICT in state schools in the near future (Dagdilelis, 2013). For this reason, classroom research contributing towards this direction would be timely and important.

To reinforce my argument for the importance of classroom research on interaction in relation to the implementation of the IWB in EFL classes in Greece, in the following sections (sections, 7 and 12) I present the status of a number of ICTs in Greek classes and the research reporting on factors like infrastructure and training, which have affected their implementation. Then, I present the literature which reports on the IWB potentials which gave the impetus for this study.
According to these reports, the IWB appears to combine a number of potentials which could cater for the needs of the EFL classes in Greece for more interactive and less teacher centered classes.

1.6 Information and Communication Technologies (ICTs) in education
In the last two decades there has been a worldwide debate about the future of our society in connection with the changes that the advent of ICTs has brought about in our lives. In these debates, the necessity of educational reforms which would facilitate the integration of ICTs has been accentuated. Pelgrum (2001), based on results from a worldwide educational assessment, reports that students, who are educated in ICTs environments, are offered the chance to get prepared as future citizens to survive in an information society (Pelgrum, 2001). Additionally, these students are offered different ways to approach information and learning. Indeed, many governments, especially during late 90s, have responded to reports like these and invested in ICTs in education (Hall et al, 2005).

Today, despite the fact that ICTs are available in many schools, they appear not to have been integrated into teaching and learning, neither as widely nor as thoroughly as it was hoped (Otto and Albion, 2002). Pelgrum (2002) refers to the most important recorded reasons that usually impede the effective use of the ICTs in education which are the limited infrastructure (equipment, software, internet, connectivity) of classrooms; the restricted access to the ICTs by both teachers and learners; insufficient staff development as teachers need to have the appropriate knowledge and skills to carry the suggested innovations; the school management which does not always offer the supportive climate needed for the use of ICTs (Pelgrum, 2002). Drawing on the above conclusions, in the following section I present the status of ICTs in Greek classrooms from the aforementioned aspects, namely school infrastructure and staff development. My intention is to bring out the reasons why the ICTs have not been taken up on the ground despite the government’s investment.

1.7 ICTs in Greek classrooms: the infrastructure
In Greek state schools, the majority of classrooms are equipped with a CD and sometimes a video and a DVD player (Ε.Π.Ε.Α.Ε.Κ ΙΙ, 2008:15). In 2011-2012 a survey was commissioned by the European Commission to ‘benchmark access,
use and attitudes to ICT’ in schools of 31 countries (EU 27, Croatia, Iceland, Norway, and Turkey) (European Schoolnet, 2012). The results from this survey referring to Greece in particular, admit that technological devices like overhead projectors or desktop computers are mainly located in labs which theoretically all classes have access to, although there are exceptions of desktop computers located in classrooms. The access of Greek students to available computers at school is considerably less compared to other European countries. It has been estimated, that there are 6 computers available per 100 students. That means that 15 to 20 students have to crowd all together in front of a computer, in case a teacher or a student decides to use it; and this usually happens mainly for presentation purposes. In case a teacher decides to make use of it, the frustration is still the same due to the fact that computers are not embedded in their daily routines. Under these circumstances, the use of computers located in the laboratory of a school usually becomes a nuisance for teachers who often avoid using it at all. As far as the broadband provision, or else ‘connectedness’ and the bandwidth in desktop computers are concerned, these are lower than the EU average. Fewer students have access to the IWB, among the lowest group of countries at grade 4 and at grade 11. On the other hand, at grade 8, Greece is ranked twelfth, above the EU level, with 85% of interactive boards located in classrooms. Greece has among the highest levels of deployment of mobile IWBs. It is worth noting that despite the relative scarcity of ICTs in classrooms, the frequency of the teachers’ use of the media in lessons is higher at all grades than the average in the EU. Drawing on the above reports, it seems that the limited number of computers in relation to the number of the students, impede their implementation in Greek classes.

1.8 In-service teachers’ training programmes on ICTs in Greece

Although many European countries invested on the implementation of ICTs in education as early as the early nineties, the Greek government has only recently started investing in a number of in-service teachers’ training programmes (‘Odysseia’-Hellenic Schools in the Information Society, 1996; Operational Programme Information Society’ (OPIS) 2000-2006, (85 million euros) (Legontis and Dagdilelis, 2013), as well as in the schools’ infrastructure in 1996 (Kokkinaki, 2010), thus aiming at a successful integration of ICTs in education.
There is research (Jimogiannis and Komis, 2006; Kiridis, Drosos and Tsakiridou, 2006; Fragouli and Hammond 2007; Legontis and Dagdilelis, 2013) evaluating the aforementioned programmes but also dealing with in-service teachers’ development (Jimogiannis and Komis 2006; Fragouli and Hammond, 2007; Legontis and Dagdilelis, 2013), and more specifically with teachers’ perceptions regarding the implementation of ICTs in education. It is worth noting that all these studies are based on interviews and questionnaires administered to primary or lower secondary teachers. The results reveal that the majority of the teachers present positive perceptions and attitudes for the classroom use of ICTs, and admit that they have the will to integrate ICTs in their teaching practices. On the other hand, they do not appear fully persuaded about the usefulness or the effectiveness of the immediate introduction of ICTs at instructional level (Jimoyiannis and Komis, 2007; Legontis and Dagdilelis, 2013). The results from the study of Kiridis, Drosos and Tsakiridou (2006) are similar, presenting similar teachers’ attitudes. Through the above mentioned programmes, teachers have acquired basic ICTs skills to support a range of planning and administrative activities at both class and school level. However, teachers admit that they still feel uncomfortable with their ICTs skills especially in working and implementing ICT in practice (Kokkinaki, 2010). They feel that they are not well prepared for introducing ICT in their classes but also that they do not have the specific teaching materials needed to guide them on how to use ICTs to teach (Emvalotis and Jimoyiannis, 1999). Primary school teachers seem to recognize the importance of the introduction of ICTs in teaching practices, however, they do not seem convinced that ICTs have the potential to improve the teaching of specific subjects.

As far as the frequency of using the ICTs is concerned, teachers admit that although they recognize the importance of the implementation of ICTs in their everyday pedagogic practices, they do not use them often as teaching tools (Atsoglou and Jimogiannis, 2012). Despite the initiatives of the MoE to encourage primary school teachers to implement ICTs in their daily practices, it seems that they feel uncomfortable with their ICT skills especially in working and implementing ICT in practice (Atsoglou and Jimogiannis, 2012).
1.9 ICTs in Greek Classes- Recommendations from the European Commission, 2012

The recommendations of the findings of the aforementioned survey of the European Commission (2012) referring to Greece admit:

the need for specific policies and actions to increase the use and effectiveness of the ICTs in the teaching and learning lessons. Apart from the availability of operational ICT equipment at the right place and time, which is not sufficient on its own, it is recommended for the infrastructure to be effectively used (the European Commission, 2012).

It is also recommended that

digitally competent and supportive teachers are needed. ICT based learning activities making easily and widely available to teachers examples of ICT based learning activities and scenarios validated by evidence as having a positive impact on learning and flexible enough to be adapted to different school /class contexts would also lead to progress (the European Commission, 2012).

Drawing on the literature review of the status of ICTs in Greek education and the above recommendations of the European Commission (2012) I focused my study on the use of IWB based activities in EFL classes. In fact, I decided to describe the interaction that an IWB might invoke in an EFL class because of the novelty of the medium and the reviews reporting on its potential, which are discussed further down.

1.10 The expansion of the IWB in education globally

The IWB is a novel technology which was introduced in education in the late 90’s. However, its use is already widespread in many countries. Due to the IWB’s fast and continuous expansion, accurate information on its diffusion is hard to give. Accounts provided by SMART, Promethean, Hitachi, and Julong (the main IWB manufacturers) claim that approximately 750,000 IWBs are used in educational establishments in almost 100 countries (for example UK, Canada, China, Mexico, Portugal, among others). In some of these countries its use is extensive, like in the UK, while in others, like Greece, it is steadily growing (IATEFL CALL Review,
Governments worldwide have invested enormous amounts of money in ICTs and specifically in IWBs in the education sector, envisaging the enhancement of pupils’ attainment by improving pedagogic practice (Organization for Economic Cooperation and Development (OECD) 2001, cited in Hall et al, 2005). It is estimated that in Australia the government spent almost $4.3 billion dollars on ICTs between 1999 and 2000 (Hall et al, 2005). In the USA over $700 million dollars were invested by the department of education on ICTs. In 2006 Mexico made a contract for 120,761 IWBs for grades 5 and 6 (The Case for Interactive Whiteboards for NSW Schools, 2008). Eight per cent of the estimated 78,000 classrooms in Andalucia will soon be equipped with interactive whiteboards. The project is being funded through a Spanish Government investment programme. In the UK, 63% of the primary schools in England and Wales had at least one IWB (BECTA, 2005). The overall figure for ICTs investment in the UK between 2001-2004, reached 1 billion pounds (BECTA, 2004). Out of this, 50 million pounds has been invested in IWBs alone (DfES 2003). Charles Clark, a former UK secretary of state for education and skills, stated that ‘Every school in the future will have an IWB in every classroom, technology has revolutionized learning’ (Arnott, 2004, cited in Gillen et al. 2005). In 2013, 70 percent of all UK educational establishments are equipped with IWB (Bray, 2013).

However, the IWB sales have recently dropped in southern Europe as the education budgets have been reduced due to the austerity measures the economic conditions have imposed (Bray, 2013). A report from the European Commission also records cuts in education budgets in 2010-2011 in 14 out of the 28 countries.

Contrary to the above reports, market research indicates an increase in the sales of the IWB as a result of the globally increased government funding to enhance their countries’ education system. The Global Industry Analysts (2012) project that the global market for the IWB is about to reach US$1.81 billion by 2018 taking into consideration the emerging economies of China and India (Global Industry Analysts, Inc., 2012). In the UK only, the IWB sales outperformed analysts’ expectations in 2012 by 18% (Bray, 2013). From the above numbers one can infer
that IWBs are still popular and not at all in a process of wearing off as it had been forecast in many personal blogs in the WWW. The continuously increasing number of schools equipped with IWBs deepen the implications for the effectiveness of the medium.

1.11 The IWB in Greek schools

Despite the fast expansion of IWBs in many countries worldwide during the last two decades, in Greece this new educational technology was predominantly introduced in 2008. At the time, there were only few schools which were equipped with IWBs and these were mainly private ones (October, 2008: records from personal field notes, interviews). Since then, this number has been increasing gradually. Nevertheless, it took them some time to fully implement its use in the teaching of all subjects (anecdotal interviews with the headmasters of the private schools: Douka; Kostea Gitona; Ziridis, appendix 4). What attracts one’s attention is the unprecedented expansion of the IWB in private language institutes, known as ‘frondistiria’ (personal anecdotal records after interviewing private language institute owners: Sept-Dec, 2008- Feb, 2009).

Schools in the public sector were initially dependent on the initiative of individual teachers and on parents who managed to raise money and equip the classrooms of their schools with this new technology (newspaper: TO BHMA, 2010). The MoE took action in 2010 when the minister of education announced the government’s intention to invest 1.39 billion in the development of ‘the New Digital School’, ‘where 616 million out of this would be invested in the development of a ‘digital’ classroom, with IWBs, personal computers for all students and educational software (newspaper: TO BHMA, 4-3-2010). At that time, it was apparent everywhere that there was a tendency towards new technologies and a ‘digital era’ in education. As part of the National Strategic Reference Framework (NSRF) acts (2007-2013) a number of projects, dealing with the training of teachers in new technologies, namely computers and IWBs, are in progress (Legontis and Dagdilelis, 2013). As a result, more and more IWBs are increasingly introduced in schools. Moreover, in 2011 a number of teachers started being trained in the use of this new technology with the prospect of gradually training other teachers. On the whole, the reports of these studies talk about teacher trainers and teachers adopting rather positive attitudes towards the integration of the IWB in Greek
classes (Legontis and Dagdilelis, 2013). Nevertheless, ICT trainers appear cautious whether interactive whiteboards will be used appropriately in teaching practice. It is suggested that this resistance might be reduced through practical, on-the-job training or teaching demonstrations showing ways the IWB could potentially be used in teaching (Legontis and Dagdilelis, 2013).

As aforementioned (page 14), the rationale for my decision on the subject of this thesis (to describe the interaction in EFL classes where an IWB is used and then draw conclusions as to whether there are indications that this ICT encourages classroom interaction), is first of all the fact that the IWB has been introduced in Greek schools recently and the IWB is at a piloting stage, so many teachers are not familiar with it yet. Legontis and Dagdidelis (2013) report that there are many teachers even teacher trainers, who do not seem totally convinced that the IWB has the potential to enhance their teaching practices (Legontis and Dagdidelis, 2013). Therefore, it is imperative to examine at this stage, firstly, whether this new technology fits into the context of the Greek classroom and its needs; then, to present ways that teachers and students can do things with the device that cannot be done just as well or better by existing means; and finally, validate with evidence whether this technology and the way it is used can enhance learning (Schmidt, 2004; the European Commission, 2013). Gillen et al (2006) allege that if the introduction of the IWB would be justified empirically, then there would be more chances for it to be positively accepted by teachers and successfully implemented in classroom practices. Then the IWB would be effectively, established as an ‘education-led’ instead of ‘technology led’-technology (Gillen et al, 2007).

Given the Greek situation, the teacher-centered classrooms, and above all, the need for more interactive classrooms (Mattheouthakis 2007; Karavas, 1998), I was directed towards classroom interaction and how the IWB could probably enhance this interaction, as I thought that according to the literature the IWB appears to combine a number of potentials, which are presented in the following section, and seem to offer teachers many flexible ways to adapt its use to the needs of the Greek EFL class.
1.12 The promising potential of the IWB in EFL classes in Greece

From a very first look at the literature review, I drew indications that the Interactive Whiteboard (IWB) seems promising for Greek teacher-centred classrooms and their demand for more interaction and real world communication as this was discussed above. According to the literature reports, the IWB is the first educational device expressly designed for whole-class teaching (Gillen et al, 2007) and indeed the IWB appears to offer increased opportunities for whole class interaction (Hennessy et al, 2007). Also, the IWB appears more compatible to Greek classrooms considering that contrary to the computer, which is designed to be used for private use or small groups, the IWB provides a big space and all the interaction with the hardware and software takes place within its familiar confines. The actual computer which the IWB is connected to, becomes invisible (Dudeney, 2006: in Cutrim 2008) and all students are potentially offered the opportunity to cooperatively work on the IWB’s big platform. So although the IWB appears to be ideal for teacher-centred classes, at the same time it seems to provide chances for more social teaching approaches, which as it was aforementioned, the Greek Curriculum encourages.

Jewitt et all (2007) refer to interactivity and multimodality as the two key features of the IWB which establish this technological device as a powerful pedagogic tool having the potential to revolutionize teaching and learning (Jewitt et al, 2007). The IWB is claimed to provide opportunities for interaction and discussion (BECTA, 2003:3), to motivate students as a result of the ‘high level of interaction’. Smith et al (2005) as well as Austin (2003) report that ‘students enjoy interacting physically with the board, manipulating text and images’ (Smith et al, 2005:94; Austin 2003). As far as the IWB’s multimodality is concerned, literature reports that it offers instant access to material from a variety of resources and modes (Glover and Miller, 2002); it guarantees seamless flow of the lesson (Smith et al, 2005); enjoyable and interesting lessons resulting in improved behaviour (Beeland, 2002; cited in Smith et al, 2005); multi-sensory input makes learning more memorable (Thomas, 2003 in Smith et al, 2005). The IWB, being a multimedia is ideal for stimulating the mind and enacting internal mechanisms (Smith et al, 2005; Levy, 2002). However, Twiner et al, (2010) instead of focusing on the IWB itself, examine how the IWB is utilised as one resource amongst others (2010:221).
Additionally, IWBs have the potential to help teachers bring aspects of the outside world into the classroom and thereby create more authentic contexts for situational learning (Somekh 2006). This attribute of the IWB is beneficial for both teachers and students, considering that in Greece, English has not got an official status but it is taught as a second language. Therefore, the EFL classroom constitutes the basic source of input of the target language for the student. Another report from the Institute of Education in the UK (Futurelab, 2007) suggested that IWBs are relatively easy to use and to integrate into classroom practice (Futurelab, 2007). The last two attributes could certainly positively motivate teachers who have expressed interest in integrating ICTs in their lessons but at the same time, they had reservations due to their lack of confidence regarding their ICT skills. Based on these first reports I decided that IWBs appear to hold a potential for Greek EFL classes and its participants, learners and teachers, and therefore worth further research in relation to the Greek context.

To sum up, the IWB potentials I shortlist above, which make the IWB appear promising for the needs of EFL Greek classrooms and therefore worth investigating are: the IWB is ideal for teacher centered classrooms but at the same time provides the potential for more social student-centered approaches. The IWB’s main functionalities, interactivity and multimodality, encourage classroom interaction.

1.13 The IWB in education
At the very early stages of the IWB’s initiation in schools, research was conducted by policy makers, manufacturers, academics and teachers and they all converged on the potential of the medium for promoting students’ engagement, for raising motivation and enjoyment, which would lead to the improvement of pupils’ attainment (Harrison et al. 2003; Passey et al, 2003; BECTA 2003; DfES 2004). On the whole, first responses coming from both teachers and students were in the majority positive and admitted that the IWB has improved both teaching and learning. Moreover, most of them reported students being highly motivated and their attention span having significantly increased (BECTA, 2003). Research also reported gains in children’s sense of positive identity (Somekh et al, 2006; Somekh and Haldane, 2006; Walker, 2003); increased enjoyment and motivation; positive impacts on behaviour (Adrian 2004); greater collaboration and
participation in lessons by pupils (Levy 2002; Becta 2003). Overall, the IWB along with visualisers are thought to have the most impact in the classroom since ICTs were first introduced in them (Test Bed Project, BECTA 2007). However, there was much debate whether this reflects the reality; many even expressed their concern that the IWB is a novelty that sooner or later would wear off.

Despite the overwhelming positive literature of the impact of the IWB on teaching, evidence on the potential benefits of the IWB on learners’ attainment and achievement is considered insufficient (Smith et al, 2005; University of Newcastle, 2005). The research conducted during the first decade of the integration of the IWB concentrated mainly on the value of the ‘surface’ features of the IWB and more specifically on those features which are related to pace, participation and collaboration (BECTA 2003). Moss et al (2006) raise the issue that the ‘surface’ features of the IWB may not be sufficient to enhance learning.

As far as the above presented research is concerned, which mainly reflects the first decade of the IWB classroom integration, Smith et al (2005) raise issues regarding its reliability and validity. They express concern for the quality of the data which are based on interviews, surveys, observations, field notes, questionnaires, and they study the IWB use from the perspective of both students and teachers. Therefore, this research can be considered neither objective nor reliable. Besides, as Smith et al (2005) comment, information related to the research methods used to analyze these data is also considered limited. They also report that they ‘were not able to identify rigorous studies describing the impact of the IWB on learners’ attainment or documenting actual changes in classroom interaction’ (Smith et al, 2005:92).

The conclusions drawn from the above reports firstly underline the gap in research as far as the EFL students’ language attainment is concerned and secondly highlight the research methodologies that would be considered reliable and offer the researcher the potential to reach sound and well-grounded conclusions regarding the effectiveness of the IWB use in a classroom.

Gillen et al (2006) express the view that there is a need for research on whether, or how teacher established practices, communicative processes and education
plans have evolved due to the IWB’s initiation in education (Gillen et al, 2006). Policy makers and manufacturers have claimed, that the introduction of the IWB targets the raising of students’ attainment through improving ‘pedagogic practice’ (Moss et al, 2007:285). In fact, practices are prescribed by pedagogies that define how these technologies could be used as it is not the medium itself but what teachers do with it (Virtual Learning, 2003; cited in Smith et al, 2005). However, existing studies provide limited insight into the developing pedagogy (Hennessy, 2007). If research proves that indeed the IWB could inspire pedagogies which could potentially change the nature of existing classroom interaction and eventually promote a different one, which would actually enhance the learning process, then the possibility of fruitfully engaging this technology in classrooms would be maximized. In fact, research has only recently started to investigate how experienced practitioners are beginning to creatively implement the functionalities of the IWB and how these may support the learning process (Hennessy, 2007:283; Haldane, 2007; Twiner et al, 2010; Schmidt, 2010).

Although some of the IWB literature deals exclusively with this quality of the IWB that encourages pupils’ ‘technical’ or ‘pedagogic interactivity’, namely, physical and verbal accordingly (Smith et al, 2005), the research failed to consider the quality of the interaction developed (Smith et al, 2005). In other words, it failed to consider interaction as joint meaning making, as a reciprocal act of communication (Esarte-Sarries and Paterson, 2003, cited in Smith et al 2005), between the teacher the learners and the medium. However, this quality of interaction has recently started being investigated in relation to the functionalities of the IWB (Haldane, 2007; Schmid, 2010). Contrary to Levy’s (2002) reports that patterns of interaction remain the same no matter whether an IWB is used or not, Haldane presents patterns of interaction which were triggered by the IWB (2007). He introduces ‘the development of learning threads’ as a result of verbal interpersonal interaction between the pupils and the teacher; the visual interaction between the pupils and the pictorial images on the IWB; cognitive interaction between the pictorial symbols on the IWB; teacher interaction with the content (verbal and on the IWB) and the pupils’ responses; interaction with the content via the technological facility of the medium (Haldane, 2007:269). He additionally takes
into consideration the IWB’s used modes by the participants for the construction of learning threads (Haldane, 2007).

At the moment, a stage has been reached where there is an expressed demand for in-service programmes (Schmid, 2010; 2013) that would enable the professional development of the teachers in order to subsequently improve their pedagogic practices and exploit the IWB effectively. Certainly, research can be a source that teachers could draw on in changing their practices.

1.14 The aims of the thesis
Drawing on the aforementioned literature review, on its findings and recommendations, as well as on its limitations, the current research aims firstly at describing the nature of interaction developed in EFL classes in Greece where the IWB is used and secondly, based on the above analysis aims at studying how the IWB affordances might influence classroom interaction. In short, this research studies the potential of the IWB to affect the nature of interaction in EFL classes in Greece.

The purpose of this detailed description of the nature of classroom interaction is first of all aimed at the particularities of what really goes on in a Greek EFL classroom environment and thus partially fill a gap in the literature as far as the Greek context is concerned.

Secondly, to reveal details of the interaction developed there and the different modes employed in sessions of interaction between teacher, students and the IWB. This aspect of the thesis runs along the same lines as Haldane’s research although the context and the methodology differ.

Thirdly, connections between types of interaction and modes of presentation used would lead to possible implications about the potential of the IWB affordances to affect classroom interaction. Any successful interaction instances where the multimodality/interactivity of the IWB had been effectively implemented could be used at sessions of teachers’ development according to the aforementioned literature recommendations. Therefore the aim of my research is to provide teachers with an informed study of the potential of the IWB to encourage EFL classroom interaction.
In this research I concentrate on the IWB’s affordances and functionalities which render the IWB capable of alerting, or directing participants’ attention to those parts of the language that could certainly fill gaps in learners’ knowledge of the target language. However, I focus on the fact that for all this to happen, the presence of a teacher, or a capable classmate, or even the IWB itself, is considered indispensable acting as a scaffold to the process of learning. As I previously claimed, the cognitive development of the individual is not denied; on the contrary it is considered as a result of the learner’s social interaction with knowledgeable co participants who can be either the teacher, other learners, or the IWB. On the whole, I see the teacher as the person who in reality mediates between the IWB and students and thus the input becomes noticeable. The focus of this research is on studying the extent to which the IWB mediated interaction could encourage classroom interaction with a long term prospect of enhancing the language learning process. Furthemore, it is anticipated to record possible pedagogical ways this can be achieved.

On studying the interaction developed, participants are observed to change roles. In careful reading of the literature review one can find short references on the roles participants change in instances where an IWB is used. For instance, Beauchamp and Parkinson (2005) refer to a shift towards teachers as ‘co-learners’ (Smith et al, 2005:92), while Levy (2002) talks about IWBs encouraging pupils ‘to alter their roles in classroom interaction by asking questions which can be explored immediately on the IWB’. In order to examine how participants interchange roles and thus better understand the nature of the classroom interaction, Goffman's (1981) categorization scheme of listeners and speakers will be adopted. This provides an alternative perspective of looking into this participation framework of the classroom and the nature of interaction developed. The continuous shift of participants’ roles which is reflected in the activities performed, change the dynamics of the class and thus the classroom interaction is affected too. Actually, according to sociocultural theory of Vygotsky (1987) the roles of ‘hearer’ and ‘speaker’ are ‘blurred’ because both speakers and hearers act collaboratively in order to produce utterances ‘which they jointly own’ (Ohta, 2000).
1.15 Methodology
For the needs of this research I used conversation analysis (CA) as the main method of research. I thought that CA would be the most appropriate method to use for the demands of this specific research because of its qualities in acknowledging the dynamic character of interaction and in encouraging its description as a whole entity and not in fragments.

The ultimate aim of this research project is to understand how young learners use language and contextual information whether this comes from the IWB or from other co-participants in order to communicate effectively in the target language and gradually learn from this process. It would be insufficient to examine the interaction developed between a student and the teacher without considering the role the other students in the classroom play, the way IWB was used, the modes utilized, the activities performed, the teacher’s goals and the practices she uses to implement them. With CA, this is achievable by studying: firstly, the turn taking organization and secondly, the sequence organization of interaction sessions taking place in these classes.

The turn taking organisation deals with the following issues:

- The turn allocation system. (Who speaks first, whether he self establishes the right to speakership, or he is other allocated this right).
- The actions that each of these turns perform.
- The roles the participants adopt for the realization of these actions.
- The role of the IWB in these exchanges.

The sequence organization deals with the following issues:

- The organisation of chunks of turns where an action is initiated, worked through and it is finally brought to a closure.
- The practices used for the above actions to be implemented. Their structural organization and the role the IWB plays in the practices.
- The different types of interaction developed in these series of turns (T-Ss-IWB).
- The modes employed in the series of turns. Possible correlation between modes, action intensity and the successful realization of these actions.

Moreover, CA brings to the fore the social origin of the self and the social nature of human beings without however depriving the researcher of studying the cognitive dimension.

1.16 Contribution to knowledge
The knowledge gained out of this study could contribute to theoretical and professional understanding of the teaching of English as a foreign language.

In this research I attempt to investigate the impact a multimodal ICT, like the IWB, may have in the interaction developed in an EFL classroom. The methodology used and its holistic analytical character offer me the chance to describe in detail the classroom interaction between student/students-teacher and the medium as a whole, not separately, and at the same time record and analyse contextual factors that impede or enhance this interaction. This approach of studying interaction brings to the fore the importance of the social factor in the development of interaction in multimodal environments without underestimating the cognitive factor which different functionalities of the IWB stimulate. The degree that each factor, human or cognitive, contributes to the development of interaction is discernible. Conversation analysis is a holistic approach which is used here to study interaction in multimodal environments. Without being a pure multimodal analysis, CA offers an alternative way of approaching the issue ‘interaction-IWB’.

It is anticipated to contribute to the field by providing teachers with insights which could direct their existing pedagogical practices towards a different exploitation of the medium. Thus, the seamless integration and implementation of IWBs in the Greek school society could gradually be managed.

Greek EFL classroom stakeholders (teachers, teacher trainers) could profitably use this study as a pilot study and expand it into a longitudinal research.

The transcriptions of the data can be used by other CA researchers to analyse and study different EFL classroom issues.
1.17 Conclusions
In this chapter I discussed the prominent position the learning of English as a foreign language holds in the Greek education system both in the state and in the private sector. The level of proficiency these learners aim at achieving is expected: firstly, to enable them cope with the demands which the multilingual-pluricultural environment of Europe places on them, that is increased opportunities for communication among Europeans which has created a demand for oral proficiency and secondly, to facilitate the realization of their professional or educational plans (Richards and Rogers, 2001). In particular, I noted that the Greek Ministry of Education (MoE), acknowledging these demands, proposes a syllabus which encourages activities which inspire more classroom interaction with the prospect of promoting more communicative classrooms. Having taken these steps, school children are expected to learn how to interpret and use the target language appropriately and effectively to handle real world information in a wide range of interactional transactions.

I also discussed that despite the innovations the Greek curriculum suggests, there are indications from the limited classroom research available, that the majority of EFL classes in Greece are mainly teacher-centred, and concentrate on the teaching of the formal aspects of the language, namely grammar and vocabulary. The concern addressed is that the teaching of language forms does not seem adequate to respond to the students’ long term needs as these are defined above, and to ensure that learners would be able to respond adequately to real life situations in the future. Learners seem to still need to master how to handle interpersonal transactions which they can accomplish in more interactive classrooms.

I briefly discussed the importance ICTs hold in the Greek education system, and based on the literature, I raised the issue that interactive whiteboards, which have recently been introduced in few Greek schools, seem to hold the potential to stimulate interactive classrooms, provided they have been effectively implemented in every-day classroom practices.

Then, I introduced the focus of this research which is the description of EFL classroom interaction where the IWB is used as well as the exploration of the
potential of the IWB to encourage interactive classrooms. I explained that to achieve that, I study the nature of interaction in EFL classes in Greece, using qualitative research and in particular conversation analysis.
CHAPTER TWO

2 INTERACTION

2.1 Introduction
The notion of interaction has been at the centre of interest for linguistics, sociology, pedagogy, among others, for over thirty years. Despite the long and extensive way interaction has been researched, today, in the fields of foreign language learning and foreign language teaching, which are interdisciplinary fields (based on linguistics, sociology, ethnomethodology), the notion takes various shades of interpretation depending on the role and weight of importance it has been attributed in the above fields, at different times.

More specifically, in the literature of foreign language learning as well as in the literature of foreign language teaching the notion of interaction is often found to be used interchangeably as negotiation, conversational interaction and negotiated interaction (Mackey, 1999), or some times as interactivity, or even as communication. There are also references to ‘genuine interaction’ (Seedhouse, 1995), or ‘authentic interaction’ (Nunun, 1987), or ‘social interaction’ (Walsh, 2006). However, most often, an explicit definition of the term is totally missing, which I would attribute: either to the nature of the term interaction (which may seem either simple and self-evident and therefore people may consider providing its definition superfluous), or it might appear to be a rather complicated concept when one attempts to examine it holistically, as an integral part of the teaching and learning processes, as they are both characterized by immense complexity in their own right. In this chapter, an effort is made initially to clarify this notion from the point of view of the EFL teaching and learning fields, and then present how interaction is conceptualised by the writer as a language teacher and researcher and consequently, how this is used in the current study. This clarification is important, because as it is discussed in the present chapter, it relates to what language is, and how it is learnt which both reflect the researcher’s ontological and epistemological views which after all have an impact on the research methodology and methods used.
I consider that a brief examination of ‘interaction’ from the perspective of: (i) linguistics; (ii) teaching theories; (iii) EFL learning theories and (iv) teaching methods, fields which are closely interrelated, is imperative, as this illuminates the importance of the concept ‘interaction’ and at the same time provides the rationale which underlies the decisions I have taken concerning the current research project.

More specifically, this succinct review intends initially to explain: why I have decided to focus on ‘interaction’; why I have concluded to examine ‘interaction’ from the perspective of the interactional view of language; why I have specifically concentrated on classroom interaction and then, intends to set the foundation for the discussion that follows in chapters four and five, on the research methodology and methods I have chosen for this project which, as it was mentioned above, reflect the ontological and epistemological stance of the writer.

Interaction has been central to the theories of second language learning and pedagogy since the 1980s (Gass, 1997). Specifically, the notion of interaction in an EFL classroom has long been discussed in the theories of the nature of language and theories of language learning which have served as the source for the principles and practices that foreign language teaching approaches are built on (Stern, 1983; Ellis, 1985; Brown, 1987; Richards and Rogers, 2001). In fact, the most broadly accepted way to improve foreign language learners’ proficiency, in the target language, is by introducing changes in the teaching methodologies employed (Richards and Rogers, 2001). After the late nineteenth century, every time linguists and language experts wanted to improve the quality of language teaching, they referred to general principles and theories concerning what language is, how language itself is structured, how languages are learned, how knowledge of language is represented and organized in memory, which are all questions that find answers in language theories as well as in theories of learning (Stern, 1983; Ellis, 1985).

Therefore, by looking at interaction in relation to the theories of the nature of language as well as the theories of foreign language learning, my intention is initially to underline the importance interaction holds in language theories and in learning theories; the implications the above theories have for interaction in
pedagogy; the importance of interaction as this is verified in the reports of SLA research; the importance of interaction as this is verified in the reports of classroom research. Subsequently, drawing on the above succinct review, I intend to discuss issues which have been raised from these theories and to present how these have informed the design of the current research as well as the analysis of the data.

2.2 Interaction and the theories of language.
Although there is no clear taxonomy of language theories (Krahnke, 1987), in the following paragraphs I briefly examine the structural view of language; the functional; the speech act theory; the interactional view of language as these have had a wide impact in EFL teaching (Krahnke, 1987; Richards and Rogers, 2001). My intention is to explore the role and weight of importance these language theories assign to interaction, which is the focus issue of this thesis. I consider this discussion essential as the theories of the nature of language delineate the concept of language and additionally provide an account of the basic features of the organization of the target language and its use. This knowledge determines the curriculum design and model of the language competence promoted (linguistic competence, communicative competence, or interactional competence) and explains why a specific theory has been used by language teaching experts as a basis to define: initially the objectives and the content of an EFL class syllabus and subordinately, at the level of method, the roles teachers and students are assigned; the material and the types of activities used (Richards and Rogers, 2001). All the above, namely, objectives, syllabus, teaching method, ultimately influence the type of interaction developed in a class (Tudor, 2001; Allwright and Bailey, 1991).

In short, I concentrate on theories of language as these define what language is, in a pedagogic sense, and subsequently determine the type of competence foreign language learners need to acquire to master the target language.

The type of competence pursued determines the objectives of the teaching of the target language, the syllabus and the teaching methods. The above points influence the type of interaction developed in a class.
2.2.1 The structural view of language

I start with the structural view of the language, not only because it is the view that has influenced the most renown teaching approaches of the previous century (such as the grammar translation method, the direct method as well as audiolingual method), but also because in EFL classes in Greece these approaches have not been superseded by the latest teaching approaches; instead, they are still used in combination with them (Mattheoudakis, 2006).

The structural view of language, which has its origin in the nineteenth century and Ferdinand de Saussure (1916), sees language as a system of structurally related elements: phonological (phonemes, morphemes, words, sentence); grammatical (clause, phrase, sentence); and lexical elements (function and structure of words) (Littlewood, 1981; Krahnke, 1987; Richards and Rogers, 2001). The teaching approaches, which have adopted this view of language, advocate that learning a language entails mastering the above mentioned elements and the rules that govern their structure, as well as the possible ways these elements can be combined to give structurally correct sentences. This knowledge is known as linguistic competence. The structural view of language was mainly adopted by the Grammar Translation method and Audiolingual method in the nineteenth century (Ellis, 1993), when language learners’ goal of learning a language was to be able to read and translate literature texts in the target language, rather than speak the language (Stern, 1983, Ellis, 1983). In other words, at the time, in the field of foreign language teaching the focus was the language itself and not the learner and how he can use the language to interact, communicate with others and thus accomplish his everyday transactions.

During 1979 and 1980 there was a big debate regarding structural approaches (Ellis, 1984; Krahnke, 1987). In fact, despite the positive characteristics of the structural syllabus, a number of academics (Krahnke, 1987; Ellis, 1984, 1989; Pienemann, 1989; or even before them, Palmer, 1934 and Corder, 1967) raised the issue that a structurally competent student, one who had developed the ability to produce grammatically correct sentences, was yet unable to perform simple communicative tasks to maintain social relations, to perform social interpersonal transactions. In other words, this learner faced difficulties when he was required to
interact with others in real life situations (Littlewood, 1981). Newman (1966) comments, that there were ‘structurally competent but communicatively incompetent’ learners (cited in Johnson and Morrow, 1981).

Today, that the needs of foreign language learners have considerably changed, as they mainly aim at learning how to manage interactional transactions in the target FL, the view of language as structure has also changed. However, the structural view of language is still reflected in more contemporary teaching methods such as Audiolingual (Brooks, 1964), Total Physical Response (Asher, 1977) and the Silent Way (Gattegno, 1972), (cited in Krahmke, 1987; Richards and Rogers, 2001). Moreover, there are teaching approaches, like the communicative language teaching, which may not be based on structural views of language, however they incorporate structural elements which often shape the curricula of popular EFL coursebooks.

2.2.2 The functional view of language

As opposed to the structural view of language, the functional view appears on the EFL stage and treats language primarily as communication. It is a view of language that has considerably influenced the way language has been studied or taught for years. A solid example is the communicative language teaching approach (CLT) which has been popular for over 20-25 years.

The linguists, Firth (1957) and Halliday (1973) advocate that examining language in isolation from its use and its social context, as was the case with structural approaches, cannot be considered adequate. On the other hand, the description of a language must include information on how and for what purposes, as well as in what ways language is used (Krahmke, 1987). The American linguist Hymes (1972) also expounds the aforementioned characteristics of the structural view (page 9) advocating that there are ‘rules of use’ without which the rules of grammar would be useless’ (1972:15), and accentuates the constitutive role of sociocultural factors that define these ‘rules of use’. As an answer to the limitations of the structural view, Hymes (1972) introduces the notion of ‘communicative competence’ (Hymes, 1972) which accounts for aspects of language knowledge that deal with whether something is: formally possible; feasible; appropriate; and whether it is in fact done, actually performed (Hymes,
1972:281). Additionally, Widdowson (1978) focuses on communicative acts of language and in specific, on how to use language for different purposes. Moreover, Canale and Swain (1980) expand on the four dimensions of Hymes’ communicative competence (1972), and refer to grammatical competence; to sociolinguistic competence (how to use the language appropriately considering the setting and the topic of communication, as well as the relationship among the interactants); to discourse competence (how to initiate, maintain, terminate or redirect communication to interpret the context where the communication takes place and how to construct longer and at the same time coherent stretches of language); to strategic competence (how to recognize and repair communication breakdowns, how to handle gaps in the knowledge).

The aforementioned scholars, among others, are against the sterile linguistic competence of the structural view of language, which concentrates on pure knowledge of the structure of the target language. On the contrary, these scholars bring to the fore the demand for learning a language for ‘meaning making’ (Savignon, 1971), that is to say participants interacting with each other in order to build meaning. In other words, these scholars concentrate on the communicative aim of the language, they perceive language as a vehicle to express, or accomplish certain functions appropriate to certain contexts. Eventually, the visions of these scholars find expression in a view of language which focuses on the functional and communicative dimension of the language and this has become known as the functional view. In short, the distinctive characteristic of this theory is that it does not concentrate exclusively on the grammatical aspect of a language, like the structural, but incorporates the semantic and communicative dimension of the language (Littlewood, 1981).

Some of the characteristics of this view of language, which is rather communicative, are summarized below:

- Language is a system for the expression of meaning
- The primary function of language is to allow interaction and communication
- The structure of language reflects its functional and communicative uses
The primary units of language are not merely its grammatical and structural features, but categories of functional and communicative meaning as exemplified in discourse. (Richards and Rogers, 1986).

To sum up, the functional theory of language recognizes the major role of interaction for meaning making which is after all the fundamental role of language. In fact, it gives priority to the study of language as a means for communication and then as a structural system.

2.2.3 The functional view of language and the communicative language teaching approach

After 1980, the functional view of language informed a number of communicative teaching EFL approaches, like the Communicative Language Teaching approach (CLT), which is sociolinguistically oriented, or the Task Based Language Teaching approach (TBLT) which is psycholinguistically oriented and both have retained their popularity for over 20-25 years (Richards and Rogers, 2001:226). They both give priority to the communicative and semantic dimensions of the language without ignoring its structural one. Littlewood (1981) points out that in the communicative approach, ‘the latest functional view of language and the traditional structural view are both combined to form a comprehensive perspective: the communicative’ (Littlewood, 1981: X). In other words, communicative approaches view language primarily as a means of communication without however disregarding the importance of the structure of the language and its grammar. Although grammatical competence plays an important role in the learning of a foreign language, it is not adequate on its own right, in case a speaker is required to hold meaningful communication. It involves knowledge of how to use the language for different purposes and functions; how to use the language in different settings with different participants; how to understand and produce different types of texts and even how to hold communication in cases where the language knowledge is restricted.

All communicative approaches, either explicitly or implicitly, bring to the fore the importance of interaction not only as a process of meaning making but also as
pedagogy. In fact, CLT combines a wide array of teaching principles and practices that are based on interaction (Savignon, 1991; Richards and Rogers, 2001). Viewing language as communication, emphasis is placed on using activities that promote the communicative purpose of a foreign language, a fundamental factor which constitutes a prerequisite for learning this language. Littlewood (1981) comments, that ‘Communicative language teaching relies heavily on the value of interaction of live, person to person encounters’ (Littlewood, 1981:5). So interaction is viewed as an effective way of teaching, while the use of different types of activities which aim at promoting different types of interpersonal interaction for the realization of a wide range of functions hold an important role in CLT (Brumfit 1984; Widdowson 1987, Savignon, 1991). On the whole, the interactive activities suggested by CLT aim at involving the learner in meaningful and authentic language for real communication (Clark and Silberstein, 1977:51), in contrast to the mechanical practice of language patterns that structural approaches adopt. These interaction activities encourage negotiation of information, information sharing, information gap and interaction. Frequently, the focus is on the individual learners’ production of appropriate, accurate and fluent, linguistically correct utterances, based on their previously acquired knowledge.

Overall, communicative approaches view language development as a result of providing students with interactional practice opportunities. The basic principles that these activities are based on, are summarized below:

(i) Activities that involve real communication promote learning.

(ii) Activities, in which language is used for carrying out meaningful tasks, promote learning (Johnson, 1982).

(iii) Language that is meaningful to the learner supports the learning process (Richards and Rogers, 2001:161).

The above principles address the conditions needed for language learning to take place, rather than the process of learning. In fact, in the CLT approach there is no direct reference to a learning theory, neither in Brumfit and Johnson (1979), nor in Littlewood (1981) (cited in Savignon, 1991: 265). On the other hand, in the CLT
literature, one can trace learning principles (Numan, 1991; Skehan, 1998) inferred from the teaching practices, which Littlewood (1981) and Johnson (1982) present.

As far as the design of a model of an EFL syllabus is concerned (a syllabus that would express the communicative approach and would define its content of teaching), there are different views which do not coincide. In the EFL literature, there are many syllabuses which have been presented through the years: Wilkins, (1976); Widdowson (1979); Threshold level English (van Ek and Alexander, 1980); Brumfit (1980); task based (Prabhu, 1983); and each one of them gives priority to a different aspect of the language, structures or functions, focusing on different purposes of the language. However, all of them agreed on the communicative competence as the goal of language teaching and all developed procedures for the teaching of the four language skills that acknowledge the interdependence of language and communication, or else the interdependence of language and interaction.

As Littlewood (1981) comments,

> Communicative purposes may be of different kinds. What is essential in all of them is that at least two parties are involved in an interaction or transaction of some kind where one party has an intention and the other party expands or reacts to the intention (Littlewood, 1981:5).

Although communicative approaches have gained great popularity all these years, today, over three decades later, one can still find in foreign language classes ‘structurally competent students’ who are unable to complete simple communicative tasks (Kumaravadivelu, 2006). In fact, students still lack communicative competence. Although there was a widely dispersed impression, at least in Europe, that ‘CLT classrooms reverberate with authentic interaction and communication’ (Kumaravadivelu, 2006:62) investigations conducted in the field by various researchers (Kumaravadivelu, 1993; Legutke and Thomas, 1991; Thornbury, 1996 among others) admit that the ‘so-called communicative classrooms examined were anything but communicative’ (Kumaravadivelu, 2006:62). More specifically, research conducted at the time suggests that real
communicative classrooms are rare (Burns, 1990; Kamaradivelu 1993; Long and Sato, 1983; Nunan, 1987; Walz, 1989; cited in Karavas, 1996). Although there are teachers who support that they have adopted communicative approaches in their teaching, research suggests that in practice teachers adopt more traditional approaches, more teacher centered, which means fewer opportunities for interpersonal interaction in the classes. Kumaravadivelu reports that ‘even teachers who are committed to CLT can fail to create opportunities for ‘genuine interaction’ in their classroom’ (Kumaravadivelu, 1993:113 cited in Kumaravadivelu, 2006).

The discrepancy between prescribed theory and practice was also identified in a study in public EFL classes in Greece (Karavas, 1996). In this specific case, the reason for the discrepancy was ascribed to teachers’ attitudes (Karavas, 1996). In particular, this study (Karavas 1996) focused on the degree of the teachers’ implementation of a student-centered communicative approach. Both the curriculum and the textbooks used in these classrooms were based on the principles of communicative language teaching. The study suggested that although the teachers theoretically held favourable attitudes towards the communicative approach, when they were observed ‘their classroom practices (with few exceptions) deviated considerably from the principles of the communicative approach’ (Karavas, 1996:193). Although some interaction was developed, it was superficial as it was not aiming at real communication or meaning making as CLT demands but it was rather treated just as an exchange of messages. On the whole, the level of interaction between participants remained low and teachers’ speech still dominated in the class (Karavas, 1996).

A question that arises at this point is, what the terms ‘real communication’, ‘real meaning making’, ‘authentic interaction’, ‘genuine interaction’ (Nunan, 1987), which one could come across with in the CLT literature, mean to a Greek EFL teacher or learner. This issue is briefly discussed here, because as it becomes obvious later on, it affects the design of this study and the analysis of the data. Having in mind that this discussion concerns the teaching of English as a foreign language in Greek classrooms, it is also important to consider how interaction and
communication are manifested in this particular environment, namely in EFL classes in Greece.

At the same time, one should differentiate between interaction which takes place in EFL classes in Greece and the interaction in EFL classes in the country of the target language. As Nunan (1987) explains, it is difficult to talk about authenticity or genuine interaction (Nunun, 1987) when the participants are not in the natural environment of the target language where they can either pick up the language naturally, or at least, they can be offered unlimited chances of practicing it in an array of real life situations. In Greece, like in other countries, where English is not an official language, either first or second, learners in order to learn the foreign language attend EFL classes which follow a specific curriculum. EFL students rely exclusively on the classroom teaching which is affected by an array of factors (like curriculum, syllabus, material, teacher, goals that need to be achieved, among others). As a result, the interaction developed in this environment, depends on the above factors as well. In fact, the teaching and learning of the target language take place in the institution of a classroom (which is discussed extensively in Chapter 4) and as such, the terms communication and interaction should be examined (Seedhouse, 1996). However, today, the issue of authentic communication has become partially debatable due to the access to multimedia and the internet. In the current research, without disputing the fact that classroom interaction is institutional (Seedhouse, 1996) and would always be, I would examine whether the integration of a multimedia, the IWB in this study, in Greek EFL classes affects the nature of the classroom interaction. In particular, this study examines the degree to which the integration of the IWB in EFL classes in Greece may encourage communication and interaction.

To summarize, in the discussion above I concentrated on the functional theory of language and the communicative teaching approaches this theory has inspired. In this theory, interaction is considered in terms of real life interpersonal transactions, where two or more people are involved and one party has an intention and the other party expands or reacts to this intention. The intention of this interaction is to establish meaning and therefore communication in as much as possible,
appropriate, accurate and fluent way in the target language. Mastering the TL means acquiring communicative competence.

2.2.4 Speech act theory

In this section I examine speech act theory as another theory of language which, as far as the current research is concerned, has offered me a different perspective on looking at classroom interaction and how communication between participants is gradually built.

This view of language has its roots in the work of a number of scholars like Wittgenstein (1958), Austin (1962) and Searle (1969). Searle (1969) accentuates the limitation of a structural view of language as studying symbols, words or sentences, and omitting the actual product of these elements as this is manifested in the actions performed; ‘the production of the symbol or word or sentence in the performance of a speech act’ (Searle, 1969). Wittgenstein (1958) acknowledges the importance of a view which would describe language ‘as a vehicle for naming things, conveying information or even enacting intentions according to rules, as an activity or form of life in its own right’ (1958). In fact, all the three, Wittgenstein (1958), Searle (1969), and Austin (1962) converge on the claim that a theory of language demands a theory of action. As a result, they introduce the view of language as an action. What is distinctive in speech act theory is that it acknowledges the fact that the ‘same’ utterance can perform a variety of different speech acts depending on the context in which it is found. Wittgenstein (1958), actually comments that analyzing just a single utterance in the language and suggesting that this utterance or word refers to a single definable class of phenomena is restricted. This view neglects to realize the fact that there is a wide variety of things that this word can do and various roles it can play depending on the context it is found in and the various roles this word can play in a multiplicity of language games (Wittgenstein, 1958, para 24).

The highlight of speech act theory is the importance it places on what is needed for an action to be effective. As Wittgenstein (1958), Austin (1962), and Searle (1969) suggest, it is important that an action be received by a listener, who is able to interpret the meaning of this action, in the way this was meant by the sender. For example, Austin (1962) suggests that for an act of promising to be effective,
the promisor must intend to promise and this promise to have been heard by someone, and be understood as promising (Austin, 1962: 22). Searle (1969), successor of Austin, provides a more sophisticated version of speech act theory and talks about underlying constitutive rules that specify how speech acts can be accomplished. As Drew and Kuhlen (2014) explain, Searle talks about certain conditions ‘felicity conditions’ (Drew and Couper-Kuhlen, 2014:7) that need to be met for a speaker to successfully perform a speech act. These conditions are mainly cognitive, as they refer to intentions, beliefs and knowledge, which actually drive an action, conditions that play a significant part in the performance of an action. Although Austin concentrated on showing that language is performative, and Searle on the conditions that need to be fulfilled for an action to be performed, neither of them dealt with how these actions are conducted through turns at talk in interaction (Drew and Couper-Kuhlen, 2014). Grice (1975) also talks about a set of maxims that underlie and provide for the cooperative use of language (cited in Levinson, 1983:241).

