CONCEPTUALISING CLIL IN A SAUDI CONTEXT: A CORPUS LINGUISTIC AND CONVERSATION ANALYTIC PERSPECTIVE

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Abstract

This thesis is an investigation of the differences in language use between teachers and students in content and language integrated classrooms (CLIL) in a Saudi higher education context. It examines the use of the short response tokens "yes", "yeah" and "no" in four subject-specific classrooms where English is used as a medium of instruction. Adopting a social constructivist approach to learning, the study was conducted over two phases, one qualitative, using the principles of conversation analysis, the other quantitative, using corpus linguistics. This approach to analysis highlights the importance of combining conversation analysis with other quantitative methods such as corpus linguistics to enhance understandings of classroom interaction. The use of the two methods helps us to understand the relationship between language, interaction and the orientation to scientific knowledge in CLIL classrooms.

The thesis is a contribution to the existing body of knowledge on CLIL. However, unlike what has been done so far (e.g. Dalton-Puffer 2007; Nikhula 2005) this thesis focuses on the interaction inside CLIL classrooms using a micro-analytic account of turn-taking practices, repair and preference organization. By using a conversation analytic perspective, the thesis reflects on the relationship between socialization and learning in CLIL with special attention given to the active role of response tokens in talk-in-interaction as used by teachers and students. Finally, the thesis demonstrates how teachers and students use response tokens differently as a step towards understanding the interactional architecture (Seedhouse 2004) of a CLIL context.

The findings show that teachers and students use response tokens to carry out different interactional functions such as dis/agreements, acknowledgements, responses to confirmation checks, and to yes/no questions. However, the findings also show that there are some interactional functions that are exclusive to students such as a response to other-initiated repair and a response to a request to display epistemic access to information. Others, exclusive to teachers, include giving positive/negative evaluation and allocating a next speaker's turn. These functions demonstrate the relationship between interaction and pedagogical focus (Seedhouse 2004) and confirm the teacher’s predetermined institutional role.

Dedication

To my late mother, Alia Al-Atyyah, whose prayers, support and love had been instrumental in achieving my goals, yet never had the opportunity to see her dream comes true.

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Chapter 1. Introduction

1.1. Introduction

This chapter aims at summarizing the objectives of this thesis with specific attention given to the following: the purpose of the study, an overview of the study context and outline of the thesis.

1.2. Purpose and the scope of the study

CLIL is becoming an increasingly important phenomenon in not only Saudi Arabia but also worldwide (Graddol 2006). It is being introduced as a naturalistic environment for second language learning (Brinton et al.1989; Snow and Brinton 1997). This approach to language teaching and learning has been widely used in Europe, Canada and North America as an educational solution to the increasing influx of immigrants as a result of changes in immigration and education policies around the world (Eurydice Report 2006[1]; Dalton-Puffer 2007; Marsh& Wolff 2007; Wilkinson & Zegers 2007).

Saudi Arabia, similar to the rest of the world, is facing a need to change its educational policy due to undergoing tremendous social and economic changes that placed it in direct contact with non-Arabic speakers. This constant contact has increased the pressure on the Saudi government to face the challenges of preparing students to cope with this rapid change. As a result, the calls to teach students communicative strategies to help them deal with this increasing number of non-Arabic speakers coming to the country have increased.

Research in the field of EFL in the Saudi context, however, has shown that Saudi students are not yet ready for such challenges. Living in a monolingual society, most Saudi students leave school with communicative skills that are much less than is needed for many of them not only to cope with communication demands outside the classroom (e.g. entry to the World Trade Organization and vigorously pursued trade relations with Asian and Western) , but also to use language as a tool for learning scientific subjects and exploring knowledge at higher levels (Almeniei 2005, Al Noghaimishi 1985, Filemban 1981).

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[1] Eurydice Report 2006 url: http://www.eurydice.org

The majority of the Saudi scientific universities have adopted CLIL as a teaching approach towards achieving their goals of internationalization and globalization. However, it is important to mention here that those institutions do not recognize this approach as CLIL but rather as English as a medium of instructions. With the limited opportunities of English use outside school, the classroom remains the main source of language input in Saudi Arabia. This maximizes the weight given to interaction inside CLIL classroom and consequently the need to investigating it.

As will be explained in the coming chapter, the recent decades have witnessed increasing interest in CLIL. However, with the exception of Dalton-Puffer (2007), Pehkonen (2008) and Nikula (1997, 2005), most of the studies that have been conducted in this field are focused on the products of CLIL as a learning environment rather than the process of how CLIL is carried out. Dalton-Puffer (ibid) represents a shift in research focus from the product to the process as it uses a microanalysis approach to the context.

This thesis is an addition to the research that has taken this approach to CLIL, i.e. focusing on the process rather than the outcome. It aims at exploring the discourse aspects of the CLIL university classrooms in the Saudi context. It also gives an insight into how teachers and learners co-construct meanings in this context. Using a quantitative and qualitative approach to the data, this thesis reflects the relationship between language, interaction and the orientation to scientific knowledge in CLIL classrooms.

The thesis is also an addition to the studies that reflects the relationship between socialization and learning. By investigating the active role of response token in talk-in-interaction, this work sheds light on the differences between teachers' and students' use of language in SCLIL. It also shows how those differences are manifested, projected and responded to in a step towards understanding the interactional architecture of the Saudi higher education CLIL.

Finally, it shows how conversation analysis and corpus linguistics can be incorporated together to give a better understanding of the macro- and the micro aspect of classroom interaction in general and in the Saudi context in particular. To the best of my knowledge there is no study in the Saudi context that looks at CLIL at higher education within a linguistic and interactional framework that combines CA and CL. This makes this thesis a pioneer in that sense.

1.3. Thesis outline

The thesis is divided into ten chapters. Chapter one provides a general introduction to the thesis. Chapters two and three are allocated for literature review related to this study. Chapter two gives an in-depth view of CLIL, outlining the history of the term, and the theoretical background underpinning it and as well as the main characteristics of the CLIL classroom in general and the Saudi CLIL classroom more specifically, is also provided in this chapter. The chapter also summarizes some of the methods through which classroom has been investigated in the literature in order to determine the method that fits my context the best, and is concluded by some examples of studies that discuss classroom interaction, particularly those in a Saudi context.

Chapter three covers the literature review related to the focus of this thesis, i.e. response tokens. It looks at how response tokens have been studied through history and how they have been influenced by the framework through which they were investigated.

Chapters four, five and six are methodology chapters. Chapter four is a general framework. It begins by laying out the theoretical dimension of the research and looks at the overall research paradigm and epistemology. It discusses the background of the problem, key research questions and justification for the methods as well as issues related to validity as well as reliability.

Chapter five focuses on the conversation analysis part of the methodology. It is divided into two parts. Part one deals with the theoretical background of CA and its main characteristics. Part two covers the procedural part and detailed information on participants, the research context, and data collection procedures. Ethical issues and access to the research context are also discussed here.

Chapter six describes the second part of the methodology; i.e. the corpus linguistic approach. It is also divided into two parts. Part one discusses the theoretical background of corpus linguistics, its history and the difference between a corpus based-approach and corpus-driven approach. Part two is a description of the compilation process of my corpus covering areas such as the design, size, data collection, transcription and processing.

The research results are also presented in two separate chapters. Chapter seven summarizes the results of the corpus-based analyses of the data, providing wordlists and keywords of the teachers' and the students' corpus and examples of concordance lines that form the base to the next step of the analysis.

Chapter eight provides a detailed analysis of the functions of the response tokens based on conversation analysis principles. It shows how those tokens are used by the teachers and the students to co-construct meaning in the SCLIL classroom. The chapter also shows how corpus linguistics can be combined with conversation analysis to have better understandings of classroom interaction.

This is followed by chapter nine that covers a discussion of the results of chapter seven and eight in combination to draw a picture of the architecture of SCLIL classroom. The last chapter is a summary of the conclusion, pedagogical implications, contribution to knowledge and recommendations for future studies.

Chapter 2. Literature Review (I)

2.0. Content Language Integrated Learning (CLIL)

2.1. Introduction

This chapter gives an overview of CLIL including, the term, theoretical background as well as the previous studies that have discussed CLIL. It also sheds light on the difference between CLIL and EFL. The use of CLIL in Saudi Arabia is also discussed. The chapter also covers studies in classroom interaction in general and in Saudi Arabia in particular.

2.3. Background

The term CLIL is not new. It has been around since the 1960s. It started with French immersion education in Canada[2] and the bilingual language education programs in North America. However, it took a while for CLIL to be recognized as it is now, especially in Europe[3]. One of the well- known projects that look at CLIL in Europe is the 2006 Eurydice Reports. The project reports 30 experiences of CLIL throughout Europe. However, despite the intensive reports that came out of this project, it still raises questions regarding how natural CLIL is and whether it is truly a faster way of learning a second language as opposed to the traditional EFL classroom.

With regard to the term itself, the literature shows that CLIL has had different names and labels based on the context in which it is used and the philosophy up on which it is based. Recently, however, it has been used as an umbrella under which several approaches (e.g. content-based language instructions, bilingual education, theme-based language teaching, English across curriculum, immersion education and foreign language medium instructions) operate. Coyle (2006, p.5) states CLIL is a reshaping for language teaching practices (CBLT, CBL, ESP, EAP) into integrating

[2] For more details see Brinton et al. (2004)

[3] For information on the history of CLIL in Europe see Marsh et al. (2001)

both language and content in an authentic context. The term CLIL itself was launched by UNICOM in 1996 (Ruiz de Zarobe & Jimenes Catalan (2009, p.24)

Dalton-Puffer (2007, p.1) uses CLIL to refer to "educational settings where a language other than the student's mother tongue is used as medium of instruction". The extent to which the foreign language is used, she states, varies from a text in a course to the whole curriculum. Marsh and Lange (1999) also use CLIL to refer to the teaching of content and foreign language at the same time. Marsh (2006) defines CLIL as,

> a generic `umbrella' term to refer to diverse methodologies that lead to dual-focused education where attention is given to both topic and language of instruction. It is used to describe any educational situation in which an additional (second/foreign) language is used for the teaching and learning of subjects other than the language itself (Marsh 2006, p. 32).

In this thesis I have adopted the term CLIL to refer to the Saudi context where English is used as a medium of instruction to teach subject knowledge at higher education.

2.4. Theoretical background

Content and language integrated learning (CLIL) is a rapidly growing approach across Europe and throughout the world (Marsh 2006, p.33). Supporters of CLIL base their argument on evidence from theories such as Vygotsky's (1986) Social Constructivist theory, Krashen's (1982) Input Theory and Piaget's (1963) Cognitive Constructivist Theory. To them CLIL offers a comprehensive input and authentic material that "can become the object of 'real communication' where natural use of the target language is possible," (Dalton-Puffer 2007, p.3). It also forms a meaning-focused learning method (van de Craen & Mondt 2003).

Naves (2009, p.25) argues that most of the arguments in favour of CLIL come from SLA research and show that CLIL (1) creates conditions for naturalistic language learning; (2) provides a purpose for language use in the classroom; (3) has a positive effect on language learning by putting the emphasis on meaning rather than form; and (4) drastically increases the amount of exposure to the target language that learners have.

Opponents of CLIL, on the other hand, argue that teaching more than one language at a time hampers the learning process. Others believe that it would negatively influence the students' first language that would fall behind. Evidence from different European countries, though, did not support that claim (Marsh 2003; De Graaff et al. 2007; Mehisto & Asser 2007; Swain 1985). It is worth mentioning here that those studies were conducted in contexts where the exposure to the target language occurred at an early age and did not exceed 50 percent of the material to which the students were exposed. In my context, the exposure is more than 80 percent as the students study almost all the courses in English. In Saudi Arabia, my context, students attend university at the age of 18. They are adults who have full mastery of their mother tongue (L1) which rules out the possibility of any negative effect of CLIL on the students' L1.

2.5. Learning outcomes of CLIL

CLIL is a widely adopted approach to achieve the goals of internationalization. Though it is started in Canada and North America, it has gained great attention in Europe and recently the Middle East. Nevertheless, the introduction of CLIL has always been accompanied with controversy at different levels.

Despite the reported success of CLIL in North America and Canada, Europe has been a different issue. In Europe, CLIL is not used to introduce a second language. In fact, it is introduced to meet the EU political goals at the level of education as stated in the 2 + 1 formula (sometimes referred to as MT+2). The formula according to (Eurydice 2006: 8) states that every European citizen should be able to speak two languages apart from their mother tongue. However, the implementation of this formula has never been a straightforward easy mission. It has raised a lot of questions regarding the effectiveness of this new approach at the political and educational level.

This controversy, Dalton-Puffer (2008) states, is witnessed "on the level of local grass-roots activity on the one hand and on the level of EU policy on the other, "(p.1). The debate has been always around issues such as which foreign language to introduced, at what level, what type of teachers and the amount of foreign language teaching. The other issue regarding CLIL has been how natural is CLIL or how good or bad is it. Marsh (2002) notices a gap in deliver between the curricula and the learning outcome of CLIL. The supporters of CLIL find it as a fast and natural method to

teaching an additional language. They believe that by presenting language in a meaningful context will motivate the students and expand their cognitive skills (Kasper 1997, p. 318).

However, the process is not that straightforward. More coordination between the language and content is proved to be important (Snow et al. 1989, p.204). Teachers preparation is another issue that has appear to the surface. Kinsella (1997, P.50-51) criticised CLIL heavy dependence on the teachers' skills and making them directly responsible for simplifying the input and making it comprehensible for the students. De Graaff et al. (2007) investigate the effectiveness of the teachers' role in CLIL. They investigate how non-native teachers who lack a professional background in language pedagogy can play an efficient role in their students' acquisition of a foreign or a second language. Genesee (1994) notices the few opportunities available for the students in CLIL which, he argues, makes them listeners more than speakers. Those debates in addition to others have motivated linguists to investigate CLIL as an additional language learning context but before we get into studies into CLIL , we have to look at the methods within which classroom in general is investigated.

2.6. Methods of classroom investigation

Researchers widely agree on at least four traditions in second language classroom research. Chaudron (1988) summarizes those traditions as psychometric studies, interaction analysis, discourse analysis and ethnographic analysis. By psychometric studies, he means those studies that entail the use of pre- and post-tests for both control and experimental groups. Interaction and discourse analysis, he notes, cover research that uses analytical observation schemes. However, he distinguishes between the focus of the later two methods. He states that while interaction analysis "focuses on the social meanings inherent in classroom interaction", discourse analysis "focuses on the linguistic aspects of interaction." Chaudron identifies classroom ethnography as the fourth tradition that offers interpretive analysis of what is happening inside the classroom without tending to be objective or neutral. This research uses interaction analysis represented by CA as one of its tools to have an insight into CLIL classroom discourse.

2.7. Studies in classroom interaction

A considerable number of empirical studies regarding the various aspects of classroom interaction have been carried out during the last few decades. Research in the field of ESL has paid a great deal of attention to features of the second language classroom. The emphasis, however, has been placed mainly on classroom interaction and its nature. Equal attention has also been given to factors that affect the extent to which classroom interaction can be promoted in order to create better opportunities for learning.

Some linguists focused on interaction that takes place between the teacher and the students. Walsh (2002), for instance, believes that teachers' use of language in the EFL classroom is equally important as the methodology he/she uses. To him, the teacher's use of language plays a fundamental role in either facilitating or hindering the learners' contribution. Supporting the stance that there is a correlation between the extent of the learner's involvement and second language acquisition, he listed direct error correction, content feedback and extended wait time among the main features of teacher's language in the classroom that facilitate the learners' involvement. In contrast, he labels turn completion, teacher echo and interruptions as hinderers to learners' involvement and as restrictions to learning potential (Walsh 2002, p.16). Richards (2006), on the other hand, examines recent research in the area of SL classroom interaction with special focus on the research that paid particular attention to the last move of the IRF. He claims that there is an exaggeration in the way the 'pedagogic impact of changes based on specifiable discourse move' (p.1). He suggests an alternative approach that 'takes account of the dynamic nature of identity construction and its relationship to the development of ongoing talk'. He argues that conversational interactions do take place in SL classrooms if issues such as the 'shift in the orientation to different aspects of identity' are taken into consideration by analysts. The paper though, offers a good insight into the very important relationship between the discourse and the influence of the different aspects of the participants' identity.

Smith and Higgins (2006) evaluate the influence of the teacher's use of questions in the third move in creating what they refer to as interactive learning environment where students can get involved in discussion and knowledge sharing. The study, however, does not focus on the traditional distinction between open and closed question (Galton et al. 1999, in Smith and Higgins 2006). On the contrary, it argues that

what makes a question open or closed is the teacher's feedback or response to the students' answers to that question. The study concludes with five kinds of teachers' feedback moves that successfully create an interactive learning environment. For instance, when the teacher distances her/his feedback from being an evaluation of the student's answer as wrong or right, more communication takes place. In addition, when the teacher asks the class for agreement or disagreement, she/he invites more peer response to the student's answer. This encourages more involvement and participation. Finally, according to the same study, when the teacher gives up control over the lesson content and follows the students' ideas as a main drive for furthering the discussion, she/he could create a more interactive learning environment.

In summary, review of the related literature reveals that if there is anything that researchers in the field of EFL/ESL agree on, it is the dominance of the IRF cycle in classroom interaction. Wells (1993, p.2), estimated the use of IRF at 70 percent of 'the discourse taking place between the teacher and the learners'. Whether this is a good or a bad is, according to Wells (1993), by itself an issue among linguists. He cites some examples that show linguists' disagreement over the efficiency of this kind of mode in classroom interaction. For instance, linguists such as Sinclair and Coulthard (1975), in Wells (1993, p.2), considered this mood as a 'used by default' exchange on the part of language teachers, who have accepted it unless there is an exception. While others such as Newman, Griffin and Cole (1989), in Wells (1993, p.2), view the 'triadic exchange' as a nice tool to achieve educational goals. They argue that it gives the teacher a chance to replace incorrect with correct information during the teaching process.

By contrast, linguists such as Wood (1992), in (Walls 1993, p.2), criticise those teachers who use this type of format, adding that they tend to ask too many unauthentic questions that do not reflect the way learners think. Nassaji and Walls (2000) take a more moderate position, saying that even within this triadic exchange, opportunities for students' contribution can be found if it has been taken up by the teacher and developed into a topic for discussion. Their stance places more importance on the techniques that the teacher implements by the use of the third move in the IRF. Whether interaction inside CLIL is similar to EFL is something that I will discuss in the following section.

2.8. The difference between CLIL and EFL

Literature review shows that there are several studies that look at the differences between CLIL and EFL from different perspectives. Some of them, for instance, look at the pedagogical differences while others are focused on the learning outcome of the two approaches as will be explained in this section.

It is worth mentioning, though, that studies in CLIL are still in its infancy (Dalton-Puffer 2007) and that, unlike EFL, most of the studies that have looked at CLIL are focused on the product rather than the process of learning with few exceptions (e.g. Dalton-Puffer 2007, 2005; Nikula 2002, 2005) . Fontecha (2009) reviews the research in Spanish bilingual education reporting the number and types of CLIL initiatives in different regions of Spain up to the present time. She notes a shortage in CLIL research in general attributing that to social concern on bilingual education. She also notes lack of consistency with regard to the CLIL teachers' requirements and pre-service training. Finally, she emphasizes the importance of investigating the difference between CLIL learners and non-CLIL learners based on second language proficiency, motivation and cognitive engagement something that researchers such as Burger 1989, Lightbown 1992 and Ready and Wesche 1992 have done.

Dalton-Puffer (2007) states CLIL classrooms are different from other language classrooms in the sense that "language is neither the designated subject nor the content of the interaction, but the medium through which other content is transported," (p.3).

Coyle (2006) also recognizes the further requirements for CLIL classrooms when compared to EFL. She distinguishes CLIL from traditional EFL adding that the needs of CLIL learners are different from those of normal language classes, i.e. EFL. She states that:

> CLIL learners need to discuss debate, justify and explain using more complex language and different sorts of language than would be practiced in the regular foreign language lessons. In turn, the language needed is linked closely with literacy issues in the mother tongue – scaffolding language in a different way than in foreign language lessons is required (Coyle 2006, p.10).

Darn (2006), on the other hand, looks at the use of mother tongue (hereafter L1) in CLIL. He distinguishes CLIL from other education programs adding that there is no evidence to show that comprehension is not hampered by the lack of target language competence in other education programs such as the bilingual education. CLIL though, he argues, has the advantage of accepting translation especially during what is identified

as a ‘transition’ stage “at which the learners become fully functional in both languages” (p.3). The same can be said about CLIL when compared to EFL where teachers intentionally avoid the use of the mother tongue.

Burger and Chretien (2001) also investigate the effect of emphasising listening and reading skills on improving the second language pronunciation of learners who are subject to intensive content second language instructions (CLIL) compared to those who are not. They report that though the result does not show improvement at the pronunciation level of the CLIL learners, it confirms a significant progress in their overall performance and syntax. They believe that their finding goes with the belief that continuous exposure results in improvement in productive skills. The research, nevertheless, did not support the claim that CLIL is a better way of language learning than a traditional EFL classroom.

Burgi (2007), in Gallardo del Puerto (2009, p.66), investigates the level of English language proficiency and vocabulary level between CLIL and EF learners. One of the strongest points of the study is that it is a longitudinal as it is conducted over a period of three academic years in Switzerland. It concludes that the performance of CLIL learners outranks that of EF learners in both placement and vocabulary tests.

Gallardo Del Puerto et al. (2007) examine the effect of CLIL on students’ pronunciation compared to EF especially with regard to foreign accent production, intelligibility and irritation of foreign accent, i.e. the effort a listener need to exert to decode the speech. They use a scale of one to nine for each category. For example, the learner gets a (1 point) when his accent is impossible to understand and (9 points) when it is extremely easy to understand. The assessment is done by five native speakers of British English, which, as they note, raises the question regarding the reliability of the assessment tool. But they state that the inter-judge correlation test is significant but not with all aspects. The study reports high correlation among judges when it comes to intelligibility but when it comes to degree of the foreign accent or the irritation it causes, the inter-judges correlation results are not significant.

The study concludes that despite the difference among judges with regard to the degree of foreign accent as well as degree of irritation, the general results indicates that the students who had more exposure to the target language via L2 content-based instructions have more intelligible foreign accent than their counterpart who had only traditional EF classes.

Based on the previous discussion, we can conclude that though CLIL is considered as a more natural and economic environment for language learning than the traditional EFL classroom, it still has its own requirements that are not necessarily required in the EFL classroom. Those requirements include a specific level of the target language upon which teachers can build. It also requires some learning skills such as the ability to justify and explain in the target language. It might be argued, though, that such skills are usually acquired at earlier stages by the virtue of learning the same content subjects in L1 at earlier stages but this is not always the case especially when CLIL is introduced at primary and intermediate stages.

2.9. Framework for CLIL classroom

Coyle (1999) presents what is referred to as the four C's framework of CLIL. According to that framework, CLIL should cover four important areas: cognition, content, communication and culture. She notes that effective CLIL only takes place in the context where the subject matter (content) is integrated with developing higher thinking skills (cognition) as well as communicative and intercultural knowledge. Darn (2006), on the other hand, talks about CLIL at a more specific level. He argues that a CLIL classroom should have a four-stage framework. He summarizes those stages under the following:

1. Processing the text: the best texts are those accompanied by illustrations so that the learners can visualize what they are reading. When in a foreign language, learners need structural markers in texts to help them find their way through the content.
2. Identification and Organization of Knowledge; texts are often represented diagrammatically. These structures are known as 'ideational frameworks' or 'diagrams of thinking', and are used to help learners categorize the idea and information in a text.
3. Language identification; learners are expected to be able to produce the core of the text in their own words. They may need the language of comparison and contrast, location or describing a process, but may also need certain discourse markers, adverb phrases or prepositional phrases. Collocations, semi-fixed expressions and set phrases may also be given attention as well as subject specific and academic vocabulary.
4. Tasks for students; there is little difference in task-type between a CLIL lesson and a skill-based EFL lesson. A variety of tasks should be provided, taking into

account the learning purpose and learner styles and preferences, receptive skill activities of the read/listen and do genre (Darn 2006,p.5).

Naves (2009, p.34) lists the following characteristics of successful CLIL programmes:

1. Teachers exhibit active teaching behaviours such as giving instructions clearly, accurately describing tasks, maintaining learners' engagement in instruction appropriately and communicating their expectations for students' success.
2. In presenting new information teachers use appropriate strategies such as demonstrating, outlining and using visual. Teachers monitor students' progress and provide immediate feedback whenever required. They check comprehension constantly, achieving high level of communication between teachers and learners and among learners themselves.
3. Effective instruction is aided by allowing learners to respond in a wide variety of ways: from verbal responses both in L1 and L2 to non-verbal responses (responding by doing) in early stages, but they are gradually expected to respond only in the Target Language (TL) once they show enough command on the TL.
3. Consistent integration of cognitively demanding academic content and the TL. Cognitive ability and processes such as identifying, comparing, drawing conclusions, finding similarities and differences and so on are integrated in the design of the programme.
4. Teachers respond to and use information from their students' home cultures.
5. Task work includes hands-on tasks, experiential learning tasks, problem-solving tasks and so on.
6. Collaborative learning, autonomous learning and self-directed learning are also suggested by some CLIL specialists.

Coyle (1999) and Naves (1999) studies have contributed a great deal to our understanding of how a good CLIL classroom should be from a pedagogical point of view. Nevertheless, they fall short in explaining the micro-details of how meaning is co-constructed inside CLIL, something that this thesis is doing. This thesis complements the work of other scholars in the field of CLIL by reflecting the nitty gritty detail of interaction based on a naturally occurring data. Walsh (2002, 2006) emphasizes the

importance of understanding classroom interaction for the process of facilitating learning.

2.10. Interaction in CLIL and EFL

As have been mentioned in section (2.5) there are few studies that focus on the detailed interaction inside CLIL. The studies that looked at CLIL e.g. Dalton-Puffer2005; Nikula 2002, 205: Dalton-Puffer and Nikula 2006) have used mainly a pragmatics framework to investigate the context.

In general, CLIL and EFL classrooms are both considered as institutional settings where the participants invoke the institution into being through their interaction and roles are predetermined (Drew and Heritage 1992). However when it comes to studies that look at the detail of the interaction, EFL context outrank CLIL (e.g. Mchoul 1978; Seedhouse 2004; Walsh 2002, 2006).

Seedhouse (2004) gives a detailed account of the interactional organization of L2 classroom interaction. He pinpoints the very important relationship between interaction and the pedagogical focus of the teacher. Discussing the main interactional features recognized by CA such as repair and turn-taking, he identifies four micro-contexts in every classroom (e.g. form-and accuracy, meaning-and- fluency, task oriented and procedural context). Walsh (2011), on the other hand lists four features that are typical to all classroom. I will use those four features to list some of the interactional features that differentiate CLIL from EFL. Table (1) summarizes the differences between interaction inside CLIL and EFL based on the literature review.

	EFL	CLIL
Control of the interaction	The teachers have control over the talk. They manage the topic and turn-taking (Walsh 2011). Seedhouse (2004) argues that teacher control is witnessed in some context but all and that there are context when the learners mange turns locally and creatively. Dominated by IRF sequences that are initiated by teachers.	CLIL has constraints on the interaction like all classrooms and students do not enjoy the same right and power like teachers (Dalton-puffer and Nikula 2006). However, the asymmetrical relationship is less than EFL (Nikula 2007). Students imitate IRF sequences more than teachers (Nikula 2007)
Speech modification	Teachers tend to modify their talk as if they are talking to children in order to help the students to follow (Walsh 2011). A lot of clarification requests and confirmation checks.	Less speech modification (Dalton-Puffer 2007)
Elicitation	Dominated by display questions that are posed by the teachers. Referential questions can be witnessed occasionally (Walsh 2011).	Display questions are typical instruments for elicitation and as structuring devices. Questions are used mainly for facts and occasionally for reasons or explanation. It is less likely that students ask questions (Dalton-Puffer 2007)
Repair	Students expect their errors to be corrected (Walsh 2011). Seedhouse (2004) argues that though there is no single organization of repair in EFL, all learner utterances are subject to evaluation. Repair targets mainly the linguistic aspect of the communication.	Repair varies depending on the type of activity, i.e. teacher- or student-centered. Repair is direct and with little linguistic modification evidence. Mainly focused on factual content errors. Phonological and grammatical errors receive the least repair (Dalton-Puffer 2007)

Table 1: summary of EFL vs. CLIL interactional features

2.11. CLIL in Saudi Arabia

Unlike the European Union, in Saudi Arabia CLIL is not the focus of educators' attention or a spoken about term. Yet the number of schools and universities that introduce subjects in a foreign language is increasing, especially in the private sector.

Only when the students join universities, they are exposed to scientific subject in English. In most of the cases, CLIL is introduced under the term English as medium of instruction. That is to say, CLIL at the Saudi higher education is more or less content rather than language-driven (Dalton-Puffer 2007, p.7). In the context where this study is conducted, the term CLIL is not mentioned anywhere in the university policies or values. Yet the policy talks about internationalization, globalization and communication with the international community. For instance, Effat University states the following as part of its values:

> "The university believes in the integration of knowledge from both the humanities and the sciences, being convinced that the different scientific majors are targets to be attained through educational training that collectively contributes to graduate well-rounded students. For example, computer science students need language skills, which enable them to communicate successfully; interpersonal skills, which teach them the art of establishing and maintaining relationships; and Islamic Studies, which consolidate their ethical and religious values," (Effat University website[4]).

As can be seen from the previous text, successful communication, and interdisciplinary/cross-curricular teaching are among the core values of this university. It can also be understood that the university builds its policy on the principle that 'what can be learned in one subject can be used in another'. Because CLIL requires a minimal level of foreign language command, the university gives the students a placement test according to which they either join the targeted program or go through a foundation language course in an affiliated English language academy.

Effat University, I believe, stands as a good example of CLIL in Saudi Arabia higher education. Teachers there use English as a medium of instruction while Arabic is the only official language spoken outside the classroom in the country. CLIL supposedly benefits from the fact that the students are adults and have already been exposed to scientific subject in L1, which means they have already acquired the required skills of learning science such as explaining, justifying, and problem solving. They also have the benefit of being exposed to English for a minimum of six to seven years in a form of traditional EFL classes prior to joining the university. However, observing some of CLIL classrooms in the Saudi higher education I noticed that it is not

[4] http://www.effatuniversity.edu.sa/index.php?option=com_content&task=view&id=482&Itemid=550

much different from their EFL counterparts. CLIL classrooms are still widely dominated by the traditional Initiative- response- feedback/evaluation (IRF/E) cycle where the teacher introduces a topic and solicits the relevant contribution from the students (Nikula 2007). It is a teacher-centered classroom and the students' voices are rarely heard as will be illustrated in the coming chapters.

Since CLIL is a classroom then learning is expected to take place. Consequently, it has become essential to determine in advance what kind of learning is taking place. It has also become important to state clearly which language learning theory is adopted and against which the findings are assessed in this thesis. The most important learning theory that has affected the way the results in this thesis is assessed is Vygotsky's (1978) theory of socio-cognitive development. The socio-cognitive theory emphasizes the importance of social interaction in the cognitive development. Vygotsky (1978) states;

> Every function in the child's actual development appears twice: first, on the social level, and later on the individual level; first between people (interpsychological) and then inside the child (intrapsychological). This applies equally to voluntary attention, to logical memory and to the formation of concepts. All the higher functions originate as actual relationships between individual (p.57)

Vygotsky's ideas have been very influential in second language research and inspired a lot of work in the field of applied linguistics. Dalton-Puffer (2007) argues that "since actual relationship among humans are acted out through linguistic interaction to a significant degree, language plays an important role in Vygotsky's theory even though the overall aim of the theory is not to explain human consciousness as the end product of socialization" (p.9). This brings to the attention the importance of classroom interaction as a way of socializing to learn the language. The next section is a summary of some of leading the studies that have been conducted about classroom interaction.

2.12. Future of CLIL

In general, the review of the existing literature shows that there is a considerable amount of research that has covered CLIL in different contexts and at different levels (Marsh and Langé 1997; Marsh *et al.* (eds.) 1997; Mohan *et al.* (eds.) 2001; Johnson and Swain (eds.) 1997; Marsh 2002), yet what we know about CLIL is largely based on personal experiences or projects funded by governments such as the European Union

CLIL compendium. Empirical research on CLIL education has only started to become evident during the last decade (Dalton-Puffer 2007, p.48). The implementation of CLIL at different educational and professional levels has made researchers such as Van De Crean *et al.* (2008) call for looking at it as a comprehensive theory. They conclude that CLIL is more than 'another method of language learning,' (p.75). CLIL, they state, has implications for the learning process as a whole and is as such an innovative way of looking at education.

International associations of CLIL, such as CLIL compendium, call for a research-based expertise to inform CLIL education, (www.clilcompendium.com). Soetaert & Bonamie (1999) emphasize the importance of content-oriented learning combined with a constructivist perspective. They describe learning a subject matter as learning a kind of discourse and rationality that requires participants to socialize into that discourse. They also highlight the importance for research and theory that look at teaching and learning situated in subject learning. They state:

> teachers should be aware of how specific contexts generate modes of discourse, how teachers and students construct together the ways of using language that constitute their approach to a subject matter,(p.3).

This thesis looks at CLIL as a discourse where teachers and students co-construct meaning using language to socialize and place knowledge in a context in life that they can interact or communicate about. This approach to classroom discourse in the Saudi higher education context goes along with Dalton- Puffer (2007) call for more work with regard to the ways in which classroom interaction in CLIL is conducted in social and linguistic terms. The value of this work lies mainly in the fact that it looks at discourse in CLIL using a theoretical framework that combines principles of Conversation Analysis (CA) and Corpus Linguistics (CL). In other words, this thesis uses both CL, a quantitative method that helps in identifying the linguistics features of this discourse, and CA, a qualitative method that look at the micro-details of the interaction (see chapter 4&5). Before we get into how the combination of CL and applied CA can benefit the investigation of CLIL, it is important to review some of the studies that have investigated CLIL so far and how do they vary from the method used in this work.

2.13. Saudi Arabia EFL classroom

Saudi Arabia, like the rest of the world, has been influenced by the polarity between traditional and communicative approaches to teaching. For political and economical reasons, Saudi Arabia uses English as the preferable language for science and as a lingua franca. Nevertheless, when it comes to general education, it is taught only as a foreign language and is not introduced until the sixth grade. It is taught for a maximum of four, 45-minute classes per week. Yet research in classroom interaction is underpracticed in Saudi Arabia. Most of the work that has been done with regard to learning problems in Saudi Arabia looked at classroom within mainly a pure linguistics framework that focus on the product rather than the process. Even those that dealt with classroom interaction explored the issues using the traditional theories of second language acquisition overlooking the fact that to understand the nature of classroom discourse, researchers should take theories of interaction into consideration. A small number of researchers (e.g. Al Meniei 2005; Al Noghaimishi 1985; Filemban 1981) have focused on the interaction inside the Saudi classroom. To the best knowledge of the researcher, no work has been done to explore the different aspects of classroom discourse in the Saudi higher education in which CA and CL were combined.

Al Noghaimishi (1985), for instance, studies classroom interaction between Saudi high schools students and their teachers but from a behaviorist aspect. His study sheds light on the relationship between the students' perceptions of the teachers and student-teacher contact. The study uses reasoned action theory to draw predictions about behavior and intention. It looks at the reasons that lead students to contact their teachers regarding their school or personal issues. The student's demographic characteristics are also examined in relation to their prediction of the teachers' behaviors and their intention to contact them. Generally speaking, the study is considered as a psychological insight into the interaction between students and teachers and it does not refer to the nature of learning or teaching process.

Al Meniei (2005), on the other hand, examines the interaction between the Saudi students and their teachers inside the classroom, focusing on the reasons behind the low level of language proficiency and other learning related problems. He notes that lack of opportunities to use the language inside the classroom is among the main reasons that lead to the students' poor performance. One of the powerful aspects of this study is that it was a conducted over a semester within one EFL classroom. Since there is no perfect

single methodology, combining qualitative and quantitative approaches to investigate classroom discourse is one of this study's strengths. Using transcriptions of talk-in-interaction, the researcher successfully spots patterns of language use, norms of participation, typical communicative events, and the amount of participation in those events. The study focuses on the social aspect of language use inside the classroom capturing the relationship between the teacher's and student's language on one hand, and what counts as knowledge and language learning. To a more or less degree, this study is following the same approach to classroom interaction in Saudi Arabia. The difference though lies in the type of qualitative and quantitative method used to investigate the data. This study is an addition to the previous work on teaching and learning science in the social context of classroom. It, however, is informed by a view of scientific knowledge as socially constructed and by a perspective on learning of science knowledge construction involving both individual and social processes.

Chapter 3. Literature Review (II)

3.0.Responses Tokens

3.1. Introduction

In this chapter I discuss the historical background of response tokens. This is followed by section about the different studies that have been done with this regard within different frameworks such as pragmatics, CL and CA. Section 5 shows the advantages that CA has brought to the study of response tokens.

3.2. Historical background of research on response tokens

Literature shows that response tokens are important as a core discourse feature, therefore understanding its function is crucial to understanding the mechanism of interaction in any given discourse. However, the body of literature that covers this area is still limited compared to what has been done regarding the speaker's role in interaction. What is worse is that the studies that looked at the listener's role in the progress of the conversation inside the classroom are even more limited, which highlights the importance of further research in this area. This thesis is a contribution to the body of research that has tackled those tokens using a mixed method of quantitative and qualitative analysis. It is a window into classroom interaction from an aspect that has been rarely touched up on.

Response tokens are described by researchers as means through which co-participants regularly provide the current speaker with information as to how their talk was understood and receipted (Gardner 2001, p.3). It also demonstrates how the recipient aligns with the current utterance. In short, they provide information on the interlocutor’s stance on the prior talk. However, interest in those small but important tokens has only started with the work of Fries (1952) who investigated listener responses in telephone calls, followed by Yngve (1970).

In the following sections, I talk about response tokens showing the influence of the framework within which they are tackled on the identification of their function as well as their definition.

3.3. Studies in Response Tokens

1. Deictic and indexical expressions

Linguistics is one of the fields where response tokens are researched. They are listed under terms such as deictic and indexical expressions. Deictic and indexical expressions are used to refer to a category of words that have a referential meaning to a place, time or even a person. Ochs' (1988, p.9) discusses indexicality within cross-cultural language socialization framework. She defines indexicality as "property of a sign as an indicator of some aspect of the situational context in which the sign is being used". Sorjonen (2001) criticizes this approach to response tokens as lacking the "understanding of sense making as a process that is made overtime and co-constructed by interactants" (p.13). Despite the shortcomings of this approach to response tokens, it contributes to the studies that have led to paying more attention to the importance listener's role in the construction of understanding.

2. Interjections

Interjections form another area under which response tokens have been discussed. The researchers' aim has always been to find clear definition and characteristics upon which response tokens can be identified and categorized (see Ameka 1992). "Interjections" is a term used for those words that exist as independent utterances. Ameka (ibid) differentiates between interjections and particles. He states that while interjections can stand in an utterance by their own, particles are "fully integrated into the syntax of utterances and cannot constitute utterances by themselves (p.108)". However, the term itself is a source of confusion. Ameka (ibid) categorizes interjections as expressive emotive or cognitive such as (wow, aha), conative (sh!) and phatic (mhm, yeah). He classifies "yes", for instance, as interjection when it occurs as a backchannel, but as a formulaic word when it occurs as an answer for a yes/no question (p.109-110). The study, nevertheless, does not specify any other function of "yes" that looks at the sequential organization of "yes" simply because they use discourse-pragmatic perspective.

3. Response tokens as backchannels

Response tokens are among the so-called "particles" that have been widely investigated within interactional studies for more than four decades. However, they have been discussed under different terms such as backchannel messages and listener

responses (Oreström 1983). Some studies went as far as drawing distinction between backchannels and turns. Those studies are based on the participant's role in the interaction, i.e. speaker vs. listener. Sorjonen (2001, p.20) notes the different attempts done by several researchers to define what a turn is, nevertheless, she argues, many of those studies that distinguish the turn from backchannels have ended up only listing examples of the later rather than drawing a line of distinction. Yngve (1970, p.568) investigates response tokens under the term "backchannels. He defines backchannels as "short messages" received by a speaker who is still holding the floor. He recognizes their function as mentioning. He talks about their order in the conversation adding that backchannels may occur during a pause during the main massage. He recognizes five types of backchannels including,

1. Supports (e.g. mhm, yes, ok, yeah, I know, that's right, etc).
2. Exclamations (e.g. oh, gosh, God, bloody hell).
3. Exclamatory questions (what, really, did he, was it).
4. Sentence completions.
5. Restatements.

Though such studies have helped as mentioned earlier in our understanding of response token and brought them to researchers' attention, they still fall short in showing the multi-function of every token, such as "yes", and group them under wide categories.

Drummond and Hopper (1993a, 1993b) and Zimmerman (1993) recognize different types of responses that vary from a single world to a close to a whole extended response. Drummond and Hopper (ibid), for instance, claim that listeners might exercise non-verbal body gesture or a minimum non-lexical vocalization as a sort of response.

Duncan (1974) expands the typology of backchannels introduced by Yngve (1970) to include new tokens such as nodes, sentence completion, clarification response and brief statements. McCarthy (2002) criticizes Duncan's typology adding that it indicates the vast range of variation that a listener response can be, yet show the difficulty of drawing boundaries between back channeling, turn-taking and floor-grabbing (p.52).

Sorjonen (2001, p.22-230) also criticizes those studies that treat backchannels as a whole body. She states:

> they treat responses as undifferentiated classes of expressions that are unproblematically and readily identifiable for statistical analyses. Second, they isolate backchannels utterances from their actual contexts of use and thus from the interactional activities with respect to which they get their meanings. Third, they therefore fail to give any precise meaning for any given response form, (p. 22).

In general, those studies have contributed to our understanding of deixis, however, unlike CA, their use the sentence as their main unit of meaning has led to overlooking smaller responses such as particles (Sorjonen 2001, p.14).

4. Corpus Linguistics and response tokens

Advancement in CL during the recent decades have added to our understanding for response tokens different functions based on empirical data of naturally occurring conversation (Carter and McCarthy 2000; McCarthy 2002, 2003), and O'Keeffe, McCarthy, and Carter 2007)

Within the CL framework, there have been several studies that investigate response tokens. Öreström (1983), for instance, looks at a small corpus that comprises of 50,000 words of London-Lund spoken corpus. The study looks at the paralinguistic features of backchannels. It covers features such as their loudness and degree of overlap with the turn of the previous speaker. The study does not only add to the understanding of backchannels but also expands the number of items considered as backchannels to go beyond non-lexical vocalization to some lexical items such as "quite" and "good" .

Tottie (1991) also uses London-Lund corpus in addition to American English Corpus to investigate backchannels. The study looks at the use of those backchannels in British English compared to American English. The researcher rightly avoids drawing conclusions regarding who use backchannels. Nevertheless, it shows that some backchannels are favored by British English speakers (e.g. yes, mm, no, really) and others are more preferred by American English speakers (e.g. yeah, mhm, hm, right and sure). One of the contributions of this study is that it draws attention to the difficulty of drawing a borderline between the different types of backchannels and other type of short turns that look like response but is responded to by the recipient. She distinguishes between backchannels items that include the individual items or vocalizations and backchannels that covers responses that are consisted of more than one token in one sequence (p.261).

Those corpus- based studies show how the use of CL to study response tokens contributed to identifying different types of response tokens based on naturally occurring data. It demonstrates how CL takes advantage of the development in technology to process multiple texts. It also contributes to the importance that linguists give to context to understand the meaning and function of those 'small tokens'. However, corpus-based studies have fell short in distinguishing the borderline between the different types of response tokens which emphasizes the impotence of the sequential environment in which those tokens are used. The next section discusses some studies that used CA to investigate response tokens. It shows how the turn-by-turn analysis of those tokens revealed several hitherto undisclosed features and functions.

5. Conversation Analysis and response tokens

Studies in ethnomethodology and ethnomethodological CA have also given attention to the importance of context is decoding some utterances. They also place emphasis on the reflexivity of language in general. Natural language reflexivity and indexicality have got the best attention from the studies that were conducted within the CA framework. Analysts such as Garfinkel and Sacks (1970) and Heritage (1984) emphasise the importance of context in which the social action took place in understanding this action. Those actions, they elaborate, also play a crucial role in shaping what else will come after.

From such discussion comes the emphasis on the importance of the listener's role on keeping the flow of the conversation in talk-in-interaction. For instance (McCarthy 1991, 2002, 2005; Maynard 1997; Gardner 1998, 2001; Huth and Taleghani-Nikazm 2006; O'Keeffe, McCarthy, and Carter 2007; O'Keeffe and Adolphs 2008; Takafumi and Masayoshi 2009) acknowledge the listener's response tokens in shaping the speaker's next turn. From their work emerged the idea of concepts such as "confluence", i.e. the fluency of talk, as a result of continuous cooperation and negotiation between the speaker and the listener rather than a result of a monologic performance.

Schegloff (1982) discusses response tokens adding that speakers usually have a tendency to give short responses when they are speaking. He referred to that as "Communicative economy". He also draws attention to the different function that short response tokens such as "yeah" do. He confirms the multi-function nature of response tokens adding that a response token such as "yeah" does not function only as

acknowledgement and confirming understanding, but can also be used to demonstrate agreement. In another related study, Schegloff (1992) also looks at the alternation between “yes” and “yeah” by the same speaker. He attributes that to the listener's keenness to avoid being understood as not paying attention or boredom.

The focus on response token in CA has gone as far as investigating the different usage of response token among genders. Fishman (1983, p.95-96), for instance, looks at the difference in use in minimal responses between men and women in a study that is focused on American couples. She notes a difference in the usage of “yes” between the two genders. She states that men use minimal responses to demonstrate lack of interest in the ongoing topic. Those responses, she illustrates, are used to “fill in a place of a turn”. Women, on the other hand, use minimal responses during men’s turn to show interest in what men are saying. Such study indicates that difference is response tokens use can be attributed to gender, statues and role as will be seen in this thesis.

Dushku (2010) investigates response tokens in spoken narrative discourse. The study, investigates the non-native students use and awareness of the interactive listening skills in a project that aims at improving the students’ interactional competence. The study deals with response tokens based on McCarthy’s (2003, p.4) definition as “high-frequency turn-initial lexical items which occur in responses in everyday spoken genres”. It looks at those responses in two types of actions, namely, surprise and assessment in two types of discourse, i.e. NNS-NS and NS-NS. The study looks at those tokens within a pragmatic framework emphasizing the importance of increasing the students’ awareness of the use of those tokens via explicit instructions. Though the study is important as it identifies the actual current level of the students then move towards improving it, I find the adopted definition of the response tokens as necessarily turn-initial devices as a limitation. Based on my finding, response tokens can occur turn initially, in the middle and finally based on the interactional function they achieve as well as the speakers role in the conversation. The study uses both qualitative and quantitative approach to the data, which gives it strength and more creditability.

Goodwin (1986) is also another CA analyst who discuses the importance of response tokens. In a study that aims at highlighting the important role of the recipient's response in shaping the next turn, Goodwin criticizes speech act theory for its exclusion of what the hearer does when investigating conversation. He states that “speakers in fact treat what their recipient is doing as central to the organization of their talk (p. 206)”.

He emphasises the influence that the hearer has on the ongoing talk adding that the speaker might modify the structure of what he is saying in response to what the co-recipient is doing (or not doing). In his paper, Goodwin looks at the verbal response of recipient during an extended talk by a speaker. Extended turn, he explains, means a turn that is constructed of multi units. He refers to such short responses as "an assessment as they are produced as assessment to what was said by treating it as something remarkable (297)".

However, he differentiates assessment from continuers in their detailed sequential. To him the assessment is like the continuers in that they function at the border of the construction unit. That is, they function at the end of the first unit and the beginning of the next turn. The speaker, though, continues talking, "treating it precisely as a signal to continue (p.208)". Assessment, on the other hand, begins and finishes within the turn during which it is produced. Goodwin uses an example where the speaker produces a long in breath to hold the floor longer while waiting for the assessment to be finished. Assessment might be an acceptable way of terminating the ongoing talk, he argues. The participants sometime wait to give the recipient enough time to finish the assessment before going on in the conversation or before starting a new turn-constructional unit. Assessment can be done by using different intonation and can be carried out by any of the participants. Goodwin (ibid) states that assessment can also be a sound like "wow" or "oh" to a word like "beautiful" to an extended turn specifically allocated for doing assessment.

McCarthy (2008, 2009) emphasises the importance of teaching response tokens as part of the ESL pedagogy. In his (2010) article, McCarthy revisits what is meant by spoken fluency. The article examines the existing approaches that have been used to investigate fluency. He concludes that fluency is not the responsibility of the speaker. On the contrary, it should be viewed as an "interactive achievement". He offers the term "confluence" to be used instead of fluency, which reflected the shared responsibility of the participants in the flow of the conversation. Emphasising the role of both parties in the conversation, he introduces automaticity and turn-boundary phenomena as features of spoken language.

To sum up, it is important to say that unlike the previous frameworks within which response tokens have been investigated, CA does not treat them as a block of undifferentiated items. On the contrary, it looks at every token in relation to the function

it does in that particular context. One of the advantages that CA has brought to the study of response tokens is the importance it places on what comes prior to those tokens in determining the function they do in that particular context. It has also helped in showing how the participants of the conversation use the tokens themselves and what can be understood by the co-participant as proved by the next turn (Jefferson 1981 and Heritage 1984). By looking at the sequential context of tokens such as "oh" in the former studies, Heritage (1984) could identify the function of "oh" as a change-of-state token. He explains that as "its producer has undergone some kind of change in his or her locally current state of knowledge, information, orientation or awareness (p. 299)".

Jefferson (1981, 1984, and 1993) looks at the response tokens in English. Looking at the sequential context of those tokens, she argues that though some response tokens may occur in the same sequence of talk they are projected by the recipient differently which means they perform different functions. She distinguishes between "yes" and "yeah" in one hand and "mmhm" and "uh huh" on the other. While the former are projected as shift in topic, the later, indicate that the speaker is still in the middle of the talk and that the turn shall go on, she argues. She refers to "mmhm" and "uh" as "passive recipiency". She also notes some variation among the same group that could be attributed to idiolectal variations among the speakers that is exhibited in the use of different intonation contour of the same token.

Schegloff (1982) emphasises the importance of investigating the listener's role in the conversation adding that neglecting this role unfortunately implies that discourse is "a single speaker's and a single mind's product' (p.74). In the same study, he discusses the several functions that response tokens do in the discourse. He argues that their function does not stop only at demonstrating acknowledgement but extend to agreement, and confirming understanding. He draws attention to the listeners' tendency to use different response tokens over a given stretch of talk and to avoid repeating the same token repeatedly in order to avoid being understood as not paying attention to the on-going conversation or being bored.

Gardner (1995) investigates response tokens using a deep analysis of not only their sequence but also their intonation contour. He focuses on "mm" in the Australian English. He identifies "mm" as a continuer that is characterised by the use of fall-rising intonation. When produced with falling terminal intonation, "mm" functions as an acknowledgement. Finally, when pronounced with a rise-falling intonation, "mm" is

considered as a weak assessment. Gardner's study doesn't stop at that level as it also compares acknowledgement "mm" to "yeah" to find out that though both function as acknowledger sometimes, "yeah" has a stronger impact than "mm" that is considered as a neutral one. He supports his argument by examples where "yeah" is followed by talk by its speaker but on the same ongoing topic, "mm", on the other hand occasionally demonstrates disagreement from its speaker part.

Drummond and Hopper (1993a) subjects Jefferson's study to quantitative analysis to conclude that "yeah" in half of Jefferson's data is followed by initiated further speakership, while both "mmhm" and "uh huh" function as continuers . It is important to mention here that they disregarded those examples where the previously mentioned tokens are used by their own in a single-word turn and which result in a shift in speakership in the following turn. In a separate study (1993b), Drummond and Hopper investigate the sequence in which "mmhm", "uh huh" and "yeah" occur. The study takes factors such as length of the turn and the number of words occurring in the same turn into consideration. They report that "yeah" is usually followed by further talk, which indicate shift in speakership. This, they argue, confirms Jefferson's conclusion regarding the strength of "yeah" as an acknowledger compared to "mmhm" and "uh huh".

McCarthy (2002) investigates response tokens in English. He states that "they occur with high frequency as a single-word response-token by listeners to incoming talk (p.49)". He tackled them under the concept of "good listenership". He acknowledges the fact that they have been under-researched in favor of speaker's role in the conversation. He focuses on those tokens when they occur in the third slot in the three-part exchange. He treats both second and the third moves as "response moves". He emphasizes Sinclair and Coulthard's (1975) IRF pattern to the investigation of response tokens adding that what identifies the word meaning is not only its syntactic and semantic features but also "where it most typically occurs in the conversational exchange structure (p.51)".

He characterized the words he studies as having the tendency to occur as a single-word response, first word in extended responding or follow up moves, or to be lexical element in those moves alongside functional particles such as "yes". "no", "oh" and "okay"

His study shows that repeating the same tokens in the "immediate sequence may also indicate an enthusiastic or encouraging response" (p.53). He concludes that the

immediate context in which those repeated words occur is the main factor that determines their meaning as sometimes they reflect sarcasm and incredulity. He concludes that

> in most cases, yes/yeah, no, okay or a conversationalised vocalisation would be sufficient to maintain the economy and efficiency of the talk, to show agreement and/or acquiescence, and to function as an appropriate response move. Nonetheless, listeners regularly choose to do more, to orientate affectively towards their interlocutors and create and consolidate interactional bonds. (p.55)

His study is a continuation of the previous studies. It uses a corpus linguistic approach and looks at variation between British and American English. Yet it uses a bigger corpus, .i.e. 3.5 million-word sample corpus of the CANCODE spoken corpus and a similar size of Cambridge North American Spoken Corpus. He investigates a wider range of single-word backchannels items. Nevertheless, it excludes items such as yeah, yes, no, oh, okay and non-lexical vocalizations.

This chapter discusses some of the studies that investigate response tokens within different frameworks including pragmatics, CL and CA. It shows the contributions that pragmatics and CL have brought to our understanding of the types and functions of response tokens. Nevertheless, those methods have fell short in reflecting the borderline between the different types of response tokens which highlights the importance of using CA as this study shows. The next chapter talks about the general framework within which this thesis is conducted.

Chapter 4. General Framework of the Methodology

4. 1. Introduction

In this chapter, I discuss the general framework within which this study is conducted. It covers the overall research paradigm and epistemology followed by the research purpose.

4.2. Overall research paradigm and epistemology

The research is conducted mainly within a social constructivist framework. The idea of learning used in this work is informed mainly by the work of Vygotsky (1978). The idea of the social nature of learning and the importance of 'verbal meaning' in generating conscious awareness of what is learnt has shaped the lenses through which language use, interaction and orientation to knowledge is viewed. It also draws on Firth and Wagner (1997) ideas of the importance of paying more attention to the contextual and interactional aspects of language use when dealing with SLA. CLIL classroom in this context is viewed within the institutional discourse framework (Ten Have 2007). Drew and Heritage (1992, p.22) characterise institutional talk as goal-oriented and organized in a way that reflects the institute's goal. They argue that it is always influenced by "social and particular constraints on what one or both of the participants will treat as allowable contributions to the business in hand" (p.22). Based on that, it is expected that interaction in CLIL classrooms have its own characteristics or "fingerprint" that this study is trying to explore (Drew and Heritage 1992, p.26).

4.3. Research purpose

The research aims at giving an in-depth insight into the discourse in the Saudi CLIL classrooms within a linguistic and social framework. The study draws on the theoretical underpinning and principles of CA. CA is used to look at the micro details of talk-in-interaction and to shows the systematic way in which the participants, in this case the teachers and students, deploy their knowledge of language and interactional

resources to show their orientation to subject knowledge. Dalton-Puffer (2007, p.37) states, "It (CA) offers a principled manner of looking at classroom talk in the most general and generic way possible. Using CA instruments allows the analyst to focus on the character of classroom talk as talk in general and not a priori as pedagogic discourse."

The study also makes use of the advancement of technology by using a CL approach to the same corpus of data in order to identify the linguistic devices that are used by the participants through a quite sizable corpus of data. In other words, CL is used to look at the macro details of the language used in CLIL classroom.

Adolphs et al. (2004) used an approach that combines CL with CA to investigate communication in health care. Despite the existence of numerous studies in this field, they claim, the use of this approach has "revealed several hitherto undisclosed features concerning strategies used by health advisors" (p.9). I aim, by combining the two methods in this research, to reach a better understanding of interaction inside Saudi CLIL classrooms.

4. 4. Background of the problem

In spite of the attention that CLIL has been receiving worldwide, especially in Europe (Eurydice 2006), it is still not a common practice in Saudi Arabia. It is limited to some scientific institutions and for the aim of accessing subject-specific target language terminology. It is important to mention that the study is not conducted in the same university where I used to teach, due to logistical reasons. However, my experience in a university where CLIL is used motivated the research and informed me about the situation as an insider .I teach in a health science university where we prepare high school and other scientific university graduates to become nurses. The students are usually immersed in an intensive English language programme for one semester to bridge the gap between their expected level and the actual one.

During the second semester of the first academic year, the university introduces the students gradually to scientific subjects, using English as the medium of instruction, which is something they are not used to. At the same time, the teachers support them by offering English language courses twice a week. This measure of immersion and support should be more than enough to improve the students' level of proficiency. In

fact, the teachers' evaluation of their students' involvement and classroom interaction vary. Language teachers, for instance, believe that the interaction in their classes is reasonably high, while teachers of science claim that interaction only occasionally takes place and only among a very limited number of students.

This tension between language and science teachers has been witnessed in several occasions especially during the monthly meetings when both groups blame each other for the student's low level of proficiency. Davison and Williams (2001) consider this kind of competition among the unsolvable issues that exist in every context where language and content are integrated together. Yet it is worth mentioning that when it comes to test results the students' performance in language courses outranks that in science.

Advocates of CLIL believe that it forms a more economical and naturalistic environment for teaching L2 especially when L2 is not used outside the classroom. But my experience, as stated earlier, shows that students face more difficulties with CLIL than with EFL. That could be attributed to the unequal attention given to language compared to content inside CLIL classrooms. Coyle (2007) sees the uniqueness of CLIL lies in the integrated approach in which both language and the subject matter are introduced without any implicit or explicit preference of each of them.

This contradiction between what advocates of CLIL believe and what is happening inside the Saudi CLIL classrooms inspired me to look deeper into this problem from a linguistic and social aspect. This study looks into CLIL classrooms as discourse environment for learning in general and foreign language in particular. It also looks at the distribution of some linguistic features to find which, where and why are they used? At the same time, it uses CA to look at the same linguistic features but from a wider context, i.e. talk-in- interaction in an attempt to unfold knowledge construction in this context.