Drawing on the perspectives of speech act theory, and in particular, firstly on viewing language as performative, secondly, on the vital significance it places on the interaction between speaker and receiver, thirdly, on the complexity of their interpersonal transactions due to the multiplicity of meanings each turn may carry and lastly, on the importance of interlocutors’ cooperation in order to successfully manage meaning making, I decided that for the needs of this research, it is important to study the communication between interlocutors, teacher and students, by looking at streams of exchanges, sequences of turns and not at single utterances, isolated from the context where they are found. In this way, I would be able to study the gradual development of the interactions between participants which lead to successful communication between them.

However, Clark and Brennan (1991) argue that in speech act theory, the cooperative view of language for communication is not explicitly underlined. As in the other two views, the speakers produce utterances that convey a particular message and addressees have to approach these utterances in order to achieve the intended meaning (Clark and Brennan, 1991).
2.2.5 The Interactional view of language and Interactional Competence

In the preceding sections (2.2.3 and 2.2.4.) of the current chapter I discussed the functional view of language and speech act theory and focused on the role of language as communication and meaning making. In this section, I examine the interactional view of language which has inspired popular EFL teaching theories of today, like the Community Language Learning.

I focus on this theory as it accentuates the social character of language and emphasizes the cooperative nature of language for communication which, as Clark and Brennan (1991) argue, is not explicitly underlined in the functional theory or speech act theory. At the same time, it raises the importance of the ‘in situ’ development of language. By looking at the interactional view of language and its contextuality, I was urged to look at classroom interaction from this aspect, that is, from the cooperative nature of classroom interaction and its contextual character. I decided to concentrate on the cooperative nature of classroom interaction and on the way language is used in context for the realization of interpersonal transactions.

The interactional view of language focuses on the social character of the language because as La Forge advocates, ‘language is people; language is persons in contact; language is persons in response’ (La Forge, 1983:9). Language is considered as the vehicle for the creation and maintenance of social relations, the vehicle for the realization of interpersonal relations and for the performance of social transactions between individuals (Richards and Rogers, 2001). To manage interpersonal transactions, learners need to acquire interactional competence, a notion coined by Kramsch (1986). Interactional competence refers to the competence that would enable interactants to construct meaning together; meaning is seen as a joint endeavor and the emphasis is placed on the transaction and its accomplishment, rather than on the performance of the individual participant (Kramsch, 1986; Young, 2003; Walsh 2006, 2011, 2012).

Walsh (2012) advocates that interactional competence is ‘what is needed in order to survive most communicative encounters’ (Walsh, 2012). However, interactional competence does not merely refer to the competence that is demanded to manage simple every day interactional transactions, such as ordering at a
restaurant, or buying at a shop. It goes further, dealing with issues like how to compete for the floor in a conversation of groups of interlocutors bigger than a pair, how to gain the speakership, how to interrupt or even how to hold the speakership. Moreover, as it was discussed above (pp 51-52) in speech act theory, an utterance can carry multiple layers of meaning (Austin, 1962), although the intended meaning is one, therefore it is important for the receiver of a message to interpret the speaker’s intention in the way this was meant. This explains why Walsh (2013) has said that ‘The interactional competence is highly context specific and related very closely to the speaker’s intent and the audience’ (Walsh, 2012:3), an aspect which is not confined purely to what the functional view of language considers as communicative competence and meaning making, but also focuses on the successful transmission of information from a speaker to a listener which is achieved with the effective cooperation of both the sender and the receiver.

La Forge argues,

…communication involves not just the unconditional transfer of information to the other, but the very constitution of the speaking subject in relation to its other (...) communication is an exchange which is incomplete without the feedback reaction from the destinee of the message (La Forge, 1983:3).

The above extracts concentrate on the fact that communication is not simply the transfer of meaning from one speaker to the other, but the actual construction of meaning by the first speaker in relation to the receiver of the message. It is made clear that communication entails the co-operation of all the speakers who are involved in delivering, interpreting, receiving the message and finally reacting on receipt of the message. In other words, it is underlined here that communication is considered complete when the receiver of a message in some way notifies that it is so.

Interactional competence, as it has been discussed so far, mainly characterizes natural conversations of proficient speakers. However, as it was discussed above, in an EFL classroom context, learners attend classes to realize specific goals, and teachers follow a prescribed curriculum for these goals to be realized. Under
these circumstances the speech developed in EFL classes cannot be considered authentic or natural, but institutional (Schegloff, 1992; Seedhouse, 1995; Drew and Heritage, 1992). For that reason, the interactional competence required from students should be examined within this framework, that of the institutional. Acknowledging this factor, the concept is examined as Classroom Interactional Competence (CIC) in the EFL literature (Kramsch, 1986; Walsh, 2012). Classroom interactional competence is an aspect of language which foreign language learners are not usually taught directly. However, approaches which adopt the interactional view of language, like Community Language Learning (Curran, 1972; La Forge, 1983), place interaction in the centre of teaching and learning and argue that by offering learners opportunities to develop their CIC, opportunities for learning are maximized too. In particular, Walsh (2011) defines CIC as:

Teachers’ and learners’ ability to use interaction as a tool for mediating and assisting learning (Walsh, 2011:158).

Therefore, CIC advocates suggest practices that enhance CIC in classroom environments which are student-centred and interaction focused. In fact, learning is regarded as a social activity which, according to Larsen-Freeman (2010), is strongly influenced by involvement, engagement, and participation; where learning is regarded as doing rather than having (Larsen-Freeman, 2010).

Larsen –Freeman attributes learning to students’ involvement in activities and not to their personal innate capabilities. In the same line, Markee (2008) suggests that knowledge develops gradually from the involvement of participants-interlocutors who cooperatively develop speech which is context specific.

Developing interactional competence in a second language involves learners’ co-constructing with their interlocutors locally enacted, progressively more accurate, fluent and complex interactional repertoire in the L2 (Markee, 2008:3).

and he suggests three components

1. language as a formal system
2. semiotic systems, including turn taking, repair, sequence organisation, 
3. gaze and paralinguistic features
(Markee, 2008:3)

Markee (2008) does not view language exclusively as a structural system that needs to be studied formally, as a subject that needs to be taught. He views language as a system where interactants cooperate and gradually build meaning based on the language itself but also on contextual paralinguistic features that interactants can withdraw meaning from.

In the above sections I discussed the language theories: structural, functional, speech act theory, interactional view, and I also referred to some popular language teaching methodologies that the above theories have inspired: structural approach, communicative language teaching, community language learning and classroom interactional competence (CIC). I have looked at these language theories and the teaching approaches they have inspired from the point of view of the importance they attribute to interaction and the role interaction holds in the teaching approaches. It was underlined that in structural approaches interaction is mainly confined to the exchange of information between interactants, sender and receiver; secondly, that in communicative approaches interaction is viewed as meaning making, while in the interactional theories, interaction takes a central place as a cooperative process among interactants for the realization of interpersonal transactions.

In this review I examine language within the framework of the interactional view of language as this coincides with the construction theory, which as I explain further down, in chapter 4, represents the way I perceive world realities. This examination is done in relation to the aims of the Greek school pedagogy as described by the MoE in the national curriculum aim at developing competent learners who would be able to face the challenges of the future (chapter one, section 5).

2.3 Interaction, learning theories and language teaching approaches
In this section I examine the importance learning theories ascribe to interaction in EFL classrooms and discuss how these theories have influenced EFL pedagogy, and as a result, classroom interaction. Drawing on this review, I present insights
into my rationale of concentrating on the nature of interaction developed in an EFL classroom.

Second language learning, or SLA (Second Language Acquisition) is an ‘independent’ and ‘autonomous’ discipline which developed in the last 40-50 years (Gass, 2013). Before that, as it is discussed below, it was the language learning theories dealing with the acquisition of the native language which exerted an enormous influence on the teaching of a second language. Today the second language acquisition (SLA), apart from being an independent field, is also an interdisciplinary one which has been approached by scholars coming from a wide range of backgrounds like sociology, psychology, education and linguistics among others. Each one of these disciplines has studied SLA from a different perspective, using its own way of approaching the data as well as its own research methodology. Although this plurality of disciplines in the same field (sociology, psychology, education, linguistics), dealing with the same issues, brings about confusion, it has nevertheless offered the field quite a detailed picture of the phenomenon of language learning (Gass, 2013).

In the following sections I specifically concentrate on the second language learning theories: behaviourism, the interactional approach and sociocultural theories, as they have inspired teaching language approaches, pedagogies and the design of coursebooks and in this way they have affected classroom interaction.

Over the last two decades a number of different language learning theories, especially sociocultural, have appeared on the stage (Atkinson, 2011). Before that, and for more than thirty years, the cognitive approach was the prevalent learning theory in SLA. However, despite the appearance of many sociocultural theories in SLA, Sharwood (1991), in an effort to accentuate the predominance of cognitive approaches over social approaches, comments that the ‘cake’ of SLA is still cognitive, while its ‘icing’ is the social. The intent of reviewing both cognitive and sociocultural learning theories is to explore the status of interaction in them and most importantly, to examine how these theories have affected language teaching methodologies and pedagogy.
2.3.1 Behaviourism

Behaviourism is predominantly a first language learning theory, which has enormously influenced the study of second language learning both at the theoretical as well as at the practical level (Littlewood, 1981). In fact behaviourism was the prevalent theory of language acquisition until the 1970s and it was founded on the principle that a human being can learn a language, which is not considered a mental activity, in the same way like any other human behaviour. According to Skinner (1957), who is the main proponent of behaviourism:

Learning happens when in the presence of a specific stimulus a specific response succeeds (Van Patten, 2007:3)

The main second language teaching approach which draws on behaviourism is the Audiolingual approach which adopts the above principle, and therefore argues that a learner who is exposed to specific language input, controllable by the teacher, through imitation, practice or analogy, manipulates this input and thus learning takes place. Even today, in every day classroom practice, teachers adopt activities that originate in behaviourism. In these activities, either the teacher herself, or the media, present linguistic items of the language and learners are expected to acquire them through practice that involves imitation or memorisation. The type of interaction involved in these activities is limited to the exchange of messages between the teacher as a sender, and the student as a receiver (Littlewood, 1981). Even today these types of activities are used in EFL classes which are not centred on behaviourism.

2.3.2 The Interaction approach and meaning making

The interaction approach is an EFL learning approach which is based on cognitivism and views language learning as an innate, mental process, dependable on an individual’s cognitive processes like recognition, recollection, reflection, application, creation, understanding and evaluation. Despite the concentration that the interaction approach displays on cognitivism, at the same time it brings into the fore the role of interaction in the process of learning which however remains ancillary. It draws on EFL learning theories like Krashen’s Input Hypothesis (Krashen, 1982, 1985), on the Output Hypothesis (Swain, 1985, 1995), and above all, on the Interaction Hypothesis (Long, 1985) which are
exclusively EFL learning theories. The interaction approach has evolved over the years and today appears in the EFL literature as an interaction approach and not as interaction hypothesis (Gass and Mackey, 2006).

It is important to note that before the EFL learning theories, the Input Hypothesis (Krashen, 1982); the Output Hypothesis (Swain, 1985); the Interaction Hypothesis (Long, 1985) were developed, structuralism, which views language as a system of structurally related elements, was the prevalent language theory. The notion of communicative competence (Hymes, 1972) and the functional view of language, where language is considered primarily as meaning making, had just appeared on the stage. Hatch (1978) was one of the first who talked about the importance of interaction in the process of L2 learning and the first who suggested that interaction is an area that deserves to be widely researched (Hatch, 1978:62, cited in Gass, 1997). Indeed, her seminal work triggered subsequent work on interactional modifications in L2. Hatch (1978) used a discourse analysis approach to study the acquisition of L2 by children and adults in a naturalistic environment.

In an effort to link the learning of functions and forms, we have suggested that the researcher must transcribe and examine not just the child’s production of speech but also the speech of those with whom he talks. We assume that input (some portion of which must be intake) is an extremely important factor in the order of acquisition of various syntactic forms and functions (Hatch, 1978: 403).

Not only does Hatch (1978) introduce the importance of ‘interaction’ and ‘input’ in the process of SLA, she also indirectly introduces the importance of social ‘context’ in the study of interactants’ speech. She calls for research that would examine not utterances in isolation but utterances within the context they were produced. She claims that a learner understands language forms and the meaning which is gradually attached to those spoken utterances through interaction. Initially a learner attaches utterances a global meaning and gradually from the responses s/he gets from the native speaker s/he comes to a stage where s/he acquires their meaning and then the structure of an utterance.
One learns how to do conversation, one learns how to interact verbally and out of this interaction syntactic structures are developed (Hatch, 1978 p: 404).

In other words, Hatch (1978) acknowledges the importance of cooperation in the language learning process and assigns meaning priority over the structure of a sentence. In fact, Hatch’s proposition for researching EFL learners’ interaction finds a fertile ground as it coincides with a number of events. Firstly, Hatch’s proposition comes at a time when there is criticism against structural approaches and there is an issue that linguistically competent FL students were unable to produce simple communicative tasks. Secondly, it coincides with the introduction of communicative competence (Hymes, 1972) which, as it was presented above, accounts for aspects of language that deal with how to use the language for a range of purposes and functions, how to use the language according to the setting and the interactants who are involved, how to maintain communication despite the limited language knowledge. Thirdly, it coincides with the introduction of the communicative language teaching (CLT) which encourages interaction for making meaning, and views language primarily as communication and then as structure. As a result, the interaction learning approach appears on the stage and gradually develops along with the functional view of language. Its orientation was pedagogical as the ultimate aim was to improve teaching practices (Ellis, 1992) that had been raised in CLT approaches which were prevailing at the time.

The interaction approach is a learning approach which is built on negotiation for meaning making which is its fundamental principle. It is specifically concerned with the interaction that facilitates negotiation of meaning. In an effort to communicate, in case there is lack of understanding, conversational participants negotiate meaning. As Ellis (1991) comments,

This concerns the conversational exchanges that arise when interlocutors seek to prevent a communicative impasse occurring or to remedy an actual impasse that has arisen (Ellis, 1991:3).

That means that, when there is a communication problem, participants are urged to further interact with their interlocutors by asking clarification requests,
comprehension or confirmation checks in order to establish meaning and thus make it possible for the conversation to develop. During this process of negotiation, learners, on production of their speech, receive feedback, and thus probably they draw attention to linguistic forms and notice gaps between the language they had produced and the language of their competent interlocutors (Gass and Mackey). Long (1996) defines negotiation of meaning as the process in which in an effort to communicate learners and competent speakers provide and interpret signals of their own and their interlocutor's perceived comprehension, thus provoking adjustments to linguistic form, conversational structure, message content, or all three, until an acceptable level of understanding is achieved (Long, 1996: 418).

The interaction learning approach considers input (the language a learner is exposed to), output (the language the learner produces in response to a competent interlocutor) and the feedback on their produced language to be the main constructs for understanding how second language learning, which is primarily cognitive, takes place. As Long (1996) points out, negotiation for meaning connects ‘input, internal learner capacities, particularly selective attention and output in productive ways’ (Long, 1996:451).

So, interaction is viewed as negotiation, as interpersonal adjustments interlocutors make in order to achieve meaning in the conversations in which they participate, as this would eventually facilitate their innate process of language learning. This explains why in the EFL literature and in particular in the CLT, as Mackey (2007) comments, one comes across the term interaction being used interchangeably with terms like negotiation, negotiated interaction, conversational interaction (Mackey 2007). Classroom participants need to interact with each other to make meaning which is distinct from the interaction that structural approaches have encouraged and was confined to students reciting dialogues and performing ‘on discrete tests of grammatical knowledge’ (Savignon, 1991:264).

The exploration of interaction based language learning appeared on the stage approximately thirty years ago and initially was descriptive (Ellis, 1992, Alkon-Soler and Garcia Mayo, 2009). That means that at the time, EFL research was
limited to the description of the nature of interaction between native speakers (NSs) and non-native speakers (NNSs) (Spada and Lightbown, 2009; Mackey and Gass, 2006). Gass and Varonis (1985); Long (1980); Pica (1987, 1988); Pica, Young and Doughty (1987), Varonis and Gass (1985) were among the prominent figures who worked to set the foundation for interaction research. This research presented how conversations between lower level speakers differed from native speakers. There were many studies which were conducted throughout 80s-mid 90s and attempted to make links between conversation and comprehension. As it was mentioned above, these studies were aiming at improving teaching practices (Ellis, 1992), and their orientation was pedagogical. Krashen and his input hypothesis (1982), or Long (1983) in particular, attempted to exemplify how interactional modifications facilitate comprehension and therefore language learning. This is how Long (1985) established the foundation for the Interaction Hypothesis (IH).

Gradually, in the mid '90s, the descriptive research evolved into an investigation of particular discourse patterns of negotiation (clarification requests, comprehension checks, confirmation checks), their frequency, their functions and their value (Mackey and Gass, 2006). Instead of just suggesting why interaction might be useful in L2 acquisition, as CLT approaches did, they actually now started dealing with research that would empirically show why interaction might be useful in the second language classroom. On the whole, research studies focused on negotiation of meaning and how this is accomplished in conversational interaction (Spada and Mackey, 2009).

In the following section I briefly discuss the meta-analysis of EFL interaction research by Mackey and Goo (2007) which summarizes SLA synchronous interaction research from early 1990s until 2006. The purpose of looking at this succinct review is first of all to endorse the importance teaching theories attribute to classroom interaction and secondly, to detect gaps in the EFL literature concerning classroom interaction as these have directed decisions taken in the current research. This information solidifies my rationale of studying classroom interaction in EFL classes of young learners, as it indicates a gap in the literature in this area. .
This meta-analysis expands on and updates research reported by Keck et al (2006), who analysed interaction research up to 2003 and Russell and Spada (2006) who focused on the contribution of the effective feedback to L2 learning up to 2003. Most of them were laboratory rather than classroom-based and were carried out in the EFL or Second Language (SL) context. Mackey and Goo, (2007) report that this analysis.

…..focuses on the efficacy of interaction in terms of the acquisition of specific linguistic forms, lexical and grammatical target items and investigates a variety of factors that may mediate this relationship (Mackey and Goo, 2007:408).

Until 2007, as Mackey (2007) reports, there were more than forty published studies which had investigated the relationship between interaction and language learning with most of them reporting on the beneficial effects of interaction on learning. The main results suggest that interaction facilitates the acquisition of both lexis and grammar to a great extent, with interaction having a stronger immediate effect on lexis, and a delayed and durable effect on grammar (Mackey and Goo, 2007:446). Although the above studies investigated interaction in SLA, it cannot be supported yet with certainty, that interaction is equally beneficial to all aspects of language (Seon Jeon, 2007). However, this research established the beneficial role of interaction to language development to a great extent, or as Mackey and Gass say, the ‘facilitative role of interaction’ in learning a foreign language, thus researchers make a step forward for researching how interaction facilitates language development, the mechanisms which are enacted to facilitate language learning (Mackey, 2007; Mackey and Gass, 2009).

The afore-mentioned meta-analysis (Mackey and Goo, 2007) also provides information about the participants. In particular, the studies considered here have been carried both in laboratory and classroom settings. The majority of these classes were ESL and immersion classes, and only a few were EFL classes. The participants were mainly adults, adolescents and only in few studies the participants were children. There is no reference to studies with children (Mackey, 2007:9) in an EFL context. The information withdrawn from the above meta-analysis, although it refers to interaction approaches, indicates that pure EFL
classroom research with young learners is limited and this comes as a reassurance of the importance of the current research as it comes to fill this gap in the literature.

Despite the valuable contribution of interaction approaches to SLA, as this is presented on the above analysis, there is a criticism against it which has raised a big debate in the field. This criticism was fueled by Firth and Wagner (1997), who in a seminal presentation criticized this field of SLA as being overwhelmingly cognitive in orientation in defining and researching the learner and learning. According to this criticism, such a process emphasizes the individual, the internalization of mental processes and the ‘development of grammatical competence’ (Firth and Wagner, 1997:288). For example, Seedhouse (2005) and Van Lier (2000) among others, comment that these studies have been concentrating on the individual student and his ‘idiosyncratic’ development of the language, which means they concentrate on the development of learners’ linguistic competence (Seedhouse, 2005: Van Lier, 2000), putting aside social aspects of their interaction. Although the CLT emphasizes the way students should interact with other participants to make meaning, the interaction approaches focus on the individual and innate construction of knowledge. On the whole, it is commented that SLA approach studies learner language from the perspective of their interlanguage. These studies put emphasis on the surface errors of EFL learners as an indication of their developing linguistic competence, and they focus on occurrences of language form, rather than exploring the interactional behaviour of the participants. In short, these studies concentrate on the accomplishment rather than on the performance of the individual and the way classroom participants interact with each other.

After the seminal presentation of Firth and Wagner (1997), criticizing cognitivism and raising its limitations, as discussed above, sociocultural theories appear in the field of SLA to fill the gap of interactionist cognitive theories and study the social aspect of foreign language learning. In the following section the sociocultural theories of language learning are discussed and more specifically the Vygotskian sociocultural theory, not only as the theory which is ubiquitous in the EFL field at present, but also because the current research draws on it as well as on the
pedagogical principles that this has inspired. Based on the principles of sociocultural theories, the aim of this classroom research is not the study of language acquisition but the way classroom participants, teacher and student(s) or student–student(s) interact with each other and the ways they use to build communication. In other words this study looks at the social aspect of participants' interactions, rather than on the result of these exchanges or on the participants' language performance.

In this thesis, the term Sociocultural theories is used to refer to a number of approaches to learning that foreground the social and cultural aspect of learning for example, the Vygotskian sociocultural theory (Brooks and Donato, 1994; Frawley and Lantolf 1985; Lantolf and Appel, 1994; Ohta, 2000, 2001); the Language socialization theory (Kramch, 2002; van Lier, 2002; Watson Gegeo 2004); or ethnomethodological conversation analysis (Markee 2000; Markee and Kasper 2004, Seedhouse 2004; 2005 among others).

2.3.3 Vygotskian sociocultural theory of learning

Research dealing with Second language acquisition (SLA) matters based on Vygotskian sociocultural theory first appeared in the EFL field in 1984 with Frawley and Lantolf (1984), and gained popularity in the field in the mid 1990s. It is concerned with understanding the development of cognitive processes, like the traditional cognitive approach. However, it is different from the cognitive approach as it attributes importance to the social dimension of the language which is regarded primary, over the individual consciousness which is 'derivative and secondary' (Vygotsky, 1979:30).

the social dimension of consciousness is primary in time and fact. The individual dimension of consciousness is derivative and secondary (Vygotsky, 1979:30).

In fact, sociocultural perspectives focus on language use in real situations which is considered of fundamental importance to language learning and not just ancillary to learning (Zuengler and Miller, 2006), as is the case with the Interactionists. Vygotskian sociocultural theory does not see language as input that needs to be processed, but as a resource for stimulating participation and interaction between
co-participants in everyday matters (Ohta, 2000). Therefore, socioculturalists place interaction and participation in the centre of learning. Learning comes as a result of participation but learners also learn through participation. They see input as ‘being both the product and the process of learning’ (Zuengler and Miller, 2006:38).

It is also notable that Vygotskian sociocultural theory does not deny the importance of biological factors in the process of learning. As Lantolf and Pavlenko (1995) explain,

development does not proceed as the unfolding of inborn capacities but as the transformation of innate capacities once they intertwine with socioculturally constructed mediational means (Lantolf and Pavlenko, 1995:109).

Inborn, innate capacities, develop when learners are involved in socioculturally meaningful activities and make use of sociocultural mediational means, whether these are physical tools like books, or media like the IWB, or symbolic tools like language. By appropriating these mediational means, learners gain control over their own mental capacities and gradually begin to function independently (Lantolf and Pavlenko, 1995) and that would be an indication of their development.

However, the gradual development of individuals through interaction, which here takes the form of co-operation, is partly exemplified in Vygotsky’s concept of the Zone of Proximal Development (ZPD) (Vygotsky, 1978). In the current research, participants’ interactions are approached from this perspective. More specifically, in the analysis of the data, the ZPD facilitates our understanding of the actions performed (section 3.2, speech act theory) in the participants' exchanges and consequently it facilitates our understanding of the collaboration that takes place in a classroom setting, in the sessions of interaction under consideration. More specifically, the concept of ‘mediational means’ and in particular the role of the IWB in the exchanges between participants is studied. For that reason, the ZPD is discussed in the following section.
2.3.3.1 The Zone of Proximal Development (ZPD)

According to Vygotsky, the zone of proximal development is ...

... the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under the guidance or in collaboration with more capable peers (Vygotsky, 1978:86).

Vygotsky distinguishes between two levels of development in a child, the 'actual' and the 'potential' (Vygotsky, 1978). The 'actual' developmental level refers to what a child can achieve counting on his own capacities, and this is expressed through his individual performance, while the 'potential' level expresses what a child can achieve in collaboration with more capable peers or teachers and their assistance. As Moll (1990) posits, Vygotsky defined the ZPD as the contrast between aided and unaided performance. Cazden (1980) states that the goal of the zone is to facilitate 'performance before competence' (cited in Moll, 1990) as it expresses what a learner can do before he actually becomes competent. Vygotsky argues that what children can do collaboratively or with the assistance of more capable others, teachers or students today, gradually become capable of achieving these actions independently. So, with the help of others the child’s proximal level of today becomes the actual developmental level of tomorrow.

The above definition of the ZPD has been adapted by Ohta (2001) to reflect the development of foreign language learners and in particular, the development of a foreign language. According to this definition

the ZPD is the distance between the actual developmental level as determined by individual linguistic production and the level of potential development as determined through language produced collaboratively with a teacher or peer (Ohta, 2001:9).

Ohta (2001) refers to the 'actual' development of a student, as this is expressed in the language he produces in his interactions and the 'potential' development as this is expressed in the language he produces in collaboration with his teacher or classmates. Ohta limits the expression of interaction to linguistic productions of interaction. The concept of the ZPD is discussed above as part of the social
theory of development which gives social interaction a significant preponderance in the development of any individual, and as Moll (1990) argues, this has instructional implications (Moll, 1990). In fact, the ZPD has influenced both language research and language instruction especially of young learners which are the main participants in this study.

In this study, as it was aforementioned, participants’ interactions are considered from the point of view of the ZPD. That means that, in each interaction session, the contribution of co-participants and mediational means, in particular the IWB, in the management of each activity is recorded and studied. In this way, the cooperative and social character of the interaction of classroom participants comes to the fore. However, in the ZPD, the role of the knowledgeable other, usually the teacher, is not restricted to pure transfer of linguistic knowledge, as it usually happens in structural approaches. As Moll underlines (1990) this is a more narrow interpretation than what Vygotsky intended, and although it is not accentuated in the ZPD, it is considered in the broader framework of Vygotsky’s theory (Moll, 1990:157). Contrary to this limited interpretation, the ZPD is viewed in relation to the social environment and the chances of learning or development this environment provides. As Wertsch (1979) explains, the child, under an adult’s supervision, should be able to manage successfully an activity without however realising that he was involved in a goal-directed activity (Wertsch, 1979:21). The adult’s role is to instruct a child how he could possibly solve a task strategically, with the intention that the knowledge acquired out of this process be applied later on in other situations. In other words, the role of the teacher is mainly to interactionally create conditions for learning. As Moll (1990) points out

the emphasis isn’t on transferring skills as such, but on the collaborative use of the mediational means to create, obtain and communicate meaning. The role of the adult isn’t necessarily to provide structured cues, but through exploratory talk and other social mediations to assist children in taking control of their own learning (Moll, 1990:157).

By incorporating the ZPD in the analysis of my data, as far as the contribution of the teacher and the IWB as mediational means, are concerned, and looking at them within the broader framework of Vygotsky’s theory, I expect to answer
whether the integration of the IWB in EFL classes encourages classroom interaction.

However, the ZPD refers to the ‘actual’ development of the learners, which is not within the scope of this research. On the contrary, the focus is placed on the process of interaction in its own right, as this is experienced in EFL classrooms, firstly between participants and secondly between participants and any sociocultural mediational means involved in these interactions. Specifically, for a number of reasons, which are presented in chapter one, focus attention is placed on the interactions between participants and the IWB as a socioculturally constructed mediational mean used in the EFL classes under study. A detailed description of the nature of EFL classroom interaction would hopefully exemplify the role of the IWB and the way this may affect participants’ interaction.

In the TEFL literature, the assistance in the ZPD is often referred as ‘scaffolding’ (Ohta, 2005) although Vygotsky himself had never used that term. In fact, the term ‘scaffolding’ was introduced by Wood et al (1976). For the needs of this study, I use ‘scaffolding’ as a broad term to refer to any interactional strategies used by the knowledgeable peer, or the teacher to assist learners’ participation in the sessions of interaction under study.

In the section above I reviewed (a) theories of language and (b) theories of learning and I focused on the role interaction plays in these theories and how this has been expressed in different teaching approaches. I particularly concentrated on three broad perceptions of the concept of interaction which stand out and define classroom interaction to a great extent.

In structural teaching approaches, like the audiolingual approach, interaction is restricted to the simple exchange of messages between a sender and a receiver, predominately between the teacher and the learner, where the teacher sends a message and the student receives that message, or more specifically, where the teacher is responsible for delivering information and knowledge and the student who is there to absorb this knowledge.

In line with the functional view of language, and the CLT, interaction is viewed as an interpersonal transaction where two or more people are involved in real
transactions; one party has an intention and the other party expands or reacts to this intention to establish meaning in a way that is, as far as possible, appropriate, accurate and fluent in the target language, which means acquiring communicative competence. On the other hand, in sociocultural theories, interaction is not viewed simply as an exchange of information but as cooperation between participants, teacher and students with the intention of these participants to strategically and gradually construct meaning.

As far as the learning theories are concerned, there was a shift from the concept of learning which remained prominent throughout the latter half of the 20th century and viewed learning as an individualistic process, to contemporary views where learning is considered a social activity of learning by doing. The former view focuses on the individual brain’s processing for the acquisition of some new knowledge which could be taken and used anywhere in any situation. The latter one views learning as a constructive process inherent in social interaction and not exclusively in the brain. As far as children are concerned, they build knowledge through their interaction with others, when they come in contact with others and make use of different mediational means that support them to communicate and cooperate toward the realization of mutual goals and thus toward their gradual development.

Drawing on the issues I have raised above, concerning language theories as well as learning theories, I have gradually built the notion of interaction as this is used for the needs of the current research. Interaction is not just sending messages and receiving messages, or people who act and react to make meaning and thus communicate. Interaction is first and foremost social. Interaction is people who perform acts to cooperate, to deliver, interpret or receive messages and also to react on receipt of these messages. In other words, interaction is people who have the mutual intention to construct meaning through the actions they perform. From this point of view, interaction is a reciprocal process which people use to manage their interpersonal transactions, and as such it is examined in this study. The contribution of the IWB, a socially constructed mediational mean, in this reciprocal process is studied.
Hitherto, the concept of interaction has been presented from the perspective of language theories, learning theories, as well as from the perspective of teaching methodologies. Allwright (1984), encapsulates the importance of interaction by advocating that there is no teaching or learning without interaction. Interaction is the principal mechanism through which classroom learning is managed (Allwright, 1984). However, reviewing the EFL learning theories I have come to realise that there is no interaction without material, or without ‘input’, sources, which actually stimulate this interaction. This implies that interaction cannot be studied in its own right, but only in connection with the input, or else with the sources of data which cause this interaction.

2.4 Input
In this study, classroom interactants, teachers and students, with their speech, or their body language, as well as the IWB, provide sources of input in different modes, written, audio, still pictures, animation, music, among others, that stimulate interaction and therefore it is vital to consider their contribution. In short, in the current study, classroom interaction is studied in relation to the input that stimulates it. Therefore, in this section, a succinct review of the ways input has been studied in an EFL context, is presented. The issues addressed in this review have helped me, firstly, present my rationale for deciding to study interaction in relation to the input which stimulates this interaction, and secondly to present insights into the way this input is studied here in relation to interaction.

Interaction and input are closely interrelated, input intertwines with interaction and as a result, the dividing line separating them is not easily discernible. One may talk about interaction and without consciously intending it he might incorporate the notion of input in the discussion. Therefore, input along with interaction, are the most broadly discussed concepts of second language acquisition. Different second language acquisition theories ascribe a different weight of importance to input. For example, in structural approaches, input is viewed as a stimulus that raises a response and thus interaction. For interactionists, input data are restricted to ‘language data’ or else ‘linguistic data’, which can be written or spoken language. In sociocultural approaches input is viewed as sources of data which fuel interaction. Nevertheless, both theories converge explicitly or implicitly on the view that nothing can be learned if there is no input (Gass, 1997).
In this section the notion of input and the ways it is viewed from a number of interactionist theorists (Krashen, 1982; Schmidt 1990; Gass, 1987, 1997) as well as from sociocultural theories is presented succinctly. This review intends, firstly to exemplify how the notion of ‘input’ is perceived by interactional theories as well as sociocultural theories and secondly to present how the close interrelation between interaction and input has been studied so far. At the same time, I address issues and present insights which I have gained and I use to analyse the data of the current project.

Although the analysis of the data is conducted from the sociocultural point of view where the notion of input is seen rather as a source of data which stimulates interaction, input is also considered from the point of view of the interactional approach which primarily focuses on input as part of cognitive processes. In this study, I examine input from both points of view, sociocultural and interactional, for the following reason: As aforementioned, Vygotskian sociocultural theories place primary emphasis on the social dimension of language development, without however refuting its cognitive aspect, which is considered secondary and develops as a result of social influence. Therefore, interactions which are identified to encourage cognitive behaviours are underlined, although, the social nature of the interaction remains the main focus of this study at all times. Input is primarily examined as a source of stimulating interaction and an attempt is made to describe how this input, within the framework of the ZPD, has been treated by interactants in cases where classroom tools, like the IWB, mediate. More specifically, interactions which aim at participants’ attention, awareness, consciousness (issues that interactionists refer to), which after all come as a result of social classroom interaction, when identified, are brought to the fore and described.

2.4.1 Input and interactionists
Interactionists have tried to explain the process of EFL learning from different points of view, by looking at different aspects of the language, like input or output. In this section, the focus is exclusively on input as my intention is to present the interrelation between input and interaction. I address the issue that the relation between interaction and input is so strong, therefore I argue that studying
interaction without considering the input which actually stimulates it, or the input which affects it, would be incomplete.

As aforementioned, interactionists consider input as linguistic data. Sharwood Smith (1993) describes input as follows:

the potentially processable language data which are made available, by chance or by design, to the language learner (Sharwood Smith, 1993:167).

In this definition, Smith (1993) expands the notion to refer to both linguistic data a teacher brings to the class, but also to the language data a learner may come across accidentally in the broader social environment where s/he is found.

There are interactionists, who, based on the principle that comprehensible input facilitates acquisition (Krashen, 1985), concentrate on different processes of negotiating a problem in input. In particular, they concentrate on modifications that contribute toward making input comprehensible. Long (1981), Young and Doughty (1986), Pica (1989), Loschky (1989) with their research claim that interactionally modified input facilitates comprehension (Ellis, 1991). Quite often, the input provided cannot be understood by the learner for different reasons, usually due to the semantic or syntactic difficulty of a linguistic form found in the input. The issue raised here is that to overcome problems, which can be classified as comprehensibility problems, some type of help is considered indispensable. This help becomes available through the interaction between teacher and learners, or between learners themselves or nowadays between learners and the different means of information technology which can present linguistic data in different modes. This help, which is realized through interaction, is often referred to as ‘modification’ and it can take many forms, like simplification, elaboration, or added redundancy (Larsen-Freeman and Long, 1991). In short, the input goes through a process of elaboration in order to become comprehensible and therefore manageable. This elaboration entails interaction between participants. The relation between interaction and input is so strong, therefore I argue that studying interaction without considering the input which actually stimulates it, or the input which affects it, would be would be incomplete.
Another group of interactionists, who have also tried to explain second language acquisition based primarily on input are Schmidt, with his noticing hypothesis 1990, 1994, 1996; Gass, 1987, 1997; as well as Tomlin and Villa, 1994. This group of scholars concentrates on the different stages that elaboration input may undergo before it eventually takes the form of output. A learner is constantly exposed to a vast array of input. However, it is virtually impossible for a learner to attend to all of it. In fact, only a limited amount of input is actually manageable. Therefore, there is a need to limit this amount of data so that it may become manageable (Gass, 1987). Researchers (Corder, 1967:165; Krashen, 1981:102; Van Patten and Catdierno, 1993:436) wanting to differentiate between the broad input a learner is exposed to and also between the amount of it which the learner subsequently extracts for further elaboration, talk about ‘input’ and ‘intake’. The factors which define the processable amount of input are classified by Gass (1997) as attention, awareness, consciousness. These are the cornerstone factors that mediate and define the amount of input which is ultimately utilized and Gass puts them all under the umbrella ‘apperceived’. Gass (1997) defines apperception as ‘the priming device that prepares the input for further analysis’ (Gass, 1997:4). It is the input, which a learner recognizes as appropriate to fill a gap in the continuum of his current knowledge; the input which in a way is related to his past experiences ‘…newly observed qualities of an object are related to past experiences’ (Gass, 1988:201). In fact, Gass strongly supports the view that a learner should be able to find out how the input provided relates to his prior knowledge (whether this is derived from his native language, his existing knowledge of L2, or knowledge of the world, language universals’ (Gass, 1988:202). On the whole, apperception is an internal cognitive act, an internal stage where a certain amount of input is prepared for further elaboration.

Gass (1997) refers to the five stages that elaboration input should undergo before it becomes output and these are: 1. input; 2. apperceived input; 3. comprehended input; 4. intake; 5. integration; 6. output. In this model of second language acquisition, input is considered extensively and it is attributed a prime role. Gass (1997) tries to exemplify what happens to the potentiality available to the learner input and she refers to the following factors as determiners of the input which could be apperceived: time pressure, frequency, affect (social distance, status,
motivation and attitude) prior knowledge, salience and attention (1997:22). The issue I address here is that Gass (1997) incorporates in her model of acquisition both innate and social factors that could possibly affect the process of acquisition, however the main focus is placed on input and not on interaction.

Apart from Krashen (1985) and Gass (1987), Schmidt in his ‘noticing hypothesis’ (1990) also posits that noticing something in the input is critical to language acquisition. According to him, as soon as a learner notices something in the input, this input automatically becomes intake. However, contrary to Krashen (1985), who contends that language acquisition is a subconscious process (for example, learners are not aware of what they attend to in the input and are not aware of what they acquire, Schmidt (1990, 1993, 1994, 2001) argues that ‘noticing’ is conscious. Schmidt further contends (1993) that noticing involves both the learner’s internal factors, like aptitude, motivation; existing L2 knowledge, ability to process data, as well as external factors. These last ones relate to the characteristics of the input, the characteristics of the activity input is found, along with other external factors like the way this input is elaborated, in the specific interactional context (Schmidt 2001 cited in Ellis, 2003:47).

Moving approximately within the same framework, researchers like Gass (1997) and Schmidt (1990), Tomlin and Villa (1994) present attention to input as consisting of the following three stages: First comes ‘alertness’ which is the ‘readiness to deal with incoming stimuli or data’ (p190); then comes, ‘orientation’, the stage where learner’s attention is directed to a particular piece of input; and last comes ‘detection’ which is the cognitive registration of sensory stimuli (1994:192).

Nevertheless, in the process of noticing, the point I raise here is whether it could be argued that a young learner is capable of regulating the aforementioned stages, whether these are Gass’ or Tomlin’s and Villa’s, that input undergoes before it becomes intake. In fact I question the extent to which Schmidt’s claim that ‘when something is noticed, automatically becomes intake’ (Schmidt, 1990: 139) can be applied equally well to both young learners and adults. In the current study, these stages are identified in the data analysis due to the detailed description of the interactions that take place in the classrooms under study.
For example, when there is a problem of comprehension in the input, then interaction follows to make this input comprehensible; there is also interaction to alert and draw learners’ attention to certain aspects of the target language input; interaction that raises learners’ awareness toward aspects of the input that need to be acquired in order for the learner to fill a gap in the continuum of their current knowledge; or more broadly, interaction that offers learners the necessary, appropriate scaffolding input to face any type of problems arising in the process of teaching or learning. The analytic nature of the research methodology adopted here for the needs of this research, offers the researcher the opportunity to identify these stages and discuss them in detail within the context they occur.

2.4.2 Input and sociocultural theories

In sociocultural theories the term ‘input’ does not exist. As it was aforementioned, input is not viewed exclusively as language data, as interactionists interpret it, but it is perceived as something broader, as any possible resource that may stimulate interaction between participants, and thus participation (Ohta, 2000). Ohta, in discussing the assistance in the ZPD, or else the scaffolding a teacher or another peer may offer to learners, she remarks that apart from language, this assistance could come from resources like books, video, posters, or the internet. In fact, she extends the range of resources (Ohta, 2006) from language data to other sources. Interpreting this perception of the term, I would consider as resources for participation a wide range of means, tangible or not: from language, spoken and written, to images, behaviours, feelings, or any other factors which could possibly affect students’ interaction, and their participation in the class which can be recorded somehow. More specifically, I have adopted Carroll’s definition (2001:8) of input, who may not be an advocate of sociocultural theories, but her definition satisfies the requirements of this research. According to this definition of input:

[input] consists of events affecting the visual and auditory perceptual systems. They can be understood to be acoustic, phonetic events, in the case of speech, or graphic objects, in the case of written text, produced by an individual for some purpose on a specific occasion. These events and objects are observable by third parties; they can be recorded, are
measurable, analyzable, and hence objectively definable (Carroll, 2001:8).

Indeed, a learner in a learning environment, in this case in a classroom, is instantly exposed to a theoretically unlimited amount of input, or else stimuli. However, in this project, I concentrate predominantly on the following sources that inspire interaction: firstly, on teachers’ or peer students’ speech, along with the body language that accompanies their speech. This is the social context in its micro dimension; secondly, I concentrate on any type of information, auditory or visual, stemming from educational resources and educational means of presentation, like books or any other types of artifacts, posters, audio recorders, or computers. I particularly concentrate on the input presented on the IWB, as this comprises the main focus of the current research. This is the ‘tangible’ measurable input a learner may receive in a classroom, which, according to Caroll affects the ‘visual and auditory perceptual systems’ (Carroll, 2001:8) of the participants and stimulates their interaction.

Certainly, the broader social context, where these participants are found, along with its micro and macro dimensions constantly afford classroom participants with extra input. Although this input remains invisible and thus non measurable, it still triggers interaction and affects the dual process of teaching and learning. Since this input cannot be recorded, it is difficult to analyse objectively. However, in the current research it is considered along with the analysis of the data in the framework of a broader context where every classroom interaction takes place.

2.5 Classroom interaction and classroom research
In the literature, there is a debate on how practice has proved that there is a considerable disparity between teaching methods and what happens in real classrooms (Mackey 1965; Kumaravadivelu, 2006; Seedhouse 2004; Karavas, 1995; among others). As Mackey (1965) had put it more than four decades ago, there is a disparity between method analysis and teaching analysis. The former is what theorists and material designers propose and the latter refers to what teachers do in practice (Kumaravadivelu, 2006). For example, as was mentioned above, research in Greece (Karavas, 1995) has shown that although teachers are positive towards CLT, which is a teaching approach that the Greek MoE suggests
and the course books are based on, in practice teachers often fail to implement CLT as it is a method referring to different learning environments and designed for learners with different needs and for teachers that come from a different educational backgrounds. Realising this gap, EFL teachers from different parts of the world, started becoming sceptical about adopting specific teaching methods which were suggested to them. They questioned the methods’ usefulness to their own teaching contexts and therefore resented the imposition which is actually arranged by experts usually coming from abroad, namely from countries other than the country where the target language is taught (Pennycook, 1989). Prabhu (1992) suggests that there is no best method but what teachers need is ‘to learn to operate with some personal conceptualization of how their teaching leads to desired learning- with a notion of causation that has a measure of credibility for them’ (p 172). He called the resulting pedagogic intuition a teacher’s sense of plausibility (Savignon, 1991:172). Therefore, at the moment we are running a post-method era (Kumaravadivelu, 2006), where classroom research has become more necessary than before, as it describes what really happens in classrooms which is beyond what theories prescribe as ideal. Consequently, the pedagogical insights gained out of classroom research can inform a teacher’s pedagogic practices.

So, no matter how much importance the different learning or teaching theories, which have been discussed above, ascribe to interaction, or what the syllabus adopted is, in the end, it is the teacher and her pedagogical practices that define the types of interaction, the modes of interaction or patterns of interaction developed in the classrooms and these extend beyond the way the learning theories may examine them (Kumaravadivelu, 2006). In reality, it is the teacher who along with the students (Allwright, 1984) considers their needs, defines the short term teaching goals and adopts teaching materials and teaching practices accordingly. It is the teacher who realizes classroom management through her pedagogic interaction, but also the students that respond to this management and both of them determine the classroom interaction (Allwright, 1984). For the above reason, in this study, interaction is examined in the way it is realized in real classroom contexts and as such it is discussed below. However, the teaching and
learning theories, as these have been discussed above, have informed the prospect and the design of this study.

2.5.1 Classroom research
This study attempts to provide a detailed picture of what happens in real EFL classes in Greece where the IWB is used. Insights withdrawn from this research can inform actions that need to be taken, or inspire practices that need to be implemented so that the teaching and learning of the foreign language can be improved with the integration of the IWB.

Language theories along with learning theories and EFL teaching methodologies, as these were reviewed above, if applied in a classroom, could ideally provide positive results as far as learning is concerned. However, learning, which is a complicated process (Allwright and Bailey, 1991; Tudor, 2001; Arum, Beattie, and Ford, 2010), is driven by what teachers and students actually do in the classroom (Allwright, 1984) which usually differentiates profoundly from what theorists or course books suggest. Therefore, classroom research investigates interaction which takes place in real classroom settings, between teachers and learners in order to gain insights into class-based learning (Walsh, 2006). As a consequence and based on this knowledge, action can be taken and new practices can be implemented so that the standards of language learning can improve.

Van Lier (1988) focuses on the complexity of classroom research and comments that

Classroom research is a commitment to go into the classroom and find out what goes on in it. It is probably the most difficult place to do research in, as witnessed by its long history of neglect and its status as a 'black box' between input and output measures..... Researchers have tended to avoid it as a particularly 'messy' source of data, and walked around it in the hope that, eventually, its walls would come tumbling down (van Lier, 1988:14 cited in Tudor, 2001).

What makes classroom research rather complicated is the nature of interaction developed there, which is determined by a rather long array of parameters (Allwright and Bailey, 1991; Tudor, 2001; Arum, Beattie, Ford, 2010), which the
teachers take into consideration when they plan their lessons. These factors can range from the syllabus adopted; the teacher’s theoretical perceptions concerning teaching and learning; the teaching methods used; the methodology; the input material; means of presentation; modes of presentation; ways of working in class (whole class; group work; private; types of activities/tasks; teacher-learner talk; classroom atmosphere; co-operation- conflict); or the teacher’s personality but also the political-sociocultural macro world (Allwright and Bailey, 1991:23, cited in Ellis, 2003; Tudor, 2001). Teachers are aware of these factors which mainly affect classroom interaction, and take them into consideration when they design their lesson plan. However, as Green et al remark (1988), teaching is not based exclusively on a lesson plan, ‘it is not a script or rote plan to be followed’ but it is also heavily based on improvisation. Van Lier argues (1991) that good teaching is concerned with more than good planning (van Lier, 1991). According to him, teaching has two essential ingredients: ‘planning and improvising’ (van, Lier, 1991). The interactive decisions taken by teachers at the actual time of teaching are as important as the planning of a lesson which occurs before teaching. Teachers may facilitate or restrict learning opportunities in their moment-by-moment decision making (Nystrand, 1997; Hall, 1998; Walsh, 2002), therefore, good decisions are those which are appropriate to the moment and promote learning, not necessarily the decisions which follow the plan.

Another factor which probably makes classroom research in an EFL classroom appear complicated, is the fact that in EFL classes the teaching subject, namely the foreign language, is not exclusively the focus of activity, or just the object of instruction, but at the same time it is the instrument for achieving this activity (Willis, 1992). Long (1983) comments, that ‘Meaning and message is one and the same thing’, ‘the vehicle and object of instruction’ (Long, 1983:9). As a result, due to this peculiarity of EFL classes, their complexity, their unpredictability, as well as the communication patterns recorded here, differ from those in classes of other subjects of teaching.

Despite these peculiarities, EFL classroom interaction has occupied the interest of many researchers (Cazden, 1986; Walsh 2006, Kumaravadivelu, 2006; van Lier, 1991; among others). In the following section I review classroom research in EFL
classes, with the intention of presenting what aspects of classroom discourse have been investigated so far, and to underline areas that need to be investigated further or areas that have not been investigated. Conclusions drawn from this review have partly informed the design and the scope of the current study but it also has an impact on the way I present the analysis of my data (chapter 6).

In this review the majority of classroom research conducted so far presents four representative characteristics of EFL classroom interaction, which are governed by the centrality of the role of the teacher (Walsh 2006:5) who uses them extensively: these characteristics refer to the teacher’s control of patterns of communication; the elicitation techniques that teachers use; the methods teachers use to modify their speech for learners; how teachers repair students’ speech. It is notable, that all four characteristics of classroom discourse refer primarily to the teacher's speech. These characteristics are succinctly presented below.

2.5.2 Control of patterns of communication

It is notable that all classes, no matter what their teaching subject is, whether they are in primary, secondary or higher education, all comprise institutional settings, and the discourse that prevails is institutional too. In these settings, the communication patterns between the participants that prevail are in the majority characterized as asymmetrical. One party, the teacher, has the power and manages the topic of the conversation as well as the turn taking system.