4.5. Key Research Questions

The thesis focuses on identifying the main linguistic features of CLIL classroom discourse in the Saudi context in order to answer the following questions:

1. What are the linguistic and interactional features of CLIL university classrooms in a Saudi context?
2. How do teachers and learners co-construct meanings in that context?

3. What is the relationship between language, interaction and orientation to content knowledge in CLIL classrooms?

By answering these questions, it is hoped that this research will give an insight into how teachers and students interact in CLIL in a step towards surmounting the constraints intrinsic in CLIL university classrooms and to ensure effectiveness in teaching language as well as content.

4.6. Justification for Method

1. Why Conversation Analysis?

CA is chosen over other methods of analysis such as discourse analysis (DA) for its ability to look into the mechanism of connected discourse. It is a method that gives insight into how people organize their conduct in the accomplishment of their everyday affairs both in ordinary and institutional settings. It also provides the researcher with a set of detailed procedures of how to approach the data in hand.

Ten Have (2007) says, "what CA tries to do is to explicate the inherent theories-in-use of members' practices as lived orders, rather than trying to order the world external by applying a set of traditionally available concepts, or invented variations thereof" (p.31). He summarizes the CA characteristics in four points that look mainly on how CA approaches that data. CA, he states, looks closely at the data with special attention given to the details interaction represented by a detailed transcript. Other methods, on the other hand, use coded or summarized data. It doesn't prefer experimental data. On the contrary, it operates with naturally occurring data "because it considers talk-in-interaction as a 'situated achievement' rather than as a product of personal intentions" (p.9)

Though it can be considered as the study of language in use, it does not look at the linguistic system. CA is relevant to this thesis because it gives insight into the fine details of how both teachers and students use their language resources to socialize inside the CLIL classroom and how do they use the same resources to show both "understanding and knowing" (Koole 2010). The work will benefit from the CA emphasis of the fine details of the interaction, a feature that Gass (2004) emphasizes in his CA and Input-Interaction work. Markee (2000) also argues for the advantageous use

of CA for SLA. He characterizes CA as an approach to "developing an emic alternative to rationalist science, developing a critical attitude towards quantified data, and using highly detailed transcripts of talk-in-interaction as primary data" (p.35).The emic perspective of the CA is among the most important elements that this thesis will draw upon. Speaking about the "emic" approach brings us to a very important point that was perfectly explained by Markee and Kasper (2004, p.494). They define emic as an empirically observed conversational conduct rather than a state of mind or whatsoever can be obtained by an interview. It is the best way to avoid the simplified human-driven coding system that some methods such as discourse analysis use to approach the data. If we question the extent of representativeness of quantitative data and its relationship to reality, then CA is the best approach to contextualize those numbers and make sense of them. It gives a microscopic picture of the interaction by a sequential turn-by-turn analysis. This is not to claim that CA is either the crystal ball through which we see the whole aspect of CLIL discourse nor the magic stick that will solve the entire learning problem in that context. It is simply the best way to look at the fine details of the classroom interaction in a step towards further understanding. Walsh (2002; 2006) claims that understanding the interaction inside the classroom makes easier to create opportunities for learning.

a. Limitations of CA compared to other methods

CA is not an approach that we can use to draw generalizable conclusions as it deals with every context as a unique one. Markee (2000) argues that CA is not learning theory or a method that can be used to assess long-term processes. Nevertheless, comparing CA to other available methods show that it is the best approach to investigate classroom interaction as well be explained next.

b. Conversation Analysis and Ethnomethodology

Ethnomethodology is a Greek word that literally means the method of ordinary people. It was coined by Garfinkel (1974). Roger and Bull (1988, p.3) define ethnomethodology as "the study of ways in which everyday common-sense activities are analyzed by participants, and of the way in which these analyses are incorporated into courses of action". It is concerned with revealing the subjective nature of human interaction and deals with the way people construct social reality. Researchers agree that CA as an approach emerged mainly from Harold Garfinkel's ethnomethodology.

Nevertheless, the present relation between the two is an area of disagreement. It is widely believed now that though CA emerged from EM, it has departed from that approach and has become a totally separate and independent approach that some tension sometimes rise between the two (Maynard and Clayman 2003).

Though both approaches agree on the systematic way in which social actions are ordered, they vary in the way they investigate the rules that govern actions. At the time when CA explicate those rules by looking at the way they are deployed in a naturally occurring social action, Ethnomethodologies use breaching experiments to understand how people deal with everyday orders and the challenges to what they take for granted. Breaching experiments are a type of inquiry in which the researcher interrupt the interaction and violate social reality to create a sort of confusion and anger that lead the participants to attempts to normalize the imbalance in the breaching.

c. Conversation Analysis and Discourse Analysis

Taylor and Cameron (1987) do not draw any line of distinction between DA and CA, while Levinson (1983), on the other hand, points out the difference between the backgrounds from which the two methods of analysis stem. DA, he says, stems mainly from linguistics. It isolates a set of basic categories and formulates rules that are stated over those categories in order to divide them into well-formed and ill-formed sequences. It also depends on the researcher's intuition. However, it is criticized for attempting to categorize restricted data based on a single text (Levinson 1983, p.286).CA, on the other hand, stems mainly from sociology and looks at talk-in-interaction. It also studies the "interactional and inferential consequences of the choice between alternative utterances" (ibid: 287).

One of the most important aspects of CA that DA lacks is its ability to handle the interaction of more than two people who are engaged in a goal-oriented conversation despite their different interests (Levinson 1983).

Heath (2004, p. 269) says CA "treats conversation and its methodological foundations as a realm of sociology enquiry". One of the powerful attributes of CA, states Heath (ibid, p.270), is that the researcher can use the same sequential

organizations that characterize the actual social organization of talk as analytical resource.

Korobov (2001) sees that CA and DA begin with the same theoretical assumption. They are both established approaches to studying social order and talk-in-interaction, he states. He also notes that both approaches view identities as an active accomplishment that is organized out of the social order. Both approaches, he argues, view talk as a sequentially organized product of joint social action. However, he summarizes the difference between the two approaches in the way they conceptualize and pursue those concepts. He states:

> "each has a different degree of willingness or criteria for invoking those context (or broader discourses) in the interpretation of social action. In addition, each orientation shares different convictions about the possibility for "studying participants' orientations" or studying participants in their own terms. While CA proponents embrace this dictum without apology, CDA proponents hear it as a vestige of some incipient form of naive realism," (p.3).

2. Why Corpus Linguistics?

Carter (1998) and McCarthy (1998) have shown great interest in using the corpus-based approach as a viable perspective within which languages can be studied in a systematic way. Many studies have also argued for corpus- based approach in L2 classroom. Biber et al. (1999, p.4), for instance, examine the differences between the Corpus-based approach and other form of analytical approaches in Linguistics. They list the essential characteristics of corpus-based analysis as following:

1. It is empirical analyzing the actual patterns of use in natural texts;
2. It makes extensive use of computers for analysis, using both automatic and interactive techniques:
3. It depends on both quantitative and qualitative analytical techniques.

They emphasize the importance of looking at corpus-based approach as a complementary approach to the traditional approaches rather than as a single correct one. To them, CL is an approach not a discipline. They believe that "research questions for corpus-based studies often grow out of other kinds of investigations," (p.10). Wodak and Meyer (2009) argue that one of the strongest and most potential characteristics of CL is that it goes far beyond numbers. They state that it provides researcher with both

> "quantitative and qualitative perspectives on textual data, computing frequencies and measures of statistical significance, as well as presenting data extracted in such a way that the researcher can assess individual occurrences of search words, qualitatively examines their collocation environments, describe salient semantic patterns and identify discourse functions" (p.123).

However, they argue, one of the problems with using CL software is readability. The CL software only reads plain texts with no additional detail such as prosodic and visual conventions. Yet this, they explain, should not be a problem as the original video or audio records should be kept should one need to go back to them at a certain point of the analysis. They say this loss of detail should not "jeopardize the validity of one's analyses but there ought to be adequate safeguard to ensure that whatever is lost along the way can be salvaged at a later stage" (p.123).

In my case I the use the CL software only at the initial stage of the analysis in order to identify the most frequent linguistic features in CLIL. Following, I use Transana software because it allows time stamping and annotation of synchronised video and audio data stream, thus overcome the previously mentioned problem. This study takes advantage from the computer advancement and the flexibility of corpus-based software to approach a quite sizable data for the sake of capturing a clear picture of CLIL discourse. Dealing with a relatively big data to identify patterns of interaction is a difficult and time-consuming job leave alone comparing it to other corpora. CL gives us an accurate reading of the occurrence of words and their frequencies. Moreover, it gives the researcher the ability to locate the investigated item in its actual context. I believe that combining CA with CL in this study will help me add to evidence against the "skepticism towards the applicability of corpus-based techniques to issues beyond the clause boundary" (Conrad 2002, in Adolphs 2007, p.3).

3. Conversation analysis and corpus linguistics

Combining CA with CL is a departure from the traditional methods with which CLIL in general and Saudi CLIL in particular has been investigated. In fact combining the two methods will give us better understandings of interaction inside CLIL classroom. It will highlight the macro and micro aspects of learning as a socialization process. It is important to mention here that the combination of the two methods to investigate CLIL is among the originality aspects of this research as mentioned in

chapter one. Further details on the way the two methods are combined is explained in following chapters.

4.7. Validity

Lecompte and Goets (1982) talk about two types of validity. First type is validity related to the researchers' observation and the theoretical idea they develop. They refer to this type as internal validity. The second is external validity and it is related to the extent of generalizability.

When it comes to CA, the use of restricted database is considered by some linguists as a shortcoming especially when it comes to issues related to validity. However, Ten Have (2007) considers this as a strong point for the use of CA especially if recorded data is used solely. Seedhouse (2004) on the other hand, argues for the emic approach to the data that CA is built upon as an important factor for the validity of the data (see chapter 5 for details). He states that a CA analysis "cannot make claims beyond what is demonstrated by the interactional detail without destroying the emic perspective and hence the whole validity of the enterprise" (p.314).

Adopting an analytical framework that is based on the principles underpinning CA , I can argue for the validity of the research method used in this thesis. Evidence for the claims made in this study is based on a turn-by-turn analysis of the sequential organization following a strict emic approach to the data. The use of CA main principle of next-turn-proof is an additional support for the validity of this thesis.

The identified functions of response tokens are based on the sequential positioning of those tokens, their understanding by the participants and the way they are oriented to. External validity, or what Bryman (2001) refers to as "genralizability", is a very important aspect that I have been keen to maintain in this thesis. Nevertheless, it is very important to mention that extending the result beyond those four classes is something that needs more investigation and a use of large data sets. However the results have many commonalities with what other conversation analysts arrived to in both mundane conversation and institutional context. The fact that the identified functions are found in the four classes and in more than one teaching session is an encouraging factor for conduction further research in the future.

4.8. Reliability

Reliability is a crucial aspect af any research. Kirk and Miller (1986) identify reliability as “the degree to which the finding is independent of accidental circumstances or the research” (p.20). Bryman (2008, p.31) defines reliability in relation to consistency. He states that it is related to whether the “measures that are devised for concepts in the social science are consistent”. Peräkylä (2004) cites three important factors to guarantee reliability in naturally occurring interaction including, selection of recording, technical quality and adequacy of transcripts.

In this thesis, I have recorded more than 21 hours, however, to make sure that the technical quality and consequently the transcriptions are good, I discarded 5 hours as inadequate (more about that in chapter 5) . Because my research is data-driven the selection was purely unmotivated thus the research questions had no impact on which episodes are chosen. The content of the classes, however, were mentioned to define the type of instructions are used in each episode. Details about the camera positions, the recorders quality as well as the transcription system were provided in details in chapter five.

Chapter 5. Research Design

5.1. Introduction

In this chapter I introduce one of my two-part methodological framework namely, CA. The chapter is divided into two parts. Part one covers some theoretical background about CA for those readers who are not necessarily familiar with it. The chapter also sheds light on some methodological issues with CA as well as some of the concepts that I use in my analysis. The way CA is relevant to classroom interaction is an area that this part also covers. Part two, on the other hand, covers the procedure that I adopted in this thesis including data collection, transcription and analysis.

5.2. Part One Conversation Analysis

5.2.1. Theoretical Background

CA was started by the late Harvey Sacks and his collaborators, including Emanuel Schegloff and Gail Jefferson. It emerged from what researchers refer to as Ethnomethodology, i.e. the study of 'common sense reasoning and practical theorizing.' Though CA was developed in 1960s, Harod Garfinkel was the one behind the idea of CA as a tool for a social science analysis. Sacks, on the other hand, was behind the idea of talk-in-interaction, which means "what a doing, such as utterances, means practically, the action it actually performs, depends on its sequential position" (Ten Have 2007, p.6).

At its beginning, CA took a different direction to social science research from that taken by ethnographic methods. Ethnography tends to make exotic cases familiar to the everyday way of thinking, while CA problematizes common sense knowledge to make it deserve investigation (Hutchby and Wooffitt 1998, p.26).

It is defined as a detailed way of studying natural conversation in order to have a clear picture of the local aspects of interaction. It aims at investigating, among other aspects, how participants take turns and constructs sequences of utterances in a conversation. The way participants identify and repair emerging problems in the conversation is also a very important aspect of CA (Hopper et al. 1986; Pomerantz and Fehr 1997). To understand how a social action is accomplished, according to CA, no

detail of the interaction should be dismissed as insignificant. The sequential analysis of the interaction, though, is a core issue in the way CA approaches any data. It assumes that social actions take place in sequences of turns-at-talk. Nevertheless, those actions get their meaning only from the particular position within the sequences in which they were placed. Heritage (1995) referred to this placement of sequences as "architecture of intersubjectivity". The sequence position is also important for the way they are understood and responded to by the different participants in the conversation.

Because CA views the human behaviors as structured and organized, it doesn't focus only on the structure but it exceeds it to the process of interaction. Though CA is concerned with verbal aspects of the interaction such as, turn taking, adjacency pairs, topic management and repair, it might include other non-verbal aspects of the interaction such as gazes and gestures. One of the most important features of CA is the way in which it shows how the social action is structured, yet more impertinently, is how intersubjectivity understanding is managed in talk i.e. the organizational template for the achievement of mutual understanding (Ten Have 2007, p.21).

Intersubjectivity includes issues such as the participants understanding of their state of knowledge as well as their intention and relation to each other. It can be examined at the basic level of turn taking where the participant co-construct his turn based on his understanding of the preceding turn (Sacks et al. 1974). It can also be scrutinized at the context level that is more relevant to institutional talk where participant conforms to rules of the context. Drew and Heritage (1992) tackle how the participants understanding of their institutional context might be evident in their talk and in the way they manage the conversation.

CA takes advantage of technology development such as audio and video recording to overcome the pitfall of traditional ways of collecting data such as coding and field observations that are criticized by some researchers as being manipulative and researcher-dominant (Ten Have 1999, p.6)

It looks at the data to find rules, techniques, procedures and methods, i.e. "collection of terms that more or less related to each other … the point is then to come back to the singular things we observe in a singular sequence" (Ten Have 2007). It is important here to mention that, though CA is used as a tool to identify patterns, it does not provide any theoretical information about the data or its contextual detail as its social act. It does not treat language as an autonomous system independent of its use;

rather it treats grammar and lexical choices as sets of resources that participants deploy, monitor, interpret and manipulate in order to perform their social acts. (Shegloff et al. 2002, p.15).

CA is bottom-up and data driven; we should not approach the data with any prior theoretical assumptions or assume that any background or contextual details are relevant."The Analyst should always compare his reading of the meaning of an utterance with the readings demonstrated in utterances following the target one" (Ten Have 2007, p4).

Proof of understanding and negotiations about understanding will in many cases not be easily visible on the conversational surface. According to Heritage (2004), there are a number of dimensions of research that can be addressed by CA in institutional setting such as lexical choices and turn design. The use of CA is very wide and not restricted to one sense. It can be used in several research fields such as sociology, sociolinguistics, linguistics and communication. Ten Have (2007, p.5) stated that "as a broad term, it (CA) can denote any study of people talking together 'oral communication' or 'language use'" (p.5).

Yet it is important to closely investigate any possible emerging negative or "deviant case". Heritage (1995, p.399) refers to this approach of data analysis as "analytic inductive" or showing the way in which the participants oriented to that departure from the regular pattern of interaction. Afterwards, this deviation should be looked at within the bigger organization of the structure of the whole interaction in order to see what communicative role it plays.

5.2.2. Emic Vs. Etic

The terms *etic* and *emic* are not widely used in the CA literature. However, CA prefers and *emic* approach to the data, i.e. using criteria from within the system to analyze or describe the data, over *emic*, i.e. using criteria from outside the system to analyze or describe the data.

Ten Have (2007) defended the use of "technical vocabulary" in CA adding that those vocabularies such as turn-taking and repair are not an indication of any ***etic a***pproach to the data. On the contrary, he explained, they stand for "members' knowledge-in-use that is members' methods or procedural infrastructure of interaction" (p.34).

CA focuses not only on ordinary conversation between friends or family members but it goes beyond that to institutional interaction such as that takes place in workplace or courtroom, where the participants oriented to use their interaction to accomplish a specific institutional task(Drew & Heritage 1992).

5.2.3. Inductive or deductive

CA is characterized as being an inductive qualitative approach to data analysis. When a conversation analyst is interested in a particular social activity, he looks for a collection of that activity in a variety of naturally occurring data in an attempt to come up with regularities amongst it. The ultimate goal, though, is to reflect the methodological way in which those activities were produced by the participants and that they were oriented to. Those cases that tend to depart from the regularity of the data should be closely investigated. Then the rest of data is reviewed in the light of the understanding of the "deviant case" (Heritage 1995, p.399). The way the participants oriented to that deviant case as well as its contribution to the structure of the whole interaction should be looked at in order to shed light on its communicative role.

5.2.4. Conversation analysis and institutional setting

Ten Have (2007) argues that though the idea of "institutional setting" was not recognized in Sack's work, his work is considered as a good window into the conversational devices and interactional formats that characterize the non- institutional talk. It wasn't until the early 1980s when Heritage (1984, p.290) introduced his dichotomy of CA in which he differentiated between research that focuses on "the institution of interaction as an entity in its own right" and the research that studies "the management of the social institution interaction" (p.290).

5.2.5. Characteristics of Conversation Analysis

In this section I discuss the most important characteristics of CA as:

1. Turn taking

Turn taking is one of the most important aspects of CA mechanism. Sacks et al. (1974, p.696) described a model of turn-taking as "locally managed, party-administered, interactionally controlled and sensitive to recipient design". Hutchby and Wooffitt (2008) state that turn-taking

> has two components: a 'turn-construction' components and a 'turn-distribution' components. Turn at talk can be seen as constructed out of units, called turn-constructions units (TCUs), which broadly correspond to linguistic categories such as sentences, clauses, single words (for instance, 'Hey!' or 'What?') or phrases. (p.49-50)

2. Overlap and Interruption

Overlap, believed Sacks et al (1974), happens "by competing self-selectors for a next turn", when each projects his start to be the earliest possible start at some possible transition relevance place (TRP), producing simultaneous starts" (ibid, 706-7). Levinson (1983, p.299) on the other hand, stated that overlap takes place due to misprojection of TRPs "for systematic reasons, e.g. where a tag or address term has been appended, in which case overlap will be predictably brief" (p. 299).

3. Adjacency Pairs and preference

Shegloff and Sacks (1973, p.238) defined adjacency pairs as pairs of sequences that are constructed out of related actions, when a participants produces the first pair part, the co-participants produces a related second pair part. However, it is not always a straight forward process as there are cases when the co-participant has alternative courses of actions according to which he/she reflects his orientation towards the first pair part.

It is important to mention here that even within simple and straightforward adjacency pairs such as offer-acceptance/refusal; the second pair part might be embedded, delayed, mitigated or withheld. Richards and Schmidt (1983, p.129) talked about two types of adjacency pairs distinguishing between the tightly constructed and those with more freedom. It is equally important to know that within the second pair part there are "preferred" and "dispreferred" parts. Those pairs are cultural sensitive. Levinson (1983, p.334-5) compared those two types of second pairs to linguistic notion of markedness where the preferred part represent the unmarked while the unpreferred stand for the marked response.

4. Repair

Repair is an organized way of dealing with trouble in the interaction such as mishearing or misunderstanding (Ten Have 2007). Repair has different trajectory, types and sources. However, the most important factors through which repair can be characterized are who initiated it? Who carried it out? Linguists emphasise the fact that any utterance is a subject to repair. Repair has preference organizations that vary depending on the context. For instance, while other-initiated and self-repair is the most preferred; other-initiated and other-repaired is the least preferred. Schegloff, Jeffesron and Sacks (1977) state that self-correction is the most preferred type of correction. Among the very limited context where other correction is common, they argue, is in adult- child conversation (p. 381).

5.3. Part two: procedure

CA is an approach that deals with naturally occurring data and rejects approaching data with any presumptions. Nevertheless, there are steps that should be taken into consideration with regard to research design that I covered in the following sections.

3.3.1. Data Collection

The data is collected from CLIL lessons at Effat University, Saudi Arabia. It is collected by the means of video and audio recording. According to Heritage and Atkinson (1984, p.2), this way of collecting data marks a significant shift in the used method of data collection in social sciences research. It is different from interviews in which the researchers treat the verbal accounts that the participants produce as "acceptable surrogates for the observation of actual behaviors" (p.2). It is also divergence from the experimental methods that are subject to researchers' manipulation and in the least interference.

The use of video-recorded data makes it possible for the researcher as well as his opponent to observe and analyze the same data as much as needed. This makes the data available for scrutiny for the sake of evaluation of the reached observations (Heritage and Atkinson, 1984, p.4; Paul ten Have 2007, Appendix A).

It also helps in overcoming the pitfall of "artefacts of intuitive idiosyncrasy" (Heritage and Atkinson 1984, p.4). Repeating the recording give a chance to notice more details of interactions and, hence, increase the precision of the observation. It

gives access to the researcher to reinvestigate the same data in the future in the light of paradigm shift and new findings.

5.3.2. Sampling

Ten Have (2007,p.70) compares sampling in CA to a naturalist procedure to studying the life of passer domesticus. By examining specific instance such as "repair" in a social activity, he states, the specimen represents that instance in that category rather than the population of "repair". Similarly, by observing sparrows in a place without paying attention to statistical sampling the naturalist's sample represents that particular sparrows rather than the whole population. However, he argues, this example is not an accurate one as it does not take into consideration the important issues of variations within this instance. With pure CA, he states, the issue of variation is tackled by having as much variation as possible, while in applied CA, researchers intentionally use specific set of specimen that are related to specific set or category of activity in what Ten Have (2007) refers to as "context-bound activities". In this thesis, the variation issue is covered by recording two to three hours from different subjects that are taught at the same university. This way, variations within the same discourse are reasonably covered.

Discussing the same issue Harvy Sacks, in Ten Have (2007,p.70) argues that "the way people organize their talk-in-interaction is 'orderly', that is based on a set of formal procedures of immense generality, then it doesn't matter very much which particular specimen one collects to study that order." Sacks et al. (1978, p.44-5) emphasize the importance of interlocutors display of their understanding as a resource for investigating this understanding and making it subject to scrutiny.

Borrowing Turner's (1971, p.177) concept of "competent member", I have used my status as competent native speaker and a teacher myself to recurrently locate in my transcripts instances of the same activities.

Using this status or membership knowledge, according to Turner, does not mean claiming that members' knowledge would allow one to recognize those instances of "the same activity". On the contrary, he explained, "no resolution of problematic cases can be affected by resorting to procedures that are supposedly uncontaminated by members' knowledge" (p.177). He, however, stressed the importance of the researchers' explicating the way in which he/she employed his members' knowledge to make sense of the going on activity.

Driven by Sacks' (1992, p.298) belief that a close examination of the way one single activity is produced in an orderly way might lead to an unexpected generality, I choose to look at CLIL through a close examination of classrooms in Effat University. I chose Effat University as a representative context of CLIL in Saudi higher education. However, to capture variety in which participants might demonstrate in their talk within this context I recorded data from different subjects taught by different teachers. For instance, physics, chemistry, and early child education. That was also done for comparative purposes.

One of my aims in this analysis is to look at the resources on which individuals rely in the production of social actions and activities through the way they deploy it in their attempts to socialize.

5.3.3. Use of Video

The use of a video camera inside an all-female institute in Saudi Arabia is something that any researcher would think about twice due to society's sensitivity towards family privacy and female images. However, in some situations, it is allowed after formal permission is obtained from every student to be videotaped for scientific purposes. This fact limited the use of the video camera to the teachers and some students. However, the type of recording captured the students' interaction, which, I believe, worked fine, especially at those moments when the participants used tools other than the verbal ones to communicate such as body, objects or technology artefacts. Ten Have (2007, p.72) argues that it is better to use video in "those settings in which core aspects of the action relate to the physical environment."

In a study that aimed at investigating how video recording can be used for studying the way specific situated social activity is produced, Heath (2004) covers both visual and verbal aspects of some accomplished activities. He says "the emergent and sequential organization of interaction is also relevant to how we might consider the contextual or in situ significance of visual conduct and the physical properties of human environment" (p.270). Goodwin (1979, 1980, 1981) also covers the use of body in examining the in situ organization of social actions. His emphasis is placed mainly on exploring the production of turn at talk. In particular, he looks at the way speakers coordinate their utterances with the gazes of the recipients. The study successfully identifies some of devices used by the speakers to establish mutual orientation. Since orientation to knowledge is among the most important aspects of this study, the use of

video is a tool that helps in capturing the coordination between verbal and non-verbal interaction.

5.3.4. Camera Positioning

To neutralize the students' fears I assured the positioning the camera in the back of the class and minimal disturbances of the classes. I positioned the camera on a tripod at the back of the classroom, mainly in the middle; yet I had to position it in one of the classroom corners in some cases in order to capture as much as possible of the classroom interaction.

To avoid disturbance resulted from change of tapes, I used an advanced camera that has a large hard drive with a capacity of 70 hours continuous recording. Due to the sensitivity of females' images in the Saudi context, I could not capture much of the students' faces while all teachers gave their permission for capturing their faces in the camera.

Tough, it is not always recommended; I moved the camera from its still position at certain moments just to capture what, at the time, I believed is important for understanding the ongoing interaction between the teachers and the students. What the teachers were writing on the board was also captured in most of the moments due to the believed role of "the physical properties of human environment" (Heath 2004, p.270).Doing the recording by myself has given me the chance to move the camera regularly. I am aware of the fact that this has resulted in a sort of selectivity, yet has given me more flexibility.

5.3.5. Data Analysis

The use of *Transana* software for audio-video analysis gives me the opportunity to see the participants' actions side by side with the transcript. This, in its turn, allows me to have a better insight into the systematic way in which they structured their ordinaries in a social action. It also gives a better picture of the coordination of verbal and non-verbal interactions. After being trimmed into episodes or "units", the data is examined case-by-case. Following collections of phenomenon are created. The structural features of that phenomenon are explicated while the deviant cases received a close examination.

5.3.6. CA Transcript

CA in general has almost one transcription system that researchers use when it comes to visual interaction. This system is based mainly on the verbal interaction.

However, Heritage (2004, p.223) state that more details related to the non-verbal interaction can be added to the transcription in order to make it as close as possible to the face-to-face interaction. The non-verbal transcript notations are less standardized than the verbal notations except with some established non-verbal interaction such as gazes' directions (Goodwin 1981; Goodwin 2000; Stivers 2008).

In this thesis, I used the transcription notations introduced by Gail Jefferson (Atkinson and Heritage 1984, p. ix- xvi; Hutchby and Wooffitt 2008). Those notations are widely used by conversation analysts. It is important to mention that those transcripts, no matter how detailed they are, are always limited and selective in the information they represent to reflect the original data. In other words, they can never replace face-to-face interaction. Therefore, should always be used along the recordings that represent the main data. To my knowledge, there are few studies that have been done about interaction inside the Saudi classroom at the higher education using CA. Even in those very few cases the data is not available for comparison against the available transcript.

In this chapter I have presented the first part of my methodological framework. The chapter was divided into two parts. In the first part, I discussed the theoretical background underpinning CA. While in the second part, I covered the procedural aspect of how I used CA in this thesis. The next chapter will be dedicated for the second part of the methodology, namely, CL.

Chapter 6. Corpus Linguistics

6.1. Introduction

This chapter covers the second part of my methodology. Similar to chapter five, this chapter is divided into two parts. The first part of this chapter discusses the theoretical background and the history of the CL methodology. Part two, on the other hand, is a detailed illustration of the procedural part of my methodology including the decisions that I have had to take before and during the compilation of my corpus. It also gives a brief justification to why I think CL should be combined with other qualitative methods in order to develop better understandings of the phenomena in hand.

6.2. Part One: Overview and background

A corpus is defined as a "collections of texts held in machine-readable form and capable of being analyzed automatically or semi-automatically in a variety of ways" (Baker 1995, p.225). It is usually big in size and compiled to represent the language that is under investigation. Wynne (2004, p.3) states that "corpus linguistics offers some of the most powerful new procedures for the analysis of language"

CL is an approach which provides us with evidence but does not explain them or give in depth information about language use in general. Hunston (2002) argues that the conclusions arrived to by the use of CL should not be generalized because no matter how big the corpus is, the generated results characterise only the corpus itself. She claims that

> A statement about evidence in a corpus is a statement about the corpus, not about the language or register of which the corpus is a sample. Thus conclusions about language drawn from a corpus have to be treated as deductions, not as facts. (P.23-24)

Corpus analytic tools such as concordances and wordlists are used by some linguists solely as means for empirical analysis of language. Nevertheless, others believe that those tools represent language out of its context thus hide some aspects of the text. For that reason, among others, there is a big debate among applied linguists

concerning the solo use of CL and increasing emphasis on the importance of using corpus as part of the research tools used to study language (see O'Keeffe and McCarthy 2010; Adolphs 2008) .

The corpus as a collection of text adds nothing to our knowledge about the language, yet the corpus software helped us to sort out the language data that we initially fed into the system and make it possible for us to make observations that otherwise could have not been done. O'Keeffe et al. (2004) state that a corpus will not tell us the meaning of the word or phrase because "this is something that we have to deduce from many examples that are generated" (p.4).

Literature shows that CL has gone through different stages that influenced the way in which it is perceived and used. For instance, at the beginning it was used mainly for investigating textual and co-textual aspects of written corpora. That interest in examining the different aspects of written language led to building various corpora that count for hundreds of millions of words (e.g. Brown corpus, built in 1963). Hunston (2002) states that with the increasing interest in spoken corpora, CL gained a foot in the field of applied linguistics as a potential tool for language studies. The interest in spoken corpora was also companied with advancement in technology and computing hardware. However, the question has always remained regarding the way the resulting numbers from a corpus-based analysis should be interpreted (Widdowson 2004, p.120).

In the past, corpus linguists used to look at words in isolation from their context. They used to limit their investigation to the immediate surroundings of the words and rarely exceeded the level of a chunk that resulted in de-contextualization of those words. This has led to increasing interest in combining CL with other qualitative methods of investigation in order to contextualize the resulting numbers (Olohan 2004, p.86).

6.3. From written to spoken corpora

The shift in focus to spoken corpora during the last two decades has resulted in the appearance of a number of relatively large and variable spoken corpora (e.g. British National Corpus (BNC), the American National Corpus (ANC), and the International Corpus of English (ICE)). However, despite the increasing interest in spoken corpora, it still falls away behind the written ones both in size and number. The majority of the spoken corpora are believed to be nothing more than "a simple orthographic transcription" (Bonelli 2010, p.25), for further reading on the available types of corpora see Lee (2010) and McCarthy and O'Keefe (2010).

Adolphs and Knight (2010) attribute the gap between the number of spoken and written corpora to time and efforts. They say in spite of the uniqueness of the spoken corpora as a resource for natural language investigation, it tends to be much smaller compared to the written corpora. They attribute that to the time and efforts required to compile spoken corpora including the "specific attention to elements beyond the text, such as intonation, gesture and discourse structure, which can't easily be explored with the use of the kind of frequency-based techniques used in the analysis of written corpora" (p.38).

The challenges associated with compiling spoken corpora, however, is not insurmountable. In fact, it highlights the importance of the studies that use naturally occurring conversation as its data including this thesis.

6.4. Corpus linguistics and second language acquisition

In the late 1950s, when CL started as a methodological approach it was pursued by a small group of researchers. Interest in the methodology has increased with the onset of the digital age and CL approaches are now often used in various areas of research such English language teaching (ELT), translation, materials and syllabus design, language testing (Hasselgren 2002) and classroom methodology (Seidlhofer 2002).

Corpus-based studies are used to write dictionaries (Longman dictionary of contemporary English 2nd edition (1987) and grammar books (Biber et al. 1999; Mindt 2000; Carter et al. 2000; Carter and McCarthy 2006). Furthermore, critical linguistics or the study of ideologies discourse analysis is another area where CL has recently gained a great deal of a attention (Thornbury 2010). Language testing (Barker 2010), pragmatics (Rühlemann 2010), sociolinguistics (Andersen 2010; Clancy 2010), media (O'Halloran, 2010) and health communication studies (Atkins and Harvey 2010) are also among the fields where CL is widely used.

6.5. Corpus-based or corpus-driven approach

The Corpus-Based Approach

Tognini-Bonelli (2001) makes the distinction between corpus-based approach (hereafter CBA) and corpus-driven approach (hereafter CDA). She defines the former as an approach

> "that avails itself of the corpus mainly to expound, test or exemplify theories and descriptions that were formulated before large corpora became available to inform language study" (p.65).

She notes that corpus-based linguists prefer the adaptation of theory before starting the corpus analysis, which reflects less confidence in the data. So within this approach, researchers adopt a theory first, and then use the corpus to examine the evidence in the data to determine whether it is consistent with their theory or not. To Tongnini-Bonelli the corpus is simply a tool that suggests minor changes to the existing adopted model or theory. Researchers use the corpus software mainly for its ability to provide them with the needed numbers to quantify the data under investigation. In addition, she adds, in the corpus-based approach there is no strict commitment to the data, therefore, the variation in the distribution or even the absence of specific patterns is not a major factor upon which theories about the investigated system is formulated. In other words, she argues, the "corpora are typically used to validate-but not only to a certain extent- existing categories or supplement the theory with a probabilistic dimension" (p.81).

To summarize, in the corpus-based approach the research extracts appropriate material to support intuitive knowledge, verify expectations, allow linguistic phenomena to be quantified, and to discover proof for existing theories illustrative samples. The researcher employs interrogation and data in corpus to confirm linguistic pre-set assumptions and explanations. Using this approach, "pre-existing categories" cannot be challenged and the method cannot provide for unexpected findings, she argues.

The Corpus-Driven Approach

The corpus-driven approach the researchers care more about the data and its integrity. Tognini-Bonelli (2001) best describes that approach as,

> "the commitment of the linguist is to the integrity of the data as a whole, and descriptions aim to be comprehensive with respect to corpus evidence. The corpus, therefore, is seen as more than a repository of examples to back pre-existing theories or a probabilistic extension to an already well-defined system." (p. 84).

Storjohann (2005) is a good example of the use of corpus-driven approach to German lexicography. The study uses computer analysis of interpretation of concordances to examine sense relations to identify the paradigmatic relations in the investigated corpus. The study is carried out within a pragmatic framework, however, it

shows how a corpus-driven approach to the data reveals results that cannot be arrived to by using the linguist's intuition only. In the study, the corpus software examines the types of relations that an item will reveal if searched with other words in the same context. The software based the results on the computer's evidence instead of the linguist's intuition. Storjohann (ibid) notes that the results do not match the expectations based on the linguist's intuition which offers a great support to Tongnini-Bonelli (2001) categorization. After examining the generated collocates of the search items, Storjohann (ibid) analyses the potential paradigmatic terms within their context to validate and classify sense relations. He identifies the kind of relations, provided descriptions, and chose illustrative text samples. He concluded that:

> "The corpus-driven approach offers two different results. On the one hand, direct results are ascertained from the computer analysis of collocation where a paradigmatic partner is a statistically significant collocates. On the other hand, indirect results are obtained where a sense relation is identified through the analysis of a collocation partner which itself is not a paradigmatic, but a significant syntagmatic partner illustrating more complex syntagmatic structures and embedding further paradigmatic lexical relations" (p.5).

However, he observes that corpus-driven approach is not always the answer because it cannot always "provide a comprehensive description of paradigmatic structures, here, and the corpus-based approach is used complementarily" (p.6). For all the cases mentioned above, CBA offers additional, complementary methods to trace paradigmatic pairs. It gives evidence from the corpus and help in incorporating it into the paradigmatic description. Storjohann notes the corpus-driven and the corpus-based approaches can complement each other as methods to gain insights in sense relations. This study benefits from both approaches to the data, similar to Storjohann (2008), as will be explained in the methodology chapter.

6.7. Corpus linguistics and study of context

Pragmatic is one of the most important discourse investigation methods where corpus-based research has gained some footing. Nevertheless, conversations analysts oppose the use of corpora to study social interaction. Conversation analysts place great emphasis on text and context. They believe that words gain their meaning from the context in which they occurred. The context in most of the cases includes cultural, social and environmental factors.

Some CA analysts, therefore, argue against the use of any corpus-based approach to study discourse especially, spoken ones. Once the spoken corpus is brought up to the table of discussion elements such as sentences, phrases and the lexicon lose their significance as a unit of analysis, they argue. The discussion, they believe, move to a larger unit of meaning that is represented in turns (for further discussion on turn and meaning see McCarthy 2010).

Adolphs (2007) argues for the use of corpus-based research to study context. She believes that it helps in shedding light on the "extent to which text external elements are involved in our interpretation of utterances" (p.11). Though her study is based on corpus pragmatics, it shows how CL can be used to look at context.

Adolphs (ibid) cite Thibault and Van Leeuwen's (1996) discussion of the direct relationship between lexico-grammar and context. She argues that a corpus-based approach dilute the line of distinction that researchers such as Brown & Levinson (1987) previously imposed between direct and indirect speech acts. She defines indirect speech acts as those marked cases when the syntax form doesn't conform with its function. She concludes that corpus-based research allows for the linguistic choices made by participants "according to culturally recognized discourse grouping". She believes that design and categorization schema applied by corpus linguists prior to corpus collection makes it easier to recognize the contextual discourse grouping. She cites examples from spoken corpus such as Michigan Corpus of Academic Spoken English (MICASE) , where academic activity is used as the main schema of categorization. To her, CL can help covering some of research aspects that other theories such as speech act theory did not cover especially in spoken discourse. For instance, she illustrates, phenomenon like incomplete utterances, overlap and false starts were not covered by speech act theory. However, CL should not be used exclusively to study context. In fact, it should be used with other methods of qualitative analysis to investigate the identified pattern by CL in their immediate context (Adolphs et al. 2004 for further examples).

In this thesis, corpus-linguistics is used as a preliminary filtering tool to prepare the data for the second phase of the analysis, namely CA (further detail of how CL is used can be found in chapter seven).

6.8. Corpus properties and design

6.8.1. Corpus size

Linguists agree that languages are indefinite; therefore no corpus is able or aimed to replace a natural language. Nevertheless, when it comes to size, different linguists use different sizes of corpora**.** Aston (1997), Maia (1997) and Tribble (1997), for instance, suggest the use of small corpora when dealing with "very specialized language register" (O'Keeffe et al. 2007, p.4). Biber (1990; 1993) considers a corpus of 100 words as enough for carrying out a "basic" linguistic analysis. Farr (2011) lists the following as the main disadvantages of using of a small corpus; first, the relatively insufficient occurrence of the linguistic phenomenon under investigation to a level that allow the researcher to make claims regarding language use. The population from which the data is selected is also small. However, Farr believes, those disadvantages can be turned into advantages as the small corpus also gives the researcher the opportunity to dig deeper in the data and explore more of its different aspects. Besides, it makes it easier to draw conclusions and investigate the behaviour of the frequent words and features that despite the small size of the data, play an important role in "the unfolding discourse of that particular domain" (Farr 2011, p. 236).

O'Keeffe et al. (2007), on the other hand, state that for spoken data, anything more than one million is large corpus, while for a written corpus anything below five million is quite small. Yet, when it comes to the suitability, they state the design of the corpus over rank the size as the determining factor. Flowerdew (2004, p.25) and Knight et al. (2007, p.146) believe that sampling is sufficient as long as we have enough number of occurrences or the linguistics structure or pattern under investigation.

Literature shows there is no clear cut answer to the question of what is the right size of a corpus a fact that lead researchers to sampling as the most potential solution. This does not necessarily mean that the sample should contain all the patterns or variations of the language from which it is chosen. Wynne (2004) defines the following issues among the important elements that should be taking into consideration before adopting any sampling policy:

1. The orientation to the language or variety to be sampled,
2. The criteria on which we will choose samples,
3. The nature and dimension of the samples (Wynne 2004, preface)

Among the criteria that determine the corpus size is representativeness. The corpus should reflect the purpose for which it is used, for instance, if the aim of building the corpus is to explore the use of a specific word or a grammatical structure then it should be very large. Reppen (2010, p.32) estimates that at "tens or hundreds of millions of words", while he considers tens of thousands as an adequate corpus to answer a very specific research question. He cites Vaughan (2008) as an example of a relatively small but adequate corpus as it is compiled to answer a specific research question regarding humour in English language teacher meetings. He emphasises the importance of the "relationship between research question, representativeness, corpus design and size" (p.32). However, recently the trend is to have a small specialized corpus depending on the purpose because it "lends itself to a more detailed-qualitative-based examination than is possible with larger ones)" Atkison and Harvey (2010, p. 608)

6.8.2. Corpus design

Sinclair (2005) recommends the following points as a guideline for corpus design:

1. The content of the corpus should be selected without regard for the language they contain, but according to their communicative function in the community in which they arise.
2. Corpus builders should strive to make their corpus as representative as possible of the language from which it is chosen.
3. Only that component of corpora that have been designed to be independently contrastive should be contrasted.
4. Criteria for determining the structure of a corpus should be small in number, clearly separate from each other, and efficiently as a group in delineating a corpus that representative of the language or variety under examination.
5. Any information about the text other than the alphanumeric string of its words and punctuation should be stored separately from the plain text and merged when required in application.
6. Sample of language for a corpus should wherever possible consist of entire documents or transcription of complete speech events, or should get as close to this target as possible. This means that samples will differ substantially in size.
7. The design and composition of a corpus should be documented fully with information about the contents and arguments in justification of the decisions taken.

8. The corpus builder should retain, as target notions, representativeness and balance. While these are not precisely definable and attainable goals, they must be used to guide the design of a corpus and the selection of its components.
9. Any control of subject matter in a corpus should be imposed by the use of external, and not internal, criteria.
10. A corpus should aim for homogeneity in its components while maintaining adequate coverage, and rogue texts should be avoided.

Adolphs and Knight (2010) consider homogeneity, representativeness and balance as idealistic. They also believe that those guidelines are "also specific and relative to individual research aims, and thus have to be judged in relation to the different questions that are asked"(p.40).

6.8.3. Data Collection

Before the beginning of data collection, researchers, place emphasis on the importance of obtaining a permission or a consent from all the concerned parities whether individuals or an institutions.

6.8.4. What constitute a text in a corpus?

One of the most important things that a researcher should identify prior to carrying out a corpus analysis is “text”. The notion of what could be considered as a text, according to Reppen (2010), is something that the researcher should decide prior to collecting his or her corpus due to the variation between a text in written and spoken corpora. A written text can be the collective work of a specific class in a specific day of the week or one essay by one single student. While a spoken text, he says, is a bit more fuzzy and difficult to determine. For instance, he wonders,

> “Is a spoken text a portion of a conversation, including all the topic shifts that might occur? Or, is a spoken text a portion of a conversation that addresses a particular topic or tells a story? The answers to these questions are, once again, directly shaped by the research question being shaped,” (p.33).

Since the corpus used in this thesis is a spoken one, a text is defined as a transcript of a whole episode of a teaching session. It includes all topic shifts and interactional detail that might occur during that session. The number of participants and their gender are not included as factors for text choice because of the limited number of recorded sessions.

6.8.5. Recording

Because it is almost impossible to document all the information related to the recording, Adolphs and Knight (2010) emphasize the importance information related to the context and the participants, this involves

> "the location and the overall context in which the event takes place, as well as about the type of recording equipment that is being used, and the technical and physical specifications that are being applied to the recording itself" (p.41)

In general, they believe that the decision regarding the amount of information documented in the corpus is determined by the aim of the research. To determine how many hours of recording one need depends on the variable we are looking at. Some variables tend to occur more often than others. For instance, nouns and adjectives tend to occur less frequently than grammatical words. Usually a one hour of recording generates around 10,000 words, Adolphs and Knight (2010) estimate. However, they elaborate, the number vary according to "discourse context and the rate of speech of the participants" (p.41.)

6.8.6. Naming and saving files

Files should be named according to their content and in accordance with the important aspects to the analysis, such as region, gender or subject matter. Reppen (2010) believes that the naming should be between eight and eleven characters in order to avoid analytical problems. Adding headers that contains contextual information about the text such as the place where it was collected, he believes, is highly recommended. Include the headers between angle brackets (< >). Use plain text format to save the files as it works with many corpus software. Burnard (2005) refers to such information as metadata and categorises it under the following:

1. Editorial metadata-providing information about the relationship between corpus components and their original source.
2. Analytic metadata-providing information about the way in which corpus components have been interpreted and analysed.
3. Descriptive metadata-providing classificatory information derived from internal or external properties of the corpus components.
4. Administrative metadata-providing documentary information about the corpus itself, such as its title, its availability, its revision status, etc.

6.8.7. Transcribing

Before transcribing, the following should be determined:

1. how will reduced forms be transcribed; for inaudible, it is either that we write unclear followed by the number of syllabus, e.g. (unclear two-syllable) or make a guess of the word followed by a question mark,
2. how to transcribe overlapping? and minimal responses (uh, huh, mmm, hum, etc),how to transcribe laughter, repetition and pauses (timed or a range should be decided in advance) for example a short pause is one between two to five seconds and a long one is longer than six seconds (Cook 1990).

Cook (1990) states that the "principles behind transcription (if not their implementation) are simple and consistent: what is needed to make the data work must be there, what is not can be forgotten," (p.2). "The level of detail of transcription is relative to the purpose of your corpus" (O'Keeffe et al. 2007, p.6).

6.8.8. Reference corpus

A reference corpus is usually large in size and is used for the sake of comparison (benchmark) with the investigated one. Scott (2009) addresses the reference corpus in an attempt to address the following issues:

a) The impact of the reference corpus on the quality of the generated keywords;

b) the point at which the size of the reference corpus turns the keywords list into unacceptable;

c) the impact that a different reference corpus (beyond being in a different language) has on the resulted keywords;

d) what kind of keywords result in when a reference corpus of the same or different genre is used?

He concludes that despite the importance of the size of corpus to the precision of the keyword results, smaller corpora are not necessarily bad. To him, smaller corpora are also capable of generating good results. Yet he recognizes the importance of factors such as size and homogeneity in text-type, date and subject matter for the meaningfulness of the generated keywords. Finally, he argues that "a small reference corpus containing a mixture of texts is likely to perform better than a larger corpus with more homogeneous texts" (p.9). The corpus used in this thesis is a relatively small one. It contains a mixture of eight texts that represent four subject matters (physics,

chemistry, information system and early child education). Further detail is presented in part (6.8).

6.8.9. Corpus processing

a. Concordance

Concordance tool is one of three main tools and important aspects of CL. O'Keeffe et al. (2007) defines it as "using corpus software to find every occurrence of a particular word or phrase". The search word or phrase, they add,

> "is often referred to as the "node" and concordance lines are usually presented with the node word/phrase in the centre of the line with seven or eight words presented at either side. These are known as Key-Word-In-Context displays (or KWIC concordances)."

Hunston (2002) argues that concordances facilitate the process of observing how language is used. She demonstrates three observations that can be done using concordances lines including, observations regarding what is "*typical*" vs. "*central*". *Typical*, she illustrates, refers to the most frequent use of a word or phrase, while *central* is used to refer to the words categories rather than the words themselves.

Concordances, Hunston (ibid) adds, can also be used to distinguish the different meaning of those words that seem to be synonyms, even to the native speaker intuition, yet cannot substitute each other. This function is of great benefit to writer and teachers. Finally, observing meaning and patterns is another function that Hunston (ibid) cited among the uses of concordance lines. She argues that "the meaning of a word is closely associated with its co-text", thus, "the most part the meanings of words are distinguished by the patterns or phraseologies in which they typically occur," (p.46).

Concordance lines are a flexible tool that allows the researchers to examine the investigated word in its immediate context. It also allows him/her to trace the source text and see the node word in its full context. They also give the researcher the choice of copying those lines and saving them as text. This feature can help in investigating the occurring patterns of a particular word especially when it comes to CA.

b. Key word analysis

This function allows us to identify the key words in one or more texts. Key words, as detailed by Scott (1998), are those whose frequency is unusually high in comparison with some norm or a reference text. Key words are not usually the most

frequent words in a text (or collection of texts), rather they are the more "unusually frequent" (Scott ibid). Software compares two pre-existing word lists and one of these is assumed to be a large word list which will act as a reference (p.12) file or benchmark corpus.

The goal of using keyword is to statistically compare two texts to each other by means of identifying not only the most frequent words abut also the least frequent. Dawn (2009, p.2-3) states that the comparison can be done by "removing words that are common to both texts." This way, he adds, "we allow the researchers to focus on those words that make a text distinctive from text B". For instance, he says, function words such as "if" might not appear in the wordlist because it is common for function words to have a high frequency in English language, yet it will appear in the keyword list if it is been used distinguish higher or less that the reference corpus. However, he warns us against being too excited about the significance of what a keyword list might generate. He limited the usefulness of keywords list to the following:

a. shedding light on the text "*aboutness* and structuring"

b. lending themselves to further investigation such as collocation and colligations.

Kirk (2009) emphasises the equal importance of low frequency words to that of high frequent ones. The study investigates different types of corpora including written and spoken ones to investigate the usefulness of keyword lists for the analyst. He argues that word frequency analysis might reveal objective and concise results. However, they should be treated with caution as they might also be "imprecise and relative". He concludes that frequent words should be understood as:

a. something that needs interpretation through contextualization,

b. a methodology, which lends itself to approximation and replicability.

One of the advantages of examining the most frequent words, Hoover (2009) argue is that they are too frequent to be "intentionally manipulated by an author." He concludes his argument suggesting that "the contribution (of word frequency) is both *post-hoc* and *propter-hoc".* he adds that

> "frequencies are factors in items, systems, texts and discourses, that frequencies are discovered as part of distributional choices, and that frequencies are essentially calibrating-comparing but also establishing identity and discriminating individuality. Frequencies belong to description and prediction" (p.34).

He also argues "frequency is bound up with the interpretation of the value of the frequency of that word in the social context of occurrence that frequency has a value in the description of particular lexical and grammatical items, and that frequency is replicable as a basis of systematic comparison and of identity construction" (p.34).

Davies, in Archer (2009), emphasizes the importance of clusters or what he refers to as "n-gram" for text analysis as they "will have an associated frequency according to historical period and register" (p.7). He agrees with Kirk (2009) on the importance of contextualizing the numbers arrived to by frequency. Nevertheless, he expressed concern regarding the inclusion of low frequency words that, according to him might turn out to be unmanageable in large corpora. Baker (2009) is among those linguists who investigated the use of Wordsmith keyword tool to investigate the debate that took place in the house of common between 2002 and 2003 with regard to fox hunting. One of the remarkable features of his study is the use of a relatively small corpus of 130,000 words. He divided the corpus into two sub-corpus based on the participants stand from foxhunting, i.e. with and against. The remarkable feature of his use of this small corpus is that he compared the sub-corpus against each other instead of using a bigger reference corpus.

Baker concludes by suggesting that keywords offer a potentially useful way of focusing researcher attention on aspects of text or corpus, but that care should be taken not to over-focus on different/presence at the expense of similarity/absence. He also suggests that the best means of gaining the fullest possible picture of the *aboutness* of text (s) is to use multiple reference corpora,"(p.12).

c. Frequency wordlist

Frequency wordlist is usually the first step in corpus analysis. The wordlist is automatically generated using predesigned corpus software such as Wordsmith that searches the texts and outputs the result in a shape of a list. The produced list can be displayed based on the order of their frequency of alphabetically (Evison 2010). Archer (2009) argues that frequency of words does tell something about the text and the author. Archer (2009, p.160) states,

> "I would advocate that those of us using frequency/keyword techniques are always careful to stress that the de-contextualization of a text into a list of words is but the first step of a corpus linguistics approach; indeed, as this edited collection reveals, corpus linguists who regularly use (key) words emphasize the importance of re-connecting those list(s) of (key) words with the text(s) from which they came

> and, where possible, with their 'context of production' so that we can better appreciate(the meaning behind) the language (as it is) used" (p:124).

In this thesis, I used frequency wordlist as a first and basic step in my corpus analysis. It is used to direct the second part of the analysis, i.e.CA. That is done in order to re-connect those words to the context where they originally occurred.

d. Lexical cluster analysis

This tool also gives the researcher the ability to search for a group of words that vary in length between two to eight. It shows whether a certain cluster of words occur in a specific text and whether the occurrence is more than a coincidence. Though it helps mainly determining style and authorship, in my case it helps in identifying those clusters that are specific to students or teachers.

6.7. Limitations of corpus linguistics

CL, however, is criticized by generative linguists for not giving the linguists information about the possible sentences or the native speaker intuition regarding the language under investigation. Nevertheless, Hickey (2003, p.2) argues, this doesn't make CL a useless tool for language investigation because, he illustrates, corpora, as a collection is a product of a native speaker competence though it does not reflect that competence and it cannot be used to examine it.

Hickey (2003) believes that linguists should be careful with the numbers they get from the use of CL as well as the level of language at which they use it. For instance, he argues, that corpus should be used at the morphology and vocabulary level followed by syntax and then semantics. He says that semantics is the most difficult level where CL can be used because it is hard to determine the meaning of a word in isolation because

> "knowledge of semantics in a language is not formally encoded in word forms but stored mentally by users after being gained through experience of the language and the environment in which it was spoken during language acquisition" (p.13).

This does not undermine the role that corpora can play in investigating language but it emphasises the importance of combining corpora with another method that give the researcher access to the context in which the word is used something that this research is doing.

6.8. Part Two: Procedural aspects of my corpus

Building a corpus is not rocket science, but also it is not a monkey's job. It is a monotonous work that requires advanced planning, money and time. It is unlikely that one person can do corpus compilation by himself unless a small and specialized one. Literature shows that there are several academic spoken corpora that could have been used to investigate the learner's language in this research. However because it is agreed that "there is no one corpus to suit all purposes" (O'Keeffe et al. 2007, p.3), I decided to compile my own corpus.

In this section, I will talk about two issues related to my corpus. The first part covers topics such as the research ethics, data collection, recording, file saving, corpus size, representativeness and the reference corpus. The second part, talks about the methodological procedures that I followed to prepare the corpus for analysis and generate two sub-corpora.

6.9. Corpus description and compilation

a. Ethical

To adhere to the ethical practices of research that give the participants the right to choose not to be recorded, I did the following;

1. The institute's permission to carry out the study in their premises was granted by a permission letter from the Dean of the university in which she expressed her agreement (see Appendix D).
2. Every participant, whether a teacher or a student, is asked to sign a consent form that gives them the right to;
    a. refuse to be included in the records,
    b. refuse to be recognized in the records by blurring her face,
    c. refuse the use of the records for scientific publications, for meetings with researchers interested in the subject, classroom students, public presentations to nonscientific group, media, and subject in other experiment.

However, to avoid some of the complications associated with the recognition of some of the participants, transcripts were made anonymous. The use of the video recording is limited to a very restricted, professional audience and just for the sake of

verifying the validity of the researcher's interpretations of the data (Thompson 2005)[6]. The participants were informed of all the steps that the research will go through and I followed those ethics throughout those stages, i.e. from recording to analysis. The participants were told that the corpus is not intended to be released or used for commercial purposes beyond this research. There were also assured that the corpus will not also be used by someone else other than the developer. Those factors made it easier to deal with ethic issues.

b. Recording

The corpus is a collection of recordings of naturally occurring conversation. It is recorded from CLIL classrooms at Effat University, Jeddah, Saudi Arabia. According to the primarily design, I decided to collect the data only from courses offered to the third and fourth level students across the different schools in order to capture as much interaction in the target language as possible (See Appendix 1). I chose two subjects from every department in every school as can be seen in (Appendix 2). However, because things are not always straightforward especially when it comes to data collection, I discarded the previous design for the following reasons:
The availability of the courses; not all the courses included in (Appendix B) were offered at the time of data collection, i.e. the second semester of the academic year 2009.The willingness to participate; some teachers and students refused to be included in the study because of the presence of the video camera for cultural and religious consideration. Women images are a sensitive topic in Saudi Arabia. I finally decided to change the whole design and excluded the students' level as a criterion for my corpus' design. I ended up recording almost twelve hours of different subjects across the different schools (See table 2).

Subject	Number of hours
Physics	3
Early childhood Education	3
Information system	3
Chemistry	3

Table 2: the final design of the corpus

[6] Further detail can be found at the Economic and Social Research Council (ESRC)website : http://www.york.ac.uk/res/ref/

C. Rerecording equipment

For recording, I used an Olympus digital voice recorder (VN-3100PC) and Sony camcorder (DCR-SR38E).The Sony camcorder is used because it is a budget camera with high quality. It is lightweight which makes it easy to carry it from a class to another. It has a clear, steady and sharp picture in addition to a high quality built in microphone which is reflected on the quality of the data transcription, hence, the reliability of the analysis (Peräkylä 2004). The most important feature, though, is that it has a 70GB built in hard drive that allows the researcher record for long hours without the need to change tapes which might disturb the class and affect the recording quality.

d. The reference corpus

For my reference corpus, at the beginning I decided to use two corpora; The British Academic Spoken English corpus (hereafter BASE)[7] and the British National Corpus (hereafter BNC) but I ended up dropping the BNC following the first round of analysis (See chapter seven) and I adopted BASE because it is the closest corpus to mine. BASE is a 1,644,942-token corpus that is compiled of 160 lectures and 39 seminars. The corpus "is a record of the speech of university lecturers and students at the turn of the 21st century" (BASE website). It is grouped under four fields including, Arts and Humanities, Life Sciences, Physical Sciences and Social Sciences. It is developed by a team that is lead by Hilary Nesi and Paul Thompson. According to the corpus developers, BASE can be used not only for frequency of words but also for patterns of interaction including turn taking and topic selection. This makes it very suitable as a benchmark for my research.

e. Transcribing the data

Ochs (1979) describes transcribing as a "process reflecting theoretical goals and definitions" (p.44). Since there is no one fixed model of transcription in general and in CL in particular, I decided to use that of Gail Jefferson (Jefferson 2004). Jefferson system is used mainly in CA methodology as explained in (chapter 4); however, it is also widely used in other disciplines where language is the subject of investigation (Ten Have 2007). Despite the benefits that this system offer to the researchers interested in

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[7] More information about BASE can be found at

http://wwwm.coventry.ac.uk/researchnet/base/Pages/BASE.aspx (accessed in 12/02/2011)

talk-in-interaction, it can be confusing sometimes because it consists of too much detail. For that reason, other researchers tend to be selective when it comes to transcription.