As Walsh (2011) puts it

Even in the most decentralized and learner-centred classroom, teachers decide who speaks, when, to whom and for how long. Teachers are able to interrupt when they like, take the floor, hand over a turn, direct the discussion, switch topics (Walsh, 2011: 41).

The other party, namely the student, just responds to the teacher’s cues, takes the speakership when this is given to him, or gains the right to speakership usually by raising his hand, he answers questions, or executes actions as simple as opening the book, sitting at his desk, among others. On the whole, as Breen (1998:119) describes the situation, the teacher is the participant who ‘orchestrates the interaction’ (cited in Walsh, 2011).
The first attempt to describe classroom interaction was made by Sinclair and Coulthard’s (1975) identification of a three part sequence, broadly known as ‘IRF’: that is a teacher asks questions, *Initiates* topics, addresses who the next speaker is, the learner-speaker *Responds*, then the teacher evaluates, or continues with a follow up turn, as *feedback*. This is the well known triadic type of interaction, IRF nature of interaction which has been extensively researched and discussed (McHoul, 1978; Mehan 1979; Mazeland, 1984; Kapellidi, 2013; Ko, 2013). This describes the direct (implicit or explicit) interaction between participants who are physically present in the classroom environment and act reciprocally either using spoken language, or using body language.

Walsh (2006) refers to the predominance of the IRF structure (Walsh, 2006) in EFL classes. In fact, foreign language classroom discourse has the clear and rather simple structure of the IRF type mentioned above, where the teacher’s speech dominates (Johnson, 1995), either through the way in which teachers restrict or allow learners’ interaction (Ellis, 1998); or through the way they take control of the topic (Slimani, 1989) by deciding and introducing the subject they themselves consider appropriate; or through the way they facilitate or hinder learning opportunities (Walsh, 2002; 2006:5). Walsh, acknowledging the importance of interaction in foreign language learning, remarks that the teacher, by controlling the whole classroom interaction, actually controls students’ learning opportunities.

### 2.5.3 Modifying speech to learners

It is very common that teachers’ speech be louder, slower, more emphatic, and that it make use both of extensive pauses as well as of gestures and facial expressions (Walsh, 2006). In fact, teachers in all types of classes, depending on their students’ needs, use different techniques to modify their speech and they do that for a number of reasons. For example, if students do not understand the input they are taught, or they do not understand the teacher’s speech, then they do not progress; therefore teachers modify their speech using different techniques, like simplifying their language, reducing the pace of their speech, or making use of body language, to facilitate students’ understanding (Lynch 1996: 570-58).
Moreover, especially FL teachers, who model the TL for their learners, modify their speech as their articulation is important (Lynch 1996: 57-58).

Chaudron (1988) found that language teachers modify four aspects of their speech, which are as follows: Vocabulary: they use simplified forms and avoid the use of idiomatic phrases; Grammar: teachers use shorter, simpler utterances and increased use of the present tense; Pronunciation: they use slower, clearer speech and a wide use of standard forms; Increased use of gestures and facial expressions. Another study, of Tardif (1994) and Lynch (1996) identifies a number of ways teachers use to modify their speech: for example confirmation checks, where the teachers make sure they understand the student; comprehension checks where the teachers make sure the learner understands the teacher; repetition; clarification requests asking learners for clarification; reformulation; completion; backtracking (cited in Walsh, 2006:13).

The above reviewed research refers to teachers’ speech modification which is common in classes, while as Musumeci (1996) reports, students are not asked to modify their speech, on the contrary teachers impose their own interpretation to students answers.

2.5.4 Elicitation

As aforementioned, classroom interaction is heavily dominated by teachers’ questions and students’ answers (Walsh, 2006). This is a main characteristic of classroom communication which makes it different from everyday communication. Teachers dominate in classroom speech and usually that happens through their increased use of questions whose role and function is complex (Long and Sato, 1983) and not as in natural speech to elicit information (Musumesi, 1996). Questions can be used to indicate turns, to facilitate the comprehensibility of the input, to provide participation opportunities and so on. On the whole, their role is to elicit responses and based on the character of this role it has been broadly categorised as display or referential. Although this distinction has been questioned by Seedhouse (1996) according to Thompson (1997) and Cullen (1998), the teachers should be aware of these roles (Thompson, 1997; Cullen, 1998). Display questions are those ones that teachers use, although they know the answer, to check previously acquired knowledge, or to encourage more speech in the target
language. Referential questions are those ones in which the answer is not known to the teachers and are used to encourage communication. Studies report (Long and Sato, 1983; Nunan, 1987) that display questions usually elicit shorter responses than the referential ones which tend to encourage ‘natural speech’ (cited in Walsh, 2006:8). It should be related to a pedagogical goal.

2.5.5 Repair

Another technique that characterizes classroom communication is the teachers’ correction of students’ errors (van Lier, 1988; Walsh, 2006) which although it is considered evaluative (Allwright and Bailey, 1991), something which in natural speech outside the classroom would sound inappropriate, is acceptable within the classroom institution for usage by the participants themselves (Seedhouse, 1997:571). In a classroom context repairs are considered ‘ritual’ and their utmost purpose is to give feedback which is crucial to learning (Willis, 1992; Jarvis and Robinson, 1997, cited in Walsh, 2007:10). Repairs are classified as direct or indirect, overt or covert, language centered or content centred, preferred or dispreferred (Kasper, 1986: 39), according to the teacher’s goal. However, as van Lier advocates the repair is ‘closely related to the context of what is being done’ (1988:211) which means that like other aspects of classroom interaction it should be related to the pedagogic goals the teacher sets and as such it should be studied.

Drawing on the above discussion on classroom research, I raise the following points: first of all, contrary to the argument that classroom interaction is affected by a wide range of interrelated factors (Tudor, 2001; Allwright and Bailey, 1991), aspects of classroom discourse (control of patterns of communication, modification, elicitation, repair) have mainly been studied individually and not as a cluster of factors that are interrelated and as a whole define classroom interaction.

Secondly, EFL research deals with classroom interaction and classroom discourse which concentrates mainly on teachers’ pedagogical goals, which van Lier (1991) calls ‘the planned part of the lesson’ while EFL classroom research on classroom ‘improvisations’, or as van Lier (1991) calls them, on decisions taken by teachers at the actual time of teaching, and research on how these improvisations affect the classroom interaction, is limited.
Thirdly, classroom research mainly concentrates on the interpersonal interaction between teacher-student(s) or student-student(s) while there are other aspects of classroom interaction (such as intrapersonal interaction, technical interactivity), that impute their impact on the ‘improvising of a lesson’ (van Lier, 1991) and therefore I argue that deserve to be studied along with the interpersonal interaction.

The points I raise above have helped me identify aspects of classroom interaction that need to be researched. Based on that, in the following section I discuss the aspects that I explore in the current research and I present the rationale for concentrating on these specific ones, drawing on theories of language or theories of learning that have been discussed previously and have informed this exploration. Then, I expand on the ways I employ in order to research these aspects.

2.6 The theoretical framework of this research

Since the focus of this project is the ‘interaction’ that develops within the confines of a classroom environment, it is important to stipulate how I conceptualise both terms ‘interaction’ and ‘classroom’ and outline how these are used here. This conceptualization will clarify the scope and design of the study. For this reason, it is essential to remember here, that after reviewing language theories, second language learning theories, as well as considering research conducted in these fields, I have decided that the scope and the design of this research aligns:

Firstly, with the interactional view of language which is based on the principle that I have discussed above, that:

…communication involves not just the unconditional transfer of information to the other, but the very constitution of the speaking subject in relation to its other …communication is an exchange which is incomplete without the feedback reaction from the destinee of the message (La Forge, 1983:3).

Secondly, aligns with the sociocultural view of learning, which, as it was previously presented (p 52), argues that:
development does not proceed as the unfolding of inborn capacities but as the transformation of innate capacities once they intertwine with socioculturally constructed mediational means (Lantolf and Pavlenko, 1995:109).

Thirdly, aligns with the pedagogy in Greece which considers that the role of the school today is to provide a pedagogic environment where the processes of upbringing, teaching, learning, socialization, and evaluation of the student would promote his development as a whole personality, and would also facilitate his smooth accession in the social system (Konstandinou, 2003). The way pedagogy is perceived here seems to align with the principles of both the interactional view of language and the sociocultural view of learning.

The above perspectives set the framework within which classroom interaction is examined in this research.

### 2.7 Interaction and classroom pedagogy

Mehan (1974) supports, that interaction is the process whereby lessons are accomplished. According to him, everything that happens in the classroom happens through interaction which is implemented through classroom pedagogy. In the same line, Allwright (1984) accentuates the importance of the relation between classroom interaction and pedagogy and refers to this relation as the ‘sine qua non’ (indispensable element) of classroom pedagogy. He advocates, that classroom pedagogy ‘proceeds necessarily via a process of interaction and can proceed only in this way’ (1984:159). There is no teaching or learning without interaction. Interaction is indeed the principal mechanism through which classroom learning is managed (Allright, 1984).

Aligning with the above perspective that everything that happens in the classroom happens through the interaction which is implemented through classroom pedagogy, I explain in the following section how I perceive this perspective and how this has informed my decision to study classroom interaction in relation to classroom participants, classroom material and equipment, or else, how these, among other factors (Tudor, 2001; Allwright and Bailey, 1991), are considered to affect classroom interaction.
2.8 EFL classroom and its constituent parts
At first sight, the concept of ‘classroom’ might seem simple to define, however considering that the concepts of ‘language’ and ‘learning’ (as these were discussed above in this chapter) have taken different interpretations through the years, so has the concept of classroom and its role. For example, there is the concept of a classroom as a controlled learning environment, as a communicative classroom; classroom as a school of autonomy; classroom as socialization (Tudor, 2001). Moreover, classroom can take different interpretations from different people who have an interest in it, or participate in activities that take place in it. As van Lier (1988) explains,

A classroom is not a world unto itself. The participants (teachers and learners) arrive at the event with certain ideas as to what is a ‘proper’ lesson, and in their actions and interaction they will strive to implement these ideas. In addition the society at large and the institution the classroom is part of have certain expectations and demands which exert influence on the way the classroom turns out (van Lier, 1988:179).

In the following section I present the concept of classroom in the way I perceive it and as a result, in the way that this is studied in the current research. Moving within the framework of sociocultural view of language (chapter 2, section 1) but also coming from a specific cultural background myself, I define the foreign language classroom as a physical place; a pedagogical place and a social place. First of all, a foreign language classroom is viewed as a physical setting, a classroom, in the institution of a school, whether private or state run. Additionally, a language classroom is seen as a pedagogical place. According to Tudor (2001), the ‘official role’ (2001:104) of a classroom is to be a pedagogical place, because learners, coming here, at regular times and taking part in lessons delivered by a teacher, are expected to receive guidance and support in learning a foreign language (FL). Lastly, a foreign language classroom is considered a social place (Pica, 1986; Weinstein, 1991; Tudor, 2001) as these classes are expected to influence students’ broader socialization and gradually help them develop both as social and individual personalities (Konstandinou, 2003).
Based on the pedagogic role of the school (Konstandinou, 2003), as well as on the goals of the EFL learners in Greece, as these are described by the Pedagogical Institute, I raise the argument that the micro world of an EFL class consists of: the classroom as a physical, pedagogic and social setting; the learners; the teacher; the material used; the classroom equipment. Further, I argue that these constituent parts of the EFL class are interconnected through different types and modes of interaction. In the following section, I briefly discuss each constituent part of a class and exemplify the types of interaction through which these are interconnected. Thus, I present my rationale for concentrating on different types of interaction as well as my rationale for examining the different modes involved in the above interactions.

As I have already discussed above the classroom as a physical, pedagogic and social setting, I will now proceed with ‘the learners’, the other constituent part of a classroom. Foreign language learners, have mutual goals, they meet in a classroom and through involvement and cooperation aim at gaining academic knowledge, which in this case is learning English as a foreign language but also aim at developing socially. As discussed extensively in sociocultural theories (section 3.4), learning is not considered exclusively an innate matter. By joining a class, learners are not expected to learn alone, but rather in the presence of other participants and along with them, to build meaning (Ryan and Patrick. 2001). Learning is seen as a constructive process, inherent initially in social interaction and then in brain (Vygotsky, 1987). In fact, learners’ development proceeds as the unfolding of inborn capacities as soon as they intertwine with sociocultural mediational means (Lantolf and Pavlenko, 1995:109). The above perspectives designate my rationale for concentrating firstly on the interpersonal interaction between learner and learner or learner(s) and teacher, secondly on learners’ interaction with different mediational means, which is further discussed below as technical interactivity, and lastly on the intra personal interactivity which is an innate process and therefore difficult to describe.

The teacher is the next constituent part of a class. As far as the Greek context is concerned, one of the teachers’ roles (Konstandinou, 2003) is that of a
knowledgeable participant who encourages learners’ academic development. According to Harel (1992) this learning can be achieved in a step by step process by

....giving feedback, redirecting the group with questions, encouraging thinking, managing conflict, observing students, and supplying resources (Harel, 1992:169, cited in Richards and Rogers, 2001:199).

However, apart from delivering the curriculum, the teacher is also expected to construct the classroom into a social place where the learners would develop. The teacher is seen to facilitate students’ social development as a personality (Constandinou, 2003), a perspective which aligns with the interactional theory which was presented above, in section 2.2.5.

According to Ryan and Patrick (2001) a teacher’s role incorporates

…creating norms and rules for student social behaviour in the classroom and giving explicit messages regarding learners’ interactions with their classmate (Ryan and Patrick, 2001:438).

However, a teacher’s main responsibility is to facilitate students in becoming autonomous learners. As it was discussed above this can be achieved in the ZPD gradually, through scaffold teaching, where the teacher encourages learners to play an active role in their language learning, and also instructs them how this can be achieved in a step by step process. On the whole, the teacher’s responsibility is, through her pedagogy, to control the management of the process of academic learning and the social development of learners which is achieved through the teacher’s management of classroom interaction.

The materials used in a classroom constitute the next inseparable part of a class and can range from written text, audio, video or different visual images. At the simplest level of its use, materials are considered resources of knowledge and can stimulate a participant’s internal thinking or else, intrapersonal interaction which means interaction between the participant and himself. Moreover, along with the teacher’s speech or other participants’ speech, teaching materials are considered resources that can create opportunities for interpersonal interaction.
and participation. Additionally, based on Vygotsky, the teaching materials are examined as artificial mediational means that participants interact with and gradually develop. In line with these perspectives, in this study I incorporate the contribution of the material in the development of interpersonal as well as intrapersonal interaction between classroom participants. More specifically, I focus on the interaction between the learner and the material itself, as well as on the way this material have been implemented by the teacher (thus interaction between the material and the teacher), or on the interaction between the teacher and the learner and how this has been stimulated by the above mediational means.

I also consider as constituent parts of a class the number of facilities, or tools, a classroom is usually equipped with. These may range from an ordinary writing space, that is the blackboard or whiteboard; books; posters on the walls; an audio recorder; an overhead projector; a video set; computer(s); an IWB or any other type of interactive whole class technologies, like visualizers (IWCTs), and used for the presentation of the above teaching material. These appliances actually define the mode in which the material is presented and are used by both the teacher and students for the completion of activities and ultimately for the accomplishment of the participants’ short or long term goals. Therefore, the technical interactivity or physical interactivity (pressing buttons, touching screens, writing on the IWB, among others) between classroom participants and the equipment is also important to consider, as the utmost purpose of all this equipment is to facilitate the processes of teaching and learning a foreign language, on condition they are implemented efficiently (Feenberg, 2005).

In the preceding paragraphs I described how during the realization of a lesson (teaching and learning), the constituent parts of a classroom (Teacher, student(s); material; equipment) are connected. I have expounded on my argument that the connective link between participants themselves and also between participants and the various teaching equipment or materials used, is interaction which develops as a result of classroom pedagogy. In the following section I expand on how the above mentioned constituent parts of the classroom are interconnected.
through interaction and therefore the types of interaction that this research concentrates on.

2.9 Different types of classroom interaction
Classroom interaction can be of different types: interpersonal, intrapersonal or technical/physical; it can be expressed in different modes (spoken, written, body language, or it can be multimodal); the interactional transactions of people can be characterised by different patterns of interaction (for example the teacher initiates, the student responds; the teacher provides feedback, the student self corrects), and above all interaction can have different purposes. I would call these ‘properties’ that define the overall nature of a classroom interaction. In the following paragraphs, I discuss each one of these properties separately, explaining at the same time the importance of their exploration and presenting how they are examined in the current study.

2.10 Interpersonal Interaction
In this study, commensurate with the interactional view of language and the sociocultural view of learning which have been discussed earlier in this chapter, I examine interaction as a co-operative social process between classroom participants and that between: (a) teacher and student; (b) teacher and students or (c) between student and student and how these participants construct meaning together through interaction and thus manage interpersonal transactions. These types of interactions between co participants are referred to in the EFL literature as ‘interpersonal interactions’ (Ellis, 2003). They are mainly expressed as responses to the input participants receive. When a teacher poses a question, irrespectively of its type or its level of difficulty, students respond to it, either directly using spoken language, or indirectly using body language, or even by remaining silent. In other words, a respondent can use different ways to express his response, or else, he can use different modes of expression. This reaction, no matter in what mode it is expressed, stimulates either the teacher’s or another interlocutor’s subsequent move, which is adjusted accordingly, and the whole process proceeds in the same way. This process allows for the reciprocal character of this interaction and the mutual construction of meaning (Kramsch, 1986; Markee 2008; Walsh, 2012).
In order to illuminate the complexity of these interpersonal interactions and their reciprocal character, with the analysis of data, I draw on the principles that ‘utterances perform actions’ (Searle, 1969) (chapter 2, section 1), and that each utterance can carry multiple layers of meaning (Austin, 1962; Wittgenstein, 1958). Different EFL teaching approaches, like CLT, have adopted these two principles to indicate how important it is for the receiver of a message to interpret the speaker’s intention in the way this was meant to be. Only in this way can the receiver of the message respond appropriately (Austin, 1962). In case the participant cannot decipher the meaning of an utterance, then s/he can probably respond by asking clarification or simplification questions that would provide the necessary assistance to make the input comprehensible and thus increase the chances of responding appropriately. During this dual interaction, there are cases where a third party intervenes and in some way contributes to this interpersonal interaction; for example either by providing a helpful hint or some kind of clarification, or by providing the appropriate scaffolding for the initial receiver to complete the action. Eventually, the initiator comes to verify this completion. As a result, despite the participants’ original plan of action, there is a constant modification of the action(s) to succeed, always depending on the preceding actions. This process explains the reciprocal character of participants’ interpersonal interaction, as well as the importance of interlocutors’ cooperation in order to successfully manage meaning making.

Considering the above, I conclude that turns at talk cannot not be studied independently, but in clusters of turns where more than one speaker interacts in order finally to develop a complete course of action. The sentences, or any stream of speech that speakers actually produce in a conversation here are understood as forms of actions specifically designed and performed within the specific context they are situated in. Therefore, I examine each turn within sequences of turns. For a course of action to be completed, different patterns of participation can occur. That means, that each cluster of turns can be described as a combination of different participation patterns. In this research this is subsequently used in order to examine how each small group (working within a cluster of turns) of participants understand and respond to their interlocutors’ turns while managing social actions. More specifically, there are often cases where a teacher asks a question, the
student being unable to provide an answer replies with a request for clarification and when s/he finally gets this clarification, then s/he provides the answer to the teacher's question. The participation pattern that describes the above exchange can be described as T-S-T-S. In the current study where the IWB plays a central role, the pattern of interaction is as follows: the teacher asks a question, the IWB mediates and a student replies. This pattern is presented as T-IWB-S.

In this study, taking into consideration the above, in the analysis of the classroom interaction I include: 1. identification and description of the actions each turn aims to achieve or has achieved 2. description of the roles the participants adopt or the roles they are assigned as these are inherently connected with the actions performed in each cluster of turns. 3. I record the patterns of interaction identified in each cluster.

2.11 Modes of expression
Interpersonal interaction is expressed either orally, using spoken language, or using body language or even by remaining silent. Non-verbal signals, or body language are widely used in classroom interaction (Bernstein 1996 cited in Bourne and Jewitt, 2003). For example, very often, a teacher encourages students' participation by using gaze (Lancaster, 2001), nodding heads, or hand movement to point at them (Frank and Jewitt, 2001; cited in Bourne and Jewitt, 2003). A teacher can also evaluate a student's contribution (Norris, 2004) using facial expressions that show enthusiasm, assertiveness, frowning. Additionally, the body language of students sends different messages to the teacher: raising hands to indicate their intention to involve themselves in the current activity/ question; nodding heads, or other facial expressions, or even eye contact to denote unwillingness to participate in the lesson. Even by remaining silent, participants can still contribute to the classroom interaction. Usually silence is perceived negatively as destructive.

Overall, silences whether intentional or unintentional have multiple meanings which are open to varied interpretations given the context they are found in and the cultural values of the participants (Ikuno Nakane, 2007). For example, silence can be interpreted as a lack of knowledge, resistance to answer, lack of interest or motivation, namely boredom, or contrarily as ‘thoughtfulness’, and ‘strategic
timing’ (Schultz, 2009). Participants, seemingly indifferent to what goes on around them, affect the process of interaction sometimes simply by being present in the room, or even by remaining silent. By listening and observing what is going on, students still ‘participate’. Selinker (1972) (cited in Halderman, 2006:14) refers to the participation of those silent students, who observe, rather than actively participate, as ‘peripheral’. He advocates that these students, by gaining experience in the language classroom and the target language system, gradually become ‘core participants’ (Selinker, 1972).

The way a teacher interprets students’ silences, or their body language, defines her subsequent move. A student’s silence, when interpreted as boredom, may encourage the teacher to change the type of activity she is currently doing; when interpreted as thoughtfulness or lack of understanding, it may urge her to use another way to clarify what has been said. On the whole, students can still ‘participate’ even when they remain silent.

So far, the notion of interaction between the participants: teacher and student(s); student-student(s) which is realized using verbal or non verbal language or even by participants remaining silent has been discussed. This overt interaction between classroom participants is known as ‘interpersonal interaction’ (Ellis, 1983).

2.12 Modes of input presentation and interaction
In the process of analysis, I examine whether different modes of input presentation may enact different types of interaction, different participation patterns, or whether these affect participants’ interaction to realize different actions. Above all, I examine whether different modes may define the degree to which an intended action can be successfully accomplished. To achieve that, in the data analysis, an effort is made to describe the actions performed in relation to the input that stimulates these actions. Therefore, I describe the mode(s) of input presentation, as well as the modes of the interaction involved. More specifically, I examine the intensity of the mode, the interconnection of the modes or else co-occurring modes, and subsequently, depending on these factors, I comment on the high/low-level of the action which relates to its successful implementation (Norris, 2004). In the speech mode, the pitch, tone or rhythm of the participants’
voice are indications of certain emotions (van Leeuwen, 1999, cited in Bourne and Jewitt, 2003) which are also recorded and considered.

2.13 Intrapersonal interaction
In addition to ‘interpersonal interaction’, there is ‘intrapersonal interaction’ (Ellis, 2003), which involves mental, cognitive processes (memory, attention, rational thinking) which are inwardly regulated and which come about as a consequence of exposure to external stimuli (Vygotsky, 1978), whether these stem from human sources or representational cultural artefacts. When a teacher poses a question, the student is initially expected to think, converse, or else interact with his inner self before he provides any answer. This constitutes an individual’s cognitive, mental activity. It is known as ‘intrapersonal interaction’ (Ellis, 2003), or according to the Vygotskian term ‘private speech’ (Vygotsky, 1978).

Kennewell et al (2008), present different levels of interactivity (interpersonal-intrapersonal) which have been recorded in the literature, and which range from a low level of interactivity to full interactivity (Kennewell et al, 2008) on a hierarchical scale. I present them below, as I have incorporated these terms in the analysis of the data to help me describe the type of interaction that the different sources of input and the modes these are expressed in, raise.

The least opportunities for interaction are usually found in the ‘lecture’ type of classroom. This interaction is mainly restricted to the intrapersonal/internal, cognitive process of the student and it does not affect the development of the lesson, which remains solely under the authoritative control of the teacher. It has to be made clear that although a lecture is characterised as the lowest level of interactivity, it does not suggest that learning does not take place. In fact, low level of interactivity should not have negative connotations for learning. As Kennewell et al (2008) note, a learner may not be given opportunities for being actively involved in the trajectory of the lesson, but a good lecture may result in significant personal cognitive engagement and intra-activity, which results in personal learning (Kennewell et al, 2008).

Next comes the ‘rigid scaffolding, and surface interactivity’. It is characterised by a low level of interactivity. The teacher provides ‘rigid scaffolding’ by posing ‘funneling questioning’, namely by strictly controlling students’ thinking and
directing their responses towards a particular path. Research suggests that this type of interaction (surface) characterises most of the classes (Burns and Myhill, 2004; Smith et al, 2004).

‘Deeper interactivity and looser scaffolding’ is what characterises the next level in the hierarchy. It is achieved through teachers’ ‘probing questioning’ where students are actually offered opportunities not only for sustained involvement in the trajectory of the lesson but also for taking formative assessment decisions. Thus, the student is given some control over the classroom interaction. Probing questioning is infrequent in 11% of English classrooms (Smith et al, 2004:408).

‘Focusing questioning’ encourages students’ active engagement. By posing problem solving, or decision making questions students are involved in tackling real world situations where there is an array of possible solutions. These types of questions require students to evaluate, synthesize and consequently develop a thorough understanding. Both teachers and students are engaged in deep interaction towards co-construction of knowledge. The scaffolding provided to students is unpredictable, constantly reformed and therefore is demanding on the part of the teacher.

Last comes ‘collective reflection’. Upon completion of an activity, the teacher generates reflective discourse, where students are encouraged towards peer and self-evaluation, followed by reflection. It is during this level that students gain full control of class interactivity. The above levels of interactivity actually depict the type of teaching and the level of control a teacher exerts on a class.

Intrapersonal interaction can be stimulated either by a present interlocutor (teacher and/or peers) and their speech, or by books, pictures, namely any type of representational or mechanical media (Fiske, 1982). Ohta (2006) argues that Vygotsky’s definition of the ZPD could be used to refer to the assistance that a learner can gain via literary resources. She posits that a learner, in particular an adult learner, can get scaffolding in the ZPD not only through social interpersonal interaction, but also in interaction with a variety of other resources like books, videos, on line help, or other media. Learners can form ZPDs both between themselves and others, and also between interacting with texts and other media.
Cultural artefacts, usually promote one way of communication (intrapersonal interaction) which does not encourage reciprocal (interpersonal) action. A book, a picture or a poster, simply represent the ideas, perspectives of a writer, a creator who, through different types of media, presents his ideas and thus stimulates students’ minds.

2.14 Goffman’s participation patterns
To describe the intrapersonal interaction that classroom cultural artifacts stimulate, I borrow Goffman’s (1981) participation terms for speakers and listeners, which I present below.

In the current study, there are often cases of intrapersonal interaction where a participant interacts with the text or image presented on an IWB or other types of teaching equipment. The degree of influence the above stimuli (representational media, chapter three) may exert on the mental processes of the participants, or else the intrapersonal interaction they may raise depend either on the complexity of the message in the text, or the image these carry, or on the developmental level (Vygotsky, 1978) of the individual receiver, that is his ability to interpret the message these sources carry and which can be presented in different modes (aural, written, animation, or even in a combination of modes). The ‘author’ (Goffman, 1981) of a message, that is the person who generates the thoughts, or else the person, who probably composes the words or images that express the above, is not present to explain, simplify or answer any type of questions a student may raise in order to get comprehensible input and thus gradually proceed to the development of knowledge. In such cases, the student’s perception is restricted exclusively to his own personal cognitive, developmental maturity (Vygotsky, 1978). On the other hand, in a classroom environment, this incomprehensibility problem, like any other type of problem, can be resolved with the teacher’s, or a knowledgeable peer’s, intervention and their scaffolding assistance which will be within the ZPD of the student in need. These participants can play the role of ‘the animator’ of the author and his speech, since they are in a position to utter the actual words, to explain and clarify messages that under different circumstances the author himself would have done. So, in the analysis of these patterns of interaction I use the terms ‘author’ and ‘animator’ which are Goffman’s terms (1981) and refer to participants-speakers. I use them to explore
the nature of involvement and participation of the participants-speakers in social interactions. More specifically, by using Goffman’s terms I record the roles the participants adopt and I study the way these interchange.

In interpersonal interactions in classes, as well as in every day life, as presented above, there are participants, who remain silent and appear indifferent to what goes on around them. However, these participants listen, observe, affect the process of interaction, and for that reason, they are still considered to ‘participate’ (Selinker, 1972) (cited in Halerman, 2000:14). In this study, I use Goffman’s terms to identify the different types of participants in a classroom, whether these are speakers or listeners. In fact, Goffman (1981) defines three different types of participants-listeners in a conversation: those who overhear; those who are ratified participants but who are not specifically addressed; and those ratified who are specifically addressed. I consider the students in the current project, as ‘ratified participants’ simply by the nature of the institution where they are found. They come to a class with the intention to participate, both as listeners and speakers, and thus learn. The learners that a teacher addresses a question to are ‘ratified and specifically addressed’.

2.15 Gass' stages of input elaboration
Both intrapersonal and interpersonal interactions are enacted by human or cultural artifacts that provide input stimuli expressed in different modes of presentation: written or audio, still or moving images; or in combinations like participants’ oral speech accompanied by hand movements; or it may be multimodal. This input undergoes different stages of elaboration by participants who interact in order to finally accomplish different actions. For the needs of the current study I describe these stages of input elaboration using Gass’ terms: ‘attention’, ‘awareness’, ‘consciousness’ (Gass, 1997), as these were discussed above (page 23). In fact, I concentrate on the different stages which are expressed through the interaction between the constituent parts of the class, namely teacher, students, educational material and which form part of the classroom interaction.

Frequently, young learners’ attention is drawn by things that are able to trigger their senses. Besides, young learners seem to focus their attention on certain
aspects of language when they are extremely motivated to communicate, or when they are asked to complete competitive tasks. In environments like these, the teacher's role is crucial to alert students, to orient their attention to certain pieces of input, as these are defined by the pedagogical goals the teacher herself had set. It is also important for a teacher to orchestrate the class in order to elaborate this input through scaffolding interaction. Moreover, although young learners sometimes are aware of the role of the school and the goals they are expected to attain (for example, they know that they are in this institution to learn a language), they are often easily disoriented. It is the teacher and the curriculum who define the sub goals to be attained daily. Thus, it is the teacher's responsibility to direct students’ attention, or raise students’ awareness towards specific input whether the source of it is other participants, or different educational sources. It is the teacher who mediates between input and learners, or in other words, it is the interaction between teacher and learners or more broadly, it is the teacher's different pedagogic practices that direct learners’ attention to specific input which subsequently becomes ‘apperceived’. Or else, it is the teacher’s scaffolding support that promotes learning and as it is mentioned in sociocultural theories, it can also be the scaffolding of a knowledgeable peer or else, the interaction between a learner and his knowledgeable peer.

2.16 Conclusion
In this chapter, I have discussed the importance which interaction holds in the theories of language as well as in learning theories and how these theories subsequently inform teaching approaches and teaching practices. I have mainly concentrated on the shift of understanding from the notion of interaction, as a pure exchange of messages, to interaction for meaning making in the realization of functions, to eventually reach the social notion of interaction for the realization of social transactions and cooperative construction of knowledge.

In this chapter, I have also underlined the importance of studying classroom interaction in chunks of speech and the necessity of using the speech act theory to show the reciprocal, cooperative nature of classroom interaction. I have also talked about the ‘properties of interaction’ and how I examine them in this study. Furthermore, I mention that in this study I examine Interpersonal –intrapersonal interactions, and describe the patterns of interaction that characterise each chunk
of speech. The importance of studying interaction in relation to the input and its mode of presentation is raised and the ways this is explored have been explained.

In the following chapter I discuss how I explore the interaction raised in a class in relation to the input that the IWB presents or stimulates.
CHAPTER THREE

3 INTERACTIVE WHITEBOARDS (IWBs)

3.1 Introduction
As this study explores the interaction developed in an EFL classroom in relation to the opportunities the pedagogic use of an IWB raise, in this chapter I concentrate on the input that is provided via the IWB and discuss how I study the interaction stimulated by this medium. More specifically, within the framework of sociocultural theories that this research is conducted, the IWB is examined as a mediational physical tool that learners who appropriate this tool gain control of their own mental capacities and thus gradually develop (Lantolf and Pavlenko, 1995).

First of all, I raise the need of pedagogies that take into consideration students’ needs and interests. In that line, I present initially the place ICTs hold in the life of the young generation in general and then focus in particular on their role in the Greek net generation. Presentation of the principles of Feenberg’s critical theory follows, as these define the role of the IWB in a classroom and exemplify the way the medium is researched here. Then, I present how we have moved from the use of the blackboard to the IWB and the needs that directed the evolution of this technology. Its technical functionalities are listed and due consideration is paid to its interactivity and the multimodality it facilitates. There is an extensive discussion on those two key functionalities, their importance is discussed and the way they are researched is presented.

3.2 What pedagogy suggests
Greek academics (Germanos, 2006; Konstandinou, 2003; Kordaki, 2005) and the Greek national curriculum suggest child-centred approaches to education, which means education that would focus on students’ needs, interests and learning styles.

As Germanos (2006) argues, the educational system should not attempt through authority and discipline to provide the necessary guidance to children and eventually to convey knowledge that would facilitate their assimilation in the existing social system. On the contrary, the educational system should adapt to
the children’s needs and proceed alongside with the children’s world (Germanos, 2006).

Within this framework, in the next section, I examine the relationship of the young generation and in particular, the Greek generation and the place new technologies hold in their everyday lives. My intention is to highlight the necessity of Greek classrooms to adapt to learners’ interests and to their new ways of learning, like ‘twitch speed; parallel processing; graphic first; random access; active; play; fantasy’ (Prensky, 2001:52). For example, Moore (1997) has referred to the ability of young learners to leap around different pieces of information as ‘Hypertext minds’.

3.3 ICTs and young learners
The impact of technology in our lives is evident in the ways we shop, pay bills, entertain, inform ourselves. This way of life has impacted on the younger generations, who have been influenced by technologies in the ways they entertain themselves, communicate with their friends, learn, and on the whole, in the way they perceive the world.

The mobile and networked technologies are used by ‘a cohort of population’ of learners (Palfrey and Gasser 2008), especially university students (Corrin, Lockyer and |Bennet, 2010). Young learners (14-15 years old) are also reported to be able to use a word processor, navigate in the world wide web (www), send or receive mails, MSN, SMS use iPods, play PC, console games, or digital games or simple ‘gibberish’ games; keep weblog; use the YouTube to watch videos or upload their own videos on You Tube; use ‘Hyves’ or other profile pages to communicate information concerning themselves with others (Beemt, 2010). However, as Czerniewicz and Brown, or Shao point, the above describe the situation in advanced industrial countries, in developed countries which make an excessive use of technologies (Czerniewicz and Brown, 2010; Shao, 2010).

3.4 Greek net generation
Research conducted for ‘wind’ (a Globalive Wireless Management Corporation) to investigate Greek young peoples’ engagement with technologies reports that children today learn how to use the mouse long before they learn how to cycle (MindSearch, 2010); they learn how to play complicated games on their parents’
mobile long before they learn the multiplication table; 87% of the children have
daily access to the internet, while the rest once a week; 56% have access to the
internet through their home PCs, while the rest from their mobiles, internet café,
and some from school; in 36% of these cases the PC/laptop are in their bedroom,
while 43% have access to a PC which is placed in a family room. As children
report, the most common means of communication with friends is the mobile, then
comes the msn, third the email, and last the sms (MindSearch, 2010). In 2011, the
Greek centre of internet security reports that even some nursery school children
have mobiles, while in primary schools this percentage reaches 36%. One child
out of five, between four and six years old, surfs on the world wide web (TA NEA
gr, 2013).

These young children constitute the ‘net generation’ (Tapscott, 1998) or according
to a controversial metaphor, ‘digital natives’, which Prensky had used in the past
(Prensky, 2001) to indicate the positive attitude of this generation toward
technology, against those who grew up in a pre-digital culture and found it rather
hard to adjust to this change (Prensky, 2006). On the whole, these terms are
referring to the generation born after 1980, who have been brought up in a world
surrounded by advanced technologies. They have been ‘bathed in bits and bytes’
since birth (Palfrey and Gasser, 2008; Tapscott 2009) and as a result, they have
developed ‘an inherent ability and reliance on technology’ (Cortin et al, 2010).

From the early 1990s until today there is a pervasive idea that technologies would
change learning practices (Harashim, et al, 1995; Tapscott 2009; Palfrey and
Gasser, 2008; Tapscott and Williams, 2010, cited in Jones, 2010). Additionally, as
discussed above, there is also a pervasive issue that schooling should meet
students’ needs and interests (Germanos, 2006; Konstandinou, 2003).

Considering the above issues, the Greek Ministry of Education (MoE), in an effort
to adapt the existing schooling to satisfy the needs of this ‘net generation’
(Tapscott, 1998) has been introducing reforms toward the creation of ‘a new
school’ (2010). Within this framework, the last few years the MoE has been
investing in the infrastructure of Greek schools on computers and IWBs and also
on the in service teachers’ training in ICTs. These rapid changes, which are
currently witnessed with the introduction of instructional technologies in
classrooms, have created an atmosphere of turmoil. Governments and people related to education are all under constant pressure to adapt schooling to this new situation, and also to keep up to date with the endlessly emerging technologies and their successful integration in education. In fact, this evolving situation which is gradually establishing, has put teachers under the burden of adapting themselves and their teaching practices to it. Important questions constantly emerge regarding the ways these technologies and in this case an IWB, can be best implemented to impact educational practices effectively (Legontis and Dagdilelis, 2013). The current research aspires to contribute towards this end, that is, to help people who are involved in EFL education understand how the IWB could be best implemented to encourage classroom interaction and as a long term result, EFL learning.

At this point, it is important to discuss the role I assign to the educational technologies, as this would explain the way this research is designed, and in particular, the way IWB (an educational technology) is viewed and studied here by the researcher. In particular, I concentrate on the critical theory of technology as this is put forward by Feenberg (2000), after a succinct reference to the determinist as well as the instrumentalist views.

3.5 Feenberg’s Critical theory of technology
The last decades have been characterized by the rapid evolution of information and communication technologies (ICT). The advancement of a great number of devices like radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as video conferencing and distance learning are believed to have spawned fundamental changes in social and cultural aspects of human lives. Very often, technology is regarded as ‘unavoidable’ and ‘its power is deemed limitless’ (Kenning, 2007:4). However, the view that a society’s technology drives the development of its social structure and cultural values, expresses the underpinning theory of ‘technological determinism’.

Sasseville (2004) underlines that at times of rapid technological development, the inevitability of social change and the ‘transformative power’ of technology are always profoundly highlighted (Sasseville, 2004), whether these are good or bad.
Contrary to the above perception, there is the instrumentalist view, which treats technologies purely as ‘tools’ in the hands of ‘users’ who utilize them for their purposes. The tool is seen as a means to an end and in case its use results in negative, then the cause is attributed to its improper use by the user. However, as Feenberg (2005) argues, instrumentalists fail to consider the struggles or the innovations of the users in their processes of appropriating the medium (Feenberg, 2005:7). For these theorists, technology seems ‘indifferent to the variety of ends it can be employed to achieve’ (Feenberg, 1991:5). In fact, as Feenberg argues, both the above conceptions fail to consider the transformation the technology undergoes at the hands of its users. They view technology independently from its social, historical or cultural context.

Contrary to the above, in the critical theory of technology, Feenberg (2005) advocates that

the technical resources are not pre-given but acquire their meaning through processes of interpretation, for example, computer networks developed however the communication functions were often introduced by users rather than treated as affordances of the medium by the originators of the systems (Feenberg, 2005: 8).

Technology offers just opportunities for new ways of action which are restricted by the design of the technology itself. That means that, humans cannot use technology to achieve any goals they wish, other than what the technology design itself and its values permit. I would argue that what establishes a technology as innovative is not the technology itself, but actually the innovative way the users exploit its affordances, or as Feenberg advocates, affordances ‘acquire meaning through processes of interpretation’ (Feenberg, 2005). According to Kaufer and Carley (1998) ‘Innovations can spark or fuel change; they do not account for change or guarantee it’ (Kaufer and Carley, 1998:93 cited in Kenning, 2007:17). That means that although the affordances of a technology may have the possibility of bringing changes when appropriated, however whether these changes would be realised depend exclusively on the users and the actions that they are prepared to take. Whether the innovations will be adopted and ultimately exploited (either fruitfully or not), or completely rejected, it is a human-agent’s
decision and as such technological innovations should be considered, neither unavoidable nor with limitless power. Feenberg describes technology as a ‘battlefield’ where individuals and social groups struggle to influence and change technological design, uses and interpretation (cited in Schmid, 2006:50).

Another aspect of technology, which the critical theory raises, is its social character. It is the social environment that actually shapes the technical characteristics of a technology. Every single technology is humanly designed and humanly created at a certain point in time, at a certain place, and its design reflects its historical and cultural origins. Therefore, for the critical theory of technology, it is important to examine the social environment, the underlying power relations that shape how technology is designed and used (Feenberg, 2000).

In this research, the IWB technology is viewed neither as a powerful technology that brings about certain results on its own, nor as a tool which is expected to contribute toward certain aspects of the language learning. Drawing on Feenberg’s critical theory of technologies (Feenberg, 2005), I study how teachers along with students, through interaction, develop different pedagogical practices, by exploiting certain features of the IWB system. In fact the interaction between teachers, students and the medium are studied.

According to Bruce (1997)

in order to understand what technology means, we must examine how it is designed, interpreted, employed, constructed and reconstructed through value-laden daily practices (Bruce, 1997:12).

Indeed, the intention of this research is to understand the IWB technology by analysing the daily practices of EFL classes, where teachers, student(s) and the IWB are involved. Through this analysis, I examine how certain values of the IWB are interpreted by the participants themselves, reconstructed and finally employed. To achieve this, I concentrate on the social and pedagogical interactions which influence the way the IWB is adopted, exploited and eventually transformed by the participants themselves. At the same time, I concentrate on
the opportunities for interaction which the intrinsic characteristics of the IWB offer to classroom participants.

Feenberg (2000) argues that technology cannot be studied decontextualized but in relation to the social context which shaped it (Feenberg, 2000). Only in this way, one can understand its social and its historical embeddedness. Feenberg (2000) also argues that inventions take qualities that express demands of their time and turn them into technical principles. Each technological invention is based on the needs of the participants of this society at the time the invention takes place. The inventors take into account these needs and design a technology which would serve these needs.

Every making must also include a letting be, an active connection to what remains untransformed by that making (Feenberg, 2000: 312).

With this in mind, in the next few paragraphs, I present the historical background of the Interactive whiteboard, and discuss the social needs which defined the ‘qualities’ which technology turned into ‘technical properties’. I present the evolution of the blackboard in the IWB in the light of the needs that drove its development. I also raise the point that although the IWB was initially developed to satisfy office needs, eventually it was mainly education which exploited its values, its intrinsic characteristics, and today we discuss its implementation by schools.

3.6 From the blackboard to the IWB
In the literature of schooling, references to the traditional blackboard, or research studying its use or its role in education, are rather scarce. Ewart, 1922; Crichton, 1954; Ramshaw, 1955: focused on the neat writing on the board so as to be legible; while Kent, 1969; Horsken, 1998: were concerned with the board as a tool for the teacher and as a resource for whole class teaching (cited in Greiffenhagen, 2000); as well as O’Hare, 1993; and Dobbs, 2001). This lack of resources in the history of the blackboard may give the impression that it has always been a standard school equipment, an integral part of a classroom. The truth is that this technology ‘…became so pervasive and its use so normalized that it rarely warrants any mention in the education literature’ (Lee and Winzenried, 2009:37-41). However, blackboard and whiteboard manufacturers often publish pages on
the internet regarding the evolution of the board. One can also trace recent works (Roth, 1996; review of Trigg, 1993; Stefic, 1987) studying the use of the board. These works are reviewed by Greiffenhagen (2000), who provides a succinct and comprehensive survey of the subject.

The blackboard dates back to 1801 and it is actually considered the first instructional technology that revolutionized education (Coulson, 2006:5). Before 1800s, students were equipped with smooth, thin, dark grey stone slates, framed with wood in order to be protected from breaking. Alternatively, slates were wooden boards painted with black grit or in some cases they were made of porcelain. These last ones were manufactured in the UK. At those times teachers would go from student to student copying pieces of taught material on each student’s personal, handheld slate. However, they did that at the expense of other students’ attention or at the expense of the pace of the whole class lesson. In 1801, a blackboard was first used for the presentation of a math lesson by an American instructor at the Military Academy. Soon afterwards, the use of the blackboard was launched in a school setting. In fact, this action is credited to James Pillan, a headmaster in Edinburgh. Due to the innovative ideas of the above people, very soon this new teaching tool found its place in every single classroom.

After the introduction of the blackboard in schools, a number of students in the same classroom can be presented with the same material simultaneously. In fact, blackboards saved teachers from writing or correcting each student’s slate separately which means that teachers had more time for actually teaching the students. Hamilton (1990) underlines that there was a shift to front-of whole–class teaching, to question and answer teaching. However, at times where supplies of paper or pencils were unaffordable for a standard family, or when there was not yet access to mass copies or hand outs, the introduction of the blackboard in education was considered a real revolution. A few years later, blackboards started being used in business offices, since large groups of people could attend a presentation.

Gradually the chalkboard gave way to steel boards coated with porcelain enamel, known as green boards and then to the whiteboard. Today, there is an assortment
of blackboards or whiteboards, mobile or mounted on walls, differing in size, style, quality. Both have their advantages and disadvantages. Taking into consideration the needs or the budget of a school one can make the appropriate choice.

O’ Hare summarizes the advantages of traditional boards (cited in Greiffenhagen, 2000)

Since there is one of it, that everyone can see, it focuses attention on the task. Since everyone contributes to it, it is collaborative. Since it is constructed in real time it has a history and sequence. Since it is extensive in two dimensions, it allows a more complicated structure than linear logical evolution or chronological or causal sequence. Since it is a random-access device, it does not have to be merely a temporally congruent record of remarks; it can speak to different people in different voices privately, and can ‘listen’ on its own schedule, as later contributions can be inserted later at the left, and pregnant early insights can be placed in empty space far to the right, as though the discussion hadn’t ‘gotten there’ yet. Since it is easily erasable, it strikes as a nice balance between commitment and experimentation. It’s safe and robust; there’s no electric cord to trip over; it doesn’t need spare bulbs; and so far, there’s no evidence that chalk dust or markers cause cancer! (O’ Hare, 1993:246).

Two hundred years after the introduction of the blackboard, a new educational technology appears on the stage and promises to bring the revolution in education (Lee, 2010). This is the interactive whiteboard (IWB), also known as electronic or digital or e-board (Greiffenhagen, 2000). In the short period of two decades the IWB has managed to enter a considerable number of classrooms worldwide.

What this board can do that the traditional one cannot, or how this board can bring the revolution in education are some of the issues which are discussed below.

3.7 Definition of the interactive whiteboard
The IWB, which is a system rather than a device (Barber, Cooper, Meeson, 2007), consists of three pieces of equipment: a whiteboard surface which resembles a huge touch-screen, a multimedia computer and a data LCD projector. The
whiteboard itself interacts with the computer’s desktop and actually displays data via the projector. However, the surface of the whiteboard, apart from servicing as a display surface, it also acts as an input device and it is touch sensitive. Using either your finger (with some IWBs) or an appropriate pen ‘stylus’, you can write on its surface, you can delete, or even manipulate images; you can enact audio or video recorder, namely you can behave in the same way as if you would use a mouse attached to a computer. Immediately, the board reacts and sends messages back to the computer. Briefly, the whiteboard is controlled via a computer and vice versa.

### 3.8 IWBs for office use

Before the actual invention of the IWB, Higgins and Johns (1984) as well as Orton (1987) had already expressed their visions of an ‘electronic board’ or ‘magic blackboard’ that would be able to serve the needs of education (cited in Golfenngen, 2000:11). However, the IWB was initially developed as a tool for office use. The first electronic board was developed by Xerox Parc, research and co-development company in Palo Alto, in California, in the early nineties (Elrod et al., 1992; Petersen et al., 1993; Welch et al, 1994; cited in Greiffenhagen, 2000).

Stefik (1987), working in a research laboratory (Xerox Parc, Palo Alto), identified a number of disadvantages of the traditional blackboard, as far as presentations and group meetings are concerned: The writing space provided is limited, thus there is a need to erase items that quite often required for later reference. Besides, there is no information storage facility. Once items are written on a traditional board, they are difficult to rearrange. The illegibility of the writer’s handwriting constitutes another problem (Stefik, 1987:32). These identified limitations gave the impetus for the gradual development of electronic boards. In fact as it was discussed above, and as Feenberg comments (2000), ‘inventions, take qualities and release them as technical properties’(Feenberg, 2000:312). The aforementioned limitations actually constitute the ‘qualities’ that the IWB inventors ‘released as technical properties’.

Moreover, it is common with every innovation in order to be built, or to gradually develop, to depend on pre-existing technologies. Kenning states that ‘they alter what exists rather than kill it,…as a rule new technologies do not make
established technologies obsolete, rather they add to the range of opportunities available and provide new contexts of use for the older technologies’ (Kenning, 2007:13). This is what happened with an IWB which can be used as a conventional board, but it can also perform additional operations. In fact, the IWB, as almost every innovation, has come as a result of a combination of the advantages of the conventional blackboard as well as the advantages of a computer technology. The IWB has managed to overcome the shortcomings associated with the conventional blackboard and has made a few steps forward. Feenberg argues that,

"Every making must also include a letting be, an active connection to what remains untransformed by that making (Feenberg, 2000:312)."