With regard to transcription tools, as mentioned in chapter (4), I used *Transana*[8]. It is qualitative analysis software for video and audio data. It is developed by the University of Wisconsin-Madison Centre for Education Research. It allows the researcher to edit his data and to align it with the video or audio files.

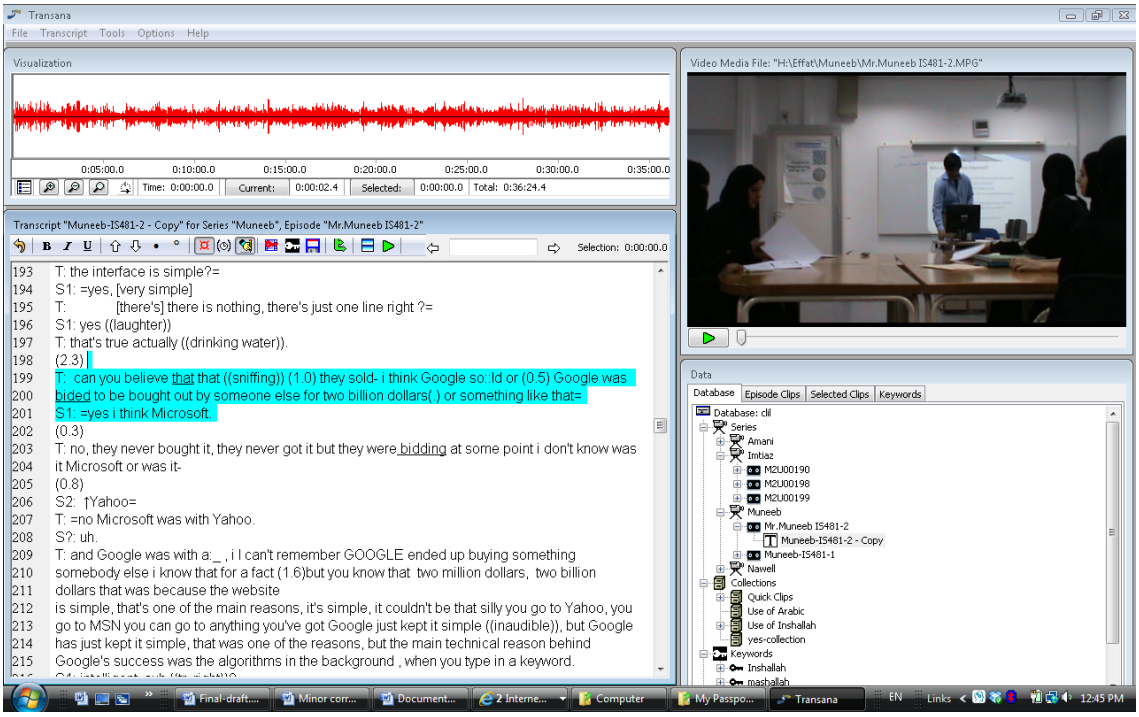
There is an agreement among researchers on that the utterance or turn is the unit of meaning in spoken corpus rather than a sentence as in written one. However, turns are not usually as clear as a paragraph in a written corpus. Speakers tend to interrupt each other, use other non-verbal resources in their interaction. They use gestures, pauses, as well as other prosodic features to co-construct the meaning in a conversation. Those extra features that are unique to the spoken corpora create a sort of challenge to researchers who deal with spoken corpus as they need to be included as much as possible to the transcript to help in the analysis. This has led to the emergence of multi-model corpora (for detail see Knight 2009).

However, in this thesis, as mentioned earlier, the use of transana helped me not only to transcribing the data but also to analyze it. Transana is designed in a way that allows the researcher to see the video and the audio waves while creating the transcriptions. It facilitates the process of adding the non-verbal detail of the interaction. It helps in measuring the pauses in part of a second and shows to certain extent the prosodic features of the talk (see Figure 1).

[8] Further information about Transana including download can be found at:

www.transana.org

Figure 1: a screenshot of transana software from my corpus



Transana software has some of the basic Jeffersonian transcription conventions (see Appendix C) that are used mainly in CA. One of the most important features from which I benefited a lot is its ability to identify video portions that seem to be analytically interesting and attaching keywords to them in a step towards creating collections. All of that can be done without affecting the original video or trimming it into portions. I used the frequency wordlist to create keyword and assigned video portions to them. Following I used those keywords to create collections based on each keyword's interactional function as identified by the use of a turn-by turn analysis. Adding time stamp to the video is an additional feature that facilitated the use of transana not only for transcribing and analyzing, but also for presenting my data in conferences. It also helped in navigating the collections as well as the main texts. I highly recommend transana for transcribing spoken corpora especially when the analysis is at the discourse level.

f. Mark up

It is agreed on that written corpus entail relatively little mark-ups compared to spoken one (Nelson 1995). McEnery & Wilson (2001) emphasize the importance of annotating the corpus adding that annotation increases the value of the corpus and transfer the data into "a repository of linguistic information". It also, they argue, makes

the implicit information explicit. However, the extent to which a corpus is annotated depends on the investigated phenomenon and the research questions. To annotate the corpus means adding tags to the words that form a text based on investigated phenomenon and requires a degree of interpretation (Hickey 2003, p.5). For instance, words can be tagged as part-of-speech, semantics, discourse and text linguistic annotation, phonetic transcription, or pragmatic.

In my case, the use of CA requires looking at the data in an unmotivated way, i.e. without having predefined categories in mind. For that reason, I limited the annotation to the minimum. For example, beginning and end or the turns, change of speakers, laughs and pauses, etc (See Appendix C). Yet the mark-ups usually are removed to get clean information of the words used once the investigation gets into the next level of generating wordlists or keywords.

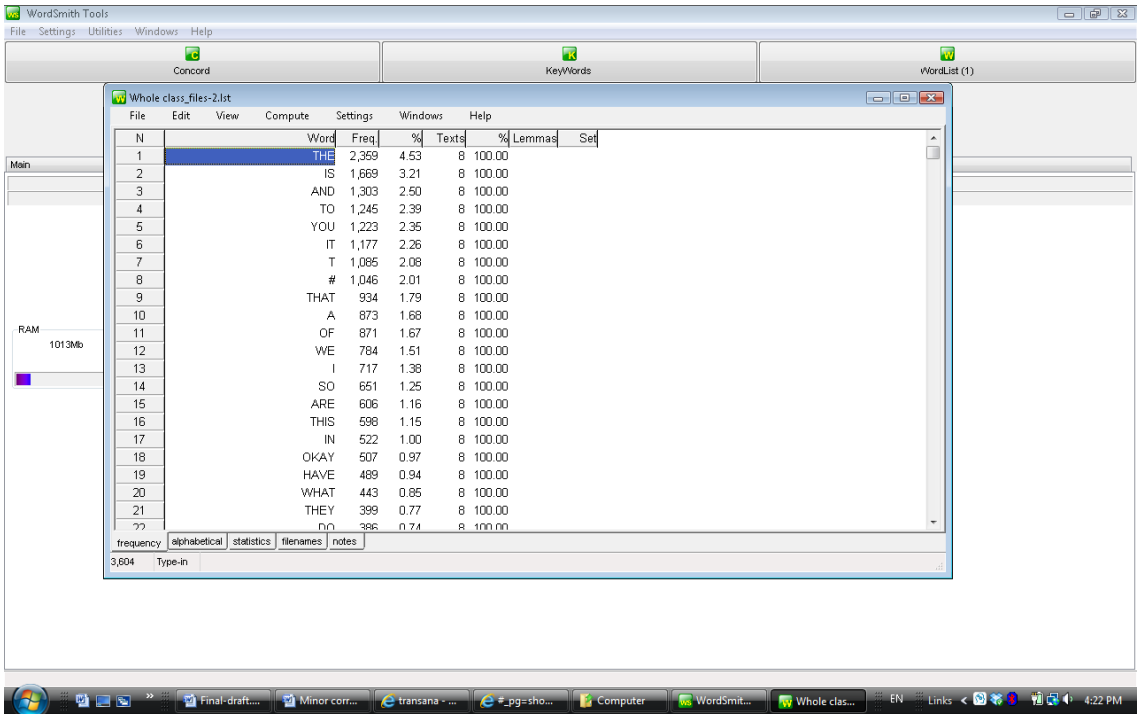
g. Normalization

Normalization is the process of unifying the spelling of the different variations or forms of one word. In this corpus the different pronunciation of words such as "gonna" and "wanna" are normalized to the formal form of "going to" and "want to" respectively in order to get a more accurate result when it comes to the generated wordlists.

h. Corpus processing

The processing of the corpus is done using *WordSmith* tools (Scott 2010) which uses the compare lists function to give us an immediate access to the words or phrases that are used significantly higher or lower by the learners as well as the teachers. According to wordsmith website it is "an integrated suite of programs for looking at how words behave in texts. You will be able to use the tools to find out how words are used in your own texts, or those of others," (wordsmith website).

Figure 2: a screenshot of Wordsmith wordlist



Wordsmith software comes with and easy step-by-step online tutorial and has a friendly interface. It provides a great deal of information about the text that might not be spotted manually by the researcher, especially in big data.

It also shows the target word's co-text or collocates in the left and right directions. I used Wordsmith in this thesis as preliminary filtering tool. It successfully facilitated the process of identifying patters and words distribution within and across texts based on their position in the turn. It also helped me in dividing SCLIL corpus into two sub-corpora based on the speakers, i.e. teachers vs. students. More detail regarding the way I used Wordsmith in this thesis is presented in chapter seven.

Chapter 7. Results I

7.0. Corpus Linguistics

In this chapter I will represent the first phase of the results. It covers the results of the data processing using the wordsmith program and the creation of two sub-corpora, i.e. SCLIL-T and SCLIL-S.

7.1. Introduction

The first line of enquiry for this thesis is a general exploration of the Saudi content language integrated context at higher education level. It gives a descriptive account of the used linguistic features and their distribution in a larger context. It also sheds light on turns produced by teachers compared to those produced by students and the effect of this use on the way the interaction is conducted. However, the main focus is on comparing the language used by the students to that used by the teachers to uncover the pattern of use distinguishing learners' language from that of the teachers' language. This falls in two categories: qualitative and quantitative differences. This kind of analysis is facilitated by the use of Wordsmith Tools (see chapter 6 section H) and Transana (see chapter 6 section D) . In this part I use some tools, such as the frequency wordlist and concordance lines functions, that are extremely valuable as they shed light on the recurring patterns that appears in the immediate co-text of the word under investigation.

Wordsmith tools give the researcher the ability to determine in advance the span or words within which collocates are determined. In this thesis the span is determined between three and five words to the left and right of the search word. The thesis also takes advantage of the plot tool that wordsmith offers which helps in visualizing the distribution of the selected word or phrase in a text including the distribution of that word or phrase over time. In my case, the plot tool helps in visualizing at which stage of the lesson the identified word or phrase occurs and its frequency. The second level of the analysis is what is believed to be the level where CA and CL operate better, i.e. the turn. In this section, the turn construction and sequential organization will be investigated in relation to the identified linguistic features positioning and distribution.

7.2. Frequency word list analysis

To extract the most frequent words, a word list is generated for the entire corpus of Saudi Content Language Integrated Learning (SCLIL) and the reference corpus British Academic Spoken English (BASE), the tools give us access to the ranked frequency of the main and the sub-corpus. The generated lists are cleaned from the irrelevant tokens. As the initial step, I have chosen the significant drop in the number of occurrence in the frequency as the initial cut-off line for the number of chosen words in the frequency lists. However, because my methodology uses CL and CA in an iterative way, that list has been a subject to continuous modification. For instance, some words has found their way to the top of the most frequent word list as a result of their significance to the interaction as proved in the second stage of the analysis, i.e. CA. All of that is done following the deletion of some irrelevant words such as numbers, and content-related words because they are beyond the scope of this study. Prepositions (e.g.to, in and from), articles (the and a), and verb (to be) are also deleted to their irrelevance to the study. Only non-content words are left, as they are indicative of the discoursal features of this particular context. (See Table 3:)

N	Word	Freq.	%	Texts	%
1	YOU	1223	2.37475729	8	100
2	IT	1177	2.285436869	8	100
3	THAT	934	1.813592196	8	100
4	WE	784	1.522330046	8	100
5	I	717	1.392233014	8	100
6	SO	651	1.264077663	8	100
7	THIS	598	1.161164999	8	100
8	OKAY	507	0.984466016	8	100
9	WHAT	443	0.860194147	8	100
10	HAVE	411	0.798058271	8	100
11	THEY	400	0.776699007	8	100
12	DO	275	0.533980608	8	100
13	ABOUT	268	0.520388365	8	100
14	GOING	267	0.518446624	8	100
15	IF	256	0.497087389	8	100
16	CAN	255	0.495145619	8	100

Table 3: The top 17 frequent words in SCLIL corpus

Table (3) shows that the most frequent words in SCLIL are the pronouns “you”, “we”, and “I” respectively. Following, comes the discourse markers “so”, “okay”, “know”, and “all right”. The indexical or demonstrative pronouns “this” and “that” are also among the list of most frequent words. The model verbs “can” and “do” come high

in the list, which is not a surprise as these are among the most common verbs used in questions in the classroom. The hypothesizing "If" is also highly frequent in the SCLIL. However, the above table does not reflect the contextual detail of the identified word or its use in SCLIL context. The next step is to compare SCLIL to both BASE and the spoken British National Corpus (BNC),(Leech et al.,2001) to find the similarities or differences among the three and whether those identified most frequent words are characteristics of SCLIL. Sinclair (1991, p.31) believes that the top frequent words rarely change their rank, if they did, he argues, this should be significant.

A glance at table (4) shows that SCLIL list of most frequent words is not much different from that of BASE or BNC. For instance, in SCLIL the pronoun "you" occurs more frequently than "we" and "I" respectively. In BASE, "you" is the highest in frequency followed by "I" then "we". In the BNC, on the other hand, the first person single pronoun "I" occurs more frequently than "you" and "we" respectively.

No.	SCLIL	No.	BASE	No.	BNC
1	You	1	ER	1	I
2	It	2	That	2	You
3	That	3	You	3	It
4	We	4	It	4	That
5	I	5	I	5	We
6	So	6	So	6	They
7	This	7	We	7	ER
8	Okay	8	This	8	Yeah
9	What	9	They	9	What
10	They	10	What	10	Erm
11	Do	11	As	11	This
12	About	12	Which	12	Know
13	Going	13	If	13	Well
14	If	14	about	14	So
15	can	15	can	15	oh

Table 4: The top 15 wordlists of SCLIL, BASE and BNC

Backchannels "oh" and "yeah" and the hesitation" er" and "erm" which are characteristics of casual conversation appear among the most frequent words in the BNC and disappear from SCLIL. The interrogative pronoun "which" appears only in BASE, "what" in comparison, seems to be more popular as it does not only appear in the three lists but also holds almost the same high rank in the three lists. With regard to the discourse markers, the table shows that the discourse marker "so" is the most frequent in the three corpora, but "Okay" is a characteristic of SCLIL only. "Know" and "well", on the other hand, characterize BNC.

Those observations do not exceed the description level thus cannot be used to draw any conclusion regarding SCLIL unless a more accurate tool is used. The following step, therefore, is to compare this list to the one generated from the BASE corpora but using a different tool, namely keyword, with the aim of exploring the significance of the words frequency when compared to a relatively larger context. The aim is also to find out whether the identified patterns will stand as characteristics of SCLIL or will they lose this privilege in favor of others once applied to a larger corpus.

The keywords tool generates a list of words which frequency is unusually higher or lower in comparison to the reference corpus, in this case BASE. The aim of this process is to identify the words that characterize the text under investigation, i.e. SCLIL. The generated list, not surprisingly, is topped by content-related words that are deleted for not being relevant to the present study. In the following table I used the same procedure of the cut-off point that is used in the previous list to refine the table. I also deleted the unrelated words leaving only the non-content words for further investigation. The remaining list is as following (See Table 5);

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P
1	UH	209	0.401475281	2		1200.686523	5.03764E-19
2	OKAY	507	0.973913729	1915	0.208796486	694.1057739	2.78131E-18
3	TRA	102	0.195935309	4		563.0887451	5.40138E-18
4	AHA	94	0.180567831	3		523.4653931	6.82219E-18
5	WE	784	1.506012559	6660	0.726153851	311.879425	3.72839E-17
6	YES	180	0.345768183	557	0.060730886	295.1772461	4.49039E-17
7	RIGHT	217	0.416842759	1076	0.117318548	218.3558502	1.27679E-16
8	DO	386	0.741480649	2948	0.32142666	193.8269653	1.95948E-16
9	LET	114	0.218986511	403	0.043939941	165.8703003	3.48858E-16
10	HAVE	489	0.939336896	4433	0.483339339	164.2710266	3.61865E-16
11	US	130	0.249721467	546	0.059531532	158.8652649	4.10927E-16
12	IT	1177	2.260939837	13923	1.518054128	156.9467468	4.30466E-16
13	GOING	267	0.512889445	2033	0.221662283	134.7251282	7.82846E-16
14	SO	651	1.250528216	6995	0.762679636	128.4451752	9.49622E-16
15	REMEMBER	96	0.184409693	373	0.040668976	127.3070374	9.84797E-16
16	THIS	598	1.148718715	6389	0.696606159	120.4011612	1.24031E-15
17	YOU	1223	2.349302769	15611	1.702100277	109.6654205	1.84671E-15
18	YEAH	199	0.382265925	1462	0.159404948	107.8276672	1.98807E-15

Table 5: top single keywords in SCLIL compared to BASE

Not surprisingly, backchannels such as “uh” and “aha” appeared to be on the top of the list of the keywords in SCLIL compared to BASE. Discourse markers such as “okay”, “right”, and “so”, kept their rank among the high frequent words in the SCLIL list of key words. Use of the mother tongue (L1), represented in the table by (TRA) has also appeared among the characteristics of SCLIL. This is not a surprise in a context

where English is used only as a medium of instruction inside the classroom. BASE on the other hand is composed of only classes where English is used as L1. It is important to mention here that the presence of the four (TRA) in BASE does not stand for translation as in SCLIL. In fact it stands for false starts for words such as (transit, traditional, transparent and translated). In general, this table highlights the importance of investigating the way L1 is used as a resource in this context which is beyond the scope of this thesis. The pronouns "We" and "you" also topped the list while "I" seems to sink down in the list. The continuous verb "going" also remain as a discoursal characteristic of SCLIL compared to BASE. From what have been mentioned we notice that using Wordsmith Tools to look at SCLIL has revealed some important information about the discoursal features that characterize SCLIL, yet it does not give us a detailed picture about who is using those words and how are they used in this context which brings us to the next step of the first level of analysis, i.e. the single word level. In the following section I identify the patterns that are used more frequently by the teachers verses the students in SCLIL.

7.3. Identifying Patterns in Language use; Teachers vs. Students

Language is characterized by patterns that tend to group together to form linguistic categories. Corpus research helps us to identify such categories and more challengingly helps in identifying the systematic way in which those patterns group to construct meaning.

Though table (4) helps in identifying the top single words that characterize the context in question, it does not show clearly the keywords distributional patterns in the teachers' and students' talk. Therefore, I decided to sort the lines spoken by the teachers and those by the students in separate files. Sorting the lines into two groups makes the distributional patterns of keywords spoken by teachers and students more visible. By manipulating the data, it began to suggest sometimes-unexpected lines of inquiry.
In order to fully answer the questions posed at the beginning chapter (1) I wanted to use a method that would identify which words occur most frequently in SCLIL teachers' language, so I would be able to describe the pedagogical uses that are most frequently made. Once the frequency of use of words in teachers' talk can be determined, this can be compared to those used by students.

To do so I identified the turns spoken by the students in every class and separated them from those spoken by teachers to come up with two separate sup sets of

corpora. A sub-corpus for the teachers is created and named SCLIL-T while the students' sub-corpus is named SCLIL-S. One of the issues that surfaced form the process of file separation is the huge gap between the two sub-corpora. The teachers' corpus, i.e. SCLIL-T is almost eight times the size of the students' corpus, i.e. SCLIL-S (45,791 to 6,078).The difference can be attributed to the nature of classroom interaction in Saudi Arabia as stated in chapter one (see section 1.4). This left me with two choices, first; to increase the size of the corpus, which is not practical due to the availability of resources and the amount of time available to conduct the research, second; to use the data as it is with a special focus on the students' corpus at the second part of the analysis, i.e. the CA.

With regard to the use of statistical significance tests to explore the relationship between the two corpora, I decided not to use any test because, as Sinclair (2008, p.24) perfectly states it, when we look at CL research what is "in front of us are not probabilities, but actualities and those should be the focus of our attention". Discussing the same issue of use of statistics significance, Stubbs (1994, p.217) believes that "there is no clear theory of how the frequency of linguistic features contributes to the meaning of individual texts". Kilgarriff (2005) also argues against the use of tests of statistical relevance with CL adding that all statistical measures are based on possibilities of randomness when language is not random. On the contrary, patterns in language are used for the aim of communication and there is no chance for relevance or probability. Sinclair (2008) states

> "the only statistically relevant fact that is known about a corpus is that its distribution does not occur by chance, so why use chance as a criterion of relevance whether the occurrence of pattern beats or does not beat chance prediction tell us nothing about the meaningful units of their relations" (p.29).

He, however, excludes certain types of studies that depend mainly on numbers and words frequency such as language varieties and authorship. He argues that the use of statistical relevance in this sense is acceptable and that it has given "linguists general pointers towards which usage patterns are worth consideration" (p.29). He believes that CL is used to offer explanation to existing phenomena rather than to predict about other corpus. Finally, he concludes emphasizing the importance of developing specific statistical measures for CL that is purely descriptive and that reflect its nature of quantifying linguistics concepts and categories. Based on this argument, in this thesis, I adopt a stand that favor the use of statistical measures as a descriptive tool to explore

and explain the existing phenomena in my corpus without paying attention to the statistical relevance of the patterns occurrence between the two sub-corpora. In other words, despite the difference between the two resulted sub-corpora, they remain an existing reality and the distribution of the occurring patterns is not a subject to relevance or randomness. On the contrary, the unequal distribution is systematic and a result of the nature of the interaction taking place and here comes the importance of the use of CA that shed light on the micro-detail of talk-in-interaction and magnifies the significance of the use of particular patters despite their low distribution, and whether they "fall inside or outside the rang indicated by chance" (Sinclair 2008, p.29). Therefore, I went with the second choice as will be explained in the next section.

7.4. Creating Sub-Corpora

The separation of teachers' verses students' turns resulted in two sub- unequal corpora as mentioned earlier. Each corpus has gone through the same investigation using the same tools. The aim is to find which of the generated two lists drew its strength from the predetermined institutional role played by teachers as well as students. The new sub-corpora are subjected to the same previous process of refinement and two new lists are generated (See Tables 6 and 7).

N	Word	Freq.	%	Texts	%
1	YOU	1165	2.599866152	8	100
2	IT	1041	2.323142052	8	100
3	THAT	892	1.99062705	8	100
4	WE	745	1.662575364	8	100
5	SO	634	1.414862752	8	100
6	I	623	1.390314698	8	100
7	THIS	561	1.251952648	8	100
8	OKAY	488	1.089042664	8	100
9	HAVE	452	1.00870347	8	100
10	WHAT	394	0.87926805	8	100
11	THEY	373	0.832403481	8	100
12	DO	366	0.816781998	8	100
13	GOING	263	0.586922586	8	100
14	ABOUT	255	0.569069386	8	100
15	IF	229	0.511046648	8	100
16	ON	226	0.504351735	8	100
17	KNOW	210	0.468645394	8	100
18	CAN	207	0.461950451	8	100
19	ALL	206	0.459718823	8	100
20	RIGHT	205	0.457487166	7	87.5
21	THEN	193	0.430707425	8	100
22	UH	173	0.386074543	6	75
23	THESE	165	0.368221372	8	100

24	WHICH	159	0.354831517	8	100
25	YEAH	154	0.343673289	8	100
26	YOUR	150	0.334746718	8	100
27	AS	148	0.330283433	8	100
28	BECAUSE	145	0.32358849	8	100
29	HOW	143	0.319125205	8	100
30	FROM	133	0.296808749	8	100

Table 6: wordlist of SCLIL-T

Table (6) shows that teachers in SCLIL tend to use the pronouns "you", "we" and "I" respectively with high frequency which is an indicative of the continuous change in stance throughout the lessons (Goffmen 1981). In the institutional setting, usually, teachers' and students roles are predetermined. The teacher most of the time, has more authority than the students. Based on that authority, the teacher is responsible for managing the interaction by allocating turns and choosing the next speaker. This authority, however, is sometimes downplayed by the teacher and those are the moments when interaction that is more symmetrical is witnessed and a space is created for the students to interact (Walsh 2006). Table (6), as mentioned earlier, shows more use of the pronouns "you" and "we" than "I". The pronoun "we" is usually associated with creating joint space of knowledge when used by the teacher. Not surprisingly, though, the teachers in SCLIL-T use quite sizable number of discourse markers such as "so", "okay", "know", and "all right" which are common features of lecturing discourse. Lecturing discourse is usually marked by the use of monologue or extended turns by teachers. Discourse markers, in this kind of discourse, are used to mark shift in the ongoing pedagogy or activity. The teachers' corpus, SCLIL-T is also characterized by a high frequency of model verbs such as "can" and "do" that are used for elicitation. Demonstrative pronouns such as "that", "this" and "these" are among the top words in the list of words frequency in this context.

Once again despite the amount of information that can be obtained from such a table, it remains out of context and a sort of speculation. It does not tell us whether these patterns are characteristics of SCLIL teachers or shared by other discourse. The same can be said about table (7) that shows the most frequent words used by SCLIL-S students. It is obvious from table (7) that the short responses "yes", "yeah" and "no" are ranked high in the list of the top frequent words used in SCLIL-S. The table gives us an indication of the nature of the interaction in this context and suggests a high use of yes/ no questions as a method of elicitation. The use of L1 is also a feature of SCLIL-S as it appears high in the table represented by (TRA). It is worth mentioning her that (TRA)

stands for the number of occasions when Arabic is used not for the number of token as they have already been counted as individual token. The students also use backchannel such as “aha”, “uh”, “mm” relatively high compared to other patterns. They also use discourse markers such as “okay”, “know” and “so”.

N	Word	Freq.	%	Texts	%
1	IT	135	2.221125364	8	100
2	YES	86	1.414939165	8	100
3	TRA	75	1.233958483	8	100
4	I	68	1.118789077	7	87.5
5	NO	65	1.069430709	8	100
6	YOU	58	0.954261243	8	100
7	YEAH	48	0.789733469	7	87.5
8	AHA	45	0.740375102	8	100
9	THAT	45	0.740375102	8	100
10	WE	40	0.658111215	8	100
11	THIS	37	0.608752906	8	100
12	UH	36	0.592300117	5	62.5
13	IF	27	0.444225073	7	87.5
14	THEY	27	0.444225073	6	75
15	HAVE	23	0.378413945	7	87.5
16	SAME	23	0.378413945	7	87.5
17	DO	21	0.345508397	7	87.5
18	CAN	20	0.329055607	7	87.5
19	LIKE	20	0.329055607	6	75
20	MM	20	0.329055607	5	62.5
21	OKAY	18	0.296150059	6	75
22	WILL	18	0.296150059	7	87.5
23	KNOW	17	0.279697269	6	75
24	OH	17	0.279697269	6	75
25	BUT	16	0.26324448	5	62.5
26	BECAUSE	15	0.246791705	5	62.5
27	SO	15	0.246791705	8	100
28	THEM	15	0.246791705	6	75
29	THEN	15	0.246791705	7	87.5

Table 7: Wordlist of SCLIL-S

Tables (6) and (7) show the high frequent words used by SCLEL teachers and students yet they do not help in determining whether those patterns are characteristics of this particular context or common in other context. For that reason a keyword tool is used again to generate an additional two lists that show the significance of the high frequency of those words compared to BASE. The following is found:

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P
1	UH	173	0.384572625	2		1038.703857	7.88816E-19
2	OKAY	488	1.084806085	1915	0.208796486	750.7200317	2.17291E-18
3	WE	745	1.656107545	6660	0.726153851	370.9555359	2.09109E-17
4	AHA	46	0.102256306	3		259.5411682	6.97289E-17
5	RIGHT	205	0.455707461	1076	0.117318548	232.7331085	1.01925E-16
6	DO	366	0.813604534	2948	0.32142666	222.5578308	1.19332E-16
7	SO	634	1.409358621	6995	0.762679636	187.2287445	2.22366E-16
8	US	127	0.282316327	546	0.059531532	178.5364075	2.64947E-16
9	LET	109	0.242302984	403	0.043939941	176.2735443	2.77791E-16
10	YOU	1165	2.589752197	15611	1.702100277	173.0688324	2.97441E-16
11	GOING	263	0.584639311	2033	0.221662283	171.938324	3.04814E-16
12	IT	1041	2.314104795	13923	1.518054128	155.6091766	4.44827E-16
13	THIS	561	1.247082353	6389	0.696606159	150.3965454	5.07306E-16
14	TRA	25	0.055574082	4		130.2689514	8.96667E-16
15	WHAT	424	0.942536414	4742	0.517030299	119.8823318	1.26293E-15
16	YES	95	0.211181507	557	0.060730886	93.97425842	3.70847E-15
17	WHY	112	0.248971879	822	0.089624397	79.8074646	8.32303E-15

Table 8: Keyword of SCLIL-T compared to BASE

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P
1	TRA	75	1.2333498	4		722.7241211	2.4488E-18
2	AHA	45	0.740009844	3		429.9719849	1.28854E-17
3	YES	86	1.414241076	557	0.060730886	366.4056702	2.17813E-17
4	UH	36	0.592007875	2		346.2038269	2.62891E-17
5	NO	65	1.068903089	1331	0.145121738	145.4305573	5.78199E-16
6	YEAH	48	0.789343834	1462	0.159404948	76.21530914	1.06336E-14
7	OH	17	0.279559284	313	0.034127049	40.9971199	2.33524E-12
8	MM	20	0.328893274	534	0.058223147	35.88451385	1.19534E-10
9	UMM	3	0.04933399	0		30.13780403	3.73163E-08
10	YOU	58	0.953790486	15611	1.702100277	-24.03659058	9.42298E-07
11	SO	15	0.246669963	6995	0.762679636	-28.91525459	7.26904E-08
12	THAT	45	0.740009844	16530	1.802300811	-49.52239609	2.13901E-13

Table 9: Keyword of SCLIL-S compared to BASE

When teachers' and students ' top frequent words list are applied to a bigger context, by comparing it to a reference corpus, some words dropped down in the list of ranking while others strongly kept their position or obtained a higher rank. SCLIL-S corpus, for instance, is marked by the use of L1 that topped the list of keyword compared to the reference corpus. Looking at the top single-word items in tables (8) and (9) shows that teachers and students use fillers such as "uh", yet students use of "mm" is significantly higher than the reference corpus. Teachers, on the other hand, used discourse markers such as "so", "okay" and "right" significantly higher than BASE. There use of the personal pronouns "you, and "we" is also significantly high. The demonstrative pronouns "this" and "that" and the confirmation devices "yes" and "yeah" are also among the top single-word used by both teachers and students. The use

of L1 appears in the teachers' list of high frequent items and is ranked on the top of the students' keyword list. Following, the SCLIL-S wordlist is compared to that of SCLIL-T (See table 10).