It is notable that the IWB, since its introduction in the market, has undergone significant improvements and like every technology continually improves.

3.9 The technical functionalities of the IWB
The medium in itself is afforded with a number of technical functionalities, attributes. These constitute the inherent part of the technology and they are presented below. In a section that succeeds, various ways that these functionalities could potentially be exploited are described The exploitation can ultimately differentiate the IWB medium from other multimedia in condition they are realized by its user.

In the following section I present these intrinsic technical functionalities of the conventional IWB which fill the gaps that the traditional board leaves, and some additional ones which are briefly summarized below:

1. You can hand write, hand draw or type on its surface. There is also automatic handwriting recognition and text formatting features. Moreover, there are tools which offer the users the following:
   2. Drag and drop functions
   3. Hide and reveal (objects placed over others can be removed or rubber reveals hidden text).
   4. Zoom in, zoom out functions
   5. Highlighting (transparent colour can be placed over writing or other objects)
6. Spotlighting (view restricted to circular area of screen)
7. Annotation (of objects displayed- textual or graphical)
8. Tickertape (text moves continuously across screen)
9. Animation (objects can be rotated, enlarged, and set to move along a specified path)
10. The common property of all the above tools and their functions is that they offer IWB users the possibility of manipulating the input presented on its surface. In fact, most of these functions demand the tactile intervention of the user to change the form the input is presented. For the needs of this research I borrow Singrid’s (2007) term and call this intervention ‘embodied’ ‘disembodied’ use of input. This is a distinctive characteristic of the board, that when exploited appropriately, can have a positive impact on the learning and teaching processes.
11. The existence of flipcharts, that take the form of multiple pages, offer users unlimited storage capabilities but at the same time opportunities for quick retrieval of this material.
12. Moreover, the users are offered a number of options for what they can do with the content of its surface apart from saving it: they can
13. Print the material displayed on it.
14. Share this material with others, either synchronously or asynchronously, or even
15. Delete it or even erase it using a ‘rubber’ (Mercer et al, 2010).
The use of an IWB can be complemented with peripheral hardware devices, like audience response system, or a wireless (Schmid, 2008).
16. Audience response system: it lets an audience, equipped with a keypad, to respond to teacher’s/presenter’s questions. The results can immediately be displayed on the main board in graphical form or even exported to a spreadsheet.
17. Slate, a graphic tablet, which operates remotely and enables participants who are equipped with it, to take control of the IWB from anywhere in the class.
18. On the whole, when a particular object on the surface of the board is touched, a visual or aural response is generated. This affordance, as well as the aforementioned peripheral devices give the board its interactivity.

The above intrinsic characteristics of the IWB make the medium look different from previous technologies and also avail its users, namely teacher and students, of the opportunity to exploit the material presented on it, in various ways. However, it is worth noting, that the aforementioned list of the IWB functionalities become available through a computer, an application, and a data projector. They are possible because of the IWB’s hardware and software. What makes the IWB technology look innovative is the ability to control the aforementioned functionalities via the board.

As it was discussed in chapter 2, the main focus of this study is the interaction developed in a classroom environment. However, this interaction is studied in connection with the implementation of the IWB, and in particular with the opportunities this medium encourages for more interactive classroom pedagogies, provided its user takes advantage of them. In line with Feenberg’s (1991) critical theory of technology, which was discussed above, and supports that it is not the medium in its own right that it is interactive, but what you can do with it, therefore, I concentrate on the opportunities of pedagogic classroom interaction which the different functionalities of the board may stimulate, provided they are exploited by its users. More specifically, I concentrate on the multimodality and interactivity of the medium for two reasons: first of all, in the literature of IWB, multimodality, and interactivity are cited as the basic advantages of the IWB, the ones that make it stand out from other educational media (Jewitt et al, 2007; Twiner et al, 2010). Secondly, as Moss et al (2007) suggest, pedagogies that are multimodal, interactive and fast paced are broadly beneficial (Moss et al., 2007). Considering the degree of control that the teacher maintains from the front of class with the pedagogy and pedagogical practices she employs, I concentrate on the ways that the above two functionalities actually intertwine and promote more classroom interaction when teachers access and control them from the board.
3.10 Interactivity and interaction

In this section I discuss the terms interaction and interactivity in relation to the use of the IWB in EFL classes. In the previous chapter I examined the term interaction in the EFL field, as far as learning and teaching are concerned, and concentrated on the classroom interpersonal and intrapersonal interactions. However, the focus of this research is on the potential of the interactive whiteboard to affect the nature of EFL classroom interaction. Therefore, in this section I expand on the interaction between the IWB and classroom participants. Initially, I discuss the term interactivity, I explain how this term is used in this research, and then I briefly refer to the different patterns of interaction between the IWB and its users as these are described in the literature. Finally, I focus on the patterns of interaction I examine in the current research.

Over the last few decades, apart from the term interaction, interactivity and terms like interactive pedagogy, interactive learning, interactive teaching, interactive didactics, interactive education, interactive strategies, have become ubiquitous in the field of education. However, both interaction and interactivity are terms closely related, so their use causes confusion. This is the reason why these terms are often used in the literature interchangeably. Although in the previous chapter interaction was examined as a reciprocal action between at least two classroom participants, in this section I examine interaction between a computer and a user. For example, every time a user becomes aware of something in a medium, a user sees a picture, or reads a word, or presses on an image, or button, or touches its surface, then there is interaction, they interact with it.

In this study, apart from the interaction between users and the IWB, I also consider the interactivity of the medium, which according to a definition that Vikas Joshi (2009) provides is “the property of an artefact that allows for interaction”. According to this definition, interactivity drives interaction, which is what I discuss in this section. With digital media, like the IWB, apart from the interaction mentioned above, further interactions are possible. For example, if a user sees a word displayed on the IWB or any other type of digital media, he can delete it, copy and paste it, or transform it into another word (Wersch, 2007). That means that the digital medium allows a level of interaction which was not possible before, and this is when a medium is called interactive. In other words, interactivity is the
medium’s property (Vikas Joshi 2009). In this study, as far as this is possible, I examine both types of interaction: (a) the interaction developed between the IWB and the participant(s), and (b) the interaction that the interactive nature of the IWB stimulates, or else the interaction that comes as a result of the interactive possibilities of the IWB.

Along with Feenberg’s critical theory of technology (2000), what matters is not just how interactive a medium is or in this case how interactive the IWB is, because in the end, as Haldane (2007) remarks, the ‘whiteboard in itself is not and cannot be interactive’ (Haldane, 2007:258). On the contrary, what matters is how users themselves take advantage of the IWB’s interactivity. It is worth repeating here, that the examination of the interaction between users and the IWB, as well as the examination of the interaction that the appropriation of the IWB’s interactivity has stimulated, they are both conducted within the framework of the Vygotskian sociocultural theory. The learners, involved in sociocultural meaningful classroom activities and making use of sociocultural mediational means, whether physical (like the IWB), or symbolic (like the language), gradually develop (Lantolf and Pavlenko, 1995). Their involvement in these activities is expressed through the interaction developed in them and this is what this study intends to do. To describe this classroom interaction in any form this may take.

In chapter two, I concentrated on classroom interaction between participants and presented which properties of this interpersonal interaction I deal with in this study. Below, drawing on the literature, I present the patterns of interaction between the IWB and the classroom participants which I examine in this research and explain why I have come to the decision to concentrate on the specific ones I mentioned.

In the IWB literature review after 2005, when the IWB research started presenting robust conclusions, the terms ‘technical’ and ‘pedagogic’ interactivity, introduced by Smith et al (2005), have become ubiquitous. The term ‘technical interactivity’ refers to the physical interactivity, namely the one developed solely between the participants and the electronic board (Smith et al, 2005:99). Any participant, teacher or student(s), can interact solely with a mechanical medium, in the current case with an IWB, and develop some type of interaction, which I compare to the
IRF type (discussed in chapter 2), mainly because of the medium’s capacity ‘to respond to the participants’ actions (DfES, 1988) through contingent responses, such as prompts and feedback (Beauchamp and Kennewell, 2008). For the needs of this research, and based on Goffman’s participatory framework (1981) which I also presented in Chapter two (2.14) I interpret the interaction between the IWB and a participant in the following way:

When a user touches a link on the IWB screen, this is interpreted as the user’s initiation, as the user’s prompt which is addressed to the IWB. This initiation is an indication that the IWB is recognized by the user as a ‘ratified participant’ (Goffman, 1981) who is addressed a request. So the IWB takes up firstly, the role of ‘a listener’ who has received a request and now needs to respond. As it was mentioned above, the medium has the capacity to provide contingent answers (DfES, 1988). In case the IWB responds to the user’s initiation, no matter what form this response may take, it is perceived as if the IWB takes up the role of the ‘animator’ (Goffman, 1981): in fact, the IWB transfers somebody else’s words or actions, either the programmers, or the teacher’s.

Following the above interpretation, the WB could be considered as another participant in the classroom and not just a technology. Under these circumstances, I would argue that the interaction between IWB-St or IWB-T, or else mentioned as ‘technical interactivity’ (Smith et al, 2005), in fact represents another form of ‘interpersonal interaction’, and interaction of this type is rather limited to IRF which is more or less predefined. This happens because the participant- author (Goffman, 1981) who is here ‘represented’ by the IWB, is not present to explain, clarify, or to encourage further interaction than what is predefined. Beauchamp and Kennewell (2008) refer to this type of roles that the medium can take as that of a ‘participant’, or ‘a partner to interact with’. When the use of personal computers or the IWB is restricted to the ‘physical interactivity’ (promoted between the user and the medium, as this was described above, empirical research has shown that the results, as far as students’ attainment is concerned, are not encouraging (Haldane, 2007).

In the previous chapter I referred to Ohta (2006), who discusses the assistance a participant can receive in the ZPD from either a teacher or a knowledgeable peer.
through their interpersonal interaction. Ohta remarks that this assistance could also come from resources like representational or mechanical media, like books or video among other (Ohta, 2006). According to this view, I would argue that the IWB can take the role of the ratified knowledgeable participant, salient or not, specifically addressed, which can scaffold the learner by the information which provides. This can be presented in different modes and through different media. The classroom participant needs to interpret this information and this can be done through ‘interpersonal communication’ or through ‘intrapersonal communication’ (Ellis, 1999) which involves cognitive procedures like attention, awareness (Gass, 1987), among others.

The IWB, apart from the roles of a ‘participant’, or ‘a partner to interact with’ (Beauchamp and Kennewell, 2008) as mentioned above, can take another role, that of the ‘object of interaction’, or ‘resource to interact about’, (Beauchamp and Kennewell, 2008) which is a purely passive role for an IWB. In this study, classroom participants are involved in interpersonal interactions to cooperatively construct meaning. However, the interactive board acts as a ‘silent, non specifically addressed participant’ who can still affect the interpersonal interactions between participants through its presence, and the information one can get by interpreting the symbols/ messages appearing on its surface. The IWB can also be a tool for interaction, a medium to interact through (Beauchamp and Kennewell, 2008) as it happens in cases of video conferences. However, all the above mentioned types of interaction represent instances of what Smith et al (2005) call ‘pedagogic interactivity’, a term which as he explains is used to refer to

the opportunities this technology holds for collective meaning making through both dialogic interaction with one another, and physical interaction with the board (Smith et al, 2005:99).

The physical interaction between the participants and the medium may give the impression that prevails, but in all instances there is some type of interpersonal or intrapersonal interaction between participants which intervenes and actually directs any transaction to proceed.
Above, drawing on Smith et al.’s (2005) types of interactivity, on Beauchamp and Kennewell’s (2008) roles of IWB in classroom interaction and on Goffman’s (1981) participatory patterns, I presented the patterns of interaction between the IWB and classroom participants I focus on in this study, which I summarize below:

1. participant(s) - IWB (technical interactivity-contingent responses)

2. participant(s) –IWB (the IWB is the silent ratified knowledgeable participant not specifically addressed)

3. participant-1- IWB-participant 2 (The IWB is the ratified specifically addressed participant)

4. participant-1- IWB-participant 2 (the IWB is the silent ratified knowledgeable participant not specifically addressed)

5. participant 1-participant 2-IWB

In chapter two, I discussed the importance of examining classroom interaction in relation to the input and the different forms this may take. I also explained how I treat oral input in the interpersonal interactions of the participants, as well as body language, or even silences. In the next section, I discuss the interaction between participants and IWB in relation to the modes this input is presented on the IWB. I do that in connection with another property of the IWB that of its multimodality.

3.11 Multimodality, Multimedia and the IWB

The IWB has properties, functionalities that encourage classroom interaction. One of these properties is its multimodal character. In the following paragraphs I discuss the role of the IWB and its multimodality as this is viewed in this research. I start with a discussion of the meanings: ‘multimedia’ and ‘multimodality’ and concentrate on how these terms are used here. Then, I briefly refer to different multimedia learning theories and also to the theoretical framework of the current research. I finally present how I treat the different IWB modes which are used by the classroom participants.

In the IWB literature there are references to the advantages of the medium as far as its multimodal-multimedia nature is concerned (Moss et al, 2007; Betcher and Lee 2009; Lee and Gaffney 2010). In particular, Lee and Gaffney (2010) argue
that the advent of the IWB has accelerated the transition of schooling from its traditional paper-based operational mode to one that is digital (2008) and networked (Lee and Finger, 2010). From that point view, Betcher and Lee (2009) talk about ‘The Interactive Whiteboard Revolution’ (Lee, 2010). Moss et al, (2007) mention that instant selection of a source(s) among a wide variety available, and its instant display ensures the seamless flow of the lesson. Besides, this variety of resources make the lesson engaging, interesting, while at the same time marshals students’ attention on the board (Moss et al, 2007).

The last few years the terms ‘multimedia’ and ‘multimodality’, which are both compound words from (multi+media) and (multi+modes) accordingly, have become ubiquitous in educational environments. However, the way these terms are used often gives the impression they overlap and this misunderstanding may cause confusion. Since the name of the IWB is closely connected to these terms, it is imperative to untangle them, and define how they will be used hereafter.

Twiner et al (2010), drawing on definitions provided by Bearne, 2003; Jewitt, 2009; Jewitt and Kress, 2003, argue that ‘mode’ can be considered as the form of the content, such as image, writing, or talk, while ‘media’ refers to the vehicle through which information is conveyed: such as television, book, audio player among others. Twiner et al (2010) also explain that since a multimedia message is always multimodal, probably this is the reason why the terms multimedia and multimodal overlap. They raise the issue that in contrast, multimodal communication need not be conveyed through multiple media (Twiner et al, 2010). An additional clarification provided by DCSF (2007) states that multimodal texts combine elements of: gesture and/or movement; images: moving and still; sound spoken words, sound effects and music; writing. (DCSF, 2007) (cited in Twiner et al, 2010).

Kozma (1994) in discussing the influence of media on learning, uses multimedia and multimodality as two separate terms and he comments that

multimedia present the possibility of combining in a single instructional environment all the technologies, symbol systems, and processing capabilities of the individual media (Kozma, 1994:8).
Moreover, Kozma (1994), drawing on Salomon (1979), explains that to understand the multimodality of a technology it is important to consider the medium in relation to: 1. its technology (it refers to the physical, mechanical, and electronic capabilities of the medium’s functions) 2. its symbol system (that is how the information is communicated, for example, spoken language, pictures, graphs among others), and 3. its processing capabilities (which refer to the medium’s capability to operate on symbol systems in certain ways, for example, receiving information, retrieving information, organizing or transforming information), (Salomon, 1979). So, Salomon’s (1979) notion of ‘symbol’ or ‘symbol systems’ (cited in Kozma, 1994) coincides with Twiner’s et al (2010) notion of ‘mode’.

As far as the notion of multimodality and multimedia, Mayer (2005) does not make clear the distinction between them and he seems to use ‘multimedia’ as an umbrella term to refer to both ‘media and mode’. He explains that ‘… multimedia involves the presentation of material in more than two forms’. Multimedia is defined as ‘presenting both words (such as spoken text, or printed text) and pictures (static material such as illustrations, photos, graphs, diagrams, maps, or dynamic material such as animation or video) (Mayer, 2005:2).

For the purpose of this research, drawing on the above, I refer to the IWB as a multimedia tool from the point of view that it offers access to a wide variety of multimedia applications incorporated in the IWB software. In other words, IWB combines a variety of media, presentational, representational, mechanical (Fiske, 1990; Roy Randa, 1995) thus providing opportunities for presenting educational material in different forms (written text, video, audio, annotation, animation, as well as connection to the world wide web (www). These media resources offer a teacher the potential for a ‘multimodal approach’ to teaching, which involves material presentation in numerous combinations of modes such as speech, sound, animation, gestures, as well as degrees of their use. It is important to note that in this research, the term ‘multimodality’ is examined as an approach to language teaching and learning through materials used in the classroom and not as an analysis of material multimodally. The focus here lies firstly on the opportunities the multimedia technology –IWB offers to its users for access to a variety of multimodal resources; and secondly, on their exploitation in a classroom
during the process of meaning making, in order to manage their interpersonal transactions.

3.12 Multimedia learning theories

In the succeeding paragraphs I discuss the way different theories examine the role of multimedia multimodal resources as far as learning is concerned and I present how IWB is studied here.

Multimedia instructional environments are widely recognized to hold great potential for improving the way people learn (Mayer, 2001). The opportunity to build mental representations from words and pictures is one of the cornerstone principles multimedia is based on. By expanding on this principle and predominantly on the architecture of the human mental representation system, as well as on short and long term memory, different theories have spawned in order to study how multimedia affect learning. These theories attempt to relate cognitive structures with instructional design (Sweller’s cognitive load theory (2005: 19-30); Mayer’s cognitive theory of Multimedia Learning (2005:31-49); Schnotz’s integrated model of text and picture comprehension (2005: 49-68)); the dual coding theory. Thus, based on perspectives regarding human cognition, they construct multimedia instructional principles. It is really important that they manage to present how the perspectives developed apply to multimedia learning and explain how multimedia facilitates the construction of knowledge. However, all the above theories view knowledge as purely a matter of cognition and highlight the individual construction of knowledge, which they present as a solitary process.

As far as the SLA is concerned, there are few research studies which use both second language acquisition theory and multimedia learning theories. However, most of them adopt either the cognitive constructivist approach to second language learning or the interactionist perspective (Chapelle, 1998; Plass and Jones, 2005; Chun and Plass, 1996; Plass et al, 2003; Jones, 2003). How multimedia can be exploited to enhance the social dimension of learning is rather under-discussed. The framework within which this study is conducted is founded on the Vygotskian sociocultural perspective, where both the cognitive and social aspect of language are acknowledged, however priority is given to its social character of knowledge, and in particular to the cooperative construction of
knowledge. Knowledge is not considered purely as a matter of cognition, but a process where knowledge is constructed gradually through interaction. As it was discussed in Chapter 2 (page 19), Vygotskian sociocultural theory suggests that learners develop through interaction, when they are involved in socioculturally meaningful activities and make use of sociocultural mediational means (Lantolf and Pavlenko, 1995). In this study, the mediational IWB is not seen simply as a medium that just facilitates certain actions which could have happened even without it, but as a source of interaction, as a medium that probably enhances interaction in a different way than other means and through this interaction the participants develop.

3.13 Multimodality, interaction and the construction of knowledge
This research explores how the different modes of IWB media intertwine with the interaction developed in the classroom and inspire further interaction. In fact, it explores whether the classroom interaction is actually enhanced when participants take advantage of the modes available. It is not within the scope of this research to study the actual development of the students but to examine the extent to which IWB’s multimodality can be exploited to enhance the involvement of participants in classroom activities or else, how the teacher and students use the IWB modes collaboratively to construct meaning during their interpersonal classroom transactions. In fact, the IWB can be used to help learners’ construction of knowledge by enhancing cooperation and interaction between the participants. On the whole, as it is discussed below, multimodality and interactivity intertwine to enhance ‘scaffold learning’ (Wood, and Middleton, 1975) and this relation is studied here. It is significant to mention that in this study, as the learners are young, the role of the teacher is considered crucial in guiding them to make explicit links between the different modes (DCSF, 2007). In fact, I would argue that the teacher’s role is to support and extend students’ learning by guiding them into how to interpret and then employ the wide array of modes available.

Below, I discuss how these modes are recorded and studied in the current research.
3.14 How different modes are treated in the data analysis

For centuries, written and spoken modes were the ones predominantly portraying in the teaching material. Today with the advent of multimedia and the IWB, new modes, primarily digital ones, are coming sometimes to replace them, or other times to attach cumulative to them or even to alter the traditional ones. So apart from the spoken and written text, there are moving or still images, gestures, movement, sound effects, music. These are some of the modes most commonly appearing on the screen of the IWB during multimedia presentations which both students and teachers have at their disposal to exploit and thus meet their immediate or long term purposes. Although this research is not based on a multimodal analysis, yet, I concentrate on the above modes as long as they influence the participants’ interaction (interpersonal or intrapersonal) implicitly or explicitly. More specifically, drawing on elements from Norris (2004) multimodal analysis I concentrate on cases where:

I. A mode can be altered: The user of the IWB can write on the board either using the provided stylus, or his hand, or the computer’s keyboard or even a simulated keyboard. Then, the user has the potential of altering this piece of writing, or even intervening in already written texts, or even still pictures by completely changing its form. This can be achieved by using different technical functions of the board. In other words, the materials in the mode presented are manipulable. I refer to these modes that can be altered as ‘embodied’ ones.

II. A mode can take on primacy in certain interaction because a participant assigns it this primacy for some reason. Then the mode is considered of ‘high intensity’.

III. Several modes at the same time are characterised by ‘high intensity’

IV. When one mode is structured by other modes then it is considered by high intensity (Norris, 2004).

3.15 Conclusion

In this chapter I discussed the issue raised by the Greek Ministry of Education, that the teaching pedagogies should take into consideration the students’ needs and interests. Therefore, the MoE acknowledging that the new generation is mainly a net generation, at the moment they are running a programme introducing
the IWB in schools. I raised the issue that instructional technologies should adapt to the needs of the classroom participants. In this framework, I discussed how students' needs had driven the evolution of the technology of the blackboard to the technology of the IWB and I gave its definition. I explained that in this research the IWB is studied as a medium with a number of intrinsic functionalities that define what one can do with the medium and I underlined how important this is for pedagogy. Drawing on Feenberg's critical theory of technologies (Feenberg, 2005) which I briefly presented, I explained that in this study I concentrate on the way teachers and students develop different pedagogical practices through interaction or by exploiting certain features of the IWB system. I made clear that it is not the technology that is innovative but the ways one can exploit the technology that bring a difference in a classroom pedagogy. So I presented the intrinsic characteristics of the IWB and stated that in this research I concentrate on two of them: its interactivity and multimodality. I discussed their importance in the development of classroom interaction and explained how they are studied in this research.

In the following chapter I present my ontological and epistemological stance which explains why I have reached to the decision to use conversation analysis as the research method in this project. I also present the principles of this methodology which verify the above decision.
CHAPTER FOUR

4 METHODOLOGY

4.1 Introduction

At the very onset of this research, as it is the case with/ as it happens with every research (Crotty, 1998; Cohen et al, 2000; Cresswell, 2009), there were two questions of fundamental importance which demanded an answer as they constituted the cornerstone of the current project. The first one dealt with the methodologies and methods which were employed for the needs of the project, while the second with how this choice was justified (Crotty, 1998; Cohen et al, 2000; Cresswell, 2009). These answers can be traced in my theoretical perspectives about society and the human world, as they inform the methodology, as well as the epistemology that underpin the research (Crotty, 1998). As Cohen et al (2000) argue, a research reflects the researcher’s view of the world (Cohen et al, 2000). Therefore, Cohen et al (2000) contend that research should not be considered simply a ‘technical endeavour’ for collecting and analysing data. The technical aspect constitutes the surface intent of a research, while its deep intent is to understand the world. In this chapter, I intend to answer these questions and explain how these replies have informed the current research.

Love for teaching, which is what I have been doing for years and intellectual curiosity, or else challenge for knowledge, were the reasons which gave the impetus to this research. Descartes (1628) contends that people conduct research intending to discover the truth.

So blind is the curiosity by which mortals are possessed, that they often conduct their minds along unexplored routes, having no reason to hope for success, but merely being willing to risk the experiment of finding whether the truth they seek lies there (Descartes, 1628:371).

However, my aim was not ‘the truth’ but contributing to knowledge. Therefore, at this point, it is essential to discuss what I perceive as ‘knowledge’ and ‘reality’ and where I envisage to find them, as these are fundamental issues which have defined the choice of the methodological approach I have adopted.
In brief, in this chapter I discuss what I perceive as knowledge and where I research for it. Then, I present the key methodological principles of conversation analysis and my rationale for choosing conversation analysis as a methodological approach that can fulfill the demands of this research. In this line, I discuss aspects and perspectives of other methodologies and methods and explain why they are incompatible with the aims of the current project.

4.2 The researcher’s perception of ‘knowledge’
This research aspires to contribute towards the construction of knowledge concerning aspects of EFL classes and in particular, students’ and teachers’ interpersonal interaction in relation to their use of the interactive whiteboard (IWB). Social constructivism is the theory that underpins this research and according to it, truth and meaning are constructed both by human interactions intersubjectively and by human interactions with the world (Crotty, 1998; Berger and Luckmann, 1967).

As Crotty (1998) explains, in constructivism,

[A]ll knowledge, and therefore all meaningful reality, is contingent upon human practices, being constructed in and out of interaction between human beings and their world and developed and transmitted within an essentially social context (Crotty, 1998:42).

In the same line, Cohen (2007) explains that knowledge is not something exclusively residing in the external world which is tangible, observable, and thus it could potentially be discovered by a researcher and subsequently described objectively (Cohen et al, 2007: 6). Aligning with the above perspectives, here I argue that knowledge and reality are constructed gradually by the participants of a classroom, both teachers and students, though their interactions which are built intersubjectively, as well as through their interaction with their environment, and that include their interaction with the IWB.

However, the main focus of the research remains human nature, and the human mind. I assume that the mind consists of what is endowed by the natural world, namely its genetic material, and what is endowed by the social world (Vygotsky, 1979). The genetically endowed ‘material’, which defines its biological functioning,
like other biological phenomena, can be observed and studied scientifically by natural sciences. In fact, natural sciences look for regularities, or else what is ‘nomothetic’ which means they are based on the law, ‘nomos’, and deal with explaining these phenomena, therefore they claim objective truths (Crotty, 1998). However, as I discussed in chapter 2, Vygotskian sociocultural theory (1979), which does not deny the importance of biological factors in the process of learning, sees these inborn, innate capacities, develop when learners are involved in socioculturally meaningful activities (Lantolf and Pavlenko, 1995). Vygotsky attributes importance to social influence in the development of the individual, which is regarded as primary, over the individual consciousness which is ‘derivative and secondary’ (Vygotsky, 1979:30). Apart from Vygotsky (1979), Mead (1934) too argues that we owe to society our very existence and attributes a prior role to the social which precedes the individual.

….a person is a personality because he belongs to a community, because he takes over the institutions of that community into his own conduct (Mead, 1934:162, Cited in Crotty, 1998:74).

Both Vygotsky (1979) and Mead (1934) admit the importance society holds for the individual personality. Therefore, wherever human nature is involved, in this case, teachers and students, one cannot claim absolute truth as this is constructed, always relative to some particular frame of reference, such as culture, social milieu, or language.

Since knowledge is constructed through our engagement with the social world, and since different people, different minds, construct meaning in different ways, then there is no single reality but multiple realities, as these are formed in the minds of individuals. Moreover, perceived realities can be reconstructed, reproduced differently by different people from different cultural backgrounds at different times. In other words, knowledge is a dynamic, enduring process. For the above reasons, I do not envisage to reach an absolute truth.

4.3 The researcher’s perception of ‘reality’.
The issue addressed here is whether this research focuses on classroom reality and classroom truths, firstly, as these are experienced by me, the researcher, as a third person and expressed as my point of view, that is, as the meaning I attribute
to the participants’ classroom interaction (etic approach); or secondly, whether this research focuses on classroom reality and classroom truths, as the participants (teachers and students) themselves experience the classroom, and the meaning the participants attribute to their own interactions, and their own multiple subjective views (emic approach). In the first case, being myself part of a specific community, nurtured in a specific social environment, I would unavoidably impute my own meaning to the participants’ actions, and would provide my own version of reality (Weber, 1962).

In case of an etic approach, Mitchell (1977) addresses the issue that

the observer must exercise sufficient discipline on himself to ensure that it is indeed those actors’ meanings that are recorded in his notebook and not merely his own (cited in Crotty, 1998:75).

According to Mead (1934), a researcher in order to be able to provide an impartial picture of a classroom and discern its multiple realities, must take the roles of others by adopting the stand point of others. Psathas (1973) also raises the same concern and suggests that

The situation must be seen as the actor sees it, the meanings of objects and acts must be determined in terms of the actor’s meaning and the organisation of a course of action must be understood as the actor organises it. The role of the actor in the situation would have to be taken by the observer in order to see the social world from his perspective (Psathas, 1973: 6-7 cited in Crotty, 1998: 75).

In other words, Psathas (1973) recognizes the importance of approaching a research from the stand point of view of the participants.

To overcome the above problem, and not describe classroom interaction as I understand it, but as the participants themselves perceive it, and also lessen the distance between the researcher and the researched, with the ultimate goal to provide the most possible impartial picture of classroom interaction, I decided to conduct research that would present the classroom reality as this is experienced from the first-person point of view, namely from the perspective of the participants.
However, even when interactions are described by the participants themselves, in interviews or questionnaires, there is still the possibility of not getting an objective picture of the reality. For this reason here I attempt to describe classroom interaction, from the characteristics these interactions exhibit and the way these are interpreted not by the researcher, but by the co participants in action, in real time, by the way participants respond to their co participants or else, from what their reactions disclose.

In the above discussion, I presented my beliefs as far as knowledge and reality are concerned. I also stated that I align with the theories that claim that knowledge is constructed and that there are multiple realities and explain how I intend to research them.

4.4 Research methodologies and methods used in SLA
In this section I present a succinct review of recent research approaches that have been used to investigate interaction in the foreign language classes (Allwright, 1988; Chaudron, 1988; Walsh, 2006; Tsui, 2011). More specifically, I concentrate on interaction analysis approaches, on discourse analysis and I also discuss interviews and field notes, methods for data collection. My intention is to address aspects of these approaches and methods in relation to the demands of the current research and in particular, in relation to what I have discussed above I perceive as knowledge and reality. I discuss how they are incompatible with these views and I also explain why I consider them as not appropriate enough to fulfil the needs of the current research, which is to describe in detail classroom interaction between teachers, students, and materials used, holistically, as a whole entity and show how closely these are interrelated.

4.5 Interaction analysis approach
Interaction analysis is a quantitative approach which is based on structured observation systems. Each of these systems, which is ready made and already validated, comprises a fixed number of categories focusing on different aspects of classroom life (Malamah, 1987; Brown and Rogers, 2002; Walsh, 2006). For example, some systems may consist of categories focusing on the teacher’s pedagogical moves (Bellak et al, 1966), others on teacher and student talk (Flanders, 1970; Moskowitz, 1971), or more sophisticated ones, which examine
the interrelation of teaching methodology and language use, focus on classroom organisation, tasks, materials, learner involvement, teacher and learner interaction (Walsh, 2006). Some of these systems can be used in real time, while others can be used along with recordings of the classes under study. In short, there is a wide range of systems which a researcher can choose from, depending on what he intends to investigate.

van Lier (1988) and Seedhouse (2004) raise the restrictive nature of this approach. Seedhouse (2004) points out that one of the principles of these systems is that an interactant makes one move at a time (Seedhouse, 2004). A researcher, based on this principle and on his personal judgements, is required to identify and isolate certain patterns, functions, or behaviours, and then code them under one category out of many which are provided in the system.

Edmondson (1985) advocates that

the complexity of the classroom is such that several things may be going publicly through talk at the same time (Edmondson, 1985:162 cited in Seedhouse. 2004:62).

To show this complexity of a classroom, and the inadequacy of coding systems in EFL classroom research, Seedhouse (2004:62-63) presents five completely different concerns a teacher is orientated to while in class. These are summarised below:

i. First of all, the teacher orients to a main pedagogical plan either set by herself, or by the curriculum. In the meantime, she allocates students interactional space so as to express their questions, share ideas, or even introduce subtopics.

ii. The teacher responds to the demands that students’ interactional space has raised, without however deviating from her initial pedagogical plan.

iii. The teacher responds to instances of incorrectness exposed in learners’ utterances.

iv. The teacher orients to all students at the same time and not just to the ones that seem to be the actual participants at that specific moment. For instance, the teacher repeats inaudible or incomprehensible utterances to the whole
class or presents corrected versions of participants’ utterances previously spoken.

v. She displays constant and simultaneous focus on both linguistic form and meaning of utterances (Seedhouse, 2004:62-63).

The above concerns, which a teacher is preoccupied with during a lesson, elucidate the complexity of EFL teaching and at the same time raise considerations whether the coding schemes are appropriate to describe is above, a single utterance can perform multiple speech acts at one time, but as it was aforementioned, following a coding system, only one is recorded. Aligning with the above I also find this technique of coding behaviours and functions restrictive as they would leave me no space to include the different functions that an utterance may perform (Edmondson, 1985; Seedhouse, 2004).

Apart from this, isolating utterances and patterns from the broad context where they are developed and studying them individually would deprive me from developing an adequate picture of classroom interaction. Coding schemes also fail to take account of the details of the context where the teaching and learning take place (Seedhouse, 2004). This last aspect is considerably restrictive considering that the current analysis of the participants’ interactions is based on the in situ analysis of the the context where the classroom interactions develop. Moreover, the interaction analysis systems, fail to consider teachers’ or students’ intentions or their points of view (Walsh, 2006:43). Further, the assumptions that I would make during coding could be questioned as not objective, as they would represent my own perceptions and interpretations. As Ellis (1994) claims, this would eventually ‘…cast doubt on the reliability and validity’ (Ellis, 1994:567) of the overall analysis.

In addition to the above discussed system-based interaction analysis, there are other more flexible systems, which are specifically designed to address the needs of a particular research context, such as the Self Evaluation of Teacher Talk system (SETT) (Walsh, 2001). These systems are termed by Wallace as ‘ad hoc’ approaches and characterised as ‘guided discovery’ (Wallace, 1991:78), as they are specifically designed to focus on specific aspects of the classes investigated.
In this way the researcher, like with the conventional coding systems discussed above, is again restricted from dealing with correlated issues that might come up and interfere with what is currently being studied. However, as Walsh (2006) supports, these ‘ad hoc’ systems can provide ‘a finer grained’ insight of specific aspects of classroom interaction than the ordinary coding systems (Walsh, 2006:45).

All in all, based on the above considerations, I find that all these systems are not appropriate enough to let me see and understand how classroom interaction is affected by different interrelated factors and thus describe classroom interaction in detail. As Walsh (2006) points out, structured observations may be suitable for ‘quickly generating large quantities of numerical data’ (Walsh, 2006:44), but certainly are not adequate to provide a holistic picture of the multi layered, locally and situated managed, therefore instantly changing nature of classroom interactions.

4.5.1 Discourse analysis

Discourse analysis (DA) has been the prevalent methodology used to account for various aspects of second language learning during the last decades (Levinson, 1983; Mackey and Gass, 2006). More specifically, DA, based on classroom transcripts, analyses classroom discourse in linguistic terms by isolating and assigning utterances to predetermined functional, structural categories. In particular, it is Sinclair and Coulthard’s (1975) descriptive coding system which is broadly used in DA. This system is based on Halliday’s categories of grammar (1961) and although it was primarily ‘linguistically rather than educationally motivated’ (Tsui, 2011), it was initially also adapted to account for general education and later on was also used in FL/L2 research. In DA, the beneficial value of interaction is usually measured against the production of accurate linguistic forms. On the whole, it is mainly quantitative and sometimes a combination of quantitative and qualitative types of research. Levinson (1983:287-294) severely criticizes DA as ‘fundamentally inappropriate’ and ‘irremediably inadequate’ as ‘the particularities of interaction in FL (foreign language) contexts are largely ignored’ (cited in Philip and Tonigni, 2009:246). In other words, it is
questionable whether DA can elucidate the dynamic and fluid nature of classroom interaction which is locally and situated managed.

The methodologies discussed, namely interaction analysis and discourse analysis, are based on cognitivism which views language learning as an innate, individual process. Ellis, 1997; Lightbown, 2000; Seedhouse 2004; Spada and Lightbown, 2009 among others, express their concern that in the field of SLA there is a need to further explore the influence of social and contextual factors on the nature and outcomes of interaction (Philip and Tognini, 2009).

Interview and field notes comprise research methods which take into consideration the social and contextual factors that Philip and Tognini (2009) suggest.

4.5.2 Interviews and field-notes

Interviews, as well as observational studies relying on field-notes are both qualitative research methods widely used in the field of EFL which study the influence of social and contextual factors on interaction. In an interview, which is an emic approach, the researcher deals with a participant’s account of a reality the participant himself had experienced in the past. Thus, much of the interview depends on the interviewee’s recollection and selective attention, or on the conceptions this participant-interviewee carries. In this research, every single detail of the classroom interaction is indispensable. The analysis of sometimes a small, seemingly unimportant detail of an interaction may provide the researcher with valuable information concerning participants’ interaction practices. However, these are fine details that a participant cannot include in an interview.

However, no matter how detailed and unbiased the interviewee’s reality might be, after being narrated, it is left in the hands of the interviewer who imputes his own interpretation. Atkinson and Heritage (1984) see these kinds of data collection, interviews and field notes, as ‘too much a product of the researcher’s or the informant’s manipulation, selection or reconstruction based on preconceived notions of what is probable or important’ (Atkinson and Heritage, 1984: 2-3). Therefore, I consider it rather difficult to be able to form a holistic view of the nature of classroom interaction and of the influence of the IWB by exclusively
counting on participants’ attention and recollection to describe classroom interaction efficiently and impartially when these are interviewed.

As I discussed in chapter two, teaching takes place according to the principles which govern the classroom institution. Thus, the teaching process and as a result, learners’ participation and learning, are affected by a number of direct or indirect, predictable or unpredictable parameters such as: the learner himself and in particular his learning style, psychological state, cultural background and beliefs about classroom behaviour (Allwright and Bailey, 1991; Tsui, 1996); the way teachers initiate a subject, pose questions or provide feedback, the kind of tools the teachers use; the activities or tasks they assign and thus the interaction stimulated. The above are closely shaped by the teachers’ conceptions of teaching and learning as well as by the teacher’s lived experience of the classroom (Tsui, 2011); the teaching process is also affected by the nature of the taught language and its complexity; the context, ranging from the immediate environment the teaching is taking place, to the broad social, cultural, linguistic environment where it can be placed. All these are parameters that affect language teaching and learning, (Edmondson, 1985; Egbert and Petrie:2005; Tsui, 2011), and admit the complexity that classroom research involves.

Taking into consideration, firstly, the ways research methods like interaction analysis, discourse analysis, interviews and field notes, have studied classroom interaction and secondly, the complexity of the classroom and thirdly the researcher’s perspectives that knowledge is constructed and that there are multiple realities, I have concluded that for the needs of this research I need a methodological approach which first of all would offer me the possibility to describe the complexity of the classroom and secondly a methodology which would let the researcher’s personal considerations impute as little as possible.

All the above characteristics admit a qualitative type of research (Cresswell, 2013; Denzin and Lincoln 2005; Marshal and Rossman, 2010) and more specifically conversation analysis (CA), which combines the above and offers the opportunity for classroom interaction to be studied holistically. A close examination of the main principles that underlie the methodology and justify this choice, follows.
4.6 Conversation Analysis

The main focus of this research is the interaction developed in a language classroom environment where the IWB, a multimodal medium, is used. More specifically, as it was aforementioned in Chapter 1, (section 14) this thesis aims firstly at describing the nature of interaction developed in an EFL classroom where the IWB is used and secondly at studying how the IWB affordances of multimodality and interactivity, might influence the interaction developed in these classes.

In this section, I examine whether the methodological approach adopted, that is conversation analysis, can fulfil the needs of this research as far as the study of classroom interaction is concerned. For this reason, I discuss the basic principles of CA and explain why I have chosen this methodology as the appropriate one for this research project.

As Heritage (2003) underlines, Schegloff developed CA as a research methodology ‘not by means of theoretical manifestos, but rather and exclusively through a series of fine-grained empirical studies of the details of interactional conduct’ (Heritage, 2003:1). CA did not start as a theory based methodology but its foundational propositions, which ensued from empirical studies, were gradually developed. In fact, CA is a methodology which differs considerably from the ones presented in the methodological literature (ten Have, 1986). As Schenkein (1978) explains, CA is usually a description of the practices and of the reasons employed to explain them, or else, a ‘Sketch of an analytic mentality’ (Schenkein, 1978). In CA, practitioners avoid getting involved in extensive theoretical or methodological discussions (ten Have, 1986) and seem more interested in the analysis itself. However, the basic foundational propositions of CA are the following and are succinctly discussed below:

- CA is based on recordings of naturally occurring talk-in-interaction
- The detailed ways in which actual naturally occurring social activities occur are subject to formal description.
- Social activities- actual singular sequences of them- are methodical occurrences, that is, their description comprises sets of formal procedures persons employ.
The methods persons employ to produce their activities permit formal description of singular occurrences that are generalizable in intuitively non-apparent ways and are highly reproducibly usable (Sacks, 1984).

Apart from the above propositions, the one that constitutes the main advantage of CA over other methodologies, as far as this research is concerned, is the lens through which CA looks at ‘conversation’. Conversation is not simply viewed as a product of two speakers who try to exchange information and get across messages to each other. Interactionists have looked at conversation through this lens. CA goes further than this point. Participants are seen as ‘mutually orienting to and collaborating in order to achieve, orderly and meaningful communication (Hutchby and Wooffitt, 1999:1). This proposition coincides with the Interactional view of language, the fundamental principle that underlies the ideology within which this research is developed. According to CA, human interaction is ‘organizational and procedural’ (ten Have, 2007). That means that, people’s talking to each other does not simply entail a series of actions, one coming after the other. On the contrary, interactants work collectively, to achieve order and eventually organize an event. This principle coincides with the interactional view of language which views language as a social action where participants cooperate to construct meaning. However, there is an important tenet of CA that makes this methodology stand out. CA advocates the mutual construction of participants’ reality through their interaction, it claims that this interaction is governed by rules which can be observed and therefore described and this is discussed further, below.

4.6.1 Naturally occurring talk-in-interaction

A CA researcher works with recordings and transcripts of naturally occurring interactions (Schegloff and Sacks, 1973:291). In this section, it is imperative to deal with the issue ‘recordings’ as well as with the term ‘naturally occurring data’ as there is a considerable debate about them in the CA literature, but at the same time, they are issues that concern the data of the current research as these are presented in chapter 5 (sections, 3 and 4).

Hutchby and Wooffitt (1998) define CA as ‘the study of naturally occurring talk-in-interaction’. In fact, according to this definition (1998:14), ‘naturally occurring
interaction’ is a prerequisite for conversation analysis and that indicates why it deserves to be discussed separately. Heritage and Atkinson (1984) underline the insistence which CA presents on the use of ‘materials collected from naturally occurring occasions’ (Heritage and Atkinson, 1984:2). On the whole, in the CA literature, one can come across the terms ‘natural talk’, ‘natural conversation’ (Sacks et al, 1974:698), ‘actually occurring data’ (Heritage and Atkinson, 1984:2); ‘natural conversational materials’ (Schegloff and Sacks, 1973:291); ‘natural interaction’ (Hutchby and Wooffitt, 1998:14). In all these references, the terms ‘actual’ and ‘natural’ indicate the importance of the data to be natural and not to have been produced exclusively for the purposes of a study, or as Drew (1989) explains, not to be ‘collected for any preformulated investigation or research opportunities’ (Drew, 1989:96). Schegloff and Sacks (1973), explain that CA is interested in interaction that is non-coproduced with or provoked by the researcher (Schegloff and Sacks, 1973:291). In the same line, Heritage (1988) refers to data that are ‘as uncontaminated as possible by social scientific intervention’ (Heritage, 1988:13) or as Psathas (1995) argues, that within CA ‘data may be obtained from any available source, the only requirements being that there should be naturally occurring’ (1995:45).

4.6.2 Video recordings

Another important issue relating to CA data, that deserves to be discussed, is the fact that in CA a researcher works with tapes and transcripts of naturally occurring interactions (Schegloff and Sacks, 1973:291). In fact, recordings of naturally occurring talk-in-interaction constitute the basic data of CA and this is the initial step in the process of conversation analysis. In particular, for the study of classroom interaction, where many things take place simultaneously (chapter 2); where all participants somehow contribute, this interaction can take different modes of expression (Chapter 3), then, video recordings are considered indispensable as they can capture every single detail of classroom interaction.

CA was originally based solely on audio recordings. Very soon, with the advent of technology, audio recordings were supplemented or even replaced by video recordings. Until that time, the analysis of interaction was considered incomplete twofold: Firstly, there were instances of non-verbal exchanges (gaze, body
movement) of interaction that remained unnoticed. Sacks had remarked that ‘it would be great to study them. It’s an absence’ (Sacks, LC2:26 cited in Lerner, 2004: 72)

Moreover, the use of recorded data, whether audio or video, enables a researcher to have unlimited access to listening or/and viewing of the data and therefore more chances for a scrupulous examination of the data which are ‘indefinitely rich in empirical detail’ (ten Have, 1986). The most important aspect is that the researcher manages to control ‘the limitations and fallibilities of intuition and recollection’ that any type of observation may render (Atkinson and Heritage, 1984:4) and also provides some guarantee that analytic conclusions will not arise as artifacts of intuitive idiosyncrasy, selective attention or recollection, or experimental design (Atkinson and Heritage, 1984:4)

In CA these recordings are subsequently transcribed by the researcher, who is actually forced in a way, through repeated viewings, before, as well as during transcriptions, to attend to every single detail of the interactions and record them (ten Have, 1986) and then based both on these, recordings and transcriptions, the researcher proceeds to the data analysis.

Moreover, in CA, the researcher provides to the public, along with the analysis, the actual video recordings. Thus, the analysis instantly becomes ‘available for public scrutiny’ (Atkinson and Heritage, 1984:4). In other words, CA offers any reader, or even another researcher, the chance to inspect the objectivity of the analysis by juxtaposing the analyst’s interpretation with his own. Thus, personal influence and personal preconceptions an individual researcher can exert on the analysis is automatically minimized. Furthermore, data can even be reused in studying a different observational phenomenon (Sacks, LC1 622-729). For all the above reasons, as well as the particularities of this research subject, namely classroom interaction, both rendered the use of video recordings, indispensable.

4.6.3 Interaction order
According to Conversation analysis, people, by being members of a society, share common practices and behaviours, and based on these, they manage to construct
their actions. In this way, people are involved in human social interaction. Goodwin and Heritage (1990) state that

Social Interaction is the primordial means through which the social world is transacted, the identities of its participants are affirmed or denied, and its cultures are transmitted, renewed, and modified. Through processes of social interaction, shared meaning, mutual understanding and the coordination of human conduct are achieved (Goodwin and Heritage, 1990:283).

Conversation analysis, or else ‘talk-in-interaction’ (Schegloff, 1992) is a methodological approach which appeared in late 50s early 60s and claims to provide rigorous procedures for the study of social actions and social interaction (Psathas, 1995), despite the fact that social interaction and how it could be studied effectively had been a major issue in the social sciences for years. In fact, as Schegloff supports, social scientists had little to say about how interaction works treating it as an invisible and social action is rather chaotic, or inscrutable ‘black box’ (Schegloff, 2001:2).

Sacks and his colleagues, Schegloff and Jefferson, who are the founders of CA, support that social actions are systematically organized, and deeply ordered (Sacks, cited in Atkinson and Heritage, 1984); this order is ‘produced orderliness’ (Psathas, 1995) and therefore can be studied. In short, CA’s basic position is that social actions are meaningful for those who produce them, as they have a natural organization, an orderliness that can be discovered and analysed by close examination of these actions. The interest of conversation analysis is in studying the machinery, the rules and the structures that produce and constitute that orderliness’ in social actions (Psathas, 1995:2).

Sociologist Goffman’s principle that social interaction has a ‘syntax’ (Goffman, 1967:2 in Heritage, 2001) and Garfinkel’s (1967) tenet that people use ‘shared common sense knowledge’ and ‘shared methods of practical reasoning’ known as ‘ethno methods’, were the two principles that constituted the foundation of Conversation Analysis.
Goffman (1967) gives a definition of social interaction, as a face-to-face interaction, as ‘the reciprocal influence of individuals upon one another's actions when in one another's immediate physical presence’ (1959). As Goffman claims, the social interaction has a ‘syntax’ (Goffman, 1967:2 cited in Heritage, 2001). The study of the organization of this interaction is based exclusively on the rules, practices and procedures that govern their actions rather than on the study of the participants as individuals, as separate entities, or on the study of their psychology. As Goffman (1967) points out

I assume that the proper study of interaction among participants is not the individual and his psychology, but rather the syntactical relations among the acts of different persons mutually present to one another (Goffman, 1967:2).

The social organization, the institutional order, or else an ‘interaction order’ (coined by Goffman, 1983), that permeates every single social action is normative (Goffman, 1983), and it is accountable for the normative organization of the practices and procedures that this interaction is built on. This order is observable, which means that the actions are subject to formal description and therefore interaction can be studied (Goffman, 1983). Every decision or choice a participant takes, every action he performs, is within the frame of ‘the syntax’ of social interaction and by studying ‘this syntax’, one can reach conclusions about the participants’ motivations and identities (Heritage, 1992). The study of interaction involves the study of these procedures and practices.

A CA researcher's job is to delve into the machinery of conversation, into the rules and the procedures which the participants deploy to produce ordered social actions. In other words, CA aims at explicating those rules and procedures speakers rely on in order both to produce their own utterances but also understand the utterances of their interlocutors, or as Sacks says: to describe methods persons use in doing social life (Sacks, 1984). In this study, we try to describe this social life, and the nature of interaction developed in the social world of the classroom.
4.6.4 CA is action focused

Although CA investigates talk-in-interaction and ‘talk’ is the verbal instantiation of language, yet CA is interested neither in the linguistic dimension of the language nor in the functional, as these were discussed in chapter 2, but first and foremost considers language as an interactional accomplishment of participants’ social actions. It is an ‘activity focus’ method and this is its distinctive characteristic (Drew and Heritage, 1992). It studies the actions performed through turns at talk, as a result of social accomplishment and not as single utterances isolated from the context they are found that perform specific functions. For CA, action is considered more important in order to understand how conversation is organized than topic, although topic is not denied (Schegloff, 1991). In particular, CA concentrates on the interactional work accomplished through the use of turns and examines language in terms of the actions participants perform through these turns. The sentences, or any streams of speech that a speaker actually produces in a conversation, are understood as forms of actions specifically designed and performed within the specific context they are situated in. That means that taking turns out of context and studying them in isolation, without considering the preceding or following turns, it is often difficult to decide exactly what the function(s) of the individual speech act in this specific exchange is in any meaningful way. Therefore, each turn is examined within sequences of turns and an effort is made to understand ‘the socially organized features of talk in context’ (Atkinson and Maxwell, 1984), in order to study how participants understand and respond to their interlocutors’ turns while managing social actions interactionally. To this endeavour, the variant ‘context’ is a key issue in CA which I discuss in the following section.

These ‘techniques’ of CA to study each turn a participant produces not in isolation but within the sequence of turns where it appears, and to try to uncover its social organization, appear to share principles with the interactional view of language which I have presented in chapter two and explains why this project aligns with this view of language. More specifically, as I have discussed in chapter two, (section 1.5), according to the interactional view, language is considered the vehicle for the realization of interpersonal relations and for the performance of social transactions between individuals. Sociocultural theories (chapter 2, section
2) also view interaction as reciprocal communication, cooperation between participants with the mutual intention of the participants to strategically build meaning. So since CA shares principles, firstly with the interactional view of language and secondly with the sociocultural learning theories, which this study aligns with, these admit CA’s appropriateness for the needs of this research project.

4.6.5 The importance of context in CA

Hitherto in sociolinguistics, speech, as far as context is concerned, was studied in terms of formal and informal speech situations. Besides, speakers, by purely being members of specific age, gender, ethnicity, class group, they were considered to bring to their talk attributes related to the above groups’ attributes (Holmes, 1992; Levinson, 1983). However, studies based on naturally occurring data subsequently proved that the social attributes speakers carry in their speech were closely related not only to the group they were belonging to, but to the social setting (Cazden, 1970) and the type of activity they were engaged in (Goffman, 1964).

Although there is criticism against CA that does not consider context, context is an issue that CA focuses on extensively (Heritage, 1998). However, CA does not consider context as something taken for granted, as something pre-established. As Heritage states, CA is not based on a ‘bucket’ theory (Heritage, 1987) about context, but context is viewed as being both ‘the project and the product of the participants’ own actions’ (Drew and Heritage, 1992:19). CA does consider social attributes such as gender, ethnicity, class, among others, but only and if participants themselves orient to these attributes which might be carried and expressed through the participants’ turns and the actions they perform.

According to CA participants in a conversation understand each other and what each one means as their talk unfolds. It is not just a matter of understanding solely the preceding utterance but the whole context where this utterance unfolds. The accomplishment of order, coherence in talk-in- interaction, is seen as inextricably tied to the local circumstances in which utterances are produced. The different types of order, namely sequential, inferential, and temporal (reference) are established gradually, as the talk unfolds, as turns unfold and they are displayed
in their talk. It is then we say that interlocutors have managed to establish ‘intersubjectivity’ (Heritage, 1984). As a result, mutual orientation to common topics is gradually established.

Through the utterances which the participants produce, and the actions these utterances embody, participants exhibit their understanding of the event they are involved in; at the same time these utterances contribute so as this current event they are engaged in, to move forward (Heritage, 1998). In fact, Heritage (1984) talks about turns and actions as ‘context-shaped’ and ‘context renewing’. This means that the construction of each turn is locally managed and it is affected by the way the current sequence of talk has been developed up to that moment, thus it is considered ‘context-shaped’; at the same moment it defines the course of the future development of the sequence: it is ‘context renewing’. To present this more powerfully, Heritage (1998:2) uses Otto Neurath’s boat simile that ‘participants are building a ship while already being out on the ocean’. Context is not something imposed from above and in advance, but it is through interaction and through turns that context is built, invoked and managed. Participants build the context of their talk in and through their talk. Context therefore is viewed as inherently and locally produced and therefore can be transformable at any moment (Drew and Heritage 1992). For that reason, CA uses turns within sequences and not isolated sentences as the basic unit of analysis. Only then one can understand the meaning of a turn and the action it performs, by being examined within the context it was produced and through the turns that it built.

The analysis of this research data is based on the above principles of CA. By producing a turn, a speaker who can be any participant, teacher or student in our case, indicates whether or not the previous turn was heard and understood, and also whether the intention of the prior turn was accomplished. That presupposes and therefore indicates linguistic, semantic and pragmatic knowledge of the hearer/speaker. Besides, any participant’s understanding is actually disclosed in the turn that follows, namely in the next turn in the sequence. In CA this ‘phenomenon’ is known as ‘next-turn-proof-procedure’ (Hutchby and Wooffitt, 2008:13) and it is a key notion in CA. In fact the current analysis of the classroom interaction is significantly based on this principle so as to gain insights on how
interaction gradually unfolds and how eventually meaning is cooperatively constructed. So by looking at how participants understand and respond to their interlocutors’ turns while managing social actions interactionally and by looking at how each turn builds on the previous one then important details of classroom interaction can be recorded and conclusions drawn as far as classroom interaction is concerned and factors that affect this interaction.

4.6.6 Institutional interaction

In the above section of this chapter substantive theoretical and methodological issues of the research method conversation analysis or else the study of ‘talk-in-interaction’ were presented.

As it was aforementioned, ‘conversation’ refers to ‘oral communication’, or ‘language use’ of everyday ‘mundane’ talk, which is not confined to a specific setting. Nevertheless, in our social world, apart from mundane speech there is also the talk taking place in institutional settings, namely the talk in courtrooms, in medical surgeries, the talk in religious services, in interviews, in different types of meetings, in interrogations, in police emergency calls, and in the current case in classrooms. Therefore, the use of the term ‘conversation’ to describe types of talk taking place in different institutional settings was not considered appropriate (Psathas, 1995) as they were not just ‘conversation’. Instead, the term ‘talk in interaction’ was thought of as a broader more appropriate term to be used instead of ‘conversation analysis’ (Schegloff, 1987). In fact, CA apart from dealing exclusively with ordinary conversations, as its name, ‘talk in interaction’ suggests, it has gradually expanded and embraced talk taking place in ‘institutional settings’, which is known as ‘talk at work’ or ‘institutional talk’ (Drew and Heritage, 1992).

Founded on the principle that ordinary conversation is the ‘predominant medium of interaction in social world’ Drew and Heritage (1992) argue, the practices of ordinary ‘conversation’ can be used as ‘a kind of benchmark against which other more formal or ‘institutional’ types of interaction are recognized and experienced’ (Drew and Heritage, 1992:19). Therefore, as far as classroom institutional talk is concerned, based on the above, I describe the nature of classroom talk and its distinctive characteristics in relation to ordinary conversation. For example, a distinctive characteristic of classroom talk against ‘ordinary talk’ is the
asymmetrical roles of the teacher and students, which is fully disclosed in the current research, in the turn taking organisation of their interaction.

The relation between ‘ordinary conversation’ and ‘institutional talk’ as this is described by Heritage (1998), is that of a master institution and of more restricted local variants. The study of institutional talk involves determining what is distinctive in the talk in a specific institutional setting, in comparison with the rules and procedures which imbue ordinary talk. For example, in ordinary conversation, theoretically all speakers have the same rights. However, in a classroom, as it is presented in chapter two (5.1) research shows that the teacher talk usually dominates. The teacher introduces or switches topics, allocates turns, interrupts speakers while students who are aware of the rules of the classroom institution, follow the teacher’s instructions and usually avoid interrupting to make suggestions concerning the subject matter. Otherwise their behaviour might be interpreted as disruptive.

As Drew and Heritage argue (1992), the study of institutional talk is a kind of ‘a comparative analysis’ between ordinary talk and the talk in a specific institutional setting. This comparative analysis

....treats institutional interaction in contrast to normal and /or normative procedures of interaction in ordinary conversation (Drew and Heritage, 1992:19).

Heritage (1998), defines the reasons why ordinary conversation is considered as ‘the master institution’, which are presented below:

-Ordinary conversation is ‘the primary form of interaction to which, with whatever simplifications, the child is initially exposed and through which socialisation proceeds’ (Drew and Heritage, 1992: 19).

-The institution of ‘mundane conversation’ exists prior to any institutional setting, like schools, law courts, media interviews, which are relatively recent inventions and have undergone several social changes. In contrast, mundane conversations, exhibit a relative stability over the years.
-In ‘ordinary conversation’ every single social goal is ruled by a vast array of practices and rules, and an indefinite array of inferential frameworks, while institutional interaction involves a reduction in the range of interactional practices deployed by participants (Heritage, 1998).

As Heritage (1997) points out,

There are, therefore, at least two kinds of conversation analytic research going on today, and, though they overlap in various ways, yet they are distinct in focus. The first examines the institution of interaction as an entity in its own right; the second studies the management of social institutions in interaction’ (Heritage, 1997:163).

In line with the above distinction, I would contend that the current study deals with the way classroom participants (teacher and students) deal with the management of social institutions through interaction, how they manage communication through interaction.

In short, ‘institutional interaction’ could be defined as a sub-group of CA, where a set of restrictions and reductions related to variants such as setting, rules and practices used by speakers in order to accomplish their specific goals, are applied. Furthermore, I would contend that investigating institutional interaction is actually like doing a comparative analysis between the actual institutional interaction and the interaction developed in an ordinary conversation. Thus, what is distinctive about the interactions under study is coming to the foreground. Certainly, to identify ways that certain things are done differently in the institutional setting of a classroom than in real everyday life seems rather an easy undertaking; in fact sometimes this is done effortlessly, almost intuitively. However, institutional interaction research demands further analysis, aiming at empirically demonstrating that participants’ conduct and its organisation orient to specific institutional characteristics; in other words, it is required to expose the institutional origin of the interaction. As Heritage and Greatbatch claim,

in addition to CA tasks of analysing the conduct of the participants and the underlying organization must additionally be demonstrated to embody orientations which are specifically institutional, or which are, at the least,
responsive to constraints which are institutional in character or origin (Heritage and Greatbatch, 1991:94).

Nevertheless, ‘the institutional origin’ of any interaction, or its ‘underlying institutional characteristics’ are embodied in the context. In fact, what is considered as making the task of CA analysis rather complicated, or rather interesting and challenging, is the elaborate way of approaching ‘context’. As it was discussed above, CA refutes the notion of ‘context’ in interaction as setting a pre-established, taken for granted framework within which talk-in-interaction develops. The researcher is expected to identify instances where the classroom talk and interaction differentiate from everyday ones.

Below there is a list of points, as these were presented by Levinson (1992), which encapsulate ‘the nature’ of institutional interaction.

I. Institutional interaction involves an orientation by at least one of the participants to some core goal, task or identity (or set of them) conventionally associated with the institution in question. In short, institutional talk is normally informed by goal orientations of a relatively restricted conventional form.

II. Institutional interaction may often involve special particular constraints on what one or both of the participants will treat as allowable contributions to the business at hand.

III. Institutional talk may be associated with inferential frameworks and procedures that are particular to specific institutional contexts (Drew and Heritage, 1992: 22).

Based on the above principles concerning institutional talk, in the following section I explain in detail the institutional nature of classroom interaction and how this is examined in this study.

Classroom interaction is the subject matter of the current research and it certainly does not fall within the boundaries of traditional, ‘pure’ CA (ten Have, 2007). In other words, the topic of this research is not ‘ordinary’, ‘casual talk’. On the contrary, it studies the interaction developed between a teacher (a professional participant), students (lay participants) and an IWB (because as it was discussed
in chapter three, there are instances where the IWB can be considered as another participant, within the confined limits of the institution of a classroom setting. The interaction developed in this setting is goal-oriented. In a broad sense, knowledge acquisition, or knowledge construction is the ultimate goal of every ‘classroom’. Participants, both professional and lay ones act within a ‘top-down’ conception of their general interaction as this is defined by the institution called ‘school’. The teachers are there to teach and learners are there to learn. Every single minute of a teacher’s conduct is informed by her orientation to either the short or long term pedagogical goal she pursues.

On the whole, participants are not assigned equal sections of participation as a result of asymmetries of interactional and institutional ‘knowhow’, asymmetries of knowledge (Heritage, 1997). Therefore, their relationship is characterized as asymmetrical. Broadly speaking, the teacher is knowledge-provider and the learner is the recipient of this knowledge. In this specific research, this asymmetrical relationship between the above mentioned participants, teacher and learner, is significantly disrupted by the use of the IWB. In many instances, the IWB becomes the knowledgeable participant that takes up the role of the ‘professional’ while both the teacher and the learners adopt the role of the layperson. As it has been mentioned, the shift of participants’ roles will be examined extensively, within the framework of Goffman’s (1981) participants’ roles (1981) (chapter two, section 9.4).

In this research project, English language learning is the institution’s ‘specific goal’ and consists of a number of sub-goals as these are clearly defined by the curriculum from the outset of the course. Usually, professional participants, being aware of these goals, organize their conduct within this framework. In fact their conduct is shaped by organizational and professional constraints and accountabilities. A teacher is there to orchestrate the functions of a classroom, to provide knowledge (in the form of statements, questions, or repairs), to assign activities, roles, to evaluate performance. However, in this classroom, quite often, the IWB takes up several of these roles. The ‘professional’ teacher becomes ‘ignorant’ and the IWB is required to provide a resolution by accomplishing a number of different actions. Subsequently, the conduct of the teacher and the
Learner is reformed. How these changes impede or facilitate the classroom interaction is something that this research would describe.

Lay persons, namely learners are vaguely aware of the sub goals as these are defined either by the curriculum itself or by the activities assigned by the teacher. As a result, they seem to negotiate their way in a ‘bottom up’ way, towards ‘a sense’ of what the interaction will be like (Drew and Heritage, 1992). As a result, lay participants organize their conduct by reference to general features of the tasks or functions of English language classroom institutions. In other words, their conduct is shaped by the general constraints their role as ‘learners in a classroom environment’ impose: they are there to respond when they are asked, then the teacher is expected to evaluate their performance, their turns are teacher assigned while in this specific class occasionally the IWB does that as well.

On the whole, both lay and professionals seem to show an orientation to institutional tasks through the design of their conduct, or more obviously by the kinds of goals each part pursues. We often notice that when there are differences between the goals of two parties, when teachers and learners do not share the same goals, or there is a mismatch in their goals, then the structure of the classroom organization, as this is broadly conceived, is automatically ‘disrupted’. For example, when the teacher plays a song and the pedagogical goal is predominately to familiarize learners with new vocabulary and then present and practice it, few of them start dancing; or when the teacher struggles to present a new grammatical phenomenon, a learner repeatedly interrupts to state his own opinion. However, in this particular project the whole classroom organization is also ‘disrupted’ by the use of IWB. The IWB plays a decisive role in the organization of the activities or the roles the participants adopt spontaneously. In fact, in this project I have noticed a considerable change in participants’ orientation to certain actions and roles which have consequently affected the whole structure of the turn taking system of this classroom talk.

The institutional character of any interaction may manifest itself in the turn taking system; in the lexical choice; turn design; sequence organization; in the overall structural organization; or in social epistemology and social relations (Heritage, 1997). In this specific project, I use both the ‘organization of the sequences’ and
'the turn taking system', of classroom interaction, which differentiates from everyday speech, in order to describe in detail, how the institutional and cooperative character of classroom talk and classroom interaction is manifested.

These are the key factors which informed my choice of the methodology which guides my research and which I present in detail below.

4.6.7 Why I have chosen conversation analysis

In chapter two, I discussed that in this research, the interpersonal interaction of participants is considered a social action and it would be examined as a reciprocal communication, as cooperation between participants with mutual intention to strategically build meaning (Chapter two, 1.5). I explained that borrowing from speech act theory (chapter two, section 1.4) I intend to study the cooperative, and constructive nature of participants' interaction by looking at their exchanges as actions that participants intend to perform. By looking at the interlocutors' responses I examine if the intended actions are accomplished and thus understand how participants eventually manage to cooperatively build meaning.

Conversation analysis which also sees interaction as a social action, offers the researcher/me the chance to study the reciprocal, communicative nature of interpersonal interactions by studying how actions are accomplished gradually through turns within sequences and in particular, through the 'next turn proof procedure' which I discussed above. However, a key principle of CA for analysing classroom interaction, and participants' actions is the 'interaction order' that CA is founded on. This principle gives me the chance to see that the classroom talk is not as chaotic as it might seem but that it has an organization. The organization of the practices and principles that govern social interaction is normative, and therefore the order is observable. This enables the researcher to study the organization of classroom interaction and more specifically the cooperative construction of classroom meaning. The tenet of the normative organization gives the impression that CA is like the natural sciences which are 'nomothetic' and look for regularities. However, the descriptive way CA presents and analyses these practices and the way they are organized admit a qualitative approach.
CA adopts an emic approach to the data; in other words, the participants’ aspect of the construction of meaning is what is considered and there is no need for the analyst to speculate upon what the interactants hypothetically understood. The analysis is exclusively generated out of the observation of the participants’ conduct, and the participants’ perspective as this is disclosed through their own words and actions in their turns.

In the above paragraphs I discussed those principles of CA as a methodological approach that I consider fundamental for fulfilling the demands of this research. To sum up, these principles are:

- CA examines interaction as a social action
- Social actions have an order
- Interaction is studied through turns in series

### 4.6.8 Different categories of CA analysts

Mori and Markee (2009), taking into consideration analysts’ attitude towards SLA and the role of cognition in the learning process, distinguish two categories of CA analysts: the ‘CA-informed analysts’ and the ‘CA-inspired analysts’.

The researchers who represent the ‘CA-informed approach’ (Mori and Markee, 2009) accept the view that cognition is a social developmental phenomenon; and they are skeptical whether the use of CA is adequate to explicate SLA matters. They advocate for the use of CA as a technical tool of research that ‘provides the methodological muscle for a priori theories of SLA’ (Mori and Markee, 2009:2) and employ ‘exogeneous theories’ to the CA, other L2 theories, like Vygotskian sociocultural theory’ (Kasper, 2009); language socialization; or situated learning (Mori and Markee, 2009).

The researchers who represent the ‘CA-inspired analysts’ share CA’s perspective regarding cognition as a socially shared phenomenon, grounded in interaction. They are against the tendency of adopting exogeneous L2 theories, to complement their CA research as problematic (Kasper 2004; Markee and Seo, 2009). On the contrary, they underline the analytical power of CA to account for
SLA theories. These researchers are considered the purist CA advocates and represent the ‘CA-inspired approach’ to SLA (Mori and Markee, 2009). Kasper (2004) underscores the possibilities of CA as ‘an extraordinarily powerful tool for showing how what is conventionally known as interlanguage talk is achieved both in the moment and over extended periods of time’ (2004:55).

In the current research I have adopted the ‘CA-informed’ approach. I do not rely exclusively on CA for the study of classroom interaction but I also use sociocultural theory of Vygotsky in support of the insights gained from CA application. I would say I use both theories interchangeably. For example, in the analysis of the data I draw on the ZPD as well as on scaffold learning of the sociocultural theory of Vygotsky. However, at the same time ‘the next proof procedure’ of CA facilitates the examination of the scaffold learning and vice versa.

4.7 Conclusion
In this chapter I presented my philosophical views regarding knowledge and reality in order to explain how and why I have reached the decision to employ conversation analysis as the methodological approach to this research. I presented the basic propositions of this methodology. Then I discussed the ‘limitations’ I find in other methodologies and methods used in the field in relation to the needs of the current research, and finally I presented the reasons why I have chosen this specific one, namely conversation analysis or talk-in-interaction as the one that suits my needs better. In the next chapter I discuss conversation analysis as a research method and the procedure I followed for the collection and analysis of the data.
CHAPTER FIVE

5 METHODS

5.1 Introduction
In this chapter I present the methods and the tools I have used to collect the data of this research. In particular, I deal with the main data of this research which consist of recordings of naturally occurring talk-in-interaction in EFL classes in Greece. However, before these recordings, I had first conducted observations and unstructured interviews followed by field notes which were used as preliminary data. So, in this chapter I present firstly, the reason I collected the preliminary data, the procedure to collect them and finally how I used them. Secondly, I focus on the collection of the main data, namely the video recordings of natural occurring interactions in real EFL classes. More specifically, I present the procedure I followed to collect, transcribe and analyse this data, the problems I faced and how I resolved them at each stage. Discussion of the ethical issues I raised in this research and the measures I took in order to conduct a reliable and ethical research follow. Finally, I present the limitations of this research method.

5.2 Preliminary data
Long before I concluded for the use of conversation analysis as the most appropriate methodological approach to this project (which I discuss in chapter four, section 5.7), I had decided to use video recordings to capture the interaction which takes place in EFL classes in Greece. I reached this decision, acknowledging the complexity of classroom interaction (chapter two), as well as the unlimited chances recorded data offer an analyst to describe the wealth of these interactions (chapter five, section 5.2). Having the above in mind from the very outset, long before the aims of this project were finalized, I tried to locate schools where the IWB was used. This was not such an easy endeavour, as at the time, the IWB had just been launched in the Greek market. I had to surf in the world wide web, as well as to contact the IWB agents in Athens, to make a list of the institutions which had installed IWBs. This list comprised few state schools (three or four primary schools; only one out of them was located in Athens); few boarding schools (two located in Athens but only one had started using the IWB at the time) and considerably more private foreign language institutions. I visited the
state schools which were located in Athens and the three private foreign language institutes, which I had chosen at random. I also observed non EFL classes, in the state primary school where I belonged at the time, although they did not have any IWBs. Using observations followed by field notes, as well as unstructured interviews (appendices 3 and 4), I managed to construct the background of the setting where the recordings would take place.

I collected those preliminary data although pure conversation analysts are not in favour of collecting any data other than recordings of natural interactions which are considered enough on their own (ten Have, 2007:75). In fact, there is a debate within the CA community (Heath, 1997:187; 2004:240, Moorman, 1992, cited in ten Have, 2007) but also between pure CA advocates and its critics (Cicourel, 1992) whether recordings should be the only source of information used in the analysis or whether additional ‘background information’ would add to it. As far as this research is concerned, I have used the data collected from the aforementioned interviews and observations not as additional data to the recordings, but as preliminary, which offered me the opportunity: firstly, to draw a rough picture of the context where my study would take place. It is notable that at the time there was no literature describing the interaction in the Greek classrooms and in particular the nature of interaction that develops in EFL classes where the technology of an IWB is used. As Heath (2004) states,

> It is not unusual in such studies to delay gathering recorded material until researchers have a passing understanding of the activities in question and the various tools and technologies which feature in the accomplishment of even the more mundane activities in such settings (Heath, 2004:273).

Secondly, this preliminary data offered me the opportunity to shape subsequent data gathering and locate areas that would worth investigating.

### 5.2.1 Observations and field notes

I initially visited the primary state school where I had been working as a permanent EFL teacher for six years and asked for the head teacher’s and other colleagues’ as well as the students’ oral consent to observe their classes. I
explained the reason for these observations and I also presented them with the letter I had from the leading supervisor of the university (appendix 7). Being myself part of the permanent teaching staff of that school, my request was eagerly accepted. So I observed the teaching of different subjects, like language, arithmetic and history in three different classes. In total, I observed six teaching hours.

During the above observations, which were ‘unstructured’ (Cohen et al, 2000:305) as I was looking for interesting aspects of classroom interaction accessible ‘to observation’ (Sacks, LC2 420-61, cited in Lerner, 2004) which I may have experienced myself in the near past as a teacher, but never noticed. Now, as a ‘complete observer’ (Gold, 1958, cited in Cohen et al, 2000:305), detached from the class, I was offered this opportunity. As I had not yet a clear idea of the focus of this research, I spent some time thinking what aspects to choose to focus my attention on, aspects which could be documented as worthy. As Patton (1990:202) suggests, ‘observational data should enable the researcher to enter and understand the situation that is being described’ (cited in Cohen et al, 2000:305). In the end, I decided to let my background knowledge as a teacher, direct my decisions concerning which observations are worthy to be recorded.

The data from these observations were recorded in the form of field notes (Wolfinger, 2002) (appendix 2). I described events, behaviours or activities sometimes in detail, or sometimes, as Cohen et al (2000:311) mention, ‘in a form of quick, fragmentary jottings of key words and symbols’ (Cohen et al, 2000:311).

On the whole, based on my background knowledge as a teacher, I started describing what struck me as worthy and interesting to focus on, a strategy which Wolfinger calls ‘salience hierarchy’ (Wolfinger, 2002). I concentrated on aspects of classroom interaction that could be described as ‘deviant cases’ when compared to my personal background knowledge, or experience. These field notes were based on subjective underpinnings therefore, they were reconstructions of events. As Heritage advocates (Heritage and Atkinson, 1984: 4), in cases of field notes, interviews, or reflections of the participants, the researchers unavoidably provide their own account irrespectively of whether the observation or field notes were taken during or after the observation. In fact, these provide a reconstruction of the
reality, or a version of it and certainly its objectivity could not be detected. Although I expressed my opposition to these methods as far as the needs of this research are concerned (chapter 4, 4.3), I use them here to conceptualize the terms ‘interaction’, and ‘participants’, as well as to shift my focus on factors that impact on the different patterns of interaction observed in these classes. Spatial configuration of the class (Kendon, 1973); different patterns of interactions; different types of participants; participants’ reaction to the use of the media; were some of the issues I looked at.

5.2.2 Unstructured interviews

In addition to the observations in the above primary school, I contacted a number of private afternoon EFL institutes, which I knew from the initial research I had done that they had installed IWBs in some of their classes. My intention was to observe classes for the reasons I mentioned above, that is to draw information that would inform the design of this research later on. I also decided to interview the directors of studies and the teachers of these institutes as I was interested in learning about their own personal experiences, attitudes and feelings towards ICTs in general, and more specifically about this newly born classroom reality with IWBs. Any information on the above would help me understand the status of the IWB in Greek EFL classes, and at the same time give me ideas of the issues this research would worth addressing. For these reasons, additionally to the interviews, I observed any classes which gave me the permission to do so, irrespective of their attitude towards any forthcoming recordings.

I initially presented myself, along with the letter from the lead supervisor of the university (appendix 7) and which I mentioned above, to the director of studies or/and the manager of the institute, and explained the reason of my visit. The aim of the research and the methodology I would use, which demanded video recording of EFL classes, were also discussed. During the entire discussion with the director of studies and subsequently with the teachers, I presented myself as a fellow teacher, a member of their group, who shares with them the same concerns for education, and who, at this stage, tries to understand what the IWB can add to the teaching and learning process. According to Burgess (1984), presenting
oneself as a fellow teacher facilitates building rapport between the interviewer and prospective interviewees (Burgess, 1984).

Then, unstructured interviews (Fontana and Frey, 2005) initially with the directors of the studies and then with the teachers who had been using IWBs followed. I went to these interviews with no predefined hypotheses or structured questions. However, some preparation had been done in advance (McNamara, 2009; Fife, 2005). I had prepared a list of questions to be used as an aide memoir or agenda (McCann and Clark, 2005), which loosely guided the interview (appendix 3). These questions constituted a broad guide to issues that I would ideally like to be covered during the interview, rather than actual questions to be asked. When permitted, I let the teachers guide the interview process (McNamara, 2009) by addressing their own issues and concerns. To encourage this, I was mainly restricted to open-questions giving participants the chance to concentrate on the aspects they themselves considered important, and let them express their feelings openly (McNamara, 2009). On the whole, it was a flexible interview, constantly subject to revision, depending on the responses of the interviewees. Often, in response to the interviewees’ narration further questions were generated. As I mentioned above, my intention was to learn about their own personal experiences, attitudes and feelings towards ICTs in general, and more specifically about this newly born classroom reality with IWBs. My prior concern was to approach the topic from the participants’ own perspective (emic approach) and in the participants’ own terms (Denzin, 1989), while the objectivity of their responses was not a matter that concerned me on this occasion. These unstructured interviews also helped me build rapport with the staff of these schools and gain their trust as part of the preparatory work to be done (McMontana, 2009), before any observations or recordings, as they were all prospective participants in this research. As Patton (2002) states, informal interviews go hand in hand with observations (Patton, 2002 cited in McNamara, 2009). As it was aforementioned, these observations and interviews were just ancillary data which help me design and organize my research more efficiently. Moreover, through the above processes I managed to detect the prospective participants who would take part in the recordings of classes for the collection of the main data of this research. In the sections below I present in detail each stage of the process (recordings,
transcription, analysis), the issues raised, the problems encountered in each stage and how they were treated or resolved.

5.3 The main data
According to Paul ten Have (2007:68) a CA research project consists of four steps:

I. Collecting recordings (audio-video) of naturally occurring talk-in-interaction
II. Transcribing the tapes
III. Analyzing selected parts
IV. Reporting the findings

The main focus of the analysis is on the interaction developed between participants and in particular, the way the specific technological artifact, or according to SCT, the physical ‘meditational means’ (Vygotsky, 1978), namely the IWB, affects this interaction. Considering the discussion in Chapter 2 on interaction, every aspect of interaction taking place in this specific environment is considered of vital importance. Consequently, the use of video-recordings has been considered indispensable. However, the process started with the collection of preliminary data which I discuss in the following section.

Conversation analysis studies in detail audio-video recordings of ‘naturally occurring’ interactions or else mundane natural human talk-in-interaction accompanied with their transcriptions. In fact the importance of recordings of naturally occurring interaction for CA was discussed above in chapter four (section 5) and this research is conducted having as a guiding rule the tenet of CA that ‘nothing that occurs in interaction can be ruled out, a priori, as random, insignificant, or irrelevant’ (Heritage and Atkinson, 1984:4). With the use of video recordings every aspect of verbal and non-verbal interaction is captured and that offers invaluable insights into the analysis of interaction. The importance of all these paralinguistic features of classroom interaction was discussed in chapter 2 (section 9). Secondly, there are aspects of the interaction which are closely related to the physical setting, or various technological artifacts like the IWB in the
current project and additional activities taking place nearby affecting the main interaction which are not considered simply because they cannot be depicted.

As Heath comments,

People not infrequently use artefacts when talking to each other, and it is not unusual for aspects of the physical environment to become relevant within the course of social activities (Heath, 2004:270).

Only video recordings can depict these details, which would be missing otherwise.

5.3.1 Constraints placed on the research

Cohen et al (2000) remark that, ‘the view of research as uncontaminated by everyday life is naïve and simplistic’ (Cohen et al, 2000:41). Indeed, the current project although not directly, is partially affected by constraints which were imposed:

i. by the Greek Ministry of Education
ii. by the nature of the research subject
iii. by the nature of the data collection

The Greek ministry of education (MoE) offered me and a number of other in-service teachers of primary education leave to do post-graduate studies on condition the research would fulfill the following requirements: the research would study the teaching or learning of English as a foreign language in primary education and preferably with the use of information technologies, in Greece. In other words, the MoE set restrictions concerning 1. the age of the participants (primary school learners); 2. the setting (classroom), 3. the locality (Greece); 3. the subject (teaching or learning: English as a foreign language); and 4. the use of ICTs for teaching or learning EFL.

Considering the above and for the reasons I presented in chapter 1 I decided to investigate the classroom interaction and how this might be affected by the implementation of the IWB. However, the nature of the technology I had chosen, namely the IWB, imposed further restrictions which were the following:
Firstly, the novelty of the medium (IWB) in Greek school society rendered the collection of data a rather difficult endeavour as only few schools, either private, or state, had at the time installed IWBs in their classes. Secondly, although in some schools IWBs were available, yet, there were teachers that they had not yet become familiar with the technology of the IWB and the ways this could be used effectively. According to Bax (1993), normalization has not been achieved yet. Therefore these teachers were not confident enough to be observed or video recorded, and they completely rejected my invitation to take part in this research.

The nature of the data itself also imposed restrictions. Conversation analysis as a research method for data collection in classroom settings is not broadly used in Greece. Therefore head teachers, and teachers who are mainly familiar only with interviews, questionnaires and observations are hesitant to accept to be video recorded.

5.3.2 Hunting for data

The above restrictions rendered the realization of the current research a rather difficult endeavour. To use Paul ten Have’s ‘gruesome metaphor’ I often felt like a late eighteenth-century researcher looking for corpses to dissect, a conversation analyst is a habitual ‘data hunter’ (ten Have, 2007:78).

CA studies the organization of talk-in-interaction, and since there is order everywhere in interaction, that tenet suggests that any language sample can be considered appropriate ‘worth of an intense and detailed examination’. Psathas, (1995), argues that in CA, data may be obtained from any available source, with the only requirement for this data to be naturally occurring’ (Psathas, 1995:45). In CA there is no imperative reason for the researcher to consider sampling issues because, as the corpus of CA studies suggests, the way people organize their talk in interaction is ‘orderly’ anyway. Therefore, it did not matter very much which particular specimens I would collect in order to study that order (Sacks, 1984, 1992. cited in ten Have, 2007:70).

Having no access to state schools, as at the time, there were no available state schools with IWBs, I contacted a number of private language institutes, instead. I followed the procedure I mentioned above (present myself and the reason of
visiting them, interview the director of studies, and/or teachers) and three private language institutes responded to my call to participate in this investigation.

The first school was part of a branch of a big chain of language institutes in a north suburb of Athens. In the specific language institute, there were four IWBs which had been purchased and installed in the classrooms two years before the actual research. However, teachers had partly incorporated the use of the IWB in their lessons because as they admitted in the interview, they had not been trained adequately as to become familiar and confident enough with the technology. Moreover, as all teachers admitted they had not much time to prepare material for the IWB (unstructured interview with teachers). The manager of the school gave me the consent to conduct part of my research at this school, provided both the teacher and the students gave their consent.

The second school was also a part of a branch of a small chain of language schools in a suburb of Athens where two IWBs had been installed few years before the research. The IWB was exclusively used with the software the course book provides. The manager of this school also gave me the permission to have one of these classes of his school video recorded, provided both the teacher and the students gave their consent.

The third school was an EFL language school, family business, in North Greece, where the manager of the school was the teacher of the class as well as the agent of smart board in this part of the country.

CA addresses an important issue concerning the data, which I had to consider before I proceeded to the collection of the data. That issue addressed was whether classroom interaction can be considered ‘naturally occurring interaction’ and more specifically whether in institutional settings like schools the data can still be considered ‘natural’.

A distinguishing methodological trait of CA is that the data should be coming from ‘naturally occurring interaction’. Specifically, Schegloff and Sacks (1973) talk about ‘naturally occurring interactions’, referring to interactions that had ‘not been produced by research intervention’ (1973:291). Sacks et al (1974:698) talk about ‘natural conversational material’; Heritage and Atkinson (1984) about ‘materials
collected from naturally occurring occasions of every day interaction' (1984:2); Heritage (1998) about data ‘as uncontaminated as possible by social scientific intervention’. All of them argue for not experimentally designed data like in laboratories where every detail is prearranged. Drew (1989) argues that ‘the data must not have been produced for the purpose of study or collected for any pre formulated investigative or research purposes’ (Drew 1989:96). Only then the results of a research can be considered reliable. CA's “general recommendation is to catch ‘natural interaction’ as fully and faithfully as is practically possible” (Drew 1989:96).

To investigate language classrooms is a rather sensitive area which renders the whole task a difficult endeavour. In this project, the talk-in-interaction produced in classes was natural. The lessons were not constructed (as it was previously explained) under the ‘aegis of any special research project’ (Hutchby and Wooffitt, 2008:14). The data depicts the reality, namely the interaction that takes place in a language classroom.

In the investigation under discussion, CA studies the interaction developed in a classroom environment and this belongs to the sphere of ‘institutional talk’. In cases of institutional talk, ‘Naturally occurring’ means language or behaviour which is produced without being provoked or co-constructed by the investigator or the investigator and the participants (ten Have, 1999:48) as it would happen in experimental classes. To ensure non-experimental data, the IWB designed lessons were based not only on the curriculum adopted by the school itself, but also on the course book used, as these had been defined by the curriculum head/authorities of the school. Learners were not provoked to alter any of their routines in favour of the research needs. The activities, even the songs presented were taken from their course book and adopted accordingly. The material was based on the course book used but an effort had been made to be better presentable on the IWB by utilising different affordances of the IWB.

On the whole, absolutely no changes had been imposed as far as the daily routines of the class, or the content of the course are concerned. Every effort was made so as this research to be as unobtrusive as possible. To this effect, lessons using IWB started being taught to the target group by the researcher herself more
than a month before the actual recordings started taking place. So the students had the chance not only to familiarize themselves with the medium, but with the teacher/researcher herself.

Then I proceeded to the actual recordings of the classes.

5.3.3 Collecting video recordings
For the collection of the above data I used both video and audio recordings.

From the first school, I collected five video recordings; each recording consisting of two 45 minute lessons, in total ten 45-minute lessons.

From the second school I collected two video recording of 45-minute lessons.

From the third school one video recording of one 45-minute lesson.

For each video recording I used two video-cameras as I wanted to capture every detail of the interactions of all participants. These video cameras were: one Sony MD 110 and one PANASONIC NV-DS29. I also used one SONY audio recorder: IC recorder-ICD SX57/67/77, in case something went wrong during the video recordings.

5.4 Transcriptions
5.4.1 Preparing the data to be transcribed
On completion of the recordings of the classes and before starting the actual transcription, the videos were transferred to my computer. All video-recordings were digitized with the help of the Windows Movie Maker. Then, the VisualSubSync was used which is a free downloaded subtitle program with audio waveform presentation as its cornerstone. Although this program is aimed at facilitating subtitle synchronization by showing you the audio in a form of waves, at the same time it lets you listen to the dialogue and watch the corresponding scene on the screen. This application proved useful for my needs, as it helped me concentrate on the subtleties of the classroom interaction but it also proved extremely helpful, especially for the transfer of spoken language into written form, as well as for the transcription. The provision of audio in a wave form facilitated the above activity, as the programme incorporates wave form presentation, playback machine, quick rewind, so you can easily replay fragments, or make
accurate timings of fragments as small as silences in speech; the above functionalities of the software eased the overall process of transcription.

To handle the data more easily, I divided each video into a number of short video clips, three to four minutes long each and saved them in separate files. Then, a necessary part of the research archive was to provide for each excerpt information like: time, date, title, type of the activity, modalities involved for the realization of these activities.

5.4.2 Repeated viewings
Transcribing video recorded naturally occurring talk-in-interaction is a distinctive as well as of fundamental importance stage in the process of conversation analysis. Jefferson (2005) stated that transcribing is just something one does to prepare materials for analysis, ‘to have something to begin with’ (Jefferson, 2005, cited in Lerner). The ultimate aim of transcriptions is to ‘re-present’ the actual interaction in as much detail as possible, so as the analyst is able to describe and subsequently analyze the ‘machinery of talk’. The analyst is not exclusively interested in what has been said but actually how it has been said. Therefore, the general recommendation in CA is to catch ‘natural interaction as fully and faithfully as is practically possible’. At the beginning, before the transcription, but even later during the whole procedure of transcribing, I concentrated on listening to every single detail in recordings, no matter how irrelevant they might look. That demanded repeated listenings and viewings of the ‘raw data’ and as ten Have claims, in this way I was forced to attend to details that would escape an ordinary listener (ten Have, 1986). Transcribing is a skill that a researcher develops gradually through extensive practice. Ten Have also comments that ‘the act of transcribing is only gradually instilled in the transcriber’, and for that reason the transcriber cannot be another person than the researcher or the analyst. However, there would always be details that the transcriber has missed or inadequately transcribed. For that reason, the transcriptions cannot be considered a real substitute of the recordings (Psathas and Anderson, 1990).

5.4.3 Transcribing the data
Initially, the audio data which the video tapes had preserved, that is the aural/vocal language, was transferred into written form verbatim, using standard
orthography. In other words, what was heard was written down. Paul ten Have (2007) calls the activity of transcribing as translating ‘speech’ into ‘language’. On the whole, the recordings I had collected were of rather good quality therefore the transfer of aural into written form did not present a major problem at this stage of the process of transcription. However, there were many instances where more than one participant was talking at a time, one on top of the other; in other words, there was too much overlapping. In other instances, participants were not articulating a phrase very well, both of them hindering the task of transcription. In all instances of the type I had recourse to audio recordings or alternatively to the video recordings of camera B to solve the problem. These alternative resources played the role of a ‘back up’ every time a similar difficulty arose.

The next stage was the point where the actual transcription started. It was in this stage of transcription that every detail of how everything was said and captured in the video had to be represented graphically. At that stage, a number of decisions had to be taken as how to transcribe things and how to represent them. I started with the transcription of the spoken language, although as I have previously discussed (in Chapter two) other modes in communication were of equal importance like spoken language for the needs of the current analysis. One could claim that it is common to start from general to specific, from speech to other modes. However, in this research I would ascribe this attitude, starting from oral speech and then proceeding to other forms of expression, to my educational background and to the discipline I belong to, that is the teaching of English as a foreign language, as well as to the importance that the medium holds.

In the transcription of the spoken language I had to include stress, volume, intonation, pitch, tone, stretches, pauses, sounds as uttered, sometimes inaudible or incoherent sounds, nonverbal vocalisations, silences, overlapped speech, among other (Psathas and Anderson, 1990:80-4). To depict all the above details, I needed to adopt a transcription system that would not only help me to capture as much detail as possible, but also a system that would be readable, accessible to prospective readers, even to those ones that they might be unfamiliar with these systems-symbols. Alessandro Duranti (1977) stresses the fact that ‘the process of transcribing implies a process of socialization of our
readers to particular transcribing needs and conventions’ (Duranti, 1977: 142). ‘The Jeffersonian Transcription System’ (1985) developed by Gail Jefferson which as Psathas and Anderson (1990) note, is a modified orthographic approach reflecting pronunciation (Psathas and Anderson, 1990) seemed sufficient to fulfill a substantive part of the requirements of this specific research, as it was simple enough for the readers to handle, and therefore it was the transcribing system I adopted (appendix 5). The first issue to be faced was related to the ‘identification of the participants’, or ‘membership categories’ (Sacks, 1972; 1979). In our everyday life we are all members of an indefinite number of categories. There are many categories I could have used for referring to and describing this specific group of students: boy, girl, pupil, student, language learners, teacher, language teacher, non-native teacher, native teacher, an only child, among others. However, immediately a question is raised as to why I have chosen this one instead of another, or why I assigned a participant this social identity in that particular moment or in that particular way.

Membership categories may conventionally be seen as having category-bound predicates they are loci for the imputation of conventional expectations, rights, and obligations concerning activities (for instance) which is expectable or proper for an incumbent of a given category to perform (Watson and Weinberg, 1982:60 cited in Hutchby and Wooffitt: 36).

A potential pitfall a researcher analysing institutional data faces, is to assign participants social identities or attributes like gender, status, intuitively, as these would be determined purely by the institution within which they are developed, namely, the classroom. The implementation of the IWB renders it impossible to define in advance who the professional is and who can be considered as lay participant. The roles participants adopt are interchangeable. Only empirical analysis can demonstrate participants’ orientation to specific identities, roles and thus the organization of their activities. In institutional interaction, as in pure CA, ‘context and identity have to be treated as inherently locally produced, incrementally developed, and by extension, as transformable at any point’ (Drew and Heritage, 1992:21). Therefore as it is mentioned later, for the needs of this
research, although participants were initially assigned the roles of Teacher and Student 1, student 2, and so on, as these roles were broadly defined within the institutional setting where the research was conducted, this was used only to show how subsequently depending on the context, these roles constantly interchange.

As it was previously discussed (Chapter two, section 9.1) interaction is not only expressed through spoken language but through body language as well. Within the framework of conversation analysis, Goodwin (1984, 2001, 2003), Heath (1984), Schegloff (1984), Rendle-Short (2002), are the first who dealt with the study of eye gaze, gaze direction, as well as with gestures and movements, body alignment, and they developed elaborate transcription systems to encode these descriptions and thus better portray the coordination of verbal and non verbal interaction. Goodwin has done immensely important work on the transcription of non verbal interaction. However, as this research does not demand detailed depiction of all the paralinguistic nonverbal information concerning body movements, apart from adopting written description of this paralinguistic nonverbal information, I also used a few ‘special’ pictorial symbols to depict students’ and teachers’ interactions related to the IWB (appendix 6).

Despite the prominence I have initially attributed to the spoken language, yet my purpose was not to underestimate the importance of other modes. Apart from spoken language, there are so many things taking place in a classroom environment, even during the smallest bout of interaction which demand to be depicted. This investigation spread out to other modes of communication since my ultimate aim was to study how different modes possibly facilitate or impede interaction and thus establish an interrelation as far as the production of language is concerned. For that reason, I needed to invent a succinct and descriptive system to present the different modes used for the realization of the participants’ actions as these details were critical to answer one of the current questions of the project. Norris (2004) uses his own way of analyzing multimodal interaction where notions like ‘embodied’ or ‘disembodied’ modes; ‘high’, ‘medium’, ‘low’ intensity modes; ‘modal complexity’; ‘higher’ and ‘lower intensity actions’, are used in the transcription-analysis of multimodal interaction. In the project under discussion,
elements of Norris (2004) analysis (chapter 3; section 13) are adopted to serve the needs of this research along with Jefferson’s transcription system. They were both embedded in the transcription and analysis of the data.

Transferring different modes of communication in written form is not only excessively time consuming, but at the same time does not guarantee that this wordy description is precise, complete and impartial. In every wordy description of a mode the analyst unavoidably includes his own perception of things and therefore it is not a neutral presentation of an incident. Moreover, no description can depict the reality. There are always subtleties missing from such a record if we consider that the details I could possible include in it are infinite.

All the above decisions concerning what the researcher needs to include in the transcription and how to represent it reflect the researcher’s ideology, the researcher’s adopted theory. Therefore, transcriptions are justifiably considered ‘theory laden’ and each decision has interpretive consequences (Lapadat and Lindsay, 1998). In fact, the process of transcribing includes analysis at some level on its own right. For these reasons, Psathas and Anderson (1990), point out that in no way should transcripts be theorized as ‘substitutes for the original but additional tools which can be used to understand these recordings’ (cited in Heritage, 1984:13; Psathas and Aderson, 1990). In fact, the analyst uses the transcript as a tool of reference (Hutchby and Wooffitt, 1998), while the recordings and not the transcriptions of natural talk remain CA’s basic data. Both the transcript and the tapes constitute public records available to the scientific community. They can be replayed and transcriptions can be improved.

To practice the skill of transcription, I initially transcribed whole teaching hours. However, considering how arduous, demanding, time consuming, painstaking an endeavour transcribing is, when I started feeling confident enough to transcribe decisions had to be made as to which parts of the recordings would be transcribed in more detail and in what level of detail. These were details that the interests and aims of the particular research defined. Since the IWB constitutes an important f in this research, I decided to transcribe in more detail those instances of interaction where the IWB is involved either directly or implicitly.
Even after the transcription of the data both the video and audio recordings were not discarded but are still used at all points of the analysis in conjunction with the transcriptions to provide as much detail of the interaction developed in the classroom, as possible.

The next step of the process, after the transcription, is the analysis of the data which is the subject matter of the following section.

5.5 Data analysis
A distinctive trait of CA is that it is not a theory based, but data driven, inductive, research method (Sacks, 1984). When I first approached the data I did not have in mind a particular question that had to be answered or a hypothesis that needed to be verified. There was not any preconceived theory in my mind that I was aiming at proving or disproving its truthfulness which after all would have defined the route to be followed. The initial idea of this project was to study interpersonal interaction in a foreign language classroom environment where the IWB is used. I had no idea about which aspect of interaction I would study, or where and how the IWB would be involved. As Sacks (1984) suggests, I tried to start with a completely unmotivated look at the data (Sacks, 1984:27), as far as this was feasible, because as Sacks himself contends, we can make ‘observations’ if we know the kinds of things we are looking for (Sacks, 1984:27), and through the meticulous analysis of the data we possibly draw conclusions about the peculiarities of the interaction developed in this new class environment. In the current research, the data themselves became its leader. Any prior theoretical assumptions or hypothesis would have certainly constrained the analysis or simply restricted it within the frame of a biased outlook. Thus, I followed what Sacks suggests: ‘we sit down with a piece of data, make a bunch of observations, and see where they will go’ (Sacks, 1984:27).

The first step in the analysis of the institutional data is to locate a potentially interesting phenomenon (Hutchby and Wooffitt, 1999; ten Have, 2007) and subsequently try to construct the machinery that allows these phenomena to be realised. Sacks (1984) is interested in ‘occurrences’ only in so far as they can be studied as outcomes of particular members’ methods and not as a subject of conversation. In this specific case, sequences of actions where the IWB indirectly
or indirectly takes up a role in the organization of sequence I thought would be worth investigating. My ultimate goal is to study the role the IWB takes in interaction developed as well as to examine whether the IWB facilitates or impedes classroom interaction. There is no hypothesis or preconceived idea that demands an answer.