N	Key word	Freq.	%	RC. Freq.	RC. %	Keyness	P
1	TR	78	1.302822828	26	0.059570178	220.4868774	1.23352E-16
2	YES	86	1.436445594	95	0.217660263	138.5304565	7.00425E-16
3	NO	65	1.085685611	77	0.176419377	99.35336304	2.86607E-15
4	AHA	45	0.751628518	46	0.105393395	76.26080322	1.05993E-14
5	DO	9	0.150325701	267	0.611739933	-27.50596428	1.53686E-07
6	WE	37	0.618005693	608	1.393025756	-29.79214668	4.51689E-08
7	WHAT	13	0.217137128	394	0.902717292	-41.41294098	1.9639E-12
8	GOING	4	0.066811427	263	0.602575243	-43.13914871	1.04803E-12
9	OKAY	18	0.300651401	488	1.118086457	-46.50237656	4.09366E-13
10	THAT	33	0.551194251	723	1.656509161	-54.90136337	8.76125E-14
11	YOU	57	0.952062786	1045	2.394263029	-62.24256897	3.55122E-14
12	SO	15	0.250542849	635	1.454887033	-84.75579071	6.11833E-15

Table 10: keyword of SCLIL-S compared to SCLIL-T

The table shows the difference among the tokens that are used significantly higher or lower by the students compared to teachers. It reflects the higher use of L1 by the students compared to the teachers. However, when it comes to discourse markers such as "okay", and "so", the teachers have shown high frequency in their use of these words.

Figure (3) summarizes the difference in language use between the teachers and the students in SCLIL. The chart shows that while teachers hardly use the mother tongue in their teaching, students used it more frequently.

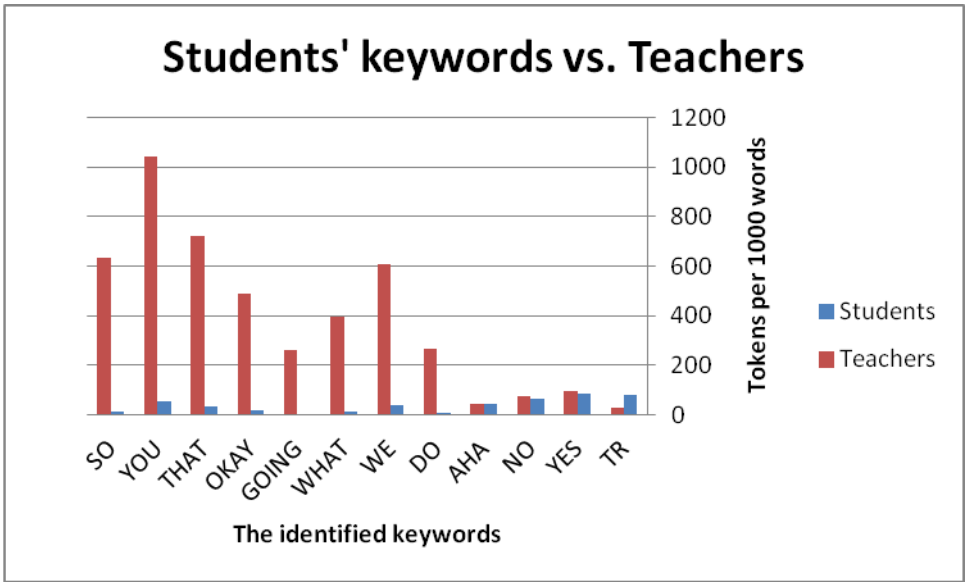


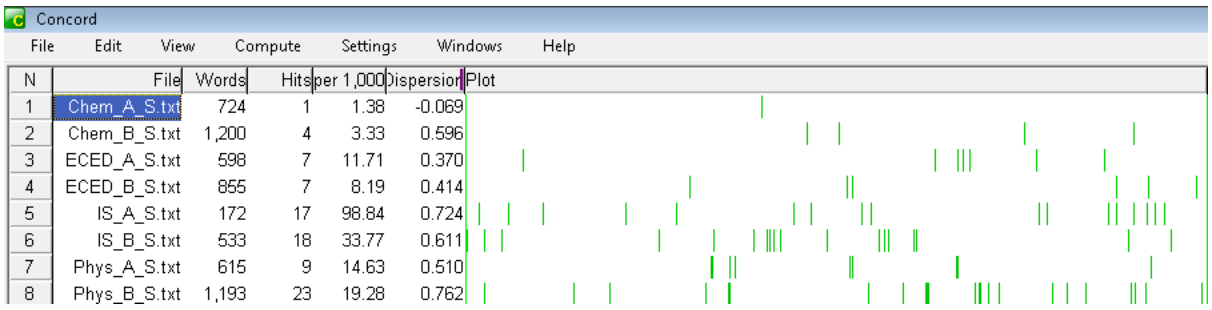
Figure 3: Top frequent keywords spoken by students vs. teachers

The discourse markers “so” and “okay” are used more frequently by teachers. Teachers and students use the filler “aha” almost the same. The distribution of the personal pronoun “you” and the indexical “that” are significantly higher in teachers’ talk.

The high distribution of the pronouns “we” and “you” is a phenomenon that requires investigation in a bigger context. Valch (2010) notes that “you” and “we” are used heavily during problem-solving demonstration in which detailed steps are being carried out. The pronouns “we” and “you” are sometimes used interchangeably to indicate the person carrying out the calculation, or solving whatever complex systematic problem they are learning. Teachers, on the other hand, use “we” mainly to refer to community of scientists. Nevertheless, sometimes they use more exclusively to invoke “the so-called editorial “we”, as if the community of students plus the instructor is all in this business together,” (Valch 2010, p.303).

7.5. Short response: Yes/Yeah/NO

The short responses “yes” and “no” are among the top frequent words used in SCLIL in general and in SCLIL-S in particular. They come in the second and third rank respectively. Figure (4) represents the dispersion plot of the use of “yes” in SCLIL-S. The students use the short response “yes” 1.38 and 3.34 times in every 1000 words they produce in the chemistry classes A and B respectively. This number is considerably low compared to the use of the same word in IS classes A and B that comprises for 98.84 and 33.77 times in every 1000 words. In early child education, the use of “yes” is a bit higher than chemistry, but much lower that IS. They use “yes” 11.71 and 8.23 times in every 1000 word. Teachers in SCLIL, tend to uses “yes” fewer times than their students. In chemistry and early education for instance, the teachers’ average use of “yes” is 3.1 and 30.24 times in every 1000 words which is relatively higher than the average use of the same word in information system and physics where it is used 0.62 and 1.09 respectively.



N	File	Words	Hits	per 1,000	Dispersion	Plot
1	Chem_A_S.txt	724	1	1.38	-0.069	
2	Chem_B_S.txt	1,200	4	3.33	0.596	
3	ECED_A_S.txt	598	7	11.71	0.370	
4	ECED_B_S.txt	855	7	8.19	0.414	
5	IS_A_S.txt	172	17	98.84	0.724	
6	IS_B_S.txt	533	18	33.77	0.611	
7	Phys_A_S.txt	615	9	14.63	0.510	
8	Phys_B_S.txt	1,193	23	19.28	0.762	

Figure 4: Sample dispersion plot graph of *yes* in SCLIL-S

Figure (5) represent the students' use of another form of short responses, i.e. "yeah". A look at this figure shows that though "yes" is not used widely by the students in the chemistry classes, they seem to prefer using "yeah" as an alternative in the same class. The students' average use of "yeah" is more frequent in information system and chemistry than in early child education and physics, i.e. (14.44 and 10.27 to 8.36 and 6.97). The high use of "yeah" compared to "yes" in chemistry could be attributed to the style as the teacher also use "yeah" more often than "yes" (9.97 to 3.8).

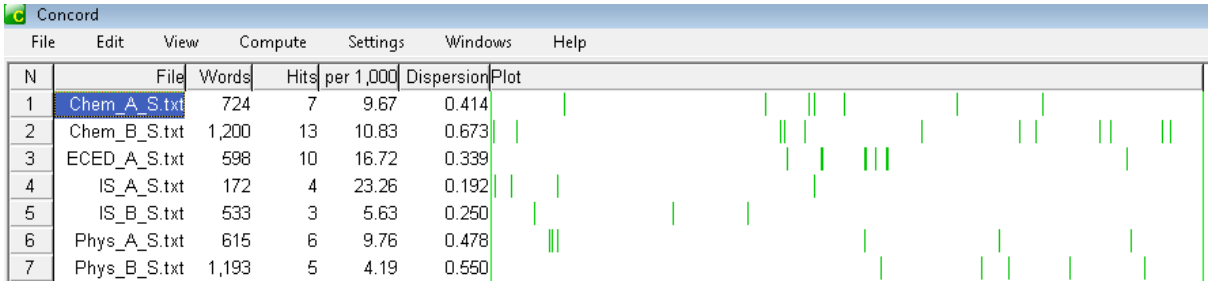


Figure 5: Sample dispersion plot graph of *yeah* in SCLIL-S

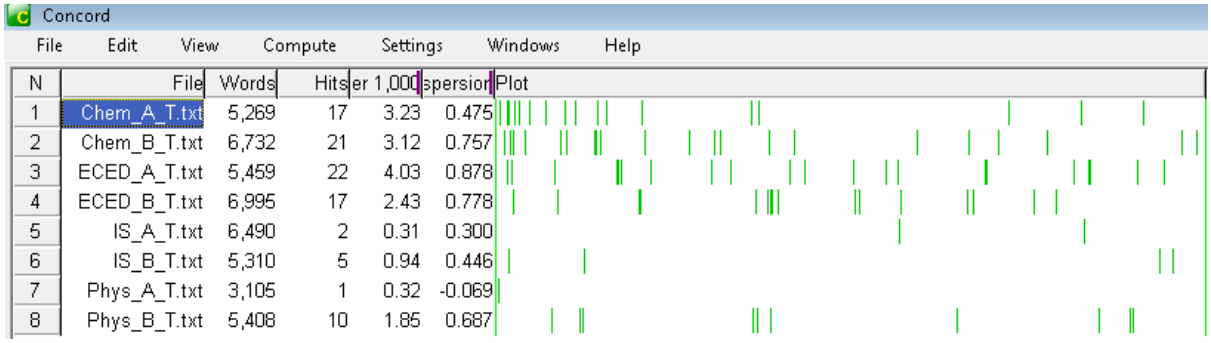


Figure 6: Sample dispersion plot graph of "yes" in SCLIL-T

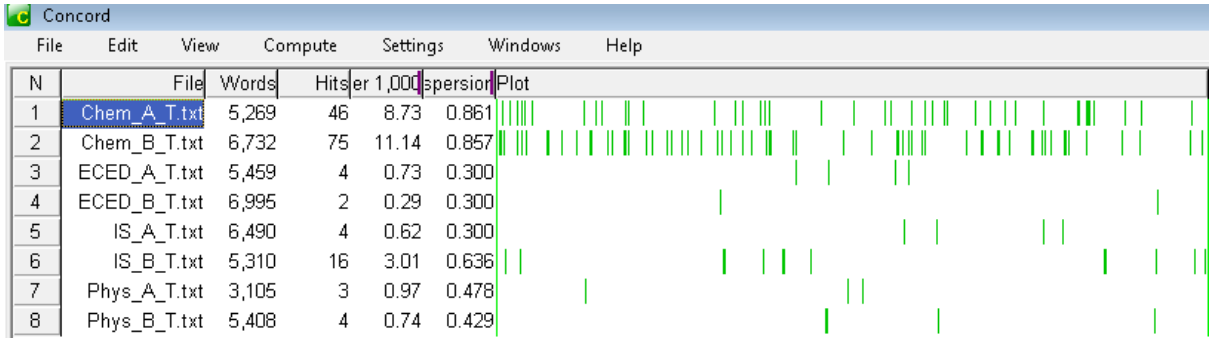


Figure 7: Sample dispersion plot graph of "yeah" in SCLIL-T

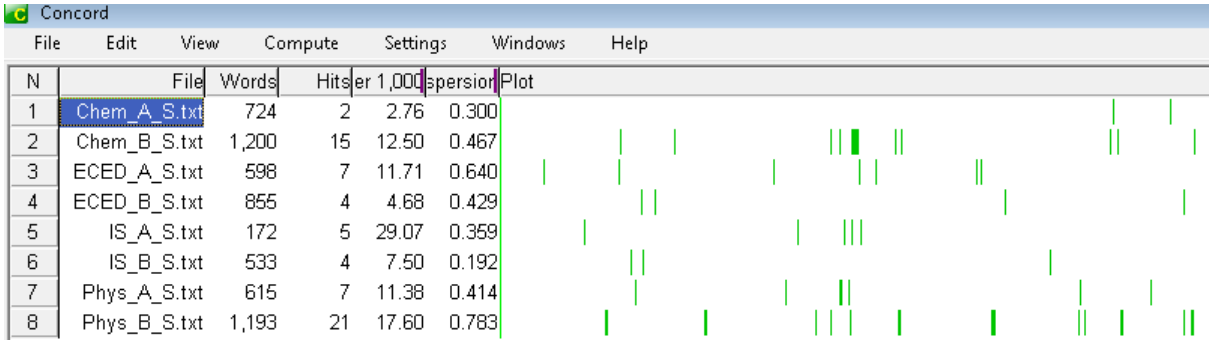


Figure 8: Sample dispersion plot graph of "no" in SCLIL-S

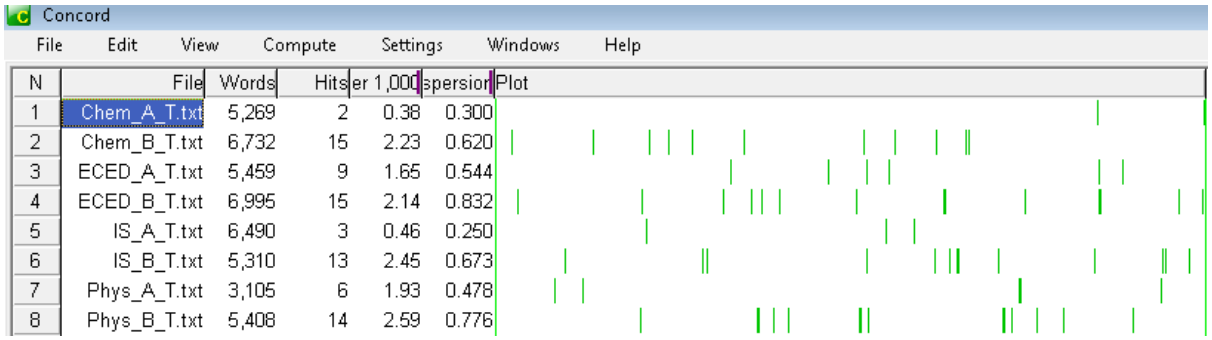


Figure 9: Sample dispersion plot graph of "no" in SCLIL-T

Examining the concordance lines shows there is a difference between the teachers' use of yes/no responses and that by the students. The students use yes/ no in a single-word turn (73.86%) percent of the time they used it, while the teacher use the same responses in a multi-word turn all the time (see figures 13,14,15,16,17, and 18 for examples of concordance lines). The following are random examples of concordance line of SCLIL. It is important to mention here that these are just examples and that CL is used a filtering tool that is followed by further analysis using the principles underpinning CA.

a. Examples of concordance lines from SCLIL-T corpus

Though concordance lines are not used as the main methodological tool for data analysis in this thesis, it helped a great deal in directing the CA analysis. For instance, figure (10) is taken from SCLIL-T and it shows how teachers use the response token "yes" in the middle of their turn. This observation directed me to look at the use of "yes" in this context to investigate its interactional function in this position and how is this different from when it occurred turn initially. The same figure also shows that "yes" is very often followed by discourse marker such as "so" that functions as a pre-

shift device. “Yes” as we can see is either followed by a shift and a new sequence of questions of further explanation.

N	Concordance
1	spelling_? Buckminster fullerene, yes, so we are going to look at them,
2	it needs really really high pressure, yes, so where exactly do we mine?
3	, a rocking chair, enjoy it a little bit. yes, so, that way they understand that
4	find the X and Y for each one of them. Yes. So what we have for B we are
5	planet Mars” , what is the main idea? yes, so which sentence? if you had to
6	in radioactive or not? do you remember? yes, so if you plot the number of
7	. But the assignment two ((inaudible)). Yes. The midterm is next - Sunday. I
8	introduce it? what did you say? yes. yes, the objectives, the objectives, your

Figure 10: Example of the use of “yes” in SCLIL-T

Figure (11) is a sample of the concordance lines of “yeah” in the SCLIL-T corpus. It shows that , similar to “yes” , “ yeah” is placed most of the time in the middle of an extended turn and followed by further talk by the same speaker.

N	Concordance
1	, dinners, and snacks and chocolates? yeah that we have chomped through all
2	now this, on the other hand yes. sorry? yeah that is carbon, that is carbon, that
3	talked about Google and Fuzzy Logic. yeah that is right so one of the things it
4	no actually+ + wait a second T-one is_ yeah that is fifteen-minus- five, what is
5	zero- two decimetre- cubed for aha_ yeah, that is decimetre- cubed, so it is
6	bonding is? in one sentence. yeah, yeah, sorry, donates what? aha_ yeah,
7	a two hundred centimetre-cubed one, yeah, so if it asked you to produce
8	you agree with that+? single bonds are, yeah, strong, but then double bonds,

Figure 11: Example of the use of yeah in SCLIL-T

Figure (12) is also taken from SCLIL-T. It show the concordance lines of the response token “no”. It shows some examples of “no” as a negation device that has a grammatical function rather than an interactional one. “No” as can be seen in this example is also followed by further talk by the same speaker. We also see that in several cases “no” is used more than once in the same turn to intensify the speaker’s stance.

N	Concordance
1	one will fit it is like the beginning again. no, not necessarily you are saying that
2	as number three. number? no. this one, no not the ((inaudible)) this one number
3	why these are very popular? they fit , no, no, no. yes, the shine, because
4	know of any other means of+? from. no no go on. uh sort of sort of let me
5	questions about anything we did today? no, okay so, Monday's lecture will be
6	four, this is international conventions, no rounding up, and you cannot price
7	, that is it. ten. mm add nine, no, no see if there are many ways to
8	oh really. yes, the red slippers, there is no place like home. interestingly though

Figure 12: Example of the use of "no" in SCLIL-T

b. Examples of concordance lines from SCLIL-S corpus

Figure (13) is an example of the use of "yes" by students. It can be seen that the students tend to use "yes" as a freestanding token in a turn by its own after which the speakership changes.

N	Concordance
1	one. SS: Zero. S3: one point threes S1: Yes. S1: above the x S8: ((direction)).
2	S1: and easy. S3: and easy S7: yes SS: ((laugh)) SS: ((inaudible)) S2:
3	five S?: sine ((twenty five is zero)). S?: yes S4: Yes. SS: yes S4: one point two
4	five is zero)). S?: yes S4: Yes. SS: yes S4: one point two S3: one point two
5	sine ((twenty five is zero)). S?: yes S4: Yes. SS: yes S4: one point two S3: one
6	S4: R- Y- S?: yes:: S8:((inaudible)) S9: Yes. S3: fifty three point three S?: °can
7	S?: components S3: sah ((tr. right)) S?: yes S?: no:: S?: no S6: . S6: forty four
8	that we can solve S2: Is it_ S3: yes S4: ana lesa ma khalstaha ((tr. I

Figure13: Example of the use of "yes" in SCLIL-S

Figure (14) is another example of the student's use of response tokens. It is obvious from the example that "no" is mainly used as a freestanding token in a turn by its own.

N	Concordance
1	Sunday S4: one hour S?: please S?: oh no::: S?: men aish((inaudible)) S4: it is
2	in the midterm, sah (tr. right)) S10: No S10:((inaudible)) S4: for the midterm
3	S2: yeah S2: ((inaudible)) S2: no S?: no S3: the same S3: V nod plus
4	paper)) S5: Z and Y S3: X and Y S3: no S?: No SS: no S 4: Yes. S8: S?:
5	S2: yeah S2: ((inaudible)) S2: no S?: no S3: the same S3: V nod plus A- T-
6	S3: sah ((tr. right)) S?: yes S?: no:: S?: no S6: . S6: forty four S6: forty four S7:
7	S3: sah ((tr. right)) S?: yes S?: no:: S?: no S6: . S6: forty four S6: forty

Figure 14: Example of the use of "no" in SCLIL-S

Figure (15) is a sample of the use of “yeah” by the students. Similar to “yes” and “no” , “yeah” is also used as a freestanding token in a turn of its own.

N	Concordance
1	: no S?: No SS: no S 4: Yes. S8: S?: °yeah° S?: opposite S3: Yes. SS: yes
2	: yes SS: ((laugh)) SS: ((inaudible)) S2: yeah S2: ((inaudible)) S2: no S?: no S3:
3	two components° S1: ((inaudible)) S6: yeah S10: ((can I)) ((inaudible)) S?:
4	SS: Y S4: ((then)) to the Y. S3: yes S?: yeah S?: ((nine point)) SS: positive S10:
5	: X is zero S?: G S8: No. S1: Yes. S3: yeah S3: because of the acceleration S4
6	it. S2: yeah. S2: yeah S2: okay. S?: yeah ((inaudible)). S3: the graph. SS:
7	not know how to solve it. S2: yeah. S2: yeah S2: okay. S?: yeah ((inaudible)).
8	i did not know how to solve it. S2: yeah. S2: yeah S2: okay. S?: yeah

Figure15: Example of the use of “yeah” in SCLIL-S

In this chapter I have summarized the main results of the first phase my analysis, namely CL. I have also examined the co-text of the investigated linguistics features using corpus analytic tools such as concordance lines and dispersion plot. The use of the corpus tools have motivated further investigation using CA as will be explained in the next chapter.

The following chapter represents a detailed examination of each occurrence of the investigated linguistic features in their original context. The investigation shows their interactional function based on a turn-by-turn analysis which answers the research second question. The question related to the relation between language, interaction and orientation to subject knowledge will be also addressed in the following chapter.

Chapter 8. Results II

8.0. Conversation Analysis

In this chapter, I will represent the second part of the result. It shows the results using a microanalysis that draws on the principles of CA. It represents the answer to the second and third research questions.

8.1. Introduction

In this chapter, I cover the same data that is previously covered in chapter seven but using a qualitative method in order to look at those identified items in a detailed way. In this chapter I look at the immediate context in which the identified features such as "yes", "yeah" and "no" are used in talk-in-interaction and the way they are used to display orientation to knowledge. In other words, this chapter will answer the following research questions:

1. How do teachers and learners co-construct meanings in SCLIL?
2. What is the relationship between language, interaction and orientation to content knowledge in CLIL classrooms?

As explained in the previous chapters, the best method used to answer these questions is CA for the simple reason that it uses a turn-by-turn analysis to determine the identified devices sequential position, hence their functions. Heritage and Atkinson (1984, p.5) distinguish CA from other methods of discourse analysis. They state that to the conversation analysts "it is sequences and turns within sequences rather than isolated sentences or utterances that have become primary units of analysis". The focus of analysis in CA is "an institutionalized organization for the activity in question that is systematically oriented to by speakers" (p.6). They add that the central goal of conversation analytic research is the description and explication of the competences that ordinary speakers use and rely on in participating in intelligible, socially organized interaction. At its most basic, this objective is one of describing the procedures by which conversationalists produce their own behaviour and understand, and deal with the behaviour of others (p.1).

They argue that the analysis is not based on hypothesizing about what the interlocutors understood. On the contrary, they add, it is based on observations of the actual conduct of the participants. The importance of utterances as a basic unit for analysing conversation first emerged from the development in the speech act theory developed by Austin (1962) and Searle (1969). However, the speech act theory has its problems, as it is believed to take the sentences out of context and base the analysis on syntactic and semantic features (Atkinson and Heritage 1984). It attempts to investigate the act accomplished by the use of that utterance then, as a next step, it accounts for "the variation in the meaning or uptake of the utterance according to variations of the circumstances in which it is uttered" (p.6). The drawback of this approach, Schegloff (1998) believes, is that it doesn't recognize the importance of context in understanding those utterances and they can only be understood by reference to their placement in a sequence of actions.

CA, based on what is previously mentioned, is a departure point from many of the traditional methods of qualitative data analysis. It is different from the interview, Atkinson and Heritage (ibid) claim, in most of the other qualitative analysis the researcher takes whatever is said by the interviewee as for granted proof of the actual behaviour. It is also different from the experimental way of data collection that is always a subject to manipulation and researcher intervention. Atkinson and Heritage (ibid) add that it (CA) also contrasts with observational studies in which data are recorded in field notes or with the use of recorded schedules. Finally, the empirical emphases of the research program also breaks with those theoretical traditions in which native speaker intuitions, expresses as idealized or invented examples, are treated as an adequate basis for making and debating analytic claims" (p.3).

This chapter is the second step in my two-phase analysis that aims to demonstrate how CA and CL can work together to give an insight into classroom phenomenon. Together they show how understanding (Mondada 2011) is established and how the interlocutors can display orientation to knowledge by the use of the available resources. The chapter will be divided into three main sections followed by subsections based on the functions of the identified items as reflected by the turn-by-turn analysis.

In the previous chapter, I identified a list of items that are significantly different between teachers and students. Those items are listed in the following table (11).

However, further details of those differences are something that I will touch up on as I go through this chapter.

N	The word	N	The word
1	TR	7	WHAT
2	YES	8	GOING
3	NO	9	OKAY
4	AHA	10	THAT
5	DO	11	YOU
6	WE	12	SO

Table 11: markedly high or low token in teachers and students corpora

Following the identification of the linguistics characters of the SCLIL (Saudi Content Language Integrated), it is time to look at the deployment of those identified elements throughout the data with a special focus on their interactional function. To do so, I closely examine every one of the identified items in its own context, one of the advantages of using CA, showing the sequence organization of those items and how they are shaped by the context in which they occur. Moreover, I show how those identified items contribute to the shaping of the same context by affecting the choices of the co-participant of the structure of his or her next turn (Seedhouse 2004).

However, due to the limited time and space, I limit the discussion here to a very important aspect of the interaction, i.e. Response Tokens. The analysis will be limited to those tokens that semantically form a word that has a meaning in the dictionary such as "yes" and "no". Response tokens such as "aha" and "mm" that are more of a sound or what is referred to in pragmatics as backchannels (Sorjonen 2001) are excluded. The reason behind choosing those items is not only because they appear on the top of the list of the most frequent items that the students use significant higher than their teachers, but also due to their interactional importance. Sorjonen (ibid) believes that such responses are very important in spoken interaction that "they are absent only in highly monological, formal institutional interaction. Yet they have received little attention by linguists. One reason is the fact that particles of this type fall outside the focus of traditional grammatical studies, that of sentence (and parts of them), and propositions expressed in them" (p.2).