As soon as an interesting phenomenon is identified, it is studied closely, in relation to the context and the sequential environment where this is identified. I constantly attempt to discover what ‘this phenomenon, or sequence is doing in this particular context’ (Hutchby and Wooffitt, 1999). Returning to the data and trying to identify repeatable cases of the same phenomenon is the following step. The ultimate aim of this action is to detect whether the closely described phenomenon could actually cover a collection of similar cases and thus verify its robustness and eventually become a generalizable account. However, each phenomenon remains unique as it was produced at a specific moment, in a unique environment. Therefore, each instance is studied in its own right, always attending to its individual properties/peculiarities as well as to its general features. As Hutchby and Wooffitt (1999) argue, this type of analyzing patterns, guarantees ‘robust claims about the strategic use of conversational sequences (Hutchby and Wooffitt, 1999:94).

To achieve the aims of this research that is: 1. To describe the nature of the interaction developed in the classes recorded where an IWB is used and 2. To study how the IWB affordances might influence the interaction developed in these classes, I analyse:

1. the turn taking organization and
2. the sequence organization of these classes.

In the turn taking organisation I deal with the following issues:

- The turn allocation system (who speaks first, who establishes the right to speakership, or he is a teacher/other allocated this right).

- The actions that each of these turns intends to perform.

- The roles the participants adopt for the realization of these actions.
- The role of the IWB in these exchanges.

2. In the sequence organization I deal with:

- The organization of series of turns (chunks of turns) examining all the three stages: 1. where an action is initiated, 2. worked through and 3. is finally brought to a closure.

- The practices used for the above actions to be implemented. Their structural organization and the role the IWB plays in these practices.

- The different patterns of interaction developed in these series of turns (for example: T-Ss-IWB.).

- The modes employed in the series of turns. Possible correlations between modes, action intensity and the successful realization of these actions.

5.5.1 Turn Taking System

Talk in interaction or more specifically actions in CA are accomplished by participants taking part in turns. However, the opportunities participants are offered to take part in interaction, depend on the opportunities they are offered to take the speakership and thus contribute in the talk-in-interaction. In short, it is the turn taking system which governs both the everyday speech as well as the speech of every institution where participants can be found. It defines the way the turns are distributed among the participants, or else defines the rights and obligations of participants in talk. Although the participatory framework of mundane speech is characterized as symmetrical where all participants seem to have equal rights and obligations, yet in institutional settings interactions are ‘characteristically asymmetrical’ (Drew and Heritage, 1992). In institutional interaction the asymmetries between speakers in a turn taking system constitute a central subject of research. Sacks, Schegloff and Jefferson (1974:729) present the array of the kinds of talk on a linear scale where on one pole of this scale there is the ritual, formal type of interaction with a heavily pre-allocated system of turn taking, while on the other pole there are the turns which are locally organized and never pre-allocated.
Before embarking into the analysis of the interaction of these specific language classes I present the turn taking rules that imbue everyday talk as these were defined by Sacks, Schegloff, Jefferson (1974).

I. If ‘current speaker selects next’ speaker in current turn, then this current speaker must stop speaking and the next speaker has the right and is obliged to take next turn to speak; at this stage, no other speaker has this right or obligation and transfer occurs at the first TRP (transition relevance place) after the next speaker’s selection.

II. If current speaker does not select next speaker, then any other participant may self-select for next speakership; usually the first participant to begin is the one who acquires rights to this turn.

III. If current speaker has not selected next speaker, and no other participant self-selects, then the current speaker may or may not continue and claim rights to a further TCU (turn constructional unit).

IV. Speaker change recurs or at least occurs.

V. When rule 1 has been applied by current speaker then the rules 1-3 reapply at the next TRP, until transfer is effected (Sacks, Schegloff, Jefferson, 1974:704).

The above is a set of rules that define the turn allocation and turn construction in mundane speech. However, these are the ‘basic rules,’ which constitute a model, and in no way restrict participants’ talk. They do not imply or impose ‘equality of participation’ so that a speaker produces just one complete unit while the next speaker takes over at the end of this complete unit (Schegloff, 1999). The system is locally managed.

The aim here is to focus on specifying the distinctiveness of the classroom turn taking system relative to ordinary speech, which is imbued by the above set of rules. In this specific project, taking as benchmark mundane speech as this is defined by the above rules, I try to locate and discuss departures that classroom talk exhibits in relation to ordinary conversation and how these departures are different from everyday speech and how the institutionality of classroom talk is thus indicated. It is notable, that in multiparty conversation, the turn taking system
differentiates from the turn taking system of dyadic conversation however it is carried out according to the turn taking rules of Sacks, Schegloff, Jefferson (1974).

5.5.2 Sequence organisation
For the analysis of the organization of the sequences I use as units of analysis the turn constructional unit (TCU) and the Adjacency pair (AP) which I explain below.

In CA, the turn constructional unit (TCU) is one unit of interactional organization which I have used extensively in this analysis. TCU represents a completed social action within a turn and it could be realized in a variety of language forms: as a single word, a discourse marker, a clause, a sentence or sometimes non verbally (ten Have, 199:112). Grammar, prosody, or phonetics are resources that would help a cognitive analyst to recognize a unit of analysis. However, for a CA analyst apart from the aforementioned resources “a third –and critical- feature of a TCU is that it constitutes a recognizable action in context; that is, at that juncture of that episode of interaction, with those participants, in that place etc” (Schegloff, 2007: 4). Based on the next-turn proof procedure which was above mentioned, a TCU can only be defined and analyzed emically, from the participant’s point of view as it is a social concept and not a linguistic one.

it is important to realize that it is not part of the conversation analyst’s aim to define what a turn construction unit is, as a linguist for instance may want to define what a sentence is. Conversation analysts cannot take a prescriptive stance on this question, because what a turn-construction unit consists of, in any situated stretch of talk is a members’ problem. That is, such a unit is essentially anything out of which a legitimate turn has recognizably- for the participants – been built (Hutchby and Wooffitt, 1988:48).

It is not a unit of analysis as we have the sentence in linguistics. On the contrary, a sentence can be analyzed even in isolation, as being an etically defined unit of analysis. The same does not hold true for any TCU or any other unit of interactional organization in CA simply because CA is ‘action orientated’. Any TCU is analysed in relation to the action it performs in the context where it was
originally built, and through the turns and actions it evolved from. In short, in CA, language cannot be studied in abstract decontextualized terms.

5.5.3 Adjacency pair

Another unit of interactional organization is the adjacency pair, which is considered as the most powerful device for relating two utterances (Silverman 1998). It is the organization of two consecutive sequences (TCUs) produced by different speakers where ‘given a first, a second should be done’ and what should be done is specified by the first pair organization (LC2 191). These adjacency pairs can be: greeting-greeting; question answer; summons answer; telling accept. The part which initiates an action is called First Pair Part (FPP), while the second which is a response to the first, Second Pair Part (SPP). A first pair part (FPP) by its production makes the subsequent action relevant, it projects some second, next action as relevant. In fact the FPP sets the scene, the context for some next action which is expected to occur. The adjacently positioned second by providing an answer indicates that the second speaker understood what the first was aiming at and therefore he is ready to proceed (Schegloff and Sacks, 1973: 296). In the case of an adjacency pair where the second part is missing, or else, is not done, then its absence is seen as accountable, as a problem, and an action has to be taken. The first may be repeated or it may even be considered as second’s failure to understand, or a second’s disagreement. These are issues discussed in terms of ‘relevance rules’ (Schegloff and Sacks, 1973).

There are different ways that some action can be accomplished in the SPP. These alternatives usually have different interactional import, expressed by preferred or dispreferred actions, issues which can be dealt with through preference organization. Another important issue concerning the organizational patterns is the location of adjacency pairs. It is common for FPP and SPP to be contiguous, to occur one next to the other. Preference organization and preference for continuity are the two basic organization principles which define how turns at talk are designed (Schegloff, 2007).

In the paragraphs above I attempted to explain the basic steps I took for the analysis of the data. I analysed a great number of instances where the IWB was
involved. However, after a stage, I kept coming across repeated instances. In the analysis of the next chapter I present excerpts of the analysis.

During the analysis, in most cases, it is the teacher who initiates a discussion in a classroom and this usually happens in the form of an adjacency pair. It is the teacher who poses a first question and usually this question is initially addressed to all students, a FPP of an adjacency pair. Therefore, I decided to present the analysis of these excerpts in different sections depending on who initiates. Another reason which drove my decision to present the analysis of the data in sections of who initiates speech, lies on the fundamental role of this very first utterance. This utterance does not only initiate a topic, but also expresses the aim that the first speaker would like to achieve through this interaction. It also prescribes roles to speakers, but to a large extent prescribes the whole interaction that follows. Then I describe the process that follows which includes the way that the second speaker responds, and that includes the scaffold he might be offered either by the teacher, fellow students or the IWB. Then I concentrate on the third exchange which usually comes from the first speaker who examines whether the aim of the first utterance is achieved.

So in this research, the presentation of the data analysis is organized following the turn allocation system which is identified in the classrooms under study.

5.6 Ethical Issues
Ethics in research has always been considered important, particularly in social sciences and more specifically in education when young learners are involved (Cohen, et al, 2000). This happens because moral issues are implicit in the work of educational researchers as they attempt to reach their goals and at the same time to conduct research to the highest ethical standards. In other words, needs to be contacted within an ethic of respect for those involved in the research and those affected by it or, as BERA defines it, for the person, the knowledge, the democratic values; the quality of Educational research, Academic Freedom (BERA, 2011:2).

At each stage of the research there were potential sources of ethical problems that I had to overcome. These problems usually range from the nature of the research itself, the procedure to be adopted, the context of the research, methods
of data collection; the participants; the type of the data collected; up to what is to be done with the data on completion of this thesis.

At the very beginning of this project and before concluding on the research methods, or research procedures to be followed, I had to consider the costs/benefit ratio of this research; in other words the potential benefits of this research against the possible costs to the participants (teachers and students) taking part in it (Frankfort-Nachmias and Nachmias, 1992). I estimated the gains to the educational society in the Greek context as well as the gains in a broader context, and calculated whether these benefits would result equally from all approaches or from some, more than others. I concluded that on condition I would fully respect the ethical issues that may arise in each stage of the research, and on condition I would try to keep a balance in this ratio, then conversation analysis would be the most beneficial method to be used.

Acknowledging that although this educational research was undertaken in Greece, outside the UK, I had to adhere to the same ethical standards as any research in the UK, where the overseas research involves children, the researchers must comply with the child protection clearance procedure of the UK. Ethical approval was given by the University committee when I moved on from the MPhil stage to the PhD stage, where I presented and subsequently discussed the details of the research procedure I would follow.

On the whole, my main concern was every effort to proceed ethically without however threatening the validity of the research, as far as this was possible to do, while at all times, sensitivity to the participants’ welfare was my main priority. In this framework, one of the first steps was to get the informed consent of all the participants namely students and teachers.

Therefore, every time I visited a school my first concern was to meet the headmasters (when I visited state schools), or owners/managers (when I visited private schools) and asked for their informed consent. In order to secure their consent I presented myself as well as a formal letter of the leading supervisor, representing the authority in the jurisdiction of Brighton University, as well as the
content and aims of the research. I explained to them why the participation of their school was important, how it would be used and to whom it would be reported.

After having secured the managers’ consent, I approached the teachers asking for their personal consent, following the same procedure of presentation mentioned above. I also tried to establish rapport with them during the unstructured interviews (which had preceded the actual body of research). After they had been informed about the aims and the content of the research, as well as the method of the data collection, and after they had fully understood the nature of the research project, being themselves mature and responsible adults they could take the right decision. They had every right to refuse, as some of their colleagues had done, and that was fully recognized.

As far as the participant-students were concerned, taking into serious consideration Articles 3 and 12 of the United Nations Convention on the Rights of the Child or vulnerable young people /Vulnerable young adults (UNCRC, 2008) and having as my primary concern the best interest of the student participant, I asked apart from their personal informed consent, the consent of those who acted in their guardianship or responsible others and this step was considered crucial for proceeding to the recordings. So both the students and their guardians were informed explicitly about the content, the purpose and the procedure of this research (Fine and Sandstrom, 1988). They were also informed that the video and audio recordings will be stored securely. Their consent was also requested for permission to use these videos for educational purposes only (Cohen et al, 2007). Their entitlement to privacy and their right to confidentiality and anonymity were recognized and guaranteed although both students and guardians were willing to relinquish that right provided these videos were used for academic or educational purposes only. To ensure that I have safeguarded these to the maximum I have taken the following steps: The tapes themselves are stored securely in the project archive located in Greece for the duration of the doctoral study and for up to two years following completion of the thesis, and complying with the legal requirements of storage and use of personal data as these are defined by the Data Protection Act, 1998. No personal information will be disclosed to any third parties, or have access to that information.
The dissemination of the collected data (video/audio tapes) will be done with careful consideration so as not to jeopardize the students’ interests. For example, I have not used any software applications for analyzing the data which require uploading the videos on the internet; Secondly, I have not used and I do not intend to release the video/audio recordings for public viewing.

Subsequently, both the students and the guardians were administered a consent letter including the above information in written form, as well as information about the researcher’s personal details to contact her or the university in case further information was needed (appendix 1). This letter came in two copies (one copy was for the parent, the other one for the researcher) and both of them had to be signed, one by the guardian and the other one by the student himself. Their participation in the research was not compelled by any means, and both teachers and students were free to decide whether they wanted to participate in this research or not. Moreover, they were all informed of their right to withdraw from the research ‘for any or no reason’ at any stage or time without coercion or duress (BERA 2011:15) not even an obligation to provide the reasons of their decision. There was a case where a participant had expressed her will to participate in this research but not to be video recorded. The refusal of this participant was duly respected and every effort was made so as not to feel coerced by not being video recorded. Although the student decided to withdraw her consent few minutes before the shooting, the problem was solved immediately as I was on the alert for alternative solutions. For example, to solve this problem, the camera was carefully placed at a different position, so as not to shoot this specific participant, while her participation was encouraged to avoid making her feel kept in the fringe. On the whole, every effort was made as to safeguard the teacher’s and students’ rights and welfare.

After having secured the informed consent of all the participants then I proceeded to the actual video recordings. With the first group, in agreement with the teacher of the class, the director of the studies, and the manager of the school, it was decided that I would temporarily be the additional teacher of the class, the one who would use the IWB in this class twice a week for some months. In fact, that was the main teacher’s idea as she did not feel herself confident enough to use
the IWB. According to her, that would be a good opportunity for her to learn how to use the IWB and at the same time to practise how to integrate effectively this ICT in her classes.

Before any step was taken, the students were fully informed about the change and the reason for it, and their opinion and consent were requested. They had all welcomed this new situation. However, my dual role as a teacher-researcher was taken into consideration and all the ethical issues like conflict of interest; asymmetrical power relations; voluntary consent; confidentiality, were considered in advance and with proper planning and consideration were resolved. For example, to overcome possible tensions that my dual role as a research/teacher might have caused, I suggested and along with the director of studies and the teacher was decided to start teaching this class using the IWB for more than a month before the actual recordings started taking place. My aim was to eliminate any level of stress my presence as a researcher may cause to students or the teacher of the class. The teacher of the class was present at all times and often the lesson was delivered by both of us. The IWB lessons were designed by me in close collaboration with the teacher who contributed with her ideas and suggestions. All the lessons were designed based not only on the curriculum adopted by the school itself, but also on the course book used, as these had been defined by the curriculum of the school itself. As a result, the learners were not provoked to alter any of their routines in favour of the research needs. The activities, even the songs presented were taken from their course book and adopted accordingly in order to be better presentable on the IWB. However, during the analysis the researcher was aware at all times that the position of teacher/researcher can be problematic as far as the asymmetry of power relations is concerned.

In the other two schools there was no personal interference of the researcher at all, before, or during the lessons. The camera was installed before the lesson started by the director of the studies of this school, so the students were not destructed by the presence of anyone that they were not familiar with. Moreover, the presence of the camera was taken into consideration during the data analysis, although the students themselves did not seem to have any concerns. Absolutely
no changes had been imposed as far as the daily routines of the classes, the
content of the courses, or the material used were concerned. On the whole, every
effort was made so as this research to be as unobtrusive as possible.

As far as the writing of this thesis is concerned, I am also familiar with the BERA
research writing guidelines, that is the Good Practice in Educational Research
Writing, which I have adopted throughout the writing of this research (BERA,
2000).
CHAPTER SIX

6 DATA ANALYSIS-PART A

6.1 Introduction
In this chapter the results of the data analysis are presented. The data were collected and subsequently processed in response to the aims of this dissertation as these were presented in chapter one. There were two fundamental aims that drove the analysis of the data: (i) to describe the nature of the interaction developed in the EFL classes recorded where the IWB is used and (ii) to study how the IWB affordances, multimodality and interactivity, might influence the interaction developed in these classes,

To achieve the aims of this research,

I analysed

(i) the turn taking organization and

(ii) the sequence organization of the talk-in-interaction of these classes.

That means that the current analysis consists of two layers of interpretation:
In the first one, in the turn taking organization, I deal with the following issues:
  - The turn allocation system, that is who speaks first, whether the student himself establishes the right to speakership, or the teacher or other allocated this right.

  - The actions that each of these turns performs.

  - The role of the IWB in these exchanges.

In the second one, in the sequence organization, I deal with:

  - The organisation of a series of turns (chunks of turns) where an action is initiated, worked through and is finally brought to a closure.

  - The practices used for the above actions to be implemented, their structural organization and the role the IWB plays in these practices.
- The different patterns of interaction developed in these series of turns (T-Ss-IWB, among others).

- The modes employed in each series of turns. Possible correlation between modes, action intensity and the successful realization of these actions.

In the excerpts which I analyse, I deal with both layers, turn taking and sequence organization, simultaneously. I start with the turn taking organization and proceed to the organization of the structures and practices used in each section under consideration. I suggest that the study of both at the same time would offer a holistic picture of the nature of interaction developed in these classes and would also disclose the roles of the IWB in them.

The organization of sequences, as well as the turn taking system of a classroom, both deal with aspects of classroom life that have been extensively examined by different approaches like interaction analysis, discourse analysis and conversation analysis approach (Welsh, 2006). The seminal work of McHoul, 1978; Mehan, 1979, 1985; Sinclair and Coulthard 1975; 1992, stands out. On the whole, the EFL literature concentrates on two features of classroom interaction: (i) the three part structure of sequences; and (ii) the pre allocation of turns. However, as Drew and Heritage (1992) claim, both of them imply a system internally organized by the participants themselves, who employ their own ways, structures or scaffolds, to manage the exchange of utterances and thus manage mutual construction of meaning. Therefore, the context where these exchanges take place is locally produced on a moment to moment basis from the interactants, who try to produce utterances in response to their interlocutor's preceding speech and thus achieve communication. For that reason, the context is constantly transformable, and as Drew and Heritage (19920 point out, ‘at any moment being both a product and a project of the participants’ own actions’ (Drew and Heritage, 1992:19). The role and the contribution of the IWB is considered in relation to the role it plays in these exchanges, when an action is initiated, worked through and finally brought to an end. In other words, the role of the IWB is considered not on its own but within and through the analysis of the turn taking organization and the analysis of the structures that the classroom participants adopt. In fact, the IWB is seen as a factor that possibly affects the above.
Talk-in-interaction, or more specifically actions in CA are accomplished by participants taking part in turns. The turn taking system defines the way the turns are distributed among participants, as well as the rights and obligations of those participants who take part in talk. In other words, it deals with the opportunities participants are offered to take the speakership and thus contribute in a talk-in-interaction. The turn taking system governs both the everyday speech as well as the speech of every institution where participants can be found, and although the participatory framework of mundane speech is characterized as symmetrical, as all participants seem to have equal rights and obligations, yet in institutional settings interactions are ‘characteristically asymmetrical’ (Drew and Heritage, 1992). Classroom is a pedagogical multiparty setting (Ko, 2013) but at the same time an institutional setting, therefore, its sequential organization and its turn taking system are not the same as in mundane conversation. This happens, because different types of exchange system mean different participation opportunities for students and this may result in different interaction patterns. Sacks, Schegloff and Jefferson (1974:729) present the array of the kinds of talk on a linear scale, where on one pole of this scale there is the ritual, formal type of interaction with heavily pre-allocated turn taking system, while on the other pole there are the turns which are locally organized and never pre-allocated. In institutional interaction the asymmetries between speakers in turn taking system constitute a central subject of research.

Sinclair and Coulthard (1975), proponents of discourse analysis, are specifically known with their widely used and discussed IRF tool for analysing classroom turn taking system which I briefly discussed in chapter two, (section 6). It was a first attempt for a systematic study of classroom discourse and it concentrated mainly on the interaction between the teacher and a student. It presented different patterns of interaction one can identify in a tightly structured classroom (Sinclair and Coulthard,1975). This tool was adopted, partially revised, extended and on the whole was used extensively in the classroom interaction research, or in the literature as a topic for reference (Searle, 1969; Mazeland 1983; Kapellidi, 2011; Ko, 2013).
Before embarking into the analysis of the data, I present the turn taking rules that imbue everyday talk as these are defined by Sacks, Schegloff and Jefferson (1974:704). I present these rules here, because as it is explained below, in this research an effort is made to indicate how the institutional talk in EFL classrooms is different from mundane speech.

So, Sacks, Schegloff and Jefferson (1974:704) define the following turn taking rules:

I. If ‘current speaker selects next’ speaker in current turn, then this current speaker must stop speaking and the next speaker has the right and is obliged to take next turn to speak; at this stage, no other speaker has this right or obligation and transfer occurs at the first TRP (transition relevance place) after the next speaker’s selection.

II. If current speaker does not select next speaker, then any other participant may self-select for next speakership; usually first participant to begin is the one who acquires rights to this turn.

III. If current speaker has not selected next speaker, and no other participant self-selects, then the current speaker may or may not continue and claim rights to a further TCU (turn constructional unit).

IV. Speaker change recurs or at least occurs.

When rule i has been applied by current speaker then the rules i-iv reapply at the next TRP, until transfer is effected (Sacks, Schegloff and Jefferson, 1974: 704).

The above is a set of rules which define the turn allocation and turn construction in mundane speech. However, these are the ‘basic rules,’ and constitute a model, which in no way restrict participants’ talk. As Schegloff (1999) argues, it does not imply or impose ‘equality of participation’ so that a speaker produces just one complete unit, while the next speaker takes over at the end of this complete unit (Schegloff, 1999). The system is locally managed. In chapter 4 (5.6), I discussed extensively institutional talk and explained that the study of institutional talk involves determining what is distinctive in the talk in a specific institutional setting in comparison with the rules and procedures which imbue ordinary talk and which
were described above. In other words, the study of institutional talk is a kind of a comparative analysis between ordinary talk and the talk in a specific institutional setting.

Therefore, the aim of this research is to specify the distinctiveness of a classroom turn taking system relative to ordinary speech which is imbued by the above set of rules. Taking as benchmark mundane speech (as this is defined by the above rules), I discuss departures that classroom talk exhibits in relation to ordinary conversation. In other words, I explain how these departures are different from everyday speech and how the institutionality of classroom talk is thus indicated. It is notable, that in multiparty conversation, the turn taking system differentiates from the turn taking system of dyadic conversation, however it is carried out according to the turn taking rules of Sacks, Schegloff, Jefferson (1974).

McHoul (1978), although not a CA advocate, examines the ways in which the rules of the turn taking system for natural conversation are modified to account for the organization of turns at talk in classroom, and suggests that only the teacher can allocate speakership in any creative way, while students construct their turns in such a way that either continue themselves, or select the teacher as next speaker (McHoul, 1978:204)

McHoul (1978) also states that a ‘classroom turn taking system is a heavily pre allocated system’ (p. 204), and that ‘it is largely a teacher’s domain while the participation rights of the students are limited’ (p. 209). In fact in most cases, it is the teacher who initiates discussion in a classroom and this usually happens in the form of a FPP adjacency pair. In other words, it is the teacher who poses a question and usually this question is initially addressed to all students, as a first pair part (FPP) of an adjacency pair (AP). It is worth mentioning that McHoul’s data derive from heavily formal, highly structured classrooms.

However, a first glance at the data of this research, which are from classromms which I would not call formal, also admit the teachers’ prominence at the allocation system of these classes under consideration. The teachers are the participants who mainly initiate or inspire discussion. Based on this initial observation, the presentation of the current analysis is organized, starting with these excerpts
where a teacher initiates and then proceeds to the excerpts where the students initiate.

In other words, the presentation of the data analysis is organized following the main turn allocation system which is identified in the classrooms under study. The recorded ways of teacher initiating are the following:

1. The teacher initiates:
   
   1.1 The teacher asks questions,
   
   1.2. The teacher narrates stories

2. A student initiates

3. The IWB initiates

As each initiation represents the initiation of an action, therefore this initiation here is followed by the analysis of the way this action is worked through and the way it finally reaches a closure. The contribution of the IWB would be considered all through this procedure and not only in the last case mentioned above, where the IWB initiates speech.

6.2 The teacher initiates

6.2.1 The teacher asks questions

One way teachers use to open up their talk in a classroom is by asking questions. Questions outline the pedagogy of a teacher. As Koshik (2010) argues, questions constitute pedagogical practices which teachers use to achieve certain goals, or enact roles (Koshik, 2010:161). For example, questions can be used to test the state of knowledge of a student and these are known as exam questions (Searle 1969); or as information questions (Mehan 1979); or display questions (Long and Sato, 1983). There are also questions which ask information not previously known, and these are known as real questions (Searle, 1969); or info-seeking questions (Mehan, 1979); or referential questions (Long and Sato, 1983). White and Lightbown (1984:224) explain that contrary to content classes, where display questions are used to test students’ knowledge of factual content, in second language classes display questions are often asked to test whether students have mastered specific points of language, structure or vocabulary. Van
Lier (1988) among others, criticizes the above distinction between display and referential questions and suggests that whichever classification of teachers’ questions one chooses to use in research into questioning in second language classroom must carefully examine the purposes and the effects of questions not only in terms of linguistic production but also in terms of cognitive demands and interactive purpose (van Lier 1988:225, cited in Koshik, 2010:161).

Indeed, the focus of this research is not exclusively the questions EFL teachers ask, but on the cognitive demands these questions raise and also the interaction they evoke; in other words the interactive purpose different types of questions serve, which is fully illuminated in the study of the organization of the sequences that these questions adopt. Moreover, questions apart from defining the classroom interaction that succeeds, also prescribe the relationship between the speaker who initiates and the speaker who responds. Heritage (2002:314) states that ‘regardless of the specific aims of the question, the ways in which a question is designed unavoidably serve to index the relationship between questioner and respondent’ (Heritage, 2002:314). What Heritage (2002) says is that the questions shape the conduct of the respondents in the institution of the classroom, as they control what the respondents say and the way they say it. Therefore, we can say that questions shape the relationship of the participants. This is one aspect of the questions I study in this research.

In CA, the first pair part (FPP) of an adjacency pair (AP) prescribes the way the next turn will be constructed. It also prescribes how the whole chunk of utterances, which the question leads, will be structured; it prescribes the attitudes the students develop towards these questions and the roles the participants would take up to respond to these questions.

Below, I analyse questions in relation to the ways they are presented, the places in the speech where they are introduced, the actions they aim to achieve, the way the IWB is involved in these transactions and the most important, the way students respond to these initiations. Finally, I deal with the practices the teachers
use to realize their initial intention. The way each chunk of turns closes is also analysed as it indicates whether the initial purpose of the teacher’s question is achieved.

In the EFL classes under study, different types of questions were recorded which were transcribed and analysed. Samples of these types are presented below.

### 6.2.2 The teacher addresses questions to the whole class

In line 2, the teacher poses a first question (FPP) *what can you see here* (line 2) but since she does not select next speaker, I infer that the question is addressed to all students. That means: firstly, that it is all students’ responsibility to listen to

The T browses on the PC connected to the IWB and then she touches the IWB screen. A still picture is projected on the IWB screen and the teacher starts posing questions, mainly FPP of adjacency pairs of the type summons-answer (lines 1, 2, 3, 4, 6).
the question posed (McHoul, 1978) and secondly, that any speaker may self-select and take the speakership (Sacks, Schegloff, Jefferson, 1974). In several excerpts of this research, the teacher does not expressly appoint anyone as a next speaker. On the contrary, all students are ratified participants of the class (Goffman, 1981) and they all have the right to self-select. In this case this is interpretable as if the teacher ‘disclaims her power’ to appoint next speaker and this indicates her preference for the turn taking system to be locally managed by the participants themselves, as it would have happened in mundane conversations.

The still picture presented on the IWB (print mode), which has been retrieved and displayed on the IWB, a representational medium, provides the visual stimuli, the scaffold, that could probably inspire the students to answer the question under demand what can you see here (line 2) and ideally motivate speech incorporating words that have been previously taught. The question addressed is a display question (Long and Sato, 1983) and the students are expected to retrieve vocabulary previously taught (line 4), and subsequently apply it to the current context. The answer could be used by the teacher as an indication of whether students have acquired previously taught input, it can also constitute proof of the state of their knowledge, or this answer could even be a chance for students to practice what they have previously been taught by actually using it. The language retrieved might also be required in the due course of the lesson to initiate a new topic, make links with what students have been previously taught or with what is coming up next. Since there is no immediate uptake, the teacher proceeds with a further question (FPP): Do you remember this picture from our previous lesson? (line 4). It is a type of specific pre-sequence which defines how the subsequent talk may unfold (Liddicoat, 2007: 128) and it is once more addressed to all students. The teacher, with this stretch of speech, intervenes to awake students’ memory and to attract their attention (Gass, 1987). At the same time, the teacher also explicitly tells students that the expected answer is based on something they are familiar with, and thus she encourages them to participate. In fact the teacher asks students to transfer the printed mode of the picture (visual stimuli) presented on the IWB, and the message it carries, into speech. The picture is the scaffold that could help, inspire a student and ultimately motivate a discussion
incorporating words that have been previously taught (the teacher has previously asked: *Do you remember this picture from our previous lesson?* (line 4). In other words, the teacher encourages students to make embodied use of the current picture by using it themselves to express previously acquired knowledge. Theoretically, any student should be able to contribute some sort of an increment towards the completion of the expected SPP. What the teacher wanted to achieve was to stimulate conversation and awake students’ cognition. The pattern of interaction identified was of the type T-IWB-S.

In this stretch of speech, the teacher utilizes a combination of print and spoken mode along with hand movements. These modes make her action of high intensity (Sigrid, 2004) and thus it becomes more possible to achieve her goals. The IWB and the pictures projected on its surface are used as a resource that participants can ‘interact about’ (Beauchamp and Kennewell 2008). In this specific excerpt, the IWB provides students some visual input, but it also takes the role of the animator of somebody’s ideas, probably the photographer’s or the software designer’s, (Goffman, 1981) or else, the ‘silent’ animator. At the same time, the IWB is considered a ratified specifically addressed participant since the teacher directly asks students to refer to the images projected on that IWB (line 8). In this exchange, the IWB acts as a mediator between the teacher’s questions and students’ answer (T-IWB-S). The teacher initially asks a question, the student ‘silently’, interacts with the IWB and the visual input displayed on it, then the student interacts with his/her inner self (intra interaction) and ultimately articulates the end result of his inner thoughts to the teacher.

### 6.2.3 The teacher addresses next speaker

Above, the teacher has done some preliminary work, mainly pre-expansions to prepare students for what follows, prior to a forthcoming base FPP question (line 8) *what can you see ?here*. Since the students have responded by providing monosyllabic answers (lines 5, 7), *yes*, the teacher selects a next speaker by calling his name (line 8) and repeating the question which is now addressed specifically to S3. *T1:*?Johnny. *what can you see ?here*. The single word in rising intonation *?Johnny* (line 8) constitutes a complete TCU. In fact, it can serve as the FPP, the summons of an adjacency pair of the type summons-answer-generic
pre-sequence (Schegloff, 2002). The teacher uses this FPP to establish eye contact with S3 and to appoint him a recipient of the question that follows. As soon as the S3 redirects his attention to the summoner, namely the teacher, the SPP of this adjacency pair is considered complete (Goodwin, C. 1980, 1981), as the Teacher’s aim to attract a specific student’s attention has so far been achieved. So, as soon as the teacher establishes eye contact with the recipient S3, then she proceeds with another question (FPP): what can you see ?here (line 8). This turn constitutes another complete TCU. The instant this specific student is selected, he is automatically allowed to use a reasonable time to provide an answer to the preceding question uninterrupted (McHoul, 1978). The question asked is a display one, since the answer is displayed in front of them, in the form of a still picture (deictic-hand movement). Here, there is a synchronization between the teacher’s word ‘here’ (spoken mode) and her pointing (hand movements) to the IWB (print mode) which entail high intensity action which means that the teacher has achieved her aim to attract students’ attention (Gass, 1987), since all students now are looking at the IWB.

The student (S3) indeed takes the floor and provides a possible SPP uh::m one fi-\hspace{0.3cm}==\hspace{0.3cm} one uh:m::: fi:sh (0.3) (line 9). This turn could grammatically stand as a complete TCU. According to Ford and Thompson (1996) there are three levels of completion: Syntactic, pragmatic, and intonational and they claim that intonational completion may be more important than syntactic (cited in Liddicoat, 2007: 58). The slightly rising intonation contour of the word ‘fi:sh’ suggests continuation of the turn and thus an incomplete TCU which is accountable. Moreover, the use of vocalizations (uh:m), repetition and prolonged pronunciation of the word ‘fish’ indicate hesitation, a problem which is interpretable either as lack of confidence or lack of knowledge. Then a noticeable pause (0.3) follows which can be either inter-silence or intra-silence and therefore accountable. In case this stretch of talk is incomplete and the pause is just an intra-silence, if a next speaker takes up the floor then his stretch can be heard as interruptive and therefore accountable. If on the other hand, this pause is an inter-silence, then it can be a projected point of possible completion and may indicate a TRP (transition relevance place) where a speaker change could occur as legitimate next action. As we see below, this pause is interpretable by the T as an indicator of some problem and she takes the
floor to repair (line 10) T1: fish (.) ye:s ↑what is this fish doing. In this line, the T continues with a stretch of talk fish (.) ye:s, which are two separate complete TCUs grammatically continuous with the previous talk. The first one ‘fish’ implements the action of ‘assessing-evaluating’ S3’s previous response. At the same time the teacher aims at repairing the student’s hesitation which was expressed with extensive use of vocalizations uh:m, repetitions fi::sh fi- and prolonged vowels fi::sh (line 9). Additionally, she tries to encourage S3 and at the same time all students to proceed to the completion of S3’s stretch of talk by adding further increments. At this point there is a coordination of teacher’s speech and gaze towards S3. This complete intonation contour projects a possible completion point. This is S3’s chance to regain the floor which he seems to have missed by not responding immediately. The projectability of possible completion allows for speaker change to occur without a noticeable gap between the prior talk and the current talk (Liddicoat, 2007:71). Therefore, the teacher withholds her gaze from S3 and now turns her gaze to the rest of the class ready to allocate the turn to the next speaker (Goodwin, 1981). However, the teacher continues with another TCU ye:s (line 10) which implements the action of invitation to every single prospective next speaker. The TCU ye:s succeeds another possible completion point. At this point, any student has the right to claim to be the next speaker as the teacher’s gaze is not directed to any specific one. Even S3 can regain it. The focus of speaker talk at moments of possible completion regularly localizes competition for talk at TCU boundaries.

In case the previous hesitation of S3 was result of lack of knowledge, the teacher latches to her previous TCU another one, a display question (FPP of an adjacency pair) ↑what is this fish doing (line 10) aiming to serve as students’ scaffold.

6.2.4 The teacher addresses as next speaker a volunteer student
Since so far there is no student who self-selects as next speaker, probably obeying the classroom institutional regulations, the teacher makes use of the rule ‘current speaker selects next’ and appoints as a next speaker S2 who has been raising his hand as an indication of his willingness to participate. T1: >Yes< (line 11) ((T appoints the next speaker using coordination of gaze and speech)).
Above we saw cases where the teacher addresses a question initially to all students and since there is no immediate response then 1. The teacher appoints at random specific student as next speaker or 2. The teacher appoints as next speaker a student who volunteers by raising his hand, asking for permission to take the speakership.

6.2.5 A student self selects

In other cases, although not often, there is a speaker who self-selects, takes the uptake and provides the required answer. Here, there is a video playing and the volume is down while the teacher asks questions addressed to all students, relating to this video.

[2]

1. T1: ↓What can you see ↑here
2. S1: Rythmic gymnastics=
3. T1: ↑Rythmic ↓gymnastics((nodding head))

In line 1 the question ↓What can you see ↑here (line 1) is a complete TCU, FPP that the teacher addresses to all students. The IWB provides the ‘input’, stimuli presented in visual mode, or else visual stimuli and the students are asked (spoken mode) to transfer ↓What can you see ↑here (line 1) into spoken language. In fact, students are asked to make embodied use of the material presented. The IWB material is used as an object to interact about, as a mediator between the teacher and the students.

Immediately after the teacher completes her TCU, at the TRP, S1 self-selects and provides the correct SPP answer Rythmic gymnastics (line 2). This answer happens to be the same with the IWB text (written mode) which had appeared on the IWB previously just at the beginning of the video. A question raised here is whether this answer expresses the student’s previously acquired knowledge, or it is just a phrase that the student depicted while watching the video where the answer had appeared on the screen in a written mode. However, the intention of this study is to examine the classroom interaction and not language acquisition as such, therefore this is not an issue that matters for the time being.
The teacher by repeating the answer: ↑Rhythmic ↓gymnastics (line 3) concludes and at the same time evaluates S1’s speech. It is an assessment, an upgrade agreement (the rising intonation and the nodding head upgrades it) of the prior turn (Pomerantz, 1984:119), but at the same time she makes the answer known to the rest of the class, the other ratified participants.

On the IWB appears a flipchart projecting a list of words,

[3]

1. T1: do you remember those words-
2. S: yes-
3. T1: .hh environment, factory, glass, rubbish
4. S: ye:s
5. T1: recycle
6. (.1)
7. T1: encourage it’s hard to believe danger we cut down-?what
8. (.1) S7 = ->the trees:<
9. S= κόβουμε (cut down)=
10. T1:the [ tree:::. tdo you:: hum do you:: remember (. ) the pictures (. ) I had (. ) shown you
11. S= = [/the trees:]

The teacher constructs the FPP T1: do you remember those words (line 1) of an adjacency pair which is a TCU remembering question. She simultaneously brings in the foreground (by turning towards the IWB and pointing at words -deictic movement) displayed on the IWB in print mode, a slide previously presented. This FPP do you remember those words (line1) (spoken mode) is a question which serves multi purposes: 1. it claims students’ attentiveness on the board (Schegloff, 2007:59) especially by pointing to the board (deictic gesture); 2. it invites students to participate in a vocabulary revision; 3. by articulating words separately, the teacher actually makes FPP questions of the type preferred/dispreferred questions of the so-called yes/no type (Sacks, 1987: + responses, -responses).

These are complete TCUs (T1: .hh environment, factory, glass, rubbish) (line 3), grammatically continuous with the previous talk (line 1): Do you remember the word encourage; do you remember the phrase ‘it’s hard to believe’. Each word constitutes a separate FPP which can be readable both as invitation and assessment and projects SPPs of the type ‘go ahead’ or ‘blocking responses’ (Schegloff, 2007:59). Since the TCUs which the teacher constructs are her
reading of previously written text, she utilizes the spoken mode, which is actually structured by reading ‘their own’ previously structured speech (print mode). Therefore, we can say that both the teacher and the students make embodied use of the print mode (since the written text is actually an extension of their own previously constructed thoughts), or discussions expressed in written mode (Norris, 2004: 45). Thus, there is a high intensity action (written mode, spoken mode, deictic movement and embodied use of written words) and indeed, we see students self-select and respond to the FPP by providing SPP yes agreement responses (lines, 2, 4, 8, 11)

The students have watched a video with a fish, a frame has been frozen and the Teacher takes the speakership and poses the question: T1: ↑what do you ↓know, about this fish (line 1) which is an open ended, a referential question (Sato 1983), since the T, as we see below (line 4), does not know the answer. The question is addressed to the whole class and requires students’ personal experience; it is an evaluation type of question, rather than directly asking for previously acquired knowledge or comprehension. After the completion of the above TCU and after a long TRP (1.3) a student self-selects and provides an answer S5: the fish is Nemo (line 3). Subsequently, on completion of this TCU and at the TRP the teacher takes the speakership and adds her comment oh- the fish is called Nemo (line 4). The teacher’s oh is a token which suggests that the recipient teacher has received information not previously known and the turn that follows How do you ↓know (line 6) supports this view. In fact, there is a change of state of not knowing to a state of knowing (Heritage, 1984). This new information is a precursor of the information that follows. It is a pre-expansion. Moreover, the fish is called Nemo is a separate TCU which comes after the Oh and it is a repair of the TCU in line 3. It is other
initiated, other repair (second position repair) embedded correction. On completion of this TCU the student retakes the floor and literally latches the phrase Yes (line 5) which is an indication of his agreement to what the teacher has just said. In line 6, the teacher retakes the floor and poses a further question which comes as a natural result of the previous one. \[T1: How do you know.\]

S: hu::m I seen the film
T1: the film. e::hh \[where have you seen the film\]

The above extract is an exchange of speech between the teacher and a student which had been stimulated by the video projected on the IWB. However, it is a conversation that does not remind us of institutional speech but rather ordinary talk. In fact here, there is a shift from a pure institutional speech into a type of ordinary speech. Drew and Heritage (1992) suggest that 'interaction is institutional in so far as participants’ institutional or professional identities are somehow made relevant to the work activities in which they are engaged’ (Drew and Heritage, 1992, 3-4). Here, the flow of the speech, the way participants take the speakership by self-selecting, the nature of the talk (referential questions or personal questions) admit mundane speech. However, things get complicated as this conversation takes place in an EFL classroom where the English language is both the subject content of the teaching but also the means of communication between the participants. That means that although their conversation may not sound institutional, as long as it is conducted in the target language it always serves as source of learning, therefore it is institutional.

In the following excerpt the teacher’s referential questions (lines 1, 5, 7, 8) addressed to all students receive dispreferred SPPs.

[5]

1. T1: Can you recognise \[those [girls]\]
2. S1: [hu:m] 3. S1: No
4. T1: No
5. T1: Don’t you remember, those girls
6. S1, S2, S3, S4: No::
7. T1: Are you sure
8. S1, S2, S3, S4, S5: Yes (in chorus).. 9. T1: I don’t hh believe you
10. T1: How about watching \[some more hh video clips today\]
The T points to (deictic gesture) the IWB (still, frozen picture) and produces a complete TCU addressed to all students (spoken mode) *Can you recognise ↑those [girls]* (line 1). This is a pre sequence, pre-telling, used to alert the recipient students, to gain their attention (Schegloff, 2007; Gass 1987) and at the same time to launch the next activity. It serves as ground work to introduce students to the video which follows. Another function of this question is probably to provide space for an open discussion to succeed. As a pre-telling it is used to indicate that the teller, namely the IWB, along with the teacher have something to say, and it aims at assessing whether or not the students are appropriate recipients of the telling (Terasaki, 2004) prior to a particular base sequence. Besides, students’ answer would also define the amount of information the students need to know, (Schegloff, 1980:140) to be able to participate in the narration of the story. For example, if the students do not recognize the girls who appear on the screen and the teacher had asked *T1: Can you recognise ↑those [girls]* (line 1), then the teacher might need to tell them a few things about these girls, and thus provide them with the necessary information which would enable them participate in the discussion that would probably follow.

The SPPs to the preceding question is *No* (lines 3, 6), which are dispreferred SPPs and discourage any further conversation on the subject. The teacher insists with a further FPP question *Don’t you ↓remember. those girls* (line 5) or *↑Are you sure* (line 7) which all receive dispreferred SPPs (line 8) from students in chorus, delaying the production of the main action and they also sound rather rude or hostile (Goodwin and Heritage, 1990). In fact, these dispreferred SPPs indicate that the students do not seem available for further talk on the subject, as their SPP is a blocking response. Students’ answer in chorus, is interpretable as an identical multiple response sequence (MRS) from all participants, who happened to act simultaneously. With their answer students block or rather delay the next action for the time being. Therefore, the T proceeds to another FPP invitation pre–expansion *T1: How about watching ↑some more hh video clips today* (line 10). Here, watching video is readable as listening to a story. As a result, the IWB is assigned the role of the teller and at the same time it becomes a ratified specifically addressed participant. This role is assigned to the IWB by pressing the play button, and thus admitting its right to narration. As Jefferson (1978)
advocates, the narration does not occur incidentally, but it rather emerges from the turn by turn talk which precedes them. Indeed, in this case it starts as soon as the teacher presses the play-button and the current story comes to be told as a response to this FPP question which is heard as doing preliminary work to what will follow. It intends to secure interactional space in which this story can be told. This invitation FPP TCU receives preferred SPP and indicates students’ availability to watch the video.

The practice of producing an adjacency pair requires that once a recognizable FPP has been produced, on the first possible completion, the current speaker should stop and a next speaker should start and produce a SPP of the relevant type (Sacks, Schegloff, Jefferson, 1974). However, there are instances where the teacher, after a long transition relevance place, or sometimes even without the teacher leaving any transition space that would let a next speaker gain the speakership to produce a SPP, self-selects and constructs a further FPP which actually acts as a scaffold that would help the recipient learner take the speakership and produce some sort of speech.

6.2.6 The teacher asks two consecutive questions and then a student self-selects

6. The teacher asks two consecutive questions and then a student self-selects

[6]

1. T1: ↑what can we see: here
2. (.0,7)
3. T: ↓How do we call this:
4. (.0,7)
5. S3: >smoke<
6. T1:S[smoke]= ye:s. [where does] this smoke come out from
7. S4: [smoke]
8. S6= [-factories-]
9. S: >Factories<
10. S: >fa-factories<=
11. T1:= factories ye:s and ?how do we ↓call the:::se?
12. T1: this is the smoke and ↑these are called-
13. S: =>chimneys<=
14. S1: [Chim-
15. T: =Chimneys ye:s
16. T1: Uh hum

The TCU ↑what can we see: here (line 1) is a FPP, another knowledge/remembering question that intends to stimulate students’ memory and attract their focal attention (Schegloff, 2007; Gass, 1987) on the IWB. The use of the spoken and printed, disembodied modes (Sigris, 2004) bring the IWB in the
foreground and at the same time construct a high intensity action. Then, an extended transition relevance place (TRP) follows (0.7), a silence attributable to all participants since the FPP is initially directed to the whole class as the pronoun ‘we’ (line 1) admits. This extended silence indicates a problem that the teacher attempts to resolve by self-selecting as next speaker. Instead of providing a SPP as the FPP demands, the teacher constructs a further FPP. T= ↓How do we call the smoke (line 3). Once more, the teacher points to the IWB and asks students to identify, recall and label pictures, thus promoting thinking. The spoken mode along with the hand movement are utilized to bring in the foreground the printed disembodied mode (printed pictures), constructing in this way a high intensity action.

After a pause of (0.7) at the TRP, S3 self-selects and provides the SPP, S3: smoke (line 5). The high intensity of his speech along with the fast pace of its delivery are interpretable as confidence in the correctness of this turn-answer. The teacher takes the turn and evaluates, affirms a previously composed answer by repeating the correct answer T1: S[moke]= ye: s (line 6). Then she latches the word ‘yes’ as an answer/ agreement to S4 who has produced overlapping speech with the T (line 7). At the possible completion of the TCU, which is at the transition relevance space, the T, who is the current speaker, self-selects without actually letting space or time for another student to gain speakership. She proceeds with another TCU, a FPP [where does this smoke come out from (line 6). At this transition relevance place, the teacher turns to the IWB and points to a picture depicting factories (still picture). The visual stimuli trigger their memory, and present hints so immediately students volunteer the answer by raising hands. Without waiting for the current speaker, namely the teacher, to select next, and since the turn so far is not constructed the teacher selects next speaker, student self-selects. This is an indication that he is aware of the rule first participant to begin speaking acquires the right to a turn (Sacks et al, 1974:704). Other speakers follow, self-selecting, repeating the answer. The resulting overlap is rather short, it is interpretable as displaying enthusiasm and as such it is not treated as problematic, so there is no attempt repairing it.
6.2.7 The teacher asks two consecutive questions and the teacher addresses next speaker

1. T1: ↑ and do you remember. ↓ this picture.
2. (0.9)
3. T1: what do people wear and why
4. (0.6)
5. T1: Δημήτρη [Dimitri]
6. S(D): Huh... they wear mask because they can't breathe
7. T1: breathe they can't breathe
8. T1: Uh huh

Another FPP, another remembering question, referring to the still picture projected on the IWB, which intends to attract students' focal attention and then to stimulate their memory by looking at it. Here there is another rather long pause (0.9), after the TRP and there is no indication of any students volunteering to gain the speakership through an early start. In fact, this (0.9) pause is attributable to all participants as the teacher does not make use of her institutional right to select next speaker, and they are not speaking in a place where they are required to speak. This silence indicates some sort of problem and before it becomes quite long, the current speaker, namely the teacher, makes an attempt to repair it by producing further talk. So the inter-turn silence changes into intra-turn silence, therefore accountable to the teacher.

The teacher self-selects and poses two TCUs, (T1: what do people wear and why) two FPPs connected with the conjunction ‘and’. The first TCU is a remembering, knowledge type of question but the second is of an analysis type. The student is asked to infer and explain. The teacher, being the current speaker, selects S1 as next speaker T1: Δημήτρη (line 5). S1 provides the next turn, S1: uh... they wear mask because they can't breathe (line 6), with minor hesitations and minor grammatical mistakes, which do not hinder communication and therefore the teacher does not interrupt to repair. This complete TCU indicates that the student has first of all comprehended the question and makes inferences that would lead to a sufficient answer of the above FPP. Only at the first possible completion point the teacher takes the floor and repairs by repeating the faulty word T1: breathe they can't breathe (line 7) (embedded repair).
T1: And it’s dead. Do you all agree why do you think this fish is dead
1. S2: yes
2. T1: How was (T points to the fish) found there.
3. (3.3)
4. T1: Do you remember (.) Ariadne (0.7)
5. (0.7)
6. T1: What happened to the fish? why do you think it’s there< (1.2)
7. S7: in the sea (t:2.9) hu:::m
8. T1: you remember something about the sea
9. T1: Is the water of that sea clean
10. Ss: no
11. T1: no=
12. Ss: no

Here the teacher produces three consecutive TCUs (lines 2 and 3). The first two of this stretch of talk are sequence expansions (Schegloff, 2007). They carry supplementary elements which perform interactional work that relates to the basic action, namely the third TCU. (W:ly: do you think this fish is dead) (line 1). The first one And it’s dead (line 1) which is a grammatically, pragmatically and intonationally complete TCU, is listed under the category preliminaries to preliminaries (pre –pre). It establishes a trajectory so that the TCU Do you all agree which comes after, is not perceived as the base FPP but rather as a preparatory talk for the base (W:ly: do you think this fish is dead). The teacher uses this stretch of talk as a synopsis of what has been said so far. At the same time, it prepares the ground so the base sequence will be clearly recognized as such (Liddicoat, 2007). More specifically, it can be listed as a ‘pre-mention’ where the T provides information to all recipients- students ensuring the existence of necessary conditions (they all know about the dead fish on the beach) in order to comply with the base FFP: Why do you think the fish are dead?.

The TCU Do you all agree (line 1) is a referential question (FPP). The teacher does not putatively know what each one of the students believes therefore the question is addressed to all of them. However, she does not seem particularly interested in listening to their responses as she abruptly cuts off and literally latches a further TCU to the current one which is the base FPP. The reduced transition space, since the legitimate beat of silence in the transition space is absent, accounts for some overlapping. Participant S4 replies to current speaker’s question Do you all agree with a soft ‘[yes] (lines 1 and 2). However, this small
overlap is not problematic as it does not seem to be treated like that. On the whole, the question *Do you all agree* (line 1) is a type-specific pre-sequence (pre-expansion) and as it was aforementioned, it acts as a precursor to the action that follows. *Why do you think this fish is dead* (line 2). As the teacher utters this second FPP she slightly turns towards the IWB and points to the fish. There is a coordination of two modes (oral speech and visual image) and two actions (posing an oral question and pointing to a visual image), and that means high intensity actions. Here the teacher uses this high intensity action, to draw students’ focal attention to the image on the board and trigger their cognition that is memory and attention, to relate the posed question to the image projected on the IWB, which is an evaluation question.

On completion of the base FPP there is a considerably sufficient TRP of about (0.4). At such a place a speaker change would be expected as relevant next action. This silence is attributable to all students. However, no student decides to self-select. This certainly indicates some sort of problem in the interaction. The teacher does not seem ready to interpret this silence as inadequacy of students to respond, or lack of knowledge. To avoid a prolonged gap and to resolve the problem, she takes the floor and repairs the gap by turning it into intra-speech silence. She proceeds with another question in an effort to give an answer to this problematic interaction: *T1: ↑How was- ([T points to the fish]) found there T-IWB-St* (line 3).

The question the teacher poses is actually an increment, a further FPP, a bit of talk that builds on the preceding TCU without however creating a distinctly new unit (Ford, Fox, and Thompson, 2001). Again, here considering the teacher’s body slightly turning towards the IWB and pointing to the fish (deictic+print mode) while uttering the question (spoken mode), it becomes solid that the teacher wants to draw students’ focal attention to the visual image on the IWB (print mode) and to urge them retrieve some sort of information from their memory and subsequently to become able to apply this information to the current context (high intensity action).

In line 7 the teacher constructs two FPPs, *What happened to the fish* (why) / *do you think it's there* (why) both complete TCUs, without allowing a discernible gap
between them. The practice of producing an adjacency pair requires that once a recognizable FPP has been produced, on the first possible completion, the current speaker should stop and a next speaker should start and produce a SPP of the relevant type (Sacks, Schegloff, Jefferson, 1974). However, the teacher leaves no transition space that would let a next speaker gain the speakership to produce a SPP without causing a problem. She proceeds with another complete TCU: (why) do you think it’s there. The first requires students to recall information, while the second to express personal opinion. The first stimulates memory and the second thought. These are two different actions which may coincide. However, no matter what the answer is in this specific context, the second TCU is interpreted as an increment that builds on to the previous TCU without creating a distinctly new unit. It is not designed to be a separate question, but it is offered as an alternative solution to the students, an alternative scaffold. This is the reason why the teacher cancelled the prior possible completion after ‘fish’ and latched the next TCU deferring the possible completion to the end of the increment. As for the above, Sacks (1987) makes an interesting note that when there are two consecutive questions in a turn, the last question usually gets answered first.

In the excerpt that follows, there are some pictures displayed on the IWB screen and the teacher encourages students to describe these pictures using vocabulary they have been previously taught.

[9]

1. T: .hh ↓And how about this (.1) woman on the bike. u:hm r Ariadne
2. T:↑What is ↓she doing –
3. T: She is dri- ↓she is riding a bike but she is ( ) also wearing at:=
4. S7: =mask
5. T: mask? ↑why- ↑why is she wearing a mask
6. (.0,5)
7. S7 becau::se she:::::: ↑she ca:n- .hh κυρία πτως το λένε
8. T1: Brea::the ↑she can't breathe

The teacher constructs a TCU .hh ↓And how about this (.1) woman on the bike u:hm r Ariadne ((T points to the board)) (line 1), a FPP which closely refers to the figure the teacher points to on the IWB. Thus, the question becomes ‘tangible’ and easier to handle. The teacher utilizes the spoken mode, hand movement, and printed mode. With this high intensity action the teacher manages to capture students’ focal attention on this specific figure and prepare them for the question
that follows. On completion of this turn, the teacher nominates the next speaker but continues her talk beyond the second completion point with another FPP. \textit{T: What is} ↓ she doing – (line 2). This additional TCU acts as an increment to the preceding TCU (line 1). It provides further talk, and thus makes the preceding question more specific. This increment closely marks the boundaries within which the SPP is expected to develop. In other words, it helps the recipient in his production of the SPP which is actually a description of what they can see. The visual stimuli are there and what the student is required to do is to closely describe it.

\textit{T:} She is dri- she is riding a bike but she is ( ) also wearing a:

Despite the fact that the teacher has already assigned the next speaker, on the first TRP the teacher self-selects, takes the floor once more and starts constructing the required SPP. It paves the path for S7 to continue. She offers the student an additional scaffold. At some point, she abruptly stops by underlining the last phoneme. This is readable as a last call to the already assigned next speaker to take the floor and continue with the completion of the SPP under way. The nominated next speaker indeed takes the floor and latches the missing part of the TCU under construction \textit{S7} = mask (line 4).

The teacher continues with more TCUs (\textit{T: mask} ?why- ↑ why is she wearing a mask). She initially evaluates, encourages by repeating the preceding answer \textit{mask} (line 4) and then proceeds to the construction of a second FPP. This time the FPP requires a student, based on the visual stimuli, to infer the answer. However, a similar type of question has previously been answered, so more or less this student is required to apply the same answer, what s/he has learned into a different context. After a rather long pause (0.5) S7 takes the floor and provides the SPP: beca:::::: she: ::::: ↑ she ca:n- hh κυρία πως το λένε (line 7). This student’s speech here is characterized by prolonged hesitations which indicate a problem in the interaction. Then follows an abrupt shift into Greek language where S7 asks for the teacher’s help: hh κυρία πως το λένε [Ms what is the word?]. \textit{T1: Brea::the} ?uh ↑ she can’t breathe.
1.8 The teacher asks a FPP and the teacher initiates the SPP (perturbations)

The students have just entered the room and the lesson starts with some warming up questions.

[10]

1. T1: ↑What's the weather like today ↑It's very-
2. Ss: ↓c>o<ld ((ss answer in chorus)
3. (0.3)
4. T1: cold

The teacher brings into the foreground of the IWB screen a slide of a snowy picture and some printed text and she simultaneously poses the FPP ↑?What's the weather like today ↑(line 1). Here there is a combination of concurrent modes: printed text, still picture and the spoken language of the teacher who reads what is written on the IWB. The teacher faces the students and repeats the written text/question that appears on the screen. The IWB, a representational mean, provides the printed text, and some coordinating visual image (still picture) while the teacher works as an animator of these words. The concurrent use of different modes for the presentation of the message provides a high intensity action and thus becomes more stimulating for the students; it both encourages and enhances their participation. However, the teacher on completion of the FPP latches the SPP ↑It's very- (line 1) without leaving adequate TRP for a student to take the speakership. Before the completion of the SPP under way and in a rising intonation, the teacher suddenly cuts off (Scheglof et al, 1977; Schegloff, 1979). The incomplete intonation contour, the incomplete syntactical structure (its incompleteness as an action) (Schegloff, 1996), all admit that the piece of talk the teacher had constructed so far cannot be recognized as a complete TCU, therefore it is accountable. As such, it remains to be completed. Usually, in everyday speech, cut offs are used to suspend what comes next from being articulated. The trajectory is cut off and gives its place to a new one to begin. That occurs in cases of some trouble in the part of the turn so far produced, which demands repair. So cut offs actually initiate repair. The teacher adopts this technique here, as a way to encourage the students to take the floor and participate by repairing the under construction TCU. This is what people do in everyday speech. At this point, this stretch of incomplete talk is used by the teacher as an action of prompting, another scaffold. It actually offers students a
stepping stone to achieve the goal, to provide a complete SPP to the preceding FPP. In a way, she encourages them to take the floor and repair the incomplete SPP utterance (same turn, other repair) by providing the rest of it. That means that students are offered the chance to finish the sentence collaboratively along with the teacher.

Indeed, the students take the floor and complete the SPP in chorus Ss: ↓c>o<ld (line 2). Their participation in chorus admits their excitement to what they are presented with, and also their readiness to participate, as they all self-select at the same time. Then follows a SCT (sequence closing third) T1: cold where the teacher evaluates the preceding SPP (Sacks, 1975:156). The nodding of her head indicates the correctness of the utterance but at the same time she partly modifies the prosody, repair proper (Schegloff, 1992:201). The teacher repeats the students’ answer but at the same time repairs their pronunciation by stressing the correct form. It is an embedded correction (Jefferson, 1987) which means that the action under way is not disrupted but the correction is incorporated into it.

[11]

((The students are presented with a number of still pictures on the IWB screen))

1. T1: ↑what is the water.( 0.2) it ?i::::s-
2. (2.6) ((T starts writing something on the board))
3. S (?)<dirty>
4. T1: ↓di?ry o:::r the water i::::s-
5. (0.5) ((ss are looking at the IWB where the T has just started writing something))
6. S1:=pollution= 
7. S2: poll[ution]
8. S3 [pollution]
9. S1 ↓[polluted]=
10. (s1)=polluted
11. T1: It's polluted=
12. S: =Αυτό= 
13. T1: the water is polluted ? hum ↑do you remember the word?
14. S: Ye:::::s
15. T1: ↑do you remember the word pollution.
16. S: >yes<

In the above excerpt the teacher poses a question, T1: ↑what is the water (0.2) (line 1) a FPP of an adjacency pair. On completion of this FPP there is sufficient Transition Relevance Place (TRP) where a speaker change would be expected as relevant next action. As it was above discussed, adjacency pairs have the
normative force in organizing conversation in that they set up expectations about how talk will proceed and if these are not met then the talk is problematic (Heritage, 1984:107). So, FPPs make a subsequent action relevant. A FPP projects some second action as relevant next action. Schegloff and Sacks (1973:108) discuss this in terms of ‘relevance rules’.

FPP and all types of questions are designed in such a way that any speaker has the opportunity to self-select and take the speakership (Sacks, Schegloff, Jefferson, 1974). In fact, in several excerpts of this research very often, the T does not expressly appoint anyone as a next speaker. On the contrary, all students are ratified participants of the class, and all have the right to self-select. However, there is no indication of any student volunteering to gain speakership through an early start and this results in a pause (0.2) which is readable as an inter-turn silence. This silence is attributable to all participants as long as the teacher does not make use of her institutional right to select next speaker. It indicates some sort of problem and often can result in extended transition space which is accountable and as such has to be resolved before it becomes problematic. At the moment the teacher is not in haste to attribute this ‘silence’ to students as their inadequacy or their lack of knowledge to answer.

In the current ‘accountable case’ the problem is finally resolved by the teacher herself. The teacher makes an attempt to repair it by appointing herself as next speaker, and producing further talk as part of the demanded SPP. In this case, the inter-turn silence changes into intra-turn silence accountable to the teacher. This is not an action that results from her power as a teacher but as a result of the rule ‘the current speaker may but need not continue if no other speaker self-selects’ (Sacks, Schegloff, Jefferson, 1974). The teacher here reacts like any ordinary participant could have behaved in a similar situation. She takes the floor and starts constructing the demanded SPP. However, before the completion of the TCU under way and in a rising intonation she suddenly stretches the last sound of a word in the SPP under construction (Schegloff et al, 1977; Schegloff, 1979) and then stops (line 1). T1: ↑what is the water. (0.2) it ?i:::s-The incomplete word, the incomplete intonation contour, the incomplete syntactical structure (its incompleteness as an action) (Schegloff, 1996), all admit that the piece of talk the
teacher has constructed so far cannot be recognized as a complete TCU, therefore it is accountable. As such, it remains to be completed.

Like in the case above, in excerpt [10], the students are offered an extra chance to take the floor and repair. In fact the teacher offers the students a stepping stone in order to assist them achieve the goal, in a way she encourages them to take the floor and answer the preceding question collaboratively. At the same time the teacher turns to the IWB and as soon as she puts a pen on it, a student provides a possible completion of the SPP “dirty” (line 3) in a very soft voice which is readable as lack of confidence.

The teacher repeats her answer using a slightly falling but at the same time questioning intonation T1: ↓di?ry o:::r (line 4) which suggests that the teacher neither declines nor confirms the correctness of the answer. This can be interpretable as a weak agreement (mitigation, Pomeranz, 1984: 115). T1: ↓di?ry o:::r the water i::::s- (line 4). The contiguous conjunction o:::r (line 4) in rising intonation contour announces the coming of an alternative possible SPP, as an answer to the preceding question. However, this alternative SPP remains outstanding and invites students’ contribution to complete it.

Once more, the teacher uses the technique of incomplete TCU inviting participants to complete it. At the same time, the teacher uses written text (disembodied mode of print to become embodied) to stimulate students’ speech. In fact, the teacher starts writing the expected answer on the board. By the time she completes the third letter of the missing word, the students start anticipating the word under question. Here the teacher uses the IWB as an ordinary board, as a place of common reference where the students collectively provide the answer.

S1 self-selects to complete the teacher’s unfinished TCU (line 6). S1:::pollution:::. S1 proffers the answer but in a very soft tone, which is almost inaudible. It is probably an indication of his lack of confidence. On the first TRP, S2 latches his own answer (line 7), thus constructing a multiple response sequence (MRS) ‘approximate identical’ (Ko, 2013) with the previous one. It is a reproduction of the previous one, where S2 ratifies prior participant’s turn, by reproducing it in a higher tone of voice, probably to make it publicly heard. Before S2 provides his
candidate an answer, S3 takes the floor and provides his own version (line 8), another approximate identical MRS as it is in a louder voice and S3 wants to indicate alignment with the preceding action and also to show his contribution to this collaborative completion. There is a slight overlapping without causing a problem. In the meantime, S1 retakes the floor and provides a version of his initial answer, which is actually a reproduction of the preceding one with just a minor change so as to provide a more accurate meaning, elaborating complementary. As it is in a very low voice, it is readable as indication of uncertainly, he immediately self-selects, retakes the floor and reproduces his answer. He proffers an overall identical MRS as if he wants to ratify his own answer but with more confidence this time. The teacher’s turn which follows evaluates the completed SPP with a post expansion, thus closing the whole exchange.

6.3 A student initiates
Although in institutional settings and more specifically in EFL classrooms it is not so common for students to initiate speech, or discussion in classroom interaction, yet, in the current research there have been a few recorded instances where the students do initiate.

In the EFL literature, students’ talk in classroom is characterized as of less interest to researcher’s than teacher’s talk (Pinto de Silva, 2000; Sunderland, 2001). Student talk in the classroom, as far as learning is concerned, has been investigated mainly as ‘output’ (Swain, 1985, 1999) and its cognitive value was examined. Moreover, there are studies concerning students’ questions used to test input hypothesis (Allwright and Bailey 1991:126) or to students’ questions asking for repetition, clarification, paraphrasing (O’Malley et al, 1985:34). Cazden (1986) alleges that student questions are mainly ‘procedural’ while ‘academic’ questions asking about the content of the lesson are not common in students’ classroom talk. In particular, Cazden (1986) points out that ‘Children rarely ask questions [to the teacher] except for procedures and admissions’ (Cazden, 1986:449). Contrary to the above, Sunderland (2001) reports that this is not always the case, as
students do ask questions, academic as well as procedural, teachers do answer them, and student questioners do not always receive this response in complete silence questions (Sunderland, 2001:11).

On the whole, classroom research admits that there is a considerable asymmetry so far as the teacher initiates IRF patterns of classroom talk is concerned, comparing to the student-initiates IRF pattern (Sinclair and Coulthard, 1975). In fact, teacher IRF patterns occupy almost seventy per cent of the classroom talk. Bellack et al report (1966: 209) that they have found the ratio to be 6:1. According to Young (1992), this asymmetry represents students' relative powerlessness (Young, 1992) in the classroom as

the teacher exercises control in two ways: the structuring of classroom activity…. and knowledge of results or feedback (Young, 1992:210).

Although Stubbs (1983) chooses a cynical way to describe the situation saying that the teacher initiated IRF as ‘effectively a monologue with the pupils supplying short answers on demand to contribute to the teacher’s train of thought’ (1983:125), on the other hand, classroom research, suggest that there are cases where the students make comments to the teacher as well as to themselves in cases of ‘self-rehearsal’ of a linguistic feature (Allwright, 1980), or in the class to each other, and they do ask and answer questions (Lemke, 1990).

Sunderland (2001) suggests that too many spontaneous student questions are often discouraged in the classroom probably because they may seem by the teacher

‘as tipping the balance of the lesson too far towards an individual development and away from cultural transmission’ model of education, unworkable at least when there is a set syllabus to follow’ (Sunderland, 2001:6).

In the following sections I present instances of students initiating speech in EFL classroom and discuss them.
6.3.1 A student asks the teacher a question

1. S1: u:hm ↑can I ask you↓ some ?questions
2. S2:(ss giggling in the background)u:hm that
3. T1: Yes ?what=
4. S1: = >]at first<. < ↑? why at the:: (. ) first picture>
5. T: [ ((brings in the foreground the slide/picture the s1 is referring to))] T 
6. S1:[Hu:::::m hu:::::m] the:
7. T1: ↓The ?room [ ( )] ↑was ?different
8. S1:. ... [the room <] ↑was ] different ≈yes.
9. T2: somebody it- it has taken the- the camera took it from [a different angle.]
10. T1: [From a different ]angle yes- ↑ You see. exactly, thank you .
11. S1: hu:mm...
12. T1: But now it's clean that's why it looks different as well. So you see.
13. S1: u:hm...

In the above excerpt, both students and the teacher are in the middle of an activity where the IWB holds the focus of attention. In fact, there are both images and text displayed on its screen and the students, based mainly on this, work to construct a story.

At a TRP, a student raises his hand and at the same time, without waiting to be given the speakership as one would expect from a formal classroom environment, asks the teacher a question; S1: u:hm ↑can I ask you↓ some ?questions (line, 1). Although S1 self-selects as the next speaker, he opens up his turn with the marker u:hm which could denote hesitation (line 1). However, in this specific case it is used by the speaker to gain the attention of the recipient teacher and alert her of some type of telling that comes next. This is not very common of classroom speech though, as it is the teacher who usually asks for students’ attention. Sinclair and Coulthard (1975) note that, usually the child has to get the teacher’s attention and then get the permission to speak. According to Sinclair and Coulthard (1975), ‘The permission may not be granted. The initial bid may be countered with a ‘not now’ or ‘just a minute’ and the exchange may never get off the ground’ (1975:52). Then a type of specific pre-sequence follows (Schegloff, 1980). In fact it is a pre-pre (preliminary to preliminaries) which comes as a preparatory work, to establish a trajectory in which what comes next is not heard as a base FPP. This type of question is usually typical of a teacher’s speech (institutional speech), however here the author of such a phrase is a student. The
rest of the class reacts to their classmate’s initiative by giggling (line 2). This reaction is interpreted here as students’ surprise at their classmate’s initiation, an attitude that probably they are not familiar with.

The teacher gives S1 a go ahead response but at the same time she expresses S1 her curiosity (T1: *Yes ?what=*) (line 3) of listening to what follows. So here the student is granted the permission to ask his question. As Cazden (2001) and Stipek (2002) report there are teachers who encourage their students’ participation in classroom discussions and welcome their contributions, or even motivate them (Cazden, 2001; Stipek, 2002). In this specific case, after the teacher gives the student the permission to go on with his question, she also brings in the foreground the appropriate slide (visual mode) in an effort to help S1 to contribute to the story. There is an anaphoric reference to a picture/slide which was previously projected. Thus, the IWB becomes a ratified participant, and by the visual stimuli provided, it is thought to facilitate S1 to his effort to form his utterance. S1 is encouraged to make embodied use of the visual stimuli. The hesitation that follows, S1:*[Hu:::m hu:::m] the::: despite the projection of the picture is quite long so the teacher intervenes by resolving the trouble source.

6.3.2 A student interrupts to make a comment

1. T1: ↑The ?room [ (               )] ↑ was ?diff[erent]
2. S1:. ... [the room ] ↑ [was ] different: yes.
3. T2: somebody it- it has taken the-
4. the camera took it from [a different angle.]
5. T1: [From a different angle] yes- ↑ You see. exactly, thank you.
6. S1: hu:::mm...
7. T1: But now it's clean that's why it looks different as well. So you see.
8. S1: u:hmm...
9. T1: ↑what ha- what do you think happened?

It is not common for students to interrupt the teacher to ask a question or make comments.
T1: but (line 2) It is a type specific- or generic pre-expansion used by the teacher to gain students’ attention (Liddicoat 2007, Brown and Love, 1992) and also to make a next action relevant. The lengthening of the vowel u::(line 2) also indicates that further talk follows.

While the teacher is in the middle of the narration (lines 1 and 2), S3 says something in a very soft voice and the teacher interrupts (line 3) as she has overheard him and expresses her interest in finding out know what exactly S3 has said (line 4). T: what- who ye::s ((T giggling)). S3 has contributed to the story by providing his own personal spontaneous increment S3: ἔδωκε και κράσι {she has had wine as well}( line 3) in a very low voice, probably to be heard only by his next classmate. It is interpretable as hesitation as S3 is obviously aware of the rules of classroom institution where only English language is acceptable and therefore he hesitates. On the other hand, inspired by the visual stimuli which the IWB provides, S3 makes comments on the picture presented on the IWB. Thus, he transfers the visual disembodied stimuli into embodied.

Despite S3’s low voice the teacher manages to hear that something is going on. The three TCUs that follow T: what- who ye::s ((T giggling)) admit her enthusiasm, and also indicate her effort to encourage students to repeat their comments openly in the class, thus others would join and contribute to the story telling. T: You see:: smo:kìng dri::nkìng. ↑What can you see ((T ss)) ?here

6.3.3 A student initiates a telling

In some cases, where the teacher makes arrangements to play a video on the IWB, at the very first sight of a video frame projected on the IWB, the students respond with a stretch of tellings, exchanges or rather comments on what they are about to watch. One initiates and the others respond, so they collaboratively build their own conversation. However, this usually happens in their mother tongue.

In instances like these, students seem to forget that they are in the institutional environment of a language classroom and act instinctively, not abiding by the rules regulating classroom institution. Raabe (1986) distinguishes, between students’ talk in the target language as valuable interlanguage data and student
talk in L1 and as providing data on the language learning process (1986:4). Although it is not in the scope of this research to examine whether students’ involvement could facilitate in some way their learning process, however, in this specific case, their reaction, even if it is in their mother tongue, displays first of all their understanding of the story so far, and secondly it is readable as excitement to communicate what they watch, even if this talk is in their native language. It is readable as deep involvement and interest in what they are watching on the IWB.

[15]

2.4 A student interrupts to ask a question

1. T1: ↑How [about-]
2. S1: →What means pull
3. T1: ↑what does ↑what is pull
4. S1: pull
5. T1: ?uh
6. .
7. T1: ?Μπές
8. S3: Σπρώχνω
9. (0,5)
10. T1: ?push
11. S1: όχι
12. S3: Τραβά- hmm::
13. T1: uh ↑in English. you can show me

The teacher, after presenting the background information projected on the IWB (spoken mode), initiates a TCU, FPP question of an adjacency pair of the type: question-answer. She is ready to introduce a story preface, pre telling (Sacks, 1992), in order to attract students’ attention and also to get their consent for what follows. However, the teacher is interrupted by S1 as there are written elements on the IWB display screen, in a form of buttons, which the teacher has not mentioned anything about them, and now S1 asks for an explanation. So, S1 self-selects and interrupts before the teacher’s first TRP; this results in some overlapping [↑>What means pull (line 2). S1 has seen some written text on the IWB which has not been discussed and initiates a TCU, FPP, asking for more information about it (spoken mode). In fact, this question partly verifies what Sunderland (2001) has reported, that students’ questions apart from procedural are academic. This question can be considered as ‘academic’ as it addresses a question relating to the content of the lesson. Here S1 does not abide by the classroom institution rules, and interrupts. However, this interruption does not seem problematic but welcomed as the teacher responds to S1 (line 4). T1: ?uh
asking him to repeat his question. However, no matter of what type this question is, it is notable that it triggers some talk between the teacher and the students, in their effort to explain 'what pull' means which is what is written on a screen button. In this process they make embodied use of the picture and the written text by actually pulling the picture and thus some type of interaction is stimulated.

[16]

1. T bu:::tt ((T ⇐ ss))
2. T: what=(((T ⇐)))
3. T: ↑when I came ↓back ho:::me ((T ⇐))
4. S4: είχαν [σαπίσει=
5. SS: = [(laughter)]
6. T1: ↑[↑They were-]
7. S4: Πώς είναι το σαπίσει κυρία;
8. T2: They- they were- they had gone bad.

In the excerpt above, in line 4, S4 interrupts the teacher (S4: είχαν σαπίσει) {they were rotten} to provide his own increment to the narration of the current story. However, S4 uses L1 probably because he does not know the word in the target language. The teacher, in a form of repair encourages him to repeat his TCU in L2. In line 7, S4 interrupts the teacher a second time and poses an ‘academic’ question concerning the meaning of the word (line 7) in need. This question verifies the researcher’s initial suggestion for the reason of the first interruption in line 4.

6.4 The IWB initiates

[17]

1. S1: Ρυθμική γυμναστική [something like that]
2. S?: κάτι τέτοιο [something like that]
3. S1: Σου αρέσει? [do you like it?]
4. T1: In English
5. S1: Νάτο {here it is}
6. T1: In English please
7. S1: ↑ Is it hh music ?vi[deo]

As soon as a video frame is projected on the IWB, and before the teacher makes any comment or addresses any question, the students respond with a stretch of comments on what they are about to watch (lines: 1, 2, 3). This very first frame on the IWB functions as a pre-telling of the ‘teller-IWB’ which briefly indicates that the speaker has something to say. It is readable as if the IWB poses the FPP
question: ‘Guess what you will watch’ and S1 replies with a SPP: Ρυθμική γυμναστική {rythmic gymnastics}. At the TRP a student takes the floor and adds: κάτι τέτοιο {something like that} (line 2). It is a post expansion, a SCT (sequence closing third) which is used to register receipt of information or alternatively it can be read as the SPP of the adjacency pair telling-accept used by S? to denote agreement with the prior telling (line 1) of the type ‘same evaluation’ (Pomerantz, 1984). Then S(?) takes the floor and asks his/her classmate a referential question referring to the sports they are going to watch S1: Σου αρέσει? [do you like it?] (line 3) . This happens while the teacher is busy trying to locate and present students with the right slide.

Here we can see talk-in-interaction between students which has been initiated by the IWB (IWB-S-S). The students have responded to the story (video) unprompted, spontaneously, in their mother tongue. This reaction is readable as deep involvement and interest in what they watch, even though it is in their native language (students tend to forget that they are in a language classroom, an institutional context, and their talk is or should be institutional, goal oriented). Moreover, this talk-in-interaction has all the characteristics of mundane speech: it is spontaneous, participants self-select, make referential questions and all this is in the students’ mother tongue. Therefore, the teacher who overhears, as a non specifically addressed participant, interrupts this conversation reminding students that they should speak in English (line 4). In other words, she reminds them of the institutional nature of the environment. The students do not respond to her call immediately, as if not hearable and continue with their private conversation. So the teacher has to repeat T1: In English please (line 6). This time the students respond with a question addressed to the teacher relating to the video they have just started watching on the IWB. Here we have the pattern of interaction: S-IWB-T the student asks the teacher a question relating to the material presented on the IWB.

[18]

1. S1: Αυτή είναι πάρα πολύ ψηλή {She is very tall}
2. T1: ↑ She’s very-
3. S1: Tall
4. T1: She’s very tall
5. (2.8)
S1, self-selects and constructs a complete TCU S1: Αυτή είναι πάρα πολύ ψηλή {she is very tall} (1) a FPP commenting on the video projected on IWB. It is the first pair part of an adjacency pair of the form: telling – accept. S1’s speech is not prompted, but spontaneous, triggered from the visual stimuli projected on the IWB, (video mode) he is exposed to. This is what usually happens in every-day life. S1 seems to have forgotten that he is in the institutional environment of a language classroom, and acts instinctively, not abiding by the rules regulating classroom institution and thus he uses his first language. This indicates that his enthusiasm is such that inspires speech and interaction, although this speech is in his mother tongue. At the TRP, the teacher takes the floor to recast and repair (second position other repair) from Greek language into English, and thus to remind S1 that this is an institutional environment therefore he should speak only in English. The teacher uses recast to repair but at the same time the cut off technique (she uses rising intonation and abruptly cuts off) T1: ↑She’s very- (line 2) to encourage S1’s self-repair (other initiated self-repair). Indeed, at the completion relevance place, S1 latches the repair immediately after possible completion of the prior turn S1: Tall (line 3). This is an embedded correction as it is actually achieved collaboratively between the teacher and the student and does not disrupt the progression of the action under way as it is incorporated into it.

The teacher, considering the information provided on the IWB in the form of the video, self-selects and repeats the preceding SPP, which has been collaboratively formed by the teacher and S1. It is a post-completion musing, related to preceding talk, it is used to indicate that the teacher not only accepts the previous telling as grammatically/syntactically correct, but also she wants to make this telling publicly known to the rest of the class (Schegloff, 1988).

Inspired by the above exchange and immediately after its completion, the T precedes with further speech/ discussion where the ss opinion is asked.
6.5 Conclusion
In this chapter I initially clarified that the analysis of the data of this thesis consists of two layers of interpretation: firstly, the turn taking organization which deals with the turn allocation system, the actions performed in these turns and the role of the IWB in these exchanges; secondly, the sequence organization of the talk-in-interaction of the EFL classes recorded, which deals with the way the actions are initiated, the way they are worked through and brought to a closure. I have explained that in the analysis I deal with the practices used for the above actions to be implemented as well as their structural organisation. This structural organisation is locally produced on a moment to moment basis, and expresses firstly, the way interactants produce utterances in response to their interlocutors’ proceeding speech and secondly, the role of the IWB in them.

Based on the asymmetrical nature of the turn taking system of the institution of classroom as this has been presented in the EFL literature, as well as it has been identified in this thesis, I explained that the presentation of the data analysis is driven by the turn taking system of the excerpts presented. However, I clarified that I would include story telling in a separate chapter because of its structure and its significant role in classroom interaction.

I pointed out that the pedagogy teachers used most to initiate talk and to achieve specific goals in the classroom was the use of questions, either to test students’ knowledge, or to get information not previously known.

I clarified that in the excerpts which I analysed I dealt with the purposes of the questions studied, or else the cognitive demands they raise; the interaction they evoked; the structure this interaction was expressed through; the relationships between the participants and lastly, the role of the IWB in these.

Then, I presented excerpts where the teacher asked display questions addressed to all students, who are considered ratified participants therefore all have the right to self-select and take the speakership. I underlined that this is what usually happens in mundane speech. I pointed out that these questions were often referred to visual images, still or animated pictures, or even written text presented
on the IWB. The teacher aimed at students’ attentiveness, while the input presented on the IWB was expected to awake students’ memory and then motivate their subsequent speech which would incorporate previously acquired knowledge. In the excerpts presented, the IWB provided input in different modes and the students were encouraged to make embodied use of this input to provide the SPP to the teacher’s preceding FPP question. I noted that the IWB acted as a mediator between the teacher’s question and the students’ answer. Teacher’s speech and her body language, along with the exploitation of different resources, which were expressed in different modes, and presented on the IWB, resulted in the construction of high intensity actions which quite often seemed to have positive results on students’ participation.

I noted that there were excerpts where the students provided either unfinished responses, or their speech was characterised by hesitations, prolonged vowels or long pauses which were accountable. Sometimes the students did not self-select to answer the teacher’s question. I noted that in these cases the teacher either took the floor and repaired, or appointed another speaker to do so. Sometimes, in long TRPs where the next speaker delayed to produce the expected SPP, the teacher regained the speech and produced another FPP question, which served as an increment of talk that built on the preceding TCU. Its purpose was to provide an extra scaffold to the students, so that the questions would be eventually answered, either by volunteer students, or by ones appointed by the teacher.

Other structures the teacher used to encourage students participations, were perturbations. On TRP the teacher self-selected and started constructing the required SPP but then, she abruptly cut off, or stopped while underlining the last phoneme of the word in her speech. In both cases the incomplete intonation contour, or the incomplete syntactical structure admitted that this SPP cannot be recognised as a complete TCU and therefore it remains to be repaired by those students who would take the floor. I explained that this was a technique the teacher used to pave the path for a student to take the floor and finish the sentence collaboratively, along with the teacher. This session of interaction closed with the teacher’s evaluation of the student’s speech.
I also presented referential questions where the students self-select and then provide a reply. I explained that the IWB inspired the conversation between the teacher and students and the way this conversation unfolded did not remind us of institutional speech, but rather ordinary mundane talk. However, I raised the point that although this talk may not sound institutional, however it was constructed in the target language and its purpose was to teach English as a foreign language, therefore it was institutional at all times.

I raised the point, that it is not common in institutional settings like EFL classes for students to initiate speech. However, in this research there were instances, where students interrupted teacher’s speech, self-selected and posed their own questions usually inspired by different stimuli projected on the IWB. There were also cases where students interrupted the teacher by making comments on the input projected on the IWB. In most cases, students’ initiations were welcomed by the teacher. They were also cases where students, inspired by input projected on the IWB, interacted with their classmates using their mother tongue.

On the whole, in this chapter I have the teachers in this research have used questions to initiate interaction between participants. I have also presented instances where the students or the IWB initiate interaction and discussed the structures they have used to achieve this interaction.
CHAPTER SEVEN

7 DATA ANALYSIS – PART B

7.1 Storytelling

Storytelling is another pedagogical tool teachers use extensively (Pederson, 1995; Ma, 1994), and as Pesola (1991) advocates, it is ideal ‘for surrounding the learner with language’ (Pesola, 1991:340). It is a powerful tool that enhances second language learning by providing both affective and linguistic benefits for students. Using stories in teaching is motivating and fun as it lowers the anxiety levels of students thus developing positive attitude towards language learning. Students get personally involved in stories and that builds up their confidence and encourages their social and emotional development which increases the possibilities for learning. Moreover, stories are good for discussion, as they exercise students’ imagination, who identify with the characters of the story and they share feelings with them (Pesola, 1991). On the whole, through stories, students can experience learning easier and in a naturalistic, meaningful, environment (Heidi Bordine Fitzgibbon and Kim Hughes Wilhelm, 1998). However, it is not within the scope of this research to deal extensively with story-telling in the EFL classroom. The aim at this point is to present the interaction developed in EFL classes when the teacher using the IWB initiates interaction through storytelling.

7.1.1 The teacher initiates the narration of a story

[19]

1. T1: U::h ; I want to tell you a story. what happened to me la:st- ; two days ago
2. T1: ; I was ve::ry tired (.) and u:hm I couldn’t do ; anything at ; home (1.3)
3. T: So:: my (). ((T→)) ; room was ; very- ; (T→ ss) ; untidy
4. T: it was in a comple::te - mess (1.6).?u:hm: A::nd then ((T changes slide)) I ha:d vegetables a:nd meat in the fridge but I didn’t cook ?uhm
5. And then- ((T while changing slide)) I had left- ; my- u:hm ; plants- ((T→ ss) ; ?plants
6. S4: Φυτά {flowers}
7. S6: φυτά {Flowers}
8. T1: Φυτά: ye::s my flowers in the pots-((T uses hands movement to make the shape of a pot)).
10. S1: {[}
11. T: so ((T→ )) they go:ct- dry. ; Can you ((T→ Ss; T→ )) see the pot? ?uhm=
12. S1: ==Yes=
13. T1: ; It was very- ; dry. can you see this dry pot?
14. S1: =yes=*
15. S4: =yes=
16. T: The f:lowers are dry, ; can you see them? uhm?
7.1.2 The teacher uses a pre-telling

The teacher uses TCUs -pre-tellings as 'story preface' (Sacks, 1992) to indicate that something interesting is coming up, to project the forthcoming story (Sacks, 1974) to the students.

[20]

1. T1: U:hm I want to tell you a story. what happened to me la:st two days ago
2. T1: I was we::ry tired (.) and u:hm I couldn't do anything a t home (1.3)
3. T: So: my (.) (T↓ room (T↓↓ room (T↓↓↓ ss)) ↓untidy)
4. T: it was in a comple::te mess (1.6).?u:hm:
In this extract, the TCUs ↓I want to tell you a story. (line 1) is a pre telling, ‘a story preface’ (Sacks, 1992) which is used to indicate that the teacher has something interesting to say, to project a forthcoming story (Sacks, 1974). The teacher uses this device (story preface) in order to secure space to tell her story and also to alert students’ interest, to trigger their motivation, to draw their attention to listen to ‘her story’ and thus to gain students’ go-ahead, namely students’ ‘recipiency’. Another pre telling follows. It’s formulaic and serves as an indication of what the story will be about. what happened to me last ↓two days ago (line 1).

Before the teacher addresses any base FPP questions (lines 9, 18) (T1: U:hm what happened) she provides TCUs which gradually introduce the recipient-students into the story. They give students extra information about the story, they set the scene. For example, in line (1) (T1: ↓I was ve::ry tired (. ) and u:hm I couldn’t do ↑anything at ↓home); or in line 4 (T: it was in a comple::te- mess).

Then, more TCUs follow, So ↓I was ve::ry tired (. ) and u:hm I couldn’t do ↑anything at ↓home (1.3) (line 2) and So: my (. ) ((T  ss)) ↓room was ↑very- ((T  ss)) ↓untidy (line 3). In fact, these TCUs do some more preparatory work. Apart from providing the setting and background information about the story, at the same time they offer students shared experience (Ochs et al, 1992; Sacks, 1974). More specifically, the students, by being presented with the visual image and/or print mode, of what the teacher talks about (spoken mode) using the IWB, it is as if they themselves are involved in the events narrated, they share the same experience. Therefore, the narration of the story is not a single speaker’s job anymore, namely the teacher’s, but the students can contribute to the talk as they would do in any real story of shared experience (Ochs et al, 1992; Sacks, 1974).

In stories of shared experience, apart from the actual participants, who take part in the narration, there are those who are not directly involved, but still can make corrections, comments, insert their own bits. In a classroom setting, these participants are mainly the students and sometimes the teacher when she introduces an imaginative story. In this way, the students gain the necessary information which could allow them not only to follow the narration of the story, but
also would enable students to actively contribute to this narration by providing their own increments to it.

In line 3 T: So: *my room was very untidy* (line 3), there is the token ‘so’ which is used here to indicate that what follows comes as a result, or consequence of what has proceeded. The teacher turns, gazes at the IWB and while speaking integrates the IWB in her narration. What she has just narrated, *So: my room was very untidy* (line 3), is projected now on the IWB in a different mode, in the form of still pictures (written mode-still picture). In this way the IWB becomes a ratified specifically addressed participant. T incorporates what is shown on the board in her actual speech. There is a synchronization of her speech with the images/slides projected on the board. The IWB provides evidence, verifies what the T is talking about. It shows the condition the room is in, ‘untidiness’. In short, the IWB provides the visual dimension/mode of the story. The IWB constitutes the ‘visual narrator’ of the story while the teacher the ‘oral one’. I would say that the IWB acts a co- narrator of the teacher.

In line 4 the teacher describes the state her house was in: *T: it was in complete mess* (1.6). *uhm* (line 4): and then she turns her gaze to the students and requests their active involvement using the vocalisation *uhm*? She also wants to secure their understanding which will eventually give her the go ahead. As it was mentioned above, according to Goodwin (1984) the telling of a story is organized by the actions of both the teller and the recipient and it is not purely the accomplishment of the teller (1984:293). ‘Stories are interactionally accomplished actions which involve the collaboration of participants in the interaction in order to succeed’ (Liddicoat, 2004: 294).

[21]

1. T: it was in complete mess (1.6). *uhm*:
2. A: and then ((T changes slide)) I had vegetables and meat in the fridge but I didn’t cook *uhm*
3. And then- ((T while changing slide)) I had left my plants ((T ss))
4. S4: Φυτά {flowers}
5. S6: φυτά {Flowers}
6. T1: Φυτά: yes my flowers in the pots-((T uses hands movement to make the shape of a pot)).
7. T: u::hm [I’d left them without] be:ing- watered.
8. 11. S1: [ ]
9. T: so ((T ➞ )) they go::t- dry. ↑ Can you ((T ← Ss)) see the pot? ?uhm=
10. S1: =:Yes=
11. T1: ↑It was ve:ry- ↓dry. can you see this dry pot?
12. S1: =:yes=:=
13. S4: =:yes=:=
14. T: The flo:wers are dry, ↑can you see them? uhm?
15. S6: =:yes=:=
16. T:Yes. ((T uses the mouse and points to the picture-)) my plants were thi:rsty ((T uses the mouse and points to the picture)) dry.[embodied use of the print mode, which theT uses to attract ss’ attention]
17. (T ➞ )) my plants were thi:rsty a:nd- ((T moves, makes bigger/smaller the next picture)) dry.

Apart from the vocalisation u:hm? which as it was above mentioned, the teacher uses at the end of a number of turns (line 4, 5, 12, 17) in order to get co participants’ confirmation that they understand her, the teacher also uses prompt questions. Sometimes, as it is shown in the part of the excerpt [12] which is presented above, the teacher withholds the narration, and provides prompt questions: can you see this dry pot? (line 1) or T: The flo:wers are dry, ↑can you see them? uhm? (line 4, 28). T: What [else can you-]? (line 28), in the evening ↓you see: what I ?found (line 39) which offer students space to self-select and contribute to the narration.

By interrupting the narration to address display, prompt questions, when the answer is obvious to every single participant, since it is displayed on the IWB screen, the teacher expects to get a confirmation of some type, that the students understand what she says. The display questions present a way to get students’ confirmation that they are following the narration. This, firstly would increase the chances of students getting involved and contributing towards the progression of the story and secondly, would offer the teacher the go ahead message. In line 7, the teacher repeats the last word of her turn in a rising intonation (And the:n- ((T ➞ while changing slide)) I had left- ↑my- u:hm ↓plants- (( T ➞ ss)) ↑?plants) to ask whether they have understood the meaning of the word ↓plants.

Indeed, S4 and S6 respond to the above call by providing the translation of the word asked in L1

[22] 7. S4: Φυτά {flowers}
8. S6: φυτά-{Flowers}
9. T1: Φυτά: ye::s my flowers in the pots-((T uses hands movement to make the shape of a pot)).
In fact, S4 contributes by providing the answer in L1, and S6 by providing the same answer in a lower voice, as if he supports the previous response. Then the teacher repeats the same word in a louder clear, firm tone and this is her endorsement to the preceding responses. These are three consecutive, approximate identical multiple responses (Mo, 2013), which carry slightly different messages, however, they all admit the participants’ cooperation during the current narration.

As the following extract shows, the same happens with the confirmation monosyllabic answer ‘yes’ (lines 2, 3, 5, 14, 17, 25, 29, 35). They are responses to the teacher’s preceding questions that students use to show that they understand and follow the teacher’s narration. These responses come either as individual ones, like in line 13, 18, or as overall identical consecutive multiple responses MRSs (lines 15-16) (Mo, 2013:80)

[23]

12. T: so (T →□) they go::t- dry. ↑Can you ((T ← Ss; T → □)) see the pot? ?uhm=
13. S1: =Yes=
14. T1: ↑It was ve:ry- ↓dry. can you see this dry pot?
15. S1: ‘yes’=
16. S4: ‘yes’=
17. T: The flo:wers are dry, ↑can you see them? uhm?
18. S6: ‘ye:s’

or even sometimes in chorus like in line 29.

28. T: ?hm ↑can you see?
29. S4, S3: Ye::s.

Although these answers are confined to monosyllabic TCUs, yet it cannot be ignored that they indicate the teacher’s short term goals, that is, firstly to attract students’ focus attention and secondly to encourage their participation and contribution to the co-narration of the story so far has been attained.

During the narration of the story, the teacher refers to the pictures projected on the IWB. In fact, when the teacher articulates a question, she simultaneously turns towards the IWB and invites students to look at the IWB (Deictic /body position).

T: You see:: smo:king dri:::nking. ↑What can you see ?here. (line 10). It is as if she appoints IWB a ratified mute participant, specifically addressed. She appoints
the IWB to be (along with herself) the animator of the visual aspect/print mode of the actions which she is about to narrate. The IWB provides the necessary information for the students to become shared participants of the currently narrated story, or comment on the story. T: *hm ↑can you see? Thus the students are offered increased opportunities for participation since the information is projected on the IWB and their task is often just to ‘translate’ this visual information into spoken mode, to transfer the visual disembodied stimuli into embodied.

7.1.3 The teacher uses anaphoric references
The teacher uses anaphoric references (line 12) to alert the recipient-students to recollect (cognition) what has previously been discussed: T: *As I told you ((T brings the slide of ‘her room’ on the screen/foreground)) *my room was untidy (line 12). This turn consists of two TCUs. *As I told you is a pre-telling that the T uses to announce that what follows is information the students already know. It is an anaphoric reference, background information which the students need to retrieve, in order to be able to proceed with the narration of the story and possibly this would facilitate their contribution to it. While speaking, the teacher retrieves a previously presented slide (anaphoric reference) on the current screen of the IWB. In this way, the IWB becomes a specifically addressed participant which provides visual stimuli/in print mode. The combination of the teacher’s speech (spoken mode), who becomes animator of the IWB’s story, in print mode, provides a high intensity action and thus presents more possibilities for the teacher’s aims to be achieved.

7.1.4 The teacher uses rhetoric questions
During the actual narration, the teacher (who is the main story teller), often addresses rhetoric questions to the recipient-students

[24]

21. ((T brings)) *smocking dri:::nking. ↑What can you see ( (T ss))
22. T1: Uhm what happened (1.0)
23. T: I le:ft I went to my- work and ↑when I came back- (1.5)
24. T: everything was done at home. I don't know how. What I ↓mean?
25. T: As I told you ((T and brings the slide of ‘her room’ on the screen/foreground )) *my room was untidy.
In both extracts above [24], the questions in line 22 T1: U:hm what happened ; and (line 25) I don’t know how. What I ↓ mean? Neither of them constitute a real question as the teacher leaves no TRP (transition Relevance Place) for a student to answer the question but she latches her own response to her preceding FPP. These rhetoric questions intend to attract students’ attention, to raise their curiosity, their excitement and hopefully elicit their contribution. Indeed, the students, literally the whole class, respond by paying focus attention to the teacher and the screen.

7.1.5 The use of ‘what’ in the teacher’s narration

[25]

1. T1: bu:::::t (T↑→ ss))
2. T: ↓what=(T ↓φ □)
3. T: ↑when I came ↓back ho::me ((T ↓φ □)).
4. S4: είχαν [σαπίσει=]
5. SS: = [(laughter)]
6. T1: ↑They were-]
7. S4: Πώς είναι το σαπίσει κυρία;
8. T2: They- they were- they had gone bad.
9. T1: ↑when I came ↓back ba::ck (( T ↓φ □ teacher changes slide)) a delicious me::l [↑was on the table.]
10. T2: [ Ah:........................!!]=
11. S1: [(says something)]
12. T1: ?Uh
13. (0.7)
14. T: ↑what
15. (0.5)
16. T: Look [here]

In the narration of stories ‘What’ can be interpreted as a ‘go ahead’ invitation of the recipient to the teller of a story. It also indicates that the recipient identifies the story as unknown and therefore it can legitimately be considered ‘tellable’ (Liddicoat, 2004:284). It can also be considered as a story preface (Sacks, 1992). Alternative, it can be interpreted as a rhetoric question like the ones discussed in the previous section.

On lines 2 and 14 the teacher poses the rhetoric question: what. ‘What’ here is a grammatically incomplete FPP question for what happened? However, it can be considered a complete TCU which is used by the T as a pre telling, to prepare the students for what follows; to alert their concentration on what she is about to tell.
Besides, it is a story preface and it is designed to secure a SPP answer. While the teacher articulates the question "what" (line 2) she simultaneously turns towards the IWB (body position). However, as it was aforementioned, ‘What’ is a FPP expected from the recipient of the story towards the narrator. Here, it is the teacher who poses the question, while at the same time she turns to face the IWB. It is as if she is the recipient of the story and directs this question to the IWB, the narrator. The roles actually seem to have been reversed. It is as if she appoints the IWB as a ratified participant, specifically addressed. She appoints the IWB to be (along with herself) the animator of the visual aspect/print mode of her past actions which she is about to narrate.