The huge difference between the teachers' corpus and that of the students' (one-to-eight), as mentioned in chapter seven indicates that we are dealing with a teacher-centred type of classrooms where the students' voices can hardly be heard. However, the closer examination of the data reflects a slightly different picture. It shows that

despite the fact that the students use fewer words and shorter turns than their teachers, they use their limited language resources creatively to interact in the classroom and demonstrate their orientation to the ongoing talk. The data shows that SCLIL students use the response tokens "yes, yeah, and no" heavily to contribute to the flow of the pedagogical agenda. They use them to display their understanding of the content subject presented by the teacher. They also show their stance from the ongoing interaction by using the same tokens to demonstrate acknowledgment, agreement and disagreement. They also use it to give answers to yes/no questions by their teachers and classmates. The examination of the data demonstrates that despite the fact that students' in this corpus rarely produce long or extended turns that exceed one word, they are still capable to show that they are active participants in the ongoing interaction. By using those small but effective devices such as response tokens, the students could reflect a high interactional competence and orientation to the subject content. They also maximize the benefit of using a very limited interactional space (Walsh 2002) and their limited language resources. In other words, the focus of this chapter is mainly on showing how the use of CA can help in understanding the interactional function of the linguistic units that are identified by CL, in other words, it shows the relevance of frequency to meaning construction in the presence of limited resources and restricted space for interaction.

In this chapter I discuss a very important function of response tokens, i.e. when they function as a polarity marker or an answer to a yes/no question. I show how they are used as a re-confirmative and agree with the presuppositions of the question. The way the action of answering a yes/no question is done by the students and the teachers will also be an area of attention. I look at the characteristics of the turn where the response occurred, i.e. a single-unit or multi-unit turn, the temporality of the response (the exact time it is used in relevance to the ongoing talk in the previous turn), what happens in the next turn as result of using this response or how the use of the response is interjected (did it result in a shift in the speakership or the same speaker continuous his/her talk) and above all, I look at the larger context or activity in which the response is used. Knowing that questions create sequential implications (Schegloff and Sacks 1973, p.299), it is important to examine the response to the absence of such an answer (Schegloff 1984; Heritage and Roth 1995).

8.2. Use of "Yes"

A close look at table (10) in chapter five shows that the students use the short responses "yes" more than their teachers. Taking into consideration that classrooms in Saudi Arabia are teacher-centered (Alshehri 2001), this might suggest a dominance of yes/no type of questions. However, a closer look at the data shows that the students and the teachers use "yes" to perform different interactional functions but before we get into details, I would like to give some numbers in order to fit those fine details within the big picture. First, "yes" is used 181 times in this data. Though the teachers used it 95 times, the number forms only 0.21 percent of their corpus. The students, on the other hand, used "yes" only 86 times, nevertheless, this formed 1.41 percent of their corpus. In other words, the students use "yes" 191.18 times in every 1000 words they produced, while the teachers use "yes" 16.28 times in every 1000 words they produce. The teachers use "yes" within turns and never as a freestanding or a single-word turn.

The students, though, use "yes" as a freestanding token more than half of the time they used it in the whole data (69 out of 86). They use "yes" in a turn that is constructed of more than a single word 16 times. The mean of the number of words used in those turns is (5.3) words. As a group, the students use "yes" (17) times, all of which are as a freestanding token in a single-word turn. Now we will move a bit deeper to look at the way "yes" is used and whether there is a difference between their uses of "yes" as a freestanding token in a turn by it own and when it is used with other components, i.e. when it is used accompanied with more than one word in the same turn and by the same speaker. It is important to mention here that the students' corpus is small therefore the number of examples upon which those functions are drawn is relatively small, in this sense the findings to be presented should be taken as suggestive for further research rather than a conclusions by itself.

8.2.1. Students' use of "yes"

In this section, I discuss the use of the response token "yes" by the students as a freestanding token occupying the whole response move in a question-answer adjacency pair. The section also tackles those cases when "yes" is followed by other components after which the floor reverts to the speaker of the prior turn. The focus is on the use of "yes" as a single-word turn in comparison to using "yes" in addition to other components. The aim is to show how these distinctive sequential structures influence the function that "yes" performs in each context.

1. "Yes" as continuer vs. "yes" as acknowledgment

Extract (1) is taken from IS classroom. The teacher here is informing the students about a new trend in the IS world. That is, a tendency towards having the whole URL in languages other than English.

Excerpt (1)

```
1    T:   >See that is interesting,n↑ow< if you
2         have to change HTTP,HTTP is
3         Specifically(1.1)m↑aps to a protocol.
          ((teacher looking at the left side of
          the class where S1 is setting))
→ 4  S1:                                  ↑Yes
5    T:   HTTP is a ↑protocol=
6    S1:  =↑Yes=
7    T:   =So n↑ow that protocol in Arabic.
8         >would it be[I do not]know now<
9    S1:      Yes(0.5)[I think]
```

To make the idea plausible to the students, the teacher gives an example (lines 1-3). At line (4) S1 uses "yes" as a continuer during the teacher's turn indicating that she has no problem with understanding the information that the teacher is giving, a typical use of response tokens as continuers. Nevertheless, I have reasons to believe that the student's uses the continuer "yes" in this sequential position is to indicate more than passing the floor and signaling problem free understanding. In fact, "yes" is used here to display having epistemic access to the teacher's assertion in the prior turn.

Schegloff (1982) argues that response tokens are used to indicate understanding only when there is an opportunity to do repair work. Based on that argument, we can see in this example that the teacher projects the first "yes" as an indication of a problem in understanding so he explicitly checks understanding by using a declarative polar yes/no question with a rising intonation "`HTTP is a protocol`". The student responds with another "yes" but unlike "yes" at line (4), "yes" at line (6) is a positive response to the teacher's understanding check.

The teacher treats this "yes" as a confirmation of the student's state of knowledge and builds on that using two discourse marker "so, now" to move the pedagogical agenda and announce that "`this protocol is now in Arabic`. The student in the next turn (line 9) does not receive the new information as news. On the contrary, she overlap with the teachers' turn using a third "yes" that functions as an acknowledgement followed(0.5) pause then "`I think`" that expresses her cautious position from the teacher's assertion. The use of "yes" followed by a component at line (9) reflects prior

knowledge of the delivered information by the teacher (Heritage 1984, p.305) and confirms the argument that, though the first "yes" is used as a continuer, it achieved more interactional functions than passing the floor.

Hopper and Drummond (1990) discuss continuers and show that they perform wider interactional goals than handing the floor back to the prior speaker. Continuers are usually produced during the ongoing talk. They are placed at the end of the first turn constructional unit (hereafter TCU) and a bit after the beginning of the next one. They indicate no change of speakership. In fact, the main speaker continues on the same topic in the next turn. Acknowledgments, on the other hand, are usually placed at the end of a grammatically and pragmatically complete TCU and accompanied with a falling intonation that distinctively marks the completion of the talk. They are "massively associated with topic shift" (Jefferson 1983, p.2). However, Gardner (2001) argue that acknowledgment tokens can be used as continuers to indicate that though their producers are passing on the turn and still playing the recipient role, "there is a good chance that (they) will have something to say in the matter" (p. 32).

The fact that the student does not use a change-of-state token such as "oh" or "wow" that are commonly used as a response to news, i.e. "newsmakers", is a further proof that demonstrates that she has already had access to the information. However, she delays displaying her epistemic access to knowledge until the teacher completes his talk.

Extract (1) is an example that clearly exhibits the difference between the use of "yes" as a continuer that has broader interactional function than passing on the turn and "yes" as acknowledgement.

The other example comes from Physics classroom. In extract (2), the teacher is solving with the class a problem from an exam that they have had earlier.

Excerpt (2)

1	T:	Because the displacement here((writing
2		on the board))is one point three(.)
3		meter=
→ 4	S?:	= ↑Yes::
5		(1.0)
6	T:	along ↑this direction((pointing at the
7		board))(6.0) So we have this
8		displacement and now we want the X
9		Component(.) it is going to be one

```
10          point three((writing on the
11          board))(2.0) co↑sine (2.1) twenty
12          five degrees(.) Is ↑that ↑true?=
13    S4:   =↑yes::
14    SS:   ↑Yes
14    T:    And the ↑Y component is going to ↑be::
15          ((writing on the board))(1.3) one
16          point ↑three (1.1) sine of- ((writing
17          on the board))
```

While the teacher is solving the problem and during the progress of her talk the students uses "yes" as a freestanding token in a turn by its own (line4). Because "yes" is not used with additional components, which indicate a change of speakership, it functions as continuer. The use of "yes" is projected as an acknowledgement and display of understanding by the teacher who continues her talk until she is finished. At the point where her explanation is finished she asks for an explicit display of understanding. She uses the polar yes/no question. The teacher receives a basic response of confirmation at lines (13-14) from the whole class. The use of "yes" in this context (lines 13-14) is to offer confirmation and its epistemic function is to ratify as shared knowledge something that has already in some way been shared by the participants. This epistemic work is associated with a larger sequence and activity that is continuation relevant. In this case, it is relevant to the continuation of the problem solving that the teacher is doing and required for accelerating the process by moving to the next step.

Excerpt (3) is taken from IS class. The excerpt clearly exemplifies the use of "yes" as an acknowledgement.

Excerpt (3)

```
1     T:    can you believe that that((sniffing))
2           (1.0)they sold- I think Google s::old
3           or(0.5)Google was bided to be bought
4           out by someone else for two billion
            ((teacher moves his eye from the
            floor to the left side of the class))
6           dollars(.) or something like That=
7     S1:   =Yes, I think Microsoft
8           (0.3)
9     T:    No, they never bought it, they never
10          got it but they were ↑bidding at some
11          point, I do not know was it Microsoft
12          or was it-
```

```
13   S2:   ↑yahoo=
14   T:    =No Microsoft was with Yahoo
15   S?:   Uh::
```

In this example the teacher is announcing that "Google is sold or bided for two billion dollars". The teacher constructs his turn in a news making way using a yes/no question to preface the announcement. The student responds with "yes" followed by other components "Yes, I think Microsoft". By doing so, the student does not only agree with the teacher but add to the development of the topic by suggesting "Microsoft" as the buyer. However, by adding "I think" which indicates having a lesser epistemic access to the topic (Heinmann 2008), the students sustain a more cautious position from the teachers proposition.

The student also does not show surprise as she does not use any "newsmaker" device such as "oh" or "really", which are as more appropriate responses to news announcement, also confirms a prior epistemic access to the proposed topic. On the contrary, the student waits until the teacher reaches a possible TRP to nominate herself and acknowledge the teacher's proposition. The difference between "yes" here and that at line (4) in excerpt (1) is that the student here claims speakership and contributes to the ongoing talk to display prior epistemic access to the topic. In Excerpt (1), on the other hand, she uses "yes" to attract the teacher attention and signals that she has something to add once the teacher finishes her talk.

In summary, in the previous examples we have seen how the students use "yes" as a freestanding token during the teacher's turns to demonstrate to the teachers that they have no problem with understanding what they are saying so they can proceed with their pedagogical agenda without the students claiming the turn (Schegloff 1982, p.80). While in other cases they use "yes" in the same sequential position to indicate more than their position from the ongoing talk. They use it to display epistemic access to the topic and indicate that they have something to say about it once the teacher is done with his talk. This use is usually proved in the same sequence organization where the response token is produced. In this case, the students use "yes" at a transition relevance place (TRP) to display orientation to add something without holding the floor and disturbing the teachers' agenda. This way, the students contribute to the flow of the pedagogical agenda without the need to extend the talk and use more resources. The use of "yes" here may be seen as a continuer (Schegloff 1982, p.80) with extended function.

Goodwin (1986) argues that continuers always occur at a specific point during the prior turn. It occurs mostly at the end of one phrase or sentence and the extended to the beginning of the next one.

2. "Yes" as an agreement token

Excerpts (5-a &b) are taken from ECED classroom. In these examples the students use "yes" with other components in the same turn but this time to show agreement and affiliation with the teacher's proposition (Pomerantz 1984).

Excerpt (5-a)

```
1    T:   ↑yes, so, that way they understand
2         that this is now ↑reading time↓, they
3         find it so special and you will see
4         kids, they even get upset because
5         someone took their spot, they get so
6         comfortable(.) in that spot,
7         ↑right(.) "this is ↑my spot for
8         ↑reading,you move"(( hand gesture))
9         (.)okay↓, ↑so, we want to have this
10        comfortable environment (.), you need
11        to expose them to new ↑books((reading
13        from the slide))(0.1)I remember I was
14        was telling you this different
15        ↑genres and there is even different
16        styles of books, can you imagine if
17        you were Tea- reading this((showing a
18        book))to students, they would be so
19        ↑excited, 'The Big Red ↑Hen'  is
20        Actually a big book (0.7) big red
          ((looking at the book))
21        book, how fun is ↑that=
→ 22 S1:  =yes, [this is a very attractive] to
23        your children
```

The teacher in this example is in the middle of the process of demonstrating the importance of reading with the children. She is discussing one of the important elements for a successful reading session, i.e. choosing comfortable spot and a seat that the child loves. Towards the end of her extended turn, the teacher holds a big colorful story and asks the students a rhetoric question "`can you imagine if you were reading this to students`" (lines 16-18) and proceed with more illustration. The student seizes what seems to be a potential TRP, nominates herself and responses with "yes" at the initial position of the relevant TCU followed by other components in the same turn as can be seen at lines (22-23). This "yes" shows the student's agreement with what the

teacher has just proposed. Yet, what is more interesting is that the student at lines (22-23) not only agrees with the teacher but modifies the attribution by adding assessment "this is a very attractive to your children". This assessment functions as a display of shared knowledge, which contributes to the flow of the teacher's pedagogical agenda by displaying knowledge of the content. By making assessment, Pomerantz (1984) states, the first speaker offering presumption that she/he has access to the referent, while the second speaker is offering prior knowledge of the referent.

Excerpt (5-b)

```
24   T:   very attractive, okay(.) ↑This is ((
25        pointing at the board) old favourite,
26        we talked about this, ↑why would I
27        visit an old favourite (( put the
28        book on the table)) (1.4) why would
29        I read this to my son(.) ↑over and
30        ↑over again, `Five little monkeys
31        sitting in a tree↓" ((reading)),…….
```

The teacher in excerpt (5-b) shows acceptance of the student's contribution by repeating it at the beginning of her next turn, yet uses the discourse marker "okay" as a pres-closure and to shift the topic and accelerate the interaction by initiating new sequence of display questions

Excerpt (6) is taken from an IS class. The teacher is explaining how development in technology is usually followed by abuse that leads to further development. The teacher in this part of the session is introducing the students to the technology of hologram as the latest development in IS. But the students already know about it, as displayed by their responses. Nevertheless, they assume that hologram is a sort of spying on the person whose image is being transferred via hologram. They think he does not have control on when the transmission starts. This misconception from the students' side leads to a new but related topic of technology misuse.

Excerpt (6)

```
1    T:   but if it is not then ((XXXX)),
2         typically what happens is a
3         technology comes (0.8) and then ↑all
          ((looks towards the left side of the
          class while demonstrating the moving
          using hand gesture))
4         these (.) abuses of technology come=
→ 5  S1:  =Yes
```

```
→  5    S1:   =Yes
   6    T:    And then security comes=
   7    S1:                      ↑yes::
   8    T:    =this is usually the trend of how
   9          things Happen, technology(.)
   10          ((hand gesture of sequencing))
   11         misuse of technology(.)security (0.3)
   12         a and this is how businesses (0.2)
   13         work as well (0.2) they come up with
   14         the technologies, other people are
   15         ready To start abusing the
   16         abusing the technology↓ and the
   17         security people come in and they make
   18         their money by securing(0.8) so this
   19         is the trend Moves towards the
   20         board))=
   21   S?:    [((XXX))]
   22   S1:   =[This is] what will happen with
   23         hologram
   24   T:    ha?
   25   S1:   ((XXXXX))
   26   T:    No:: because [((XXXX))]=
   27   S1:                [ because ((XXX))]
   28         = the hologram ↑okay that is pretty
   29         much it guys, ah:: We are done with
   30         chapter three
```

At line (5), S1 agrees with the teacher's assertion regarding technology abuse by the use of the freestanding "yes" that functions as a response token used to elicit the co-participant's talk without claiming the floor (Jefferson 1984, p.200). The teacher gets the cue and continues his talk. When his TCU comes to an end and at the first real TRP, S1 shows orientation to knowledge by contributing to what the teacher has said to demonstrate prior epistemic access to the ongoing topic "`This is what will happen with hologram`". The student's contribution at line (22-23) confirms that the use of "yes" at line (5) is to display agreement that is based on shared knowledge. The teacher expresses mishearing at line (24) and asks for clarification. Though it is hard to hear what the student is saying, it seems to be repetition of what she has said in the prior turn but the teacher expresses disagreement with her proposition at line (26) offering a justification for his disaffiliation. The student overlaps with the teacher and tries to offer justification for her assertion (line 27) but she terminate the turn and give the floor to

the teacher. The teacher uses the discourse marker "okay" to announce the closure of the topic, which happened to be the end of the chapter in an explicit way of sharing his pedagogical agenda with the students.

Excerpt (8) is a further example that strongly supports the argument that the student use of "yes" goes further than agreeing on the proposed position by the teacher to displaying a prior shared knowledge on the topic as proved by the way they sequentially construct their turns. The following example is taken from the same IS session but at a different point of the same discussion regarding the hologram.
In this example, the teacher is introducing the students to the technology of hologram and demonstrating the nature of that technology.

Excerpt (8)

1	T:	yeah hologram ah:: imaging sort of
2		thing, and ah:: you (1.2) you know
3		will hear my ↑voice, you will hear
4		everything that I am doing and (.)
5		you won't see the difference, you can
6		↑touch me=
7	SS:	[((laughter))]
8	S?:	[Of course]
9	T:	=not that anybody [can]
→ 10	S1:	[↑Yes]
11	T:	this is the only thing=
12	S1:	=We can through you, we can walk
13		through, through each other
14	SS:	[((laugh))]
15	T:	Yes[you can walk through the hologram
16		and staff] ah:: it is pretty cool
17		it is a punch of((XXXX)).hhh

S1 at line (10) agrees with the teacher's proposition using a freestanding "yes" which demonstrates agreement on a topic that she has already gained access to. However, the use of the freestanding "yes" displays the student's desire to display knowledge without affecting the flow of the ongoing talk. The teacher responds to the student's use of the freestanding "yes" by continuing his turn using relatively shorter constructional unit "`This is the only thing`".

S1 seizes the opportunity of the first definite TRP to self-select herself and comment on the teacher's prior turn "`we can walk through you, we can walk through each other`". The teacher agrees with the student's contribution

to the ongoing talk-in-interaction by giving a positive evaluation using the response token "yes". The students laugher at line (14), however, indicates a very personal level of humor that pushes the teacher to provide others-initiated repair "you can walk through the hologram" as oppose to walk through him.

This sequence is a clear example of how the students use "yes" for an agreement that functions as an acknowledgement of having a shared epistemic access to knowledge of the topic. This usually is followed in the same sequence by a contribution by the same student to the same topic to confirm not only knowing but also having the ability to contribute to the progress of the ongoing agenda.

It is important to mention here that the students' use of "yes" for agreement is not only limited to their interaction with the teacher. They also use "yes" to agree with their classmates' answers especially when the other classmate wins the bid on the floor and gives the same answer of the other bidder. The following example is taken from ECED class. In this excerpt, the teacher asks the students to write a composition using a list of scrambled sentences giving the main idea of the paragraph. The topic is not presented to the students as a real exercise but is used to demonstrate to them, as future teachers, how to teach composition.

Excerpt (9)

1	T:	((reading)) ´´Mars is red (0.8)We can
		go on a ↑great field trip↓, if we
2		went to Mars↓, it Means exciting
3		field trip((counting on her fingers))
4		(0.5) and three "There is a lot we
5		can learn from Mars↓´´=
7	S2:	=Mars
8	S1:	Mars is red
9		(4.2)
10	S4:	Ah:: ↑Mars
→ 11	S1:	Yes
12	T:	<we'll be back in ten, focus> ((goes
13		To the monitor))
14		(3.9)
15	T:	If we are looking for the main ↑idea
16		of the topic ((going through the
17		slides))
18		(2.5)
19	T:	↑do not ↑Stress out too much, it´s
20		okay

As we see from excerpt (9), the teacher is teaching by modeling. Prior to the beginning of this excerpt, she asks the students which of the given sentences can be used as the main idea of the paragraph. At line (7) S2 suggests "Mars" as the main idea while S1 suggests "Mars is red". But the teacher does not give any evaluation. In fact she keeps silent for a quite long time (4.2) second. S4 tries to break the silence by repeating S2's previous answer "Mars" at line (10) but with hesitation. S1 abandons her previous answer and agrees with S2 and S4 on "Mars" as a potential main idea. She uses "yes" at line (11) to display her agreement on her classmates' suggested answer. The same happens in the next example (excerpt 10) that is taken also from ECED class. In this example the teacher is asking the students about factors that should be taken into consideration when choosing a book for children as a step towards demonstrating those factors.

Excerpt (10)

1	T:	When you [pick up a] book.
2	S3:	[°tradition°]
3	S2:	Tradition and cultural issues=
4	T:	=okay, maybe certain cultures and
5		[traditions]
6	S6:	[disabili[ties]]
7	S4:	Religion::[things]
8	T:	disabilities, ↑definitely=
→ 9	S3:	=Yes

At line (1) the teacher responses to a request to repeat the question. Then S3 self-selects herself and responds "tradition". S2 also self-selects herself at line (3) and suggests "Tradition and cultural". The teacher uses "okay" at turn initial position followed by other components. In this example "okay" functions as a "third turn receipt," as it is produced by the teacher who initiated the question following an answer by the student (Beach 1993, p.331). Using "maybe", though, immediately after "okay" displays the teacher's s partial agreement on the answer, which encouraged S4 and S6 to suggest different answers.

At line (6), S6 also nominates herself and suggests "disabilities" as an answer to the teacher's question at the beginning of the sequence. At line (8) the teacher accepts S6 contribution and upgrades it by using the adverb "definitely". At line (9), S3 agrees with S6 and the teacher's assertion using "yes" as a freestanding device.

3. "Yes" as a response to other- initiated- repair

The following excerpt is taken from ECED class. The teacher is discussing with the class the importance of modeling or reading storybooks with children.

Excerpt (11)

	1	T:	okay, so why not just have them read
	2		It (0.6) for themselves?
	3		(0.9)
	4	S1:	↑no, because the way how(.) different
	5		a::<individuals read it>, the way::
	6		it is: ↑even though with the same
	7		text (.) or with the text(.) or the
	8		same ah:: content(0.5) but the way
	9		how they demonstrate it is-
	10	T:	the delivery
→	11	S1:	Yes deliver it=
	12	T:	it is the delivery and do not forget
	13		also the ↑pronunciation of the words

To elicit some answers and encourage participation, the teacher asks the students "why not just have them (children) read it for themselves". S1, disagrees with the proposition of the teacher's questions and starts her turn with a response token "no" followed by her account of the reason why they should not read alone. However, the student's use of the verb "demonstrate" is not accepted by the teacher who offers other-initiated-repair at line (10) "the delivery". The student, at line (11), agrees with the repair suggested by the teacher by using "yes" at the initial position of the TCU followed by a repetition of what she thinks the suggested repair or the right term. But the teacher proves her wrong by offering a second overt repair "it is the delivery" followed by a reminder of another important aspect of the repair, i.e. pronunciation.

The next example is taken from IS classroom. The teacher gives the students a list of examples of search engines then, how do they work, then changes the agenda from demonstrating to asking a questions "would you tell me why Google was successful?" However, before the students give an answer to the questions, the teacher makes sure that they know that Google is a search engine then repeats the questions again.

Excerpt (12)

```
1    T:    ..tell me why Google was so
2          successful? before Google came,
3          Google is a search engine right?
4          why was Google so successful? before
5          Google ah:: we had MSN(.)
6          Yahoo↓((XXX))
7    S1:   °easy°
8    T:    ↑what
9    S1:   It is easy
10   T:    It is easy?=
11   S1:   = yes
12   T:    what is easy?
13         (0.5)
14   S1:   Yaani al((tr.I mean the)) interface
15   T:    The interface is ↑simple=
16   S1:   =Yes [very simple]
17   T:         [There is] nothing, there is
18         just one line (.) right?=
19   S1:   =Yes ((laugh))
```

The student gives the minimum answer (line 7) saying "easy". The teacher, before giving a feedback, initiates open repair using "what". Drew (1997) considers "what" as an open next turn initiator. The student responds at line (9) using "easy" in a complete sentence in what seems to be misunderstanding of the source of trouble in her prior turn. Using "easy" in a complete sentence does not solve the trouble in the interaction as can be understood from the teacher's orientation at line (10). The teacher asks for further clarification using the student's prior turn at the initial position in confirmation check. The student responds positively at line (11) with "yes". However, the teacher indicates that the problem is in establishing intersubjectivity by explicitly asking "what is easy". The student modifies her answer at line (14) using the discourse marker "Yaani" from L1((tr. I mean))" followed by further clarification "interface". At line (15) the teacher initiates repair using a reformulation of the sentence using the adjective "simple" in a confirmation check to offer the students an opportunity to self-repair in the next turn (Seedhouse 2004). The student accepts using "yes" and confirms uptake of the repair by using the repaired item in her new turn after upgrading it using the adjective "very simple".

Excerpts (11 and 12) shows how the students use the response token "yes" to demonstrate acceptance of other-initiated repair in the prior turn. They use is at the

initial position of relevant TRC followed by a modified version of their original answer based on the introduced repair in the previous turn. Schegloff (2007, p. 117) refers to this kind of sequential use as a "post-expansion", i.e. when expansion in the talk takes place after the occurring of the second part of adjacency pair.

Excerpt (13) is taken from ECED class. This example is slightly different from the previous ones as we see that though the student accepts the teacher other-initiated-repair, she delays the explicit agreement using the response token "yes" until later in the sequence.

Excerpt (13-a)

1	S1:	don't you think that is very
2		dangerous?
3	T:	it ↑can be, there is research that
4		shows it's dangerous because it
5		resonates into your >unconscious
6		mind< °when it get into it°,
7	S1:	°mm°
8	T:	do you mean as a ↑child, right?
9		((looking at S1))(0.1) which is yes
10		the child °watching it↓°

In the previous example the teacher is explaining to the students how some people mistakenly reflect their real life experience on some children's stories thinking that they are politically oriented and aimed to change the kids' perception. The student at line (1) nominates herself and challenges the teacher by asking her "the same polarity question" (SPQs) (Heinemann, 2008). Heinmann defines SPQs as questions that "are asked from the position of knowledge". She argues that in such questions the speakers "know- or think they know- what the recipient's stance on some matter is, and convey this through the way in which they format their question" (p.60). They are considered as a sort of challenge to the recipients because they are held accountable in both cases, whether they confirm or deny. They teacher at line (3) gives an answer that does not confirm or deny and she supports her position by referring to research in that field. But the student does not stop at that level as she supports the assertion she implies by the previous question by an example as in (15-b) line (1-4) where she gives an example of some cartoon that looks innocent while in fact they trigger violence and aggressiveness.

```
2          ↑cartoon that sometimes triggers like
3          (0.8) you know like, ah:: (1.2)
4          aggressiveness an::d ↑violence=
5     T:   =↑right
6     S1:  = <and things like that↓> you know
7          like those(.) ↑funny cartoons, like
8          Tom and Jerry=
9     T:   =[Tom and Jerry?]
11    S1:  =[or whatever↓] it is just ↑like ah::
12         it is fun, it is funny, it is ah:::
13    T:   °Entertaining°
14    S1:  Entertaining to ↑watch(0.3) but at
15         the same time(0.2) ah:::
16         (0.3)
17    T:   It is not teaching conflict
18         management=
→ 19  S1:  =yes
```

The teacher at line (5) agrees with the student's suggestion using a single-unit TCU that functions as a continuer to encourage the student to go on in her talk to elicit more information. The student projects that as a signal light to continue her argument regarding the indirect messages some cartoons send to the children using “and” in an initial position in her relevant TCU to connect what she is going to say to what she has said. She cites Tom and Jerry as an example of a funny cartoon that promotes violence and aggressiveness. The teacher at line (9) formulated her question as a repeat with a rising intonation to display that she heard and understood but requisition confirmation to which the answer should be “yes” but the students ignore that confirmation request making her answer more general adding “`Or whatever,”`. The student ends her turn with "`it is funny`" and a search for another adjective when the teacher at line (13) does repair by offering turn completion. However, the use of a single-unit turn by the teacher is projected by the student as a signal to go on in her talk.

The student at line (14) brings repair into talk and uses it in her next turn but unlike the excerpt (12) she delays the use of “yes” until she is done with her talk. Towards the end of her turn, the student uses and stretched “uh:::” to search for words and hold the floor for a longer time. The teacher offers a second repair in a form of a multi-unit turn in which she claims speakership. Finally the students use “yes” at line (19) as a freestanding token to display acceptance of the teachers repair and agreement on her suggested completion. By the use of a “yes” as a single unit turn, the student

accomplished multifunction; acceptance of repair, agreement on teacher assertion and closing the participation.

In this example we have seen how the student resisted the explicit agreement on other initiated repair using the response token "yes" until she finishes her contribution to the ongoing topic and to keep the floor as long as possible. The teacher in the previous example, on her turn, gives the student enough space to participate by offering repair with the least intervention which made it projected more of a "scaffolding" than direct repair. The teacher in this excerpt, unlike other positions, kept her turns as short as possible, in order to elicit as much information from the student as possible.