7.1.6 The teacher addresses open –ended evaluation question

[26]

1. T1: ↑what ha- what do you think happened?
2. S1: hu:::m
3. S2: hu:::m
4. S3: [Το καθάρισαν] (they have cleaned it)
5. S5: [Your mom came]

Often, after the teacher sets the scene in the form of visual stimuli, the students are asked, inspired by the visual stimuli provided, to contribute by adding their own increments to the story. To help them, the teacher asks evaluation questions T1: ↑what ha- what do you think happened? (line 1) which are open ended questions and give students the freedom for a range of possible answers (lines 4, 5). On the whole, the teacher, with the help of the IWB, narrates a story and the students are invited to participate too and act as co narrators by providing their own personal increment. The students seem to respond enthusiastically (line 3, 4 and 5) and contribute collaboratively to the construction of the story.

In response to a preceding open ended question ‘what happened’ ‘who tidied the house’? which is still pending, and although the teacher proceeds to the next scene of the story, the students still compete who is going to give the best answer (lines 5, 12, 16, 20) to that question. The students’ intention is, neither to provide a supportive action to what the previous speaker has said or to take each other’s role or speakership. Their main concern is to present their response to the teacher.
Their excitement is such, (lines 11-12; 13-14; 19-20) that they self-select, as they all want to participate and provide their own increment, even when they lack the appropriate vocabulary. In this case they recourse to L1 (line 5). On the whole, there is some overlapping, that comes as a result of students’ sheer excitement for participation but it does not present any problem, therefore it is not accountable.

[28]

Extract [28] is a similar case to the previous one [27]. The teacher, by asking students the open ended question ↑what ha- what do you think happened? (line 1) invites all the participants to provide their own personal opinion, and thus to actively contribute to the narration of the story. S3 and S5, full of enthusiasm, self-select and compete who is going to provide the best acceptable answer. As a result, they construct divergent competitive MRSs (Mo, 2013).
In the above excerpt (line 1), there is an open ended evaluation question a teacher poses during the narration. \((T: \textbf{So} \uparrow \text{what do you think} \downarrow \text{when I came back home} \uparrow \text{what did I find})\) (line 1). \textbf{So} is a token interpretable as something has reached an end and at the same time as a precursor of something new which is coming up. After having collaboratively completed a part of the story, the teacher invites the students to express what they think will happen next. Based on what has so far proceeded, they are encouraged to continue with the narration of the story. That demands them to evaluate, judge, guess and argue. It is an open question, which gives students the chance to express themselves, and based on previous information to predict future actions.
In the above excerpt [30], the teacher with the help of perturbations mainly of the type: rising intonation and stretched vowel (lines 23, 25, 27, 35), or cut offs (line 25) which were discussed previously, encourages students to take the floor and contribute to the narration of the story. Students’ being co participants indeed respond and try, with the teacher’s constant support, to reproduce prior participant’s SPP by repairing, or else by adding extra items in order to provide a more inclusive and/or accurate meaning to the base SPP (cooperative MRSs, Mo 2013) (line 35, 36, 37, 38). Thus, all participants, teacher and students, jointly manage to improve, develop co-operatively the meaning and structure of their tellings. Sacks, 1992 in lecture 4 in 1967 refers to these as ‘collaboratives’ while Lerner (1992) as ‘compound turn constructional units’ while Ko (2013) presents them as compound turn constructional turns. However, the teacher’s role is decisive in the way the turns develop, since she is the one who initiates the SPP and therefore directs students’ way of thinking and expressing themselves towards a specific path. The teacher directs them into a specific funneling pattern of interaction. In fact she scaffolds the way of expressing themselves and in this specific case it seems helpful, since the students gradually manage to work independently (lines 36, 37, 38) as the extract below shows.

[31]

35. T1: ↑a pile ?of::f
36. S4: of wash[ed]
37. S2: [Clean] cleaned [and ironed]
38. S4: [washed]

7.1.7 Conclusion

In this chapter I dealt with the pedagogy of story telling and its structure as this was recorded in the current research. The aim of the analysis of these specific excerpts was to present the type of interaction which the involvement of the IWB encouraged.

Each story started with the initiation of TCU, pre-tellings which the teacher used to trigger students’ motivation and to draw their attention to the story. These prefates were followed by further TCU which were used to set the scene and offer students important background knowledge. In this way, the students gained
the necessary information which allowed them not only to follow the narration of
the story, but also enabled them to actively contribute to this narration by
providing their own increments to it, as they would do in real life stories of shared
experience (Ochs et al, 1992; Sacks, 1974).

During the narration of the story, the teacher using different functionalities of the
IWB and different modes of presentation provided the visual dimension of the
story on the IWB screen. The teacher incorporated in her actual speech what was
shown on the board. There was a synchronization of her speech with the images
or slides projected on the board. In this way the IWB acted as a co-narrator of the
teacher, it constituted the ‘visual narrator’ of the story, while the teacher the ‘oral
one’. In fact, the IWB verified in different modes of presentation, what the teacher
was talking about and thus, it became a ratified, specifically addressed participant.

The narration of the teacher was characterised by the use of certain techniques
which encouraged students’ participation. She used anaphoric references; rhetoric
questions, prompt questions, she made use of ‘what’ questions; and open ended
evaluation questions. For example, the teacher often withheld her narration and
addressed display, prompt questions while the answer was displayed on the IWB,
therefore was obvious to every single participant. Her intention was to get a kind
of confirmation that the students were following the narration of the story. Indeed,
the students responded with consecutive approximate identical multiple responses
(MRSs), or sometimes replied in chorus which indicated their cooperation. She
used anaphoric references to alert the recipient-participants to recollect what had
previously been said and thus she elicited their contribution. The use of rhetoric
questions also raised their curiosity and facilitated their participation.

Open ended questions gave all participants the chance to provide their personal
opinion and actively contribute to the narration of the story. There were students,
who self selected and then competed, who was going to provide the best answer.
As a result, they constructed divergent competitive MRSs (Mo, 2013). In cases
where the teacher invited them to open ended- evaluation questions which gave
them the chance, based on previous information, to evaluate, judge, guess and
finally provide their own personal predictions for future actions, again responded with enthusiasm. However, when the students indicated hesitation to take the floor, the teacher started with base SPPs but using perturbations (rising intonation and stretched last vowel, or abruptly cutting off) offered them the necessary support to self select to repair by providing their own increment to the base SPP which they had already been provided. In this way, all participants, students and teacher jointly, developed compound constructional turns (Ko, 2013) and thus managed to cooperatively improve the meaning and structure of their own tellings. In this procedure the role of the teacher was decisive as she often directed students’ way of thinking towards specific paths by using funnelling questions. She offered them the scaffold to learn how to express themselves and gradually to work independently.

To sum up, this chapter presented what this research indicated about the use of story telling in the specific context of Greek EFL classes. It raised issues concerning the results of the IWB’s multi modal presentation in the story telling, along with the teacher’s narration. Moreover, as far as classroom interaction was concerned, this chapter underlined the increased participation of students who managed with the support of the teacher and the appropriate exploitation of the IWB to co construct multiple response sequences or compound turn constructional units.
CHAPTER EIGHT

8 SUMMARY AND CONCLUSIONS

8.1 Introduction
This EFL classroom research was set to study the interaction in EFL classes in Greece, where the IWB was used. Considering the demands of our times, the EFL classes in Greece aim at preparing learners to handle a wide range of interactional transactions. The MoE, acknowledging these demands, proposes syllabi that encourage classroom interaction. Language classroom research has identified the positive effects of the multimodality of the IWB on classroom interaction. Hence, I have argued that the IWB can play an important role in the interaction developed in EFL classes in Greece. At the moment, the IWBS are being introduced in Greek state schools as part of a pilot project run by the MoE. Therefore, this study and its findings are considered timely and important. More specifically, this research firstly describes the interaction developed in EFL classes in Greece when the IWB is implemented, and secondly examines whether it can be established that the implementation of the IWB and its multimodality can have an impact on EFL classroom interaction.

After presenting the data analysis in chapters six and seven, in this conclusion I discuss the insights drawn from the above analysis. In particular, in this chapter firstly, I present the insights gained out of the description of the interaction developed in the context of Greek EFL classes. Secondly, I discuss the analytic findings from the Chapters 6 and 7; and finally, I present the insights gained as far as the role of the IWB in Greek EFL classes is concerned.

8.2 The insights gained out of this study into the context of Greek EFL classrooms
The participation patterns developed in the three EFL classes, which are studied in this research, present peculiarities not easily noticeable, which are attributed to the implementation of the IWB. However, due to the institutional character of the
classroom, the patterns identified are still characterized as ‘asymmetrical’ (Drew and Heritage, 1992), from the point of view that not all participants, students and teachers, have the same rights and obligations. The IWB does not seem to alter this relation. In most cases, the teacher is the one who introduces a subject, the one who prescribes the course of the lesson. On the other hand, I would not describe these Greek EFL classes as ‘strictly formal’, or as following a ‘heavily pre-allocated system’ (McHoul, 1978) because the participation patterns are locally managed (Drew and Heritage, 1992), and alternate constantly, depending on the type of activities the students take part in, but also on the needs of the class at different moments. On the whole, in the EFL classes which are studied in this project, there are a few different turn taking systems recorded which prescribe the interaction developed there.

Some interactional patterns look like the patterns one can identify in any EFL classroom. However, in this research, due to the IWB’s implementation, these patterns present certain peculiarities. For example, one turn taking system which recurs in all classes, is one where the teacher addresses a FPP question and immediately appoints the speakership to a specific student, either to a volunteer who raises his hand, or to one the teacher herself chooses. The answer to this FPP question either directly or indirectly relates to the input projected on the IWB. The student draws substantial information from the material presented on the IWB and thus manages to provide the expected answer. The IWB acts as a mediator between the teacher’s question and the student’s response. The teacher asks a question, the student silently interacts with the IWB and the input displayed on its screen. The pattern of interaction described above can be presented graphically as T-IWB–S which reads: teacher asks student(s) a question related to the IWB. Ultimately, the student articulates the result of his/her inner thoughts to the teacher, who evaluates this answer. On the whole, the above interaction pattern looks similar to the IRF (Sinclair and Coulthard, 1975) system. However, the way the IWB intervenes and affects the interpersonal exchanges between teacher and student, makes this turn taking system look less formal and more like real life exchanges, where we constantly infer information from the stimuli we come across in the outer world in order to respond to our interlocutor’s requests.
Sacks et al (1974) report that the turn taking systems seem to adapt ‘to the properties of the sorts of activities in which they operate’ (Sacks et al, 1974:696). However, Schegloff (2007:220) points out, that this does not seem to be the case at all times. In the classes researched here, although certain activities appear to favour specific participation patterns, the teachers incorporate different patterns of participation in each session of interaction, adapting them first and foremost to the students’ needs as these are raised at different times and then to the demands which the lesson activities prescribe. The IWB functionalities and its variety of modes of presentation appear to facilitate the teacher’s endeavor to manage this participation.

Sometimes, despite the fact that a student is offered a long transition relevant place (TRP) to provide an answer to a preceding FPP, the student does not respond. In cases like these, the teacher, as a current speaker, either selects another student who eventually provides the SPP, or the teacher appoints herself as the next speaker. Using different techniques, the teacher provides students with the necessary support and encouragement to complete the SPP. Most of the times, the teacher refers students to the IWB for further help, since the answer often appears on the screen of the IWB in different forms and modes of presentation. The student is required to decipher this information and transfer the message it carries into speech. No matter how difficult the question might be, the fact that part of the answer is presented on the IWB, makes it look manageable in the eyes of the participants. Indeed, very often the students with the support of the IWB and in collaboration with the teacher manage to complete the answer.

Although there are a significant number of cases where the teacher assigns the speakership to specific students as described above, in most cases, the teacher systematically avoids to pre allocate the next speaker, instead addresses questions to the whole class. In this case, it becomes the responsibility of all students to listen to the question posed (McHoul, 1978). All students are considered to be ratified, specifically addressed participants (Goffman, 1981), therefore, all have the right to claim the speakership and provide the appropriate SPP. On the whole, the teacher appears to encourage students to take the initiative and self-select. This technique promotes a turn taking system similar to a
mundane conversation, where all participants have the right to self-select, instead of waiting for this right to be induced in them by the powerful teacher. The teacher acts as if she disclaims the authority, which her post in the institution of the school assigns to her and addresses questions to all speakers letting them have adequate transition relevant place (TRP) to self-select and answer the question. However, this is just a questioning technique the teacher uses in certain cases in order to achieve certain teaching goals like students’ motivation, their active participation, among others which after all indicate the institutional character of the classroom setting. On the whole, the teacher addresses questions to the whole class as long as the smooth flow of the lesson is not disrupted. If the flow is disrupted the teacher is forced to retreat to other methods of questioning.

Indeed, sometimes the teacher’s FPP question, which is addressed to the whole class, is followed by the quick uptake of a student who first self-selects, or, otherwise, by volunteer students who raise their hands to gain the right to speak. However, there are several recorded cases where more than one students self-select at the same time. Then, the teacher intervenes and appoints the next speaker, or even lets students’ overlapping, or answering in chorus, as long as these reactions do not disrupt the flow of the lesson. However, the data analysis indicated how overlapping, answering in chorus, or private speech are instances of students who, inspired and supported by the input presented on the IWB, claim their right to become specifically addressed ratified participants and therefore self-select and produce divergent competitive MRSs (Mo, 2013).

The cases described above indicate how the teacher manages to alter constantly the participation patterns of the class to adapt to students’ needs as these are raised at different times, by exploiting the IWB and its functionalities. However, there are also recorded interaction sessions with rather heavily pre allocated turn taking systems which adapt to the properties of specific type of exercises. For example, the teacher introduces a preliminary question and then directs students’ attention to the IWB, which initiates the main question. Subsequently, the students respond interacting physically with the IWB. This session of interaction is completed with the IWB evaluating the student’s response and finally the teacher verifying the preceding evaluation.
Apart from the cases where the teacher initiates, there are recorded instances where classroom ‘conformity’ is partially ‘disrupted’ when a student interrupts by self-selecting, either to initiate a comment addressed to the teacher, or to express a clarification question, or sometimes privately, to make a comment with other participants concerning the input presented on the IWB. There are a few cases where a student directs a question to the teacher, after s/he is assigned the permission to do so. Most of the times, the teacher replies, or replies with a clarification question, or redirects the question to the whole class.

There are also recorded occasions where students provide the teacher with their own suggestions or requests concerning the course of the lesson. For example, they ask the teacher to play their favourite song on the IWB, or on the video which has previously been presented. On the whole, students’ suggestions do not seem to alter the course of the lesson substantially, although the teacher occasionally surrenders to these requests.

Greek EFL classes have been characterized as coursebook-driven, or exam oriented, although to my knowledge at the time of writing this thesis no classroom research has been published to verify this statement. The participation patterns reviewed in this project, which are drawn from classroom research, offer a picture of EFL classes as not being heavily formal. It is noteworthy, that in almost all the cases studied here, no matter which turn allocation system prevails, the teacher, either directly or indirectly, is the main participant who initiates a subject or an activity, the one who prescribes the course of the action to be followed and the participation pattern to be adopted at each time. The implementation of the IWB seems to encourage but also to facilitate the different participation patterns which develop in the course of the lesson, always under the teacher’s guidance and support. It is important to underline here, that during the management of the participation patterns in many cases, the teacher places priority on students’ needs, while the successful completion of the different exercises, which usually demand specific types of participation patterns, follows, without this to be the rule as there are instances recorded which indicate the opposite.
Up to a certain extent, the significance of the teacher’s role is justifiable considering that it is in the nature of the classroom institution that the teacher be the one to set the long or short term goals of the lesson, as also the one to be responsible for the achievement of these goals. The students do not participate in important decisions concerning the course of the lesson, neither for the subject, nor for the activities to follow. However, the students appear to actively interact, either with each other, or with the teacher, or even with the IWB, due to the teacher who taking advantage of the flexibility the exploitation of the IWB offers her, manages to incorporate a variety of participation patterns in a single interaction session. Looking at the roles of the teacher, the student and the IWB, as far as the management of the classroom interaction is concerned the classes studied here can be characterized as both teacher-centred and IWB-centred, since the IWB is in the foreground, either directly or indirectly, at all times.

8.3 Analytic findings of the research

In the analysis of the current data ‘asking questions’ (Koshik, 2010) and ‘storytelling’ (Pederson, 1995; Ma, 1994; Pesola 1991) are the main pedagogical practices the teachers use to initiate interaction.

In the majority of the classes recorded, teachers initiate interaction by posing FPP questions which are mainly ‘display’ or ‘referential ones’ (Long and Sato, 1983). The answer to the display ones is known to the teacher, or the answer is evident as it appears on the IWB screen; yet, by posing this type of question the teachers aim both at testing students’ knowledge as well as at offering them the chance to practice previously presented knowledge, or material. In this research, I distinguish between two types of display questions, which I call ‘direct’ and ‘covert’ ones. In direct display questions, the teacher’s clear intention is to test students’ knowledge. This is mainly achieved by encouraging the type of interaction: the teacher introduces, the IWB initiates, then the physical and interpersonal interaction between student-IWB follows, the teacher intervenes with comments or hints that provide the necessary scaffold to the student, the student responds, sometimes the IWB evaluates, and finally the teacher verifies. In other words the students’ knowledge appears to be tested by certain types of exercises which are characterised by a specific, pre allocated participation pattern which serve the demands of the exercise.
However, in ‘covert display’ questions, the teacher’s priority is to stimulate students’ interaction and then test their knowledge. In order for students to be able to answer these type of questions the following steps are taken: the teacher poses rhetorical preface questions addressed to all students, but at the same time, taking advantage of the variety of modes available on the IWB, as well as the techniques which the IWB functionalities provide, the teacher presents on the IWB screen material which accompanies her speech. Making use of a combination of different modes of presentation along with her speech and her body language (mainly hand movement, and eye contact), the teacher manages to direct students’ attention on the IWB and its content. Students’ curiosity and interest are excited and thus prompted noticing is achieved (Schegloff, 1977: 87). The use of a combination of concurrent modes, along with the teacher’s speech, who guides and scaffolds students, help so that the input data become apperceived, and as a result, the students become more inclined to participate. It is interesting that in instances where different functionalities of the IWB are used to present material in a combination of modes, then the element of surprise dominates, and the students are prone to interact with their participants.

The teacher poses the FPP of a covert display question, and the students seem initially to interact internally (intra-personal interaction) with the teacher’s speech and the visual or audio stimuli displayed on the IWB, by enacting various cognitive procedures like memory, attention and aptitude, or at least this is what the teacher’s intention was (for example: Look here; Do you remember?; Can you see? among others). In all these cases the students are required, after extracting the necessary information, to provide the SPP to the teacher’s preceding FPP. Very often, the IWB provides either the answer, or else just hints presented in different modes. The students are required to transfer this information into oral speech. In short, the IWB plays the role of the scaffolding in two different ways: initially by motivating and encouraging students to participate and secondly by making the process of providing an answer to the teacher’s preceding FPP look manageable in their eyes since the information the teacher is asking for is just there, in front of him/her and s/he is just expected to use it.
Some students respond to the demands of the posed question without any external help. On the other hand, there are a substantial number of students who provide a one word answer or even one syllable sentences. In these cases, the teacher tries to encourage and support them in order to manage longer exchanges using a funneling pattern of questioning. The teacher manages to understand through the students’ incomplete answers, what they have or have not noticed in the output so far presented, and accordingly, she directs their way of thinking by posing a series of simple questions, where each one builds on the answer of the preceding one. In other words, the teacher scaffolds their way of thinking by posing funneling questions (what can you see here? Why is the fish dead? Is the sea clean?). The teacher proceeds by posing further questions, always supplementing her speech with the IWB input presented in different combinations of modes and making use of different techniques of presentation. It is important to note that all this time the IWB remains in the foreground of their attention. During the whole process, the teacher more often, and rarely the students, manipulates the IWB material, either by changing the mode or the way of presentation, or even by changing its format. The participants, both the teacher and the students, often make ‘embodied use of the input’ which means that they physically interact with the input presented through the IWB in different modes and different forms. This way of handling the input presented on the screen of the IWB seems to facilitate the process of input noticing. At this stage the input received must have become apperceived. Now, the student, based on the information or hints he receives from the IWB and the teacher’s or other students’ supplementary help, finally manages to provide the required answer.

In cases in which students do not respond to the teacher’s call to answer the FPP, the teacher takes the speakership and initiates the SPP. However, she suddenly cuts off, or sometimes in a rising intonation stretches the last vowel of the current word and then cuts off. These are techniques which the teachers appear to use extensively as an alternative way to stimulate students’ participation. They are called perturbations and they represent an indirect call to all students to intervene by taking the speakership and completing the pending SPP. Sometimes the teacher even refers students to the IWB for further support, since the answer is often found there and the student is just expected to decipher this information.
Apart from display questions the teachers also use referential questions, or open ended, evaluation questions which seem to give students the freedom as well as the responsibility to decide on their answers. Before the teacher poses the referential question, she uses different IWB functionalities and modes of presentation to set the scene which frames the current question, attracts students’ attention and also stimulates students’ participation in the classroom. The students, either respond immediately and provide their own answer, or sometimes contribute separate increments and collaboratively construct an answer or even a story. On the whole, the teachers seem to use this type of questioning to encourage students to participate in the narration of a story.

The narration of stories is the other pedagogical tool which the teachers use to stimulate classroom interaction. During the narration of the story, the teacher’s speech is complemented by material presented on the IWB. In instances like these, the IWB becomes the ‘visual or oral narrator’ of a story, while the participants become the ‘animators’ or even the ‘principals’ (Goffman, 1974) of what they watch, or else, of the story under construction. Embodied use of the material presented on the board is used abundantly. Any contribution to the story by the students, no matter how important or pointless it may seem, is welcomed.

It is notable, that no matter which pedagogical tools the teachers use, whether these are display, referential questions, or storytelling, no matter what techniques are used (perturbations; funneling questions; open ended or evaluation questions), when complemented by stimulating material presented on the IWB, encourage the wide use of multiple response sequences (MRSs) which characterize institutions like the classroom.

8.4 The role of the IWB
In most of the above recorded recurrent exchanges, the IWB acts as a mediator between the teacher’s questions and the students’ answer. The type of interaction developed is mainly of the type (T IWB S) and the IWB is used as a resource that participants can interact about (Beauchamp and Kennewell, 2008). Looking at the IWB from a different point of view, I would add that the IWB can also be considered as the silent ‘navigator’ (Goffman, 1981) of somebody’s ideas,
probably the software designer's or the photographer's ideas which are expressed through these visual/audio images. In this case, the teacher with funneling questions mediates between the student and the IWB. Since the IWB is the source of information, the carrier of thoughts, and since participants refer to the images projected on that IWB, it could be claimed that the IWB is assigned the role of a ratified, specifically addressed, however silent, participant who plays the role of a scaffold, who inspires, motivates students but at the same time the one who provides the scaffolding for students to modify, negotiate, repair and finally respond to the classroom demands as these are expressed through the teacher's questions. Considering the IWB's role from this point of view, I would say that the IWB is used not to interact about, but to interact with. So, the IWB's intervention, or else its scaffolding helps students manage to fulfil long or short term teaching and learning goals. However, the teacher's intervention during this internal-interaction, between the student and the IWB (S-IWB) is crucial as the teacher navigates students' attention as well as their way of thinking and their interpretation of the IWB foregrounded modes constructively. Finally, the analytical way of describing the process which the students follow in order to manage the teacher's questions would constitute: firstly, an indication of whether students have acquired previously taught input; secondly, a proof of their state of knowledge; thirdly, a chance for further practice, and finally, a way to be introduced to the next part of the lesson.

What is notable in these exchanges is the teacher's extensive use of a combination of modes, spoken mode, body movement, concurrently with a variety of combinations of the IWB modes which results in high intensity actions which immensely encourage MRSs where the students' participation is encouraged. In fact the students are stimulated and work collaboratively to construct compound turns. In certain cases, they even inspire communication outside the prearranged teacher's lesson plan.

To sum up, the teaching patterns in the classes recorded, despite the IWB's implementation, interchanged between teacher-centered and IWB-centered. However, in the instances studied here, the students are recorded to take an active role, as individuals, ratified particularly addressed participants, as well as
ratified not particularly addressed participants. However, some participants stimulated by the IWB often claim the right to become particularly addressed and some others to become substantially ratified by producing lots of private speech. In most cases the classes seem to be teacher-centered, from the point of view that it is not actually the multimodality of the IWB, or the multi-sensory input presented on the IWB, but it is the way the teacher manages to organize the concurrent presentation of different modes and the way the teacher navigates students to constructively handle this information.

However, this research is not considered sufficient to draw such conclusions but the insights drawn here could be indicative for future research in this direction: the IWB and its multimodality, the way the teachers handle this multimodality and the was students’ respond to it.

In this project, an analytic approach to EFL classroom interaction in relation to the IWB implementation was attempted. The contribution of the CA as a research method was determinant. The examination of the turn allocation system and the organization of the structure of series of turns in relation to the use of the IWB brought to the fore invaluable details concerning the reciprocal character of classroom interaction and its peculiarities. Above all, it provided evidence that the IWB can have an impact on classroom interaction provided the way it is incorporated in EFL classroom pedagogy makes the most out of its functionalities.

8.5 Limitations of the research and recommendations
This project was exclusively situated in EFL classes in Greece. The classroom interactions as well as the teacher’s and students’ attitudes towards the IWB or any other ICT, as these are described here, concern Greek context therefore they may apply to societies with a similar background or culture and differentiate from other societies, with a different background or culture.

Moreover, as I have pointed out above, teachers are the main managers of classroom interaction. Hence, teachers with a different personality and different social background would probably have encouraged different types of interaction. Longitudinal studies would provide a more reliable picture of the existing climate in foreign language classrooms where the IWB used.
This research data comprises small classes, of five to six students each. It is difficult to say whether the interaction developed in these classes would apply to bigger classes of 20-25 students which represent the majority of classes in state schools. It is difficult to say whether the participation patterns would remain the same. In this respect it would be interesting to study how different size classes would employ the IWB functionalities and what the nature of interaction developed in these classes would be like.

Heritage and Atkinson (1984) claim that ‘no tool of observation or interview would be adequate to sufficiently depict every detail of the interaction’ (1984). However, I think that CA complimented by a multimodal analysis might have provided us with more details, which might have been missed here. Moreover, the way modes are utilized, as well as their intensity, might have also been described in more detail if a multimodal analysis had been employed in accordance with CA. However, time limitation and the complexity of multimodal analysis, both rendered such a venture rather impossible at this project.

Although it is not within the scope of this research to investigate whether the interaction that the integration of the IWB promotes can enhance the process of second language learning, this research provides significant indications in this direction. Longitudinal study is needed to provide solid evidence of the relation of the IWB implementation in the process of second language learning.

It is hoped that this study can contribute in part to future research projects on multimedia technology and classroom interaction.
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Διαδραστικοί Πίνακες στα Ελληνικά σχολεία από την MLS πληροφορική, @12/5/2013

Διαδραστικοί ηλεκτρονικοί πίνακες στα ελληνικά σχολεία (9/5/2013)


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Ημερομηνία

Αγαπητοί γονείς,
κηδεμόνες
Ονομάζομαι Αδαμαντία Γκιουζέλη και είμαι καθηγήτρια Αγγλικών με οργανική θέση στην Α' περιφέρεια Αθήνας. Αυτό το διάστημα κάνω μεταπτυχιακές σπουδές (διδακτορικό) στο Brighton University-East Sussex, UK στο τμήμα Media, Language and Communication. Στο πλαίσιο αυτών των σπουδών εντάσσεται και η διεξαγωγή έρευνας σχετικά με την επίδραση του διαδραστικού πίνακα στην διδασκαλία και στην εκμάθηση της Αγγλικής ως ξένης γλώσσας'.

Πιο συγκεκριμένα το αντικείμενο της έρευνας αυτής είναι να διερευνήσει τον βαθμό στον οποίο ο διαδραστικός πίνακας ενθαρρύνει την επικοινωνία και διάδραση μεταξύ των μαθητών, την συνεργατική μάθηση και κατ' επέκταση την εκμάθηση της ξένης γλώσσας. Ο αναλυτικός σχεδιασμός της έρευνας έχει συζητηθεί και εγκριθεί από 5μελή ομάδα καθηγητών του πανεπιστημίου του Brighton, όπως και από την υπεύθυνη για θέματα δεοντολογίας της εκπαιδευτικής έρευνας, του τμήματος στο οποίο ανήκει.

Βάσει των οδηγιών του πανεπιστημίου, για την επίτευξη αυτής της έρευνας θα πρέπει να γίνει βιντεοσκόπηση/ηχογράφηση 10 διδακτικών ωρών του τακτικού προγράμματος μίας τάξης. Στην έρευνα δεν απαιτούνται και δεν θα καταχωρηθούν τα ονοματεπώνυμα των μαθητών. Τα δεδομένα θα αναλυθούν με την μέθοδο 'ανάλυση συζήτησης' γνωστή ως 'conversation analysis' θα καταχωρηθούν στο αρχείο αυτής της διδακτορικής διατριβής. Θα φυλάσσονται εκεί με ασφάλεια για όσο διαστήμα αυτή διαρκεί. Μετά την περελευση δύο ετών απο την ολοκλήρωση της τα αρχεία αυτά θα καταστραφούν.

Η συμμετοχή μαθητών σε αυτήν την έρευνα θα συμβάλει ουσιαστικά στην ανάπτυξη νέων επιστημονικών συμπερασμάτων όσο αφορά στην χρήση νέων τεχνολογιών- διαδραστικός πίνακας για την εκμάθηση της ξένης γλώσσας.

Για την διεξαγωγή αυτής της έρευνας απευθύνθηκα στον διευθυντή του σχολείου και στον σύμβουλο σπουδών Κύριο………………… Τους Εξέθεσα το σκοπό και τις λεπτομέρειες αυτής της έρευνας και αφού συζήτησαμε αποφάσισαμε μου έδωσαν την άδεια τους για την διεξαγωγή της έρευνας.

Με αυτήν την επιστολή θα ήθελα να ζητήσω και τη/ο……………….. σε αυτή την έρευνα. Η συμμετοχή δεν είναι καθόλου δεσμευτική και οποιαδήποτε στιγμή αποφασίσετε είτε εσείς, είτε το παιδί σας, μπορείτε να αξιοποιήσετε αυτήν την άδεια για την επιστημονική σας ζωή ή ενημερώσεις. Κατά τη διάρκεια της έρευνας θα ενημερώνω συνεχώς με τα στοιχεία που υπάρχουν.

Εάν έχετε οποιαδήποτε απορία ή ερώτηση σχετικά με αυτή την έρευνα παρακαλώ επικοινωνήστε μαζί μου στο 210 6727281 ή γράψτε μου στο dgiouzeli@yahoo.com. Τα στοιχεία των

APPENDICES
APPENDIX 1
Consent Letter
επιβλεπόντων την έρευνα καθηγητών όπως και δικό μου αναλυτικό βιογραφικό σημείωμα θα είναι στην διάθεσή σας εφόσον αυτά μου ζητήθηκαν.

Αν συμφωνείτε με τα προαναφερόμενα, παρακαλώ να υπογράψετε πιο κάτω.

Ο κηδεμόνας,                                                                                                        Ο μαθητής/ Η
μαθήτρια

Με εκτίμηση,

Αδαμαντία Γκιουζέλη
APPENDIX 2

The Translation of the consent letter

Dear Parents/Guardians

My name is Adamantia Gkiouzeli and I am a permanent English Language Teacher at the 6th state primary school of Nea Philadelfia, in the First District of Athens. Currently, I am undertaking post-graduate research (PhD) at the University of Brighton, East Sussex, UK at the Department of Media, Language and Communication. This degree involves research in order to investigate the influence of the Interactive Whiteboard (IWB) in the teaching and learning of English as a Foreign Language.

In particular, the aim of this research is to study the potential of the Interactive Whiteboard to encourage communication and interaction between students. The detailed plan of this study was presented and approved by the Brighton University Committee as well as by the ethics committee of the Department to which I belong.

Part of this research entails the video/audio recordings of 10 teaching hours of a class. The method that will be used for the analysis of the data is called Conversation Analysis. The names, or the age of the students are not required to be recorded and they will not be recorded. The above recordings will be stored securely in my project archive for the duration of the doctoral study and for up to two years following completion of the thesis. The data will be used only for scientific purposes in conferences or as references in well-established scientific journals.

The participation of the students in this research will contribute to the development of scientific conclusions as far as the use of new technologies is concerned and more specifically regarding the use of the IWB for the learning of a foreign language.

For the conduction of this research I have contacted Mr/Mrs [Insert: manager of the school/ headmaster], Mr/Mrs [Insert: the Director of Studies; and insert: the teacher of the class] and I have presented the aims as well as all other details concerning this research to all of them. The school administration and the teachers are all happy to cooperate with this research, and have given me their consent to proceed on the condition that the parents of the children also agree.

With this letter I would like to ask your consent for your child [insert: child’s name] to participate in this research. His/Her participation is in no way compulsory and will take place only on the condition that both you and your child give your consents. Under no circumstances should this
participation be considered binding and you or your child could ask to withdraw at any time. You could even ask for his/her part to be deleted. Your rejection in participation of this research would have no effect on the course of his/her studies. You will receive written confirmation when this research is completed.

If you have any queries concerning the research you are welcome to contact me on the following phone number 210 6727282 or email me at dgiouzel@yahoo.com. The details of my supervisors as well as my CV are at your disposal if at any time you request them.

If both parent and child agree with the above please sign below.

The Parent/Guardian  The Student
APPENDIX 3

OBSERVATIONS-FIELD NOTES

Level Junior
Subject: English
Number of students: 7 students: 4boys+ 3girls
Age: 5-7
Use of the IWB

The kids enter the class, say “Hello” to their teacher.
While trying to make themselves comfortable in their seats and take their things out of their bags, they talk to themselves (I have to open my bag, take my things out etc) or to their classmates, using their native language.
- The T takes a teddy bear and goes from pupil to pupil encouraging them to greet the teddy bear.
- T uses flash cards to revise previously learnt vocabulary. Every time a P finds the right word that the card depicts, she is given that card.
They really enjoy the activity. They shout the answers, laugh, in moments of absolute enthusiasm even stand on their seats.
A little shy/reserved girl that has not got any cards so far, at some point she shouts the answer, and at the same time she stretches her hand to get the card. To her disappointment the T gives it to another girl. She looks not only frustrated but angry with the T as well!!! She gets the next one though, and she looks proud.
When the activity finishes Ps have to count how many cards each one of them has got. In this way they revise the numbers. The T’s tone of voice is rather low and she doesn’t seem to share her Ps’ enthusiasm. During the task she is holding back and
- T uses a poster on the wall to elicit from Ps phrases/verbs like:
Teddy is running, jumping etc. She uses her hands a lot to imitate...Ps start to look rather tired, probably bored, and start to drop their pencils to find an excuse to move from their desks. Some start making (use of the native language) irrelevant comments.
T asks ps if they want to play a game on the IWB. Immediately the mood of the whole class raises dramatically. They initially do a “look, listen and repeat” activity from a CD picture dictionary. Ps look at the picture, listen to the word and simultaneously look at the transcription of the word.
Main Activity: “Look and shoot”. Ps listen to a word while a number of words scroll on the board. They have to shoot the one they have just heard. T helps a lot because it is a very difficult activity for their level. It is an individualistic activity. However, the pupils act as a whole group and encourage their classmate who is on the board. They even step on their chairs!

Another activity follows based on the vocabulary they have just learnt. “Click to find the identical pairs”. Each P comes on the board and tries. Again each P comes on the board and clicks buttons to uncover the pictures behind the box/buttons. At the same time they can listen to the pronunciation of the word. They really enjoy the activity. You can see the enthusiasm on their faces, how they shout, encourage each other. When the time is about to expire and their classmate hasn’t finished, they look more disappointed than her. They behave as if it was a group activity.

A little P is too small/short and can’t reach/ touch the appropriate button to open the pictures she wants. The T helps a lot.

During the whole activity, they don’t seem to listen to the pronunciation of the words at all. As if there was no sound. They are completely absorbed by the visual image, and the target of the activity: To find the identical pairs within a certain period of time.

(2)
Level: Class C
Subject: English
Number of students: 9 students: 5 boys + 4 girls
Age: 9-12
Use of IWB
Use of the active vote.
An activity for Sts to revise and for the T to evaluate them.
This is the 2nd time sts use the active mode. They are very cautious and reserved. They don’t want to make a mistake! In fact they give me the impression that they don’t seem to know what they are supposed to do. * But It is just a multiple choice activity and they are familiar with this type of excersises. A boy looks completely puzzled and although the T explains him what he has to do he is still very reserved.
They don’t let themselves enjoy the activity. That lasted for 10 min.
Then they moved on a written part of the revision test so I stepped out of this class to another one.

(3)
The IWB is on!
The T brings a tape recorder in the classroom and they do a ‘Listen and read’ activity.
Afterwards T reads, translates and then asks Sts to read the text aloud in turns.
T is very friendly, moves around, helps and encourages Sts a lot.
After sometime Sts get bored. They sharpen pencils, drink water... They start making noise. T demands absolute silence, raises her voice but they do not seem to listen to her.
She writes on the IWB the homework she assigns them.
They all make comments, ask her clarification questions about the homework. They all seem to concentrate on something common (what they have to do for next time). They seem full of life !!!!
They continue with different types of short questions/activities (aurally) where the T wants to check their knowledge. They find it very easy/ no challenge probably? and therefore very soon get bored. They all yawn. Me too!

(4)
D Class
Greek language (8.15 to 9.45 am)
Lesson : Greek language
Number of students: 22
Age: 9 year old

The sts get in the class and cheerfully greet the teacher.
They write dictation. T dictates and sts write.
T moves around and helps sts. especially a boy by raising his consciousness so he himself corrects his mistakes. T seems very patient. She keeps repeating phrases every time a st asks. Sts seem to be very relaxed. No stressed at all.
T gives out photo-copies 'Instructions how we play a game'. The game is based on a Greek myth. Sts are asked to read for comprehension.
T asks questions. They all volunteer to answer. They have personal experience from the games they play in their everyday life. Full of enthusiasm.
T raises consciousness/elicit the answer to the questions she poses. They also make comments and expand from their background knowledge so they all together reconstruct the myth. Sts in turn add something. Like a puzzle.
T grasps the chance and she makes them subconsciously revise the mythology they had been taught the previous year. Every time they refer to a place T + Sts go to the map on the wall and spot the place. They all want to participate. In a moment of absolute enthusiasm a st even stands on the desk adding his piece of information while another one walks to the teacher who stands between them to attract her attention?/ to be heard . Some of them though seem indifferent. They don't remember the myth so they cannot contribute to the group.
When the T walks to the board to draw a diagram sts start talking. She reprimands raising her voice. She always connects what they say with their background knowledge, with images (Maps, diagrams)
Then they move to grammar. They revise grammatical rules in chorus. Again T elicits rules by posing questions. They sit in their desks as they feel most comfortable. A girl wants something and freely goes to her friend’s and then returns back. They don’t disturb anybody though.
One hour has passed and they don’t seem to be that tired.
They may not participate as much as before but you can say from the expressions on their faces that they pay attention to what she says. They are encouraged to use ‘the think aloud method’ and explain their answers.
When she realizes they are about to lose contact with what is going on in the class she raises her voice and she immediately brings them back.
There is a boy who seems to be the ‘absent minded’ type of st., known to everybody. T using patience and humor brings him back
Another activity change and their mood lifts again. T asks a question, Ssts raise their hands, stretch their hands and insist on their answering. When a st does not know a question walks at their desk leans over them and, and explains. T’s tone of voice is ‘awakening’ ‘live’, although it is high, strong you wouldn’t say it is discouraging .On the contrary,

After some time they all look tired. They talk to each other, start moving, stand ...
The bell rings for the break.

(5)
Level: Elementary
Number of sts:6 sts 1girl +5boys
Age: 7-9 .

It’s 6.05pm, the lesson starts at 6.15.
As soon as a st comes in the classroom leaves his bag on the desk and moves around the table to talk to his classmates. The T tells them they are not allowed to move around in the class although the lesson hasn’t started. She is cautious because of the IWB. Although they do not seem to like it they do as they are told.
They talk about current topics, like Eurovision or make jokes on each other. They use L1.The atmosphere is very pleasant, friendly.
6.15pm The lesson is about to start and they keep asking for T’s permission to go out to drink water.
They are asked to do a revision exercise on possessives from their coursebooks. T gives them time to do the exercise on their own while she moves around the table and encourages/helps them. A girl, does not seem to be interested at all. T encourages her a lot. Most of them are interested in doing the crossword that follows instead. Without being told, they take the initiative to work in groups of two (Interesting???. When they all finish, each st reads a sentence in turn while T writes the answers on the board. When N’s turn comes she doesn’t know the answer. T tries to help her but the rest of the class scream, raise to give the answer themselves. The little girl looks

(6)

**Number of sts 24**

**Age: 10**

**Subject: History**

T asks, elicits the answers to the questions she poses.
Her aim is not just to check knowledge but mainly to reconstruct already acquired knowledge. They all raise their hands and they all want themselves to be the ones they will give the answer. Too much enthusiasm! They often go to the map hanging on the wall (visual image) to find the place they are talking about.
T brings a poster of the Minoan palace. They all stand up to have a better view. They talk too much, make jokes but also participate. The discussion evolves around this poster. She elicits the answers to the questions she poses and in this way they construct new knowledge. The visual image helps a lot to this effect. It excites their imagination, it helps them make connection between instances from their personal life experiences and the life in the Minoan palace. The answers are given accumulative, St1+st2+St3. So the whole class are working as a group, manage to construct the new lesson.
In their enthusiasm they all talk simultaneously. A lot of overlapping.
Some sts do not participate at all. They seem indifferent to what is going on around them. They play with their pencils, sharpeners etc. Another group of sts play too but at the same time follow the lesson.
There are some others who walk in the classroom (without asking T’s permission) they go to the bin of the class to throw something, or to the board, to lift something from the floor.... However, they don’t seem to disturb the rest of the class or they don’t lose their interest in the discussion that takes place. They participate but for some reason they just feel like moving around.
-They open their books, look at the pictures (visual image), describe them, or they just guess when something is not that clear. If they do not know the appropriate word to describe
something they use their body and imitate (e.g wine-press). then they read the excerpt that
follows. They read in turns, and draw conclusions. Another poster and the same procedure

Five min before the break, sts are assigned a true- false exercise. The class works as a group.
Some students do not follow and do the exercise they like most. They are tired, bored.

(7)
Number of students: 19
Age: 12
Subject: Geography

T is sitting at her desk.
They try to finish with the physics lesson that had not been completed during the previous
teaching period, before the break.
T asks questions, tries to raise consciousness and help them answer the questions. But it is
obvious that she is the one who
holds the knowledge, and sts just listen to her. (10 min)
T is standing between the Sts’ desks .
Students open their books, notebooks. They had been asked using either the internet at home,
or their encyclopedias or any other source, to bring in the class information about the North and
South Pole. Two students read the information they have
brought. Then they use the map on the wall to show where the Pole is.
T asks appropriate questions to elicit the answers. Previously acquired knowledge, personal
experiences are all retrieved to construct their knowledge.

They all seem to enjoy the lesson. They almost all participate, having something to add from
what they have seen on TV documentaries, books they have read, or their general background
knowledge. They all contribute equally.
Both T and sts hold a piece of information for the puzzle to be completed. The excitement
evoked is so pervasive?
Just one girl doesn’t share this excitement. She keeps interrupting, making irrelevant questions.
She has learning difficulties and Attention deficit hyperactivity disorder. They all know and they
ignore her. Although she often distracts their attention, this time they are so absorbed that they
don’t pay attention to what she says .They almost ignore her.
Back to their books. They read the relevant to what has been discussed excerpts. Initially they
seem interested, they expand on what they read, but after a while there is too much silence, they
are very quiet. Do they still listen? It’s time for break.
Number of students: 15 (12 girls, 3 boys)
Age 9
Subject: maths, fractions/division.

T asks whether they had difficulties solving the problems they had been assigned to do as a homework. She moves from desk to desk correcting, explaining. She initially gives them the chance for self-correction.
A st walks to the blackboard to solve a problem she had difficulty with. While working on the board the rest of the class works on their own. Sometimes they help too. The T encourages ‘the think aloud method’ so when necessary poses appropriate questions and in this way she leads her to the right path. The st manages to solve the problem and feels proud!
All the ‘weak’ sts come to solve a problem on the board, and the same procedure is followed.

T’s tone of voice is so calm. She also encourages sts a lot. On the whole it is a very quiet class. They all work intensively and seem to be concentrated on what is going on in the class.
APPENDIX 4

Unstructured Interviews

Questions addressed to the Head teachers/directors of studies/teachers

1. ICTs infrastructure: What ICTs are there available in your school?

CD players/ video /data projectors/computers

CD players/ video /data projectors/computers

CD players/ video computers

CD players/ video computers

CD players/ video computers/IWB 3

CD players/ video /computers/IWB 2

CD players/ video /computers/IWB 3

2. Where are they placed? In classrooms? In a lab?

ANSWER 1: There are CD players in every classroom, the rest are in the lab,

ANSWER 2: CD players and video sets in every class /PCs in a lab

ANSWER 3: CD players and video sets in every class

ANSWER 4: CD players and video sets in every class

ANSWER 5: CD players and video sets in every class PCs in a lab and 3 IWBs in three classes

ANSWER 6: CD players and video sets in every class, PCs in a lab, 2 IWBs in three classes

ANSWER 7: CD players and video sets in every class, PCs in a lab, 3 IWBs in three classes

3. Do you think ICTs are necessary/useful/important to be used for teaching purposes?

ANSWER 1: Depends on the way they are used

ANSWER 2: They are important

ANSWER 3: Yes very useful, the pupils are motivated
ANSWER 4: Teaching and learning are more fun and students concentrate on the board

ANSWER 5: The students love it (IWB), seem to enjoy the lessons more

ANSWER 6: Longer attention span, sts motivated, the lesson becomes more interesting for the teacher too

4. Would you like to improve the ICT infrastructure of your school?

Yes!!!

Yes

Certainly, but not at the moment

In few years

Yes, this is the plan

Yes, although it is difficult at the moment

Probably next year

5. How could you do that?

Waiting for the MoE!!!

MoE and fund raising

The MoE

6. Do all teachers have access to them?

Yes if they want and make arrangements in advance

Yes, theoretically

Yes

Only 3 rooms have IWBs

Only 2 rooms have IWBs

Only 3 rooms have IWBs

7. Do Teachers know how to use them?

Some of them

Most of them

Almost all

Yes
They do
The ones they have in their classes have been trained

8. **What experience do they have in using ICTs?**
Not much
short term training in computers
Self-trained
Few hours training in IWBs from the
Few hours

9. **Have they been trained? When? How long did this training last?**
They had some PC training in the past
Yes from the manufacturer

10. **Are they confident enough in using them?**
Not really
Some of them they are
Most of them
Yes they are
Not really
Not yet

11. **How often do teachers use ICTs in their lessons?**
Rarely
Almost all of them use the CD players daily but There are only two Ts who use PCs often
The CD player quite often, the video less
Only the CD player
The IWB daily
The IWB occasionally
The IWB daily
12. Do Teachers have technical support when needed?

No, only help from knowledgeable colleagues

No

Not really

No

No

Yes, the manager

No, a colleague helps us all when he has time
1. Transcription notation-Jefferson System

( . ) A full stop inside brackets denotes a micro pause, a notable pause but of no significant length.

(0.2) A number inside brackets denotes a timed pause. This is a pause long enough to time and subsequently show in transcription.

[ ] Square brackets denote a point where overlapping speech occurs.

> < Arrows like these, surrounding talk, show that the pace of the speech has quickened.

< > Arrows in this direction show that the pace of the speech has slowed down.

( ) Where there is space between brackets denotes that the words spoken here were too unclear to transcribe.

(( )) Where double brackets appear with a description inserted denotes some contextual information where no symbol of representation was available.

Under When a word or part of a word is underlined it denotes a raise in volume or emphasis.

↑ When an upward arrow appears it means there is a rise in intonation.

↓ When a downward arrow appears it means there is a drop in intonation.

→ An arrow like this denotes a particular sentence of interest to the analyst.

CAPITALS where capital letters appear denote that something was said loudly or even shouted.

= The equal sign represents latched speech, a continuation of talk.

:: Colons appear to represent elongated speech, a stretched sound.

? : A question mark at the beginning of a word indicates a weaker rise than that indicated by a standard question mark.

◦ pollution◦: Degree signs bracketing an utterance indicates that the sounds are softer than the surrounding talk.
APPENDIX 6

Transcription notation- personal signs

((T \rightarrow \square)): The teacher faces the IWB
((T \rightarrow ss)): The teacher faces the students
((T \leftarrow \square)): The teacher uses the IWB
((T \rightarrow \square \rightarrow SS)): The teacher faces the IWB and then turns to the students
To whom it may concern

I would like to confirm that Ms Adamantia Gkiouzeli is currently a research student at the University of Brighton, working on her doctoral study. She is researching teaching and learning in the Greek context, with specific emphasis on English language classes which make use of information technologies.

Her research depends on her having opportunities to observe classes in schools, and, with your agreement and the agreement of those concerned, to video those classes. All notes and video material will be kept securely and accessible only to Ms Gkiouzeli and her supervisors.

Please contact me at the above postal or the email address below if you have any queries about this research.

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