4. "Yes" as a response to teacher's request of explicit display of epistemic access

In the following examples the students use "yes" either individually or as a group. It is placed as a second part response in a question-answer adjacency pair that is initiated by the teacher. This type of "yes" is used in general to ratify as shared knowledge something that has already in some way been shared by the participants. This epistemic work is associated with a larger sequence and activity and it is always relevant to continuation. It is always preceded by a display question that is common to classrooms where they are used as "structuring devices to drive the talk forward, introduce new topic and generally direct the focus of the interactants" (Dalton-Puffer 2007, p.123). In this case, such kinds of questions are relevant to the continuation of the ongoing talk, hence, the acceleration of the pedagogical agenda.

Excerpt (14) is an example of the use of "yes" by individual student. It is taken from a physics class. In this example the teacher is explaining the difference between the use of time in two equations that are written on the board, then she shifts the focus and asks the students a yes/no question using the epistemic verb "understand", however, without directing the question to a specific student.

Excerpts (14)

```
1    T:   equations for each set. The only
2         connection between ↑this ((pointing
3         at the board))and ↑that (.) is
4         ↑that the ↑time is going to be the
5         same (0.5)because ↑as the objects
6         have the ↑same time to go <up and
```

	7		down> ((hand gesture)) (.) it takes
	8		↑that time to ↑go ((hand gesture))
	9		(0.1) horizontal↓(0.5) So ↑time in
	10		this equation and time in that
	11		((point at the board))equation are
	12		the same↓ (0.2) other than that
	13		((pointing at the board)) there is
	14		↑no (.) connection(.) and that
	15		will make life easier↓(1.0) ↑okay
	16		((looking at the students))
	17		(2.7)
	18		↑so(.)so now do we understand((moving
	19		towards the board)) (.) ↑why this
	20		vector((pointing at the board))
	21		did not change ↑size ((looking at the
	22		Whole class))
	23		(0.8)
→	24	S4:	Yes
	25		(1.0)
	26	T:	It stayed((pointing at the board))
	27		the ↑same(.) while ↑this ((point at
	28		the board)) vector along the Y↓(0.3)
	29		((looking towards the students)) it
	30		was ((hand gesture)) ↑going ↑up (0.1)
	31		zero and then coming ((hand gesture))
	32		back↓ So it was <shrinking,
	33		Shrinking...

S4 at line (24) nominates herself following the teacher's scan of the class that is projected as an invitation for participation. S4 answers the question with the more preferred answer, i.e. a freestanding “yes” without adding any further information. The teacher projects this “yes” as a confirmation of the students' understanding and proceeds in her explanation.

The second use of “yes” is when the students response as a group. This “yes” is usually placed as a freestanding token in a response move in a question-answer adjacency pair. In this case the teacher asks the students yes/no questions to guide them through the lesson in preparation to present new information. This kind of question usually takes the shape of a confirmation check or direct request to display epistemic access to a shared knowledge.

Excerpt (15) is an example of the use of “yes” by the students as a group. It is taken from IS class.

Excerpt (15)

	1	T:	let me (.) ↑tell you (.) at the
	2		lowest((hand gesture)) level you have
	3		binary↓(.) right?
	4		(0.2)
→	5	SS:	Yes=
	6	T:	= Zeros and ↑ones
	7		(0.3)
→	8	SS:	Yes=
	9	T:	= okay? now ↑those zeros and ones,
	10		<the way they communicate on a
	11		computer you guys know↓> °through
	12		your basic
	13		courses° if there is a way for ↑that
	14		to go (.) on your CD when you have
	15		your ALU and all of that stuff((hand
	16		gesture)) and the programs stuff↓
	17		((moves towards the board)), right?
	18		↑so that goes zeros and ones, in
	19		order for us to <comm↑and> the zeros
	20		and ones↓..

The teacher is guiding the students through the lesson by initiating a series of affirmative display yes/no questions (lines 3 and 6). The students respond to the teacher's questions with the preferred “yes” as a freestanding token in the response move at lines (5 and 8) (Schegloff 2007). Dalton-Puffer (2007, p.95) states that display question oblige the students to “display whether they possess certain knowledge item or not”. She also argue that the answers to these type of questions are often restricted and “consisting of one word,” (p. 96).

At line (9) the teacher concludes the question sequence and uses a discourse marker “okay” to move to the next step that is demonstrating new information following the students' explicit display of having epistemic access to the knowledge required for moving to the next step of the lesson.

The next example, i.e. excerpt (16), is taken from physics class. It is taken following confusion among the students with regard to how to solve the physics problem.

Excerpt (16)

```
1    T:    there is any ((XXX))↑but(0.9) even
2          ↑though (0.1) you have to think in a
3          way↓ okay(0.5) try to see things
4          (( wide horizon hand gesture))
5          through↓ (0.2) <how it looks ↑like>
6          in real life↓(0.3) okay?
7          (0.2)
8    S?:   (XXX)=
9    T:    = ↑and whatever ↑you learn in math
10         (0.3)in the ↑past (0.2) ((hand
11         gesture)) years=
12   S?:   it is physics=
13   T:    = <I am going to be using it in this
14         classroom↓>((looking at the class))
15         (2.6)
16   T:    ↑so I do not bring↑ something from
17         ↑home,
18   S?:   ((XXXX))
19         (0.6)
20   T:    [you need to be] so:::: ((XXX))
21         ((looking at the class))
22   S1?:  [(XXX)]
23         (4.2)
24   T:    okay ((pointing at the board)) is
25         that clear ↑now
26   SS:   Yes=
27   T:    =because ↑if I make it the second
28         way I will solve this problem then
29         things are going to be complicated↓
30         (0.4) ↑if you look ↑at the graph you
31         have in front of you, they make
32         things into a Grid (0.3) small
33         squares((hand gesture)) (0.8)
34         okay?((moving towards the board)) it
35         was like ↑this (1.0) actua↑lly (1.3)
36         ↑sah ((tr.right))?
37   S4:   Yes=
38   T:    =I hope ↑so ((writing on the board))
39         (6.3)
40   T:    it was like- it was a grid like ↑that
```

The teacher reminds them of the importance of applying whatever information they learned in previous years in the physics class. She concludes her talk by using a yes/no question at the end of a multi-units turn to ask the students to display epistemic access to knowledge before moving to the next bit of the activity "`is that clear now`". The students satisfy the teacher by responding with a group "yes" based on which she shifts the topic back to the problem that they were solving before she

introduces the subtopic of the connection between the previous information and the present one. At the end of her extended turn, the teacher asks the students again to display their epistemic stance from what she said using the confirmation check device "right" but in L1 (line 36). S4 nominates herself at line (19) and display her epistemic position using the response token "yes" as a freestanding token in a turn by its own and without adding any components that might make her accountable for whatever information she adds at this level of the interaction.

Excerpt (20) is taken from ECED class. The teacher has just finished demonstrating the concept of "modeling".

Excerpt (17)

	1	T:	..<questions so far↓>((looking at the
	2		class)) you are all on↑ green so I am
	3		taking your cups as a(0.6) queue. but
	4		I like to see fingers Like this
	5		((miming))=
	6	SS:	((laughter))
	7	T:	= then you see (XX) will ↑do it like
	8		malgoofah ((tr. nosy))feels good
	9	SS:	((laughter))
	10	T:	((looking at the slides) ↑can I use
	11		any literature?=
	12	S1:	no
→	13	S4:	[yes]
	14	S3:	[no]
→	15	S2:	[yes] you have to
→	16	S5:	Actually, ↑yes.
	17		(1.1)
	18	T:	[okay you] are interpreting it=
	19	S2:	[um:::]
	20	T:	=in a different way than what I
	21		expected↓ (.) But, I see what you
	22		mean↓=
	23	S2:	=um:::
	24	T:	[she]Okay, go ahead, explain(.) what
	25		do you mean by ↑yes=
	26	S2:	=You know like (.) you have something
	27		In terms of- if it is, if it is

```
28          appropriate to their level=
29    T:    =↑okay, appropriate ↑level, <again
30          that is what I am looking for>(.)
31          ↑okay, the answer I was looking for
32          was ↑no, but I see what you mean|(.)
33          you mean that we ↑can use anything
34          (0.5)it does not have to be something
35          from a textbook=
```

The teacher finishes her extended multi-units turn by asking the students a polar yes/no question to accelerate the pedagogical agenda and introduce a new part of the lesson, i.e. literature. Unlike the previous examples, the teacher here receives different answers from the students that vary between "yes" and "no" (lines 12-16). At line (18) the teacher puts the agenda aside and works on solving the interactional trouble that resulted in unexpected differences among the students.

S2 shows orientation to take the floor at lines (19-23) by nominating herself and producing a stretched sound of "um::" to attract the teacher's attention to her readiness to take the floor. The teacher notices the student's attempt and use "okay" at turn initial position to acknowledge the student's readiness to take the floor. The teacher selects S2 to the next turn by gazing at her (Stivers 2010) and asking her to explicate her epistemic access to knowledge by using the verb "explain" in a Q-question that is typically used to elicit information (Stivers, ibid). The student starts explicating her epistemic access to knowledge at lines (26-28). She starts her turn with "you know" to refer to a shred knowledge followed by her account of why the answer should be "yes". The teacher accepts the student's answer at line (29) using "okay" followed by a repetition of part of the student's answer. She follows that by explicitly sharing her pedagogical agenda and telling the students the answer that she was looking, i.e. "no". Following, the teacher attributes to the student a reformulated version of what was originally said to justify the reason why she considers S2's answer as an acceptable one though it contradicts what she is excepting as an acceptable answer.

In all the cases where the teachers ask a yes/no question, they receive a positive "yes". The other position where the teachers get "yes" is when they checks understanding and ask for an explicit display of having epistemic access or understanding by using positive words is the questions such as "good", "okay", "right" etc.

6.2.2. Teachers' use of 'yes'

Teachers use "yes" fewer times than the students. They use "yes" (16.28) times in every 1000 word they produce. That is to say the teachers use "yes" once every eleven times the students use it (ratio 1 to 11). When the context in which "yes" is used by teachers is closely investigated, it is found that they use "yes" to select the next speaker or to approve a self-selected student. Teachers also use "yes" to answer the students' polar yes/no questions or to give a positive feedback. One of the interesting aspects in which teachers use "yes" is during their extended turn in a form of a yes/no questions to "guide individual learners to problem awareness on cognitive level in order to create a kind of opening or 'gap' in which learning can occur," (Dalton-Puffer 2007, p.94).

1. "Yes" for next speaker selection

As mentioned earlier, the teacher use "yes" to allocate turns. It is been noticed that unlike most classrooms, in this data, the students nominate themselves to the answers and use several strategies to take the floor. The teacher is not completely safe from interruption and the floor can be taken anytime by the students. Nomination by the teacher in this data only takes place when the students show orientation to take the floor or when they nominate themselves and the teachers approve their participation.

Excerpt (20) is taken from a physics class. In this example, the teacher is reviewing the test's questions with the students as a follow up. However, during her explanation, S2 raises her hand to attract the teacher's attention and asks for a permission to speak.

Excerpt (18)

	1	T:	remember what we ↑said- ((look at
→	2		S2))↑yes((distraction))
	3		(2.3)
	4	S2:	ah there is ↑two ah:: questions in
	5		chapter- ah:: in the- about this
	6		falling objects (0.5) I did not know
	7		how to solve it↓
	8		(0.4)
	9	T:	↑aha (0.6) <problem?>
	10	S2:	↑yeah(0.6) falling [object]
	11	T:	[That is] the ↑practice not the
	12		test?=

```
13   S2:   =yeah=
14   T:    = so we are going step by step, let's
15         go to the test and then do this
16         practice [So] we are working on that.
17   S2:            [okay]
```

The teacher terminates her pedagogical agenda and pay attention to S2 question using "yes" to demonstrate her agreement to give the floor to the student. She gazes towards S2 and uses "yes" to give her the floor. The student at lines (4-7) points out to the teacher two questions in a chapter that she failed to recall, as indicated by her use of the stretching sound of "ah::" then she stops and restart (Goodwin 1980). She uses the chapter topic "falling objects" to refer to the chapter and creates intersubjectivity with the teacher. In this part of the excerpt we notice the student's attempts to be as specific as possible with regard to displaying her lack of epistemic access to knowledge "I did not know how to solve". It is important to notice here the way the student constructs her turn to display having no epistemic access to the information by referring to a specific part in the relevant chapter. The teacher uses the acknowledgement device "aha" to express change in her state of knowledge and her understanding of the part of the problem that the student is referring to in her prior tern. However, she uses "problem" with a rising intonation as a declarative question to request confirmation. The student at line (10) responds to the teacher request using the response token "yeah" as a freestanding token in a turn by its own without adding any further information in order to give the turn pack to the teacher as a source of information to tackle her epistemic problem. The teacher at line (11) initiates a new question-answer sequence but she formulates her question as a repeat to display understanding rather than asking. Her question conveys the assertion "you are asking a question about a practice not the test", which the teacher is not doing at that time, to which a confirmation should be given.

The student gives a confirmation at line (13) using the freestanding response token "yeah". Following this preferred confirmation (Heritage 1984), the teacher takes the floor at line (14) offering a mitigated indirect rejection to answer the student's question. She offers her account on why she cannot deal with the student question at that time. She also explicitly shares her pedagogical agenda with the student as can be seen in the lines (14- 17).We notice in this example that "yes" when used to allocate turns is used at

the end of the teacher's turn. It is accompanied by a gaze at the direction of the student who is been nominated (Stivers 2010).

2. "Yes" for positive evaluation

The teachers also use "yes" at an initial position at the relevant TCU's in the thirds move following the second pair of a question-answer adjacency pair to give positive evaluation. The following example is taken from ECED class. In this example, the teacher is asking the students "how do they do their lesson plan" with regard to format.

Excerpts (19)

```
1    T:   how do you [introduce it?] (1.0)
2         ((looking at S4))
3    S4              [((XXXXX ))
4    T:   What did you say?
5         (0.7)
6    S4:  °ah::° (0.8) °Ob[jectives°]
→ 7  T:                   [yes] (.) yes=
8    S1:  =The ↑objectives
9    T:   ↑yes, the objectives, the objectives,
10        Your objective will (.)ah come wh-
11        when you state your ↑objective(.)
12        they will start where (.) they will
13        get a clue of what they are supposed
14        to do, Same as ↑ you .so that we do
15        not go too far,((hand gesture)), we
16        take the book (.) and you isolate
17        ((XX)) ↑this it for ↑this that is
18        how (( I interpret XX↓))
```

At line (3) S4 displays orientation to participation by self-selecting herself and responding during the teacher's turn which results in overlap. The teacher at line (4) expresses problem with hearing and asks the student whether she said something. The student repeats her answer "`objectives`" after some hesitation. The teacher gives positive evaluation by using "yes" as a freestanding response token in the third move. At line (8) S2 repeats the same answer "`the objectives`" .The teacher acknowledges her participation by using "yes" at an initial position of the relevant TCU using " yes" followed by further explanation by the same speaker.

3. "Yes" as a connecter

Teachers also use "yes" in extended turns as part of a cluster of discourse markers to return to the original topic following a slight diversion due to expansion. "Yes" is also used, in this case, to remind the recipient of the teacher's original position from the issue, which is an agreement and has relevance to topic closure. So, "yes" here functions as a connector between what is being said to what have been said earlier in the same turn.

The following example is taken from ECED class. The teacher is demonstrating to the students how children connect their own experience to that of the characters in the stories read for them.

Excerpt (20)

1	T:	....so the ↑story about this young
2		kid who <is their ↑age>ah: that (.)
3		experience is there↓, you ↑notice
4		these reading books(0.4) if you look
5		at a ↑Grade Five reading book↓ (0.7)
6		what age do you expect((hand
8		gesture)) the characters to be?
9		(1.2)
10	S3:	ah:: around five.
11	T:	around the same (.) grade ↑right,
12		Grade Five is what? (.) °they are (.)
13		what° (.)((looking up)) ↑ten. °°I
14		think ah:::°°((looking at the class))
15		(3.1)
16	T:	°I do not know°
17	S2:	um:: °around ten°
18	S?:	no
19	T:	yeas nine or [ten]=
20	S2:	[ten yeah]
21	T:	years old, okay, I guess, nine or ten
→ 22		years old, okay, ↑um::: so, yes, you
23		(.) ↑notice that the characters
24		are the same age, ↑you will know that
25		they are drawn to characters who are
26		very close to their own age↓(4.5)
27		((looking at the slide)) ↑okay
28		((reading)) "children's knowledge and
29		reading ages are influenced by the
30		types of books that they read,(.)
31		Okay?...

At line (1) the teacher shifts the focus to giving example of a story where the main character is the same age like the targeted audience (lines 1-5). Following, the teacher opens the door for participation by asking the students to guess the age of the

character of the story "what age do you expect the character to be". After a (1.2) second silence, S3 self-selects herself (line 10) and suggests "around five". The student's answer is slightly ambiguous as she does not specify is it five years or fifth grade. The teacher, however, projects that as a fifth grade adding "around the same grade right". The teacher then tries to recall the age of grade five as she is looking up and using the stretching sound "ah::::;"in an attempt to hold the floor longer. She then looks at the class as initiates a new question sequence regarding the age of grade five which confirms that she projects the student's contribution as a reference to grade not age. She waits for (3.1) seconds before she admits having no access to that information at that moment. S2 at line (17) self-selects herself and suggests "around ten" with hesitation. Another student disagree in line (18) but the teacher approves the S2's contribution using "yes" at an initial position of the relevant TCU followed by a modified repetition of the student's answer. S2 overlaps with the teacher in line (20) and repeats her answer. The teacher (line 22) uses a cluster of "okay, so, yes" to return to the main topic that she was talking about before the insert-expansion (Schegloff 2007). It is important to mention here that because the context is a classroom, it is not uncommon to have an evaluation following the students' response to a question-answer sequence, which is the norm. The expansion in this example takes place between the second and the third moves of the traditional IRF. So, "yes" is used with other discourse markers and it functions as retrospective discourse marker to return the focus to the main topic and remind the students of the positive evaluation that took place before the insertion.

Excerpt (21) is another example of the use of "yes" as a connector. In this example, the teacher is demonstrating to the students the concept "inferential comprehension" but the topic is terminated and another topic is proffered when the teacher asked the student about a course that she is supposed to be attending.

Excerpt (21)

```
1    T:   how was that(.) °workshop you just
2         had°, was it okay? ((smiling
3         voice))[did you go (XX)]
4    S1:         [the anger] [management?]
5    T:                      [The ↑anger]
6         management, [yes]
7    S1:              [Yes] yes, it was very(.)
8         beneficial
9    T:   ↑okay, good, ↑so((looking at the
10        board)) umm but you ↑do see what I am
→ 11      saying here, yes,((looking at the
12        class)) you guys are understanding
13        this infer- inferential comprehension
14        (.)okay↓(1.1)((moving towards the
15        monitor)) ↑alright.hhh ((reading))
16        "↑personal and critical
17        comprehension↓" this is the third
18        type(1.0)((looking at the board))
19        "when the readers go ↑beyond ((hand
20        gesture))the author's ideas↓ (.)
21        and let ↑personal ideas and emotions
22        take over↓(.) so, ↑now you are
23        reading it, as nothing to do with the
24        Author(.) you thought that this was a
25        book about something(.)right? that is
26        like me taking Goldilocks...
```

Following the teacher's questions, the student at line (4) initiates a "side sequence" (Jefferson 1972) and asks for clarification before responding to the question. The teacher confirms at lines (5-6) which workshop she is refereeing to. The student uses double "yes" to display not only hearing but also understanding of what workshop is referred to followed by an upgraded assessment. When the teacher gets the answer to her question at line (9), she shifts the focus back to the topic that she was previously talking about. This is achieved by a preliminary display that search is being made for the next item of the narrative ((umm, but you do see what I am saying here, yes, umm)) (Heritage 1984, p.300) then the use of "yes" to get to the previous topic resumption. So in this example "yes" is used by the teacher as a connector to pick up where she left the previous topic incomplete. In other words, "yes" is used in the middle of an extended turn to bring the topic back to the one that was tackled before the insert-expansion.

4. "Yes" to answer yes/no question

The teachers also use "yes" to answer a polar yes/no question that is directed to them by the students. It is placed as a second pair in a question-answer adjacency pair. It

has been noticed in this data that the students' questions to which "yes" is used as a response are usually either content or procedural related. The following example is taken from physics class.

Excerpt (22)

1	T:	for B. and if there are ten of them
2		we will find the X and Y for each one
3		of them
4	S7:	[do we take]this later sine ((for
5		confirmation))?
6	S?:	[°you just said-°]
7	S?:	°↑yes°
→ 8	T:	°Yes° So what we have for ↑B we
9		are going to find B- X equal((writing
		on the board))(1.0) B- cos↑ine
10		((vector)) B (0.4) which ↑is-
11	S8:	Thirty, cosine, minus thirty seven↓

In this example the teacher is demonstrating how to solve a problem in physics (lines1-3). At line (4) two students compete over the floor following the first possible TRP in the teacher's turn, which results in overlap. S7 wins the floor while the other student terminates her turn. S7 at line (4) points at the board and asks the teacher a question regarding the equations "do we take this later sine ((for confirmation))". Another student self-selects herself at line (7) and responds to her classmate's question. The teacher also responds to the student's question at line (8) with a "yes" followed by the discourse marker "so" to shift the activity from answering the student's question to continuing her explanation. In this type of use, usually, the teachers do not elaborate on the topic. In fact, they answer the question and move the agenda.

5. "Yes" as a response to confirmation check

The following examples show the teachers' use of "yes" as a response to confirmation check. The next excerpt is taken from chemistry class.

Excerpt (23)

```
1    T:   =you are still doing it. ↑okay(1.0)
2         ((moving)) no just another ((thing))
3         okay.(( looking at papers and
4         students while working))
5         (40.3)
6         does anyone want to do (.) the
7         ↑calculation part of it?(( looking at
8         the class and S3 raise her hand))
9         [would you come up and-]
10   S3:  [The equation] ((leaving her seat))
→    11   T:   ↑Yes, the calculation of it↓
12   S3:  °okay° ((moving towards the board))
```

The teacher at lines (6-7) quickly scans the class looking for a volunteer at the same time asks if anyone "want(s) to do the calculation part of it". We notice the teacher is leaving the floor open for participation. S3 demonstrates orientation to participate by raising her hand to attract the teacher's attention. The teacher selects S3 by gazing at her and asking her if she wants to come up to the board. Knowing that she has been selected, S3 takes the floor before the end of the teachers turn, which demonstrates enthusiasm but causes overlap that is repaired by the teacher abandoning her turn. The student at line (10) leaves her seat towards the board and asks the teacher with a rising intonation for confirmation whether she wants her to do the equation. The teacher confirms using "yes" at the initial position of the relevant TCU followed by other components. In fact the teacher gives the student further details about what she exactly wants "the calculation of it". The student agrees to carry out the task using "okay" as a freestanding token to move out of the conversation (Schegloff and Sacks 1973) and to shift from discussing the task to actually carrying it out on the board.

In this example we have seen how teachers use "yes" as a response to confirmation check from their students. It is placed at the initial position of the TCU of the second pair of a question-answer adjacency pair followed by other components. We notice here that, unlike their students, when the teachers are asked for confirmation, they use "yes" followed by components to make sure that the students understand precisely the task or the issue that they are asking about. The students, on the other hand, use "yes" as a response to confirmation check but as a freestanding token in a turn by its own after which the right to speak goes back to the teacher. This can be explained by the

predetermined institutional role of the teacher as the source of information in the classroom.

6. "Yes" as agreement

The teachers in this data use "yes" followed by other components to display agreement with the students' assertion. The next example is taken from chemistry class. The teacher is solving one of the problems of the previous exam questions that she refers to as "problems".

Excerpt (24)

```
1    T:   have we ↑ever mentioned something
2         about((looking at the class)) mass?=
3    SS:  no
4    S?:  °no° [((inaudible))]
5    T:   [Okay] so this ((hand gesture)) is
6         just an [↑extra information] ↑that=
7    S?:           [((XXX))]
8    S4:  = we have to know=
9    T:   =↑Yes(0.8) so ↑do not expect (.)
10        >every↑thing they Give ↑you
11        [ in a problem]< to be used↓(0.3) ↑no
12   S?:  [(( inaudible))]
13   S5:  ↑Tricky=
14   T:   =°yes°((walking towards the board))
15        (2.3) They gave us ((pointing at the
16        board)) the initial velocity↓ (.) so
17        I will write down ((writing on the
18        board)) V- nod to ↑be (0.5) fifteen
19        (1.7) meter per ↑second.
```

The teacher asks the students if they have ever mentioned something about mass before she starts demonstrating how to solve the problem. The students respond collectively using a negation "no" at line (3) to display having no epistemic access to the term "mass". The teacher uses "okay" to close the emerging subtopic of "mass" and move on to the next point (Beach 1993, p.341). She tells the students that "mass" is just extra information and that they don't have to worry about it. But, interestingly, we notice at line (8) that S4 self-selects herself and completes the teacher's turn. Gardner (2001) considers collaborative completion as a sort of response token where the co-participant finishes the speaker's turn as a sort of response. The teacher agrees with the student's completion at line (9) using "yes". However, she follows "yes" with "so" to terminate the present topic and move to the next bit. At line (13), S5 self-selects herself

and offers assessment to what the teacher has said in the prior turn "tricky". The teacher agrees with the student's assessment using "yes" at the initial position of the TCU but she does not elaborate on the topic. In fact, she shifts the topic to solving the problem, which is the main topic before the teacher proffers the new subtopic at the beginning of this sequence that started with the question at lines (1-2).

In the previous example we have seen how the teachers use "yes" to agree with the students' assertion. "Yes" is placed at the initial position in the relevant TCU and followed by other components. The components, however, are preceded by a discourse marker that signal a shift in the focus after which the topic is usually closed.

6.3. Use of "yeah"

8.3.1. Common use of "yeah"

1. "Yeah" as an answer to yes/no

One of the common uses of "yeah" in this data is its use as an answer to a polar affirmative yes/no question. In this case "yeah" is placed at the initial position at the TCU of the second pair of a question-answer adjacency pair. It is important to notice here that though both teachers and students use response tokens most of the time at the initial position of the relevant TCU of the second move of the IRF pattern, teachers tend to extend the turns and introduce either a new topic using a discourse marker such as (okay) or (so) to elaborate in the same topic.

Students, on the other hand, tend to use "yeah" as a freestanding response token that form a turn by its own, which means passing the opportunity to take the turn and usually does not invite change in speakership. On the contrary, it invites the prior speaker to keep going and claim the speakership.

The following example shows the common use of "yeah" as an answer to a polar affirmative question yes/ no. It shows how the teacher responds to their students' questions positively using "yeah". This example is taken from Chemistry class. The teacher is demonstrating how diamonds look under the microscope and what they consist of.

Extract (25)

1	T:	[↑four], let's take this ((points
2		at the board)) one to see if that
3		theory (0.2) is connected to
4		(pointing at the board)) ↑one,
5		↑two, three, four (0.3)
6		((looking at the class)) so that
7		was- it is bonded to ↑four (.)
8		let's just test it once more(.)
9		take another essential carbon and
10		it is((XXX)) bonded to ↑one, ↑two
11		, three, four .hh so we ↑know
12		that within (0.8)the diamond
15		structure↓ (.) it is connected to
16		↑four other carbons, okay? now
17		↑this, ((pointing at the board)),
18		on [the other hand]
19		((looking at S2))=
20	S2:	((raising hand))[((XXX))]
21	T:	= sorry=
22	S2:	=is this carbon?
→ 23	T:	↑yeah (.) <↑that is carbon,((
24		pointing at the board)) that is
25		carbon, that is carbon, that is
26		carbon, that is carbon> it is
27		↑all ((hand gesture)) carbon,
28		pure carbon(0.8) okay? ((moving
29		towards the board)) (1.3) ↑this
30		on the other hand is graphite
31		((what is-)) what can you say is
32		the main difference? (.) Between
33		(0.1) the two?
34		(0.7)
35	S?:	°((XXX))°
36	S3:	It is not (.) connected, there is
37		no[Central carbon]

At line (20) S2 waits until the teacher reaches a possible TRP at the end of the relevant TCU and before the beginning of the next TCU to express non-verbally her orientation to take the floor and overlaps with the teacher. She attracts the teacher's attention by raising her hand and initiates a question sequence. The teacher offers other-initiated repair by asking "sorry" and at the same time points at her ear to locate the source of the problem as hearing rather than understanding. At line (22) S2 points at the slide on the board and asks the teacher "`is this carbon`". The teacher responds positively with a "yeah" positioned initially at the relevant TCU but reinforces her

answer by showing more examples of carbons by pointing at the slide on the board. The teacher checks understanding using the discourse marker "okay" but without leaving enough time for any further questions. Then she moves to a new topic, i.e. graphite. The teacher starts demonstrating by comparing graphite to diamond but she stops, restarts (Goodwin 1980) and initiates a new sequence of question to create knowledge gap to prepare the students for the coming information (Dalton-Puffer 2007)

The next example is taken from chemistry classroom. The students are doing a calculation task individually.

Excerpt (26)

1	S3:	is that right?((showing the
2		teacher her calculator))
→ 3	T:	((walking towards S3)) °yeah°
4	S3:	((XXX))
5	S4:	°((And mine too))°
→ 6	T:	((walking towards S4))°yeah° (2.1)((
7		walking towards the board)) ↑okay
8		then↓ (1.1) okay↑, so ↑do you
9		want to tell me what I should do
10		in the first step [of my]calculation?
11	S3:	[((XX))]
12		(2.8)
13	T:	what's the first step? (0.5)what
14		shall I [write down?]

S3 holds her calculators high in the air and asks the teacher in private to check her answer. Because the question is specific and is asked in private, it receives a private short answer. This is the only case where the teacher gives a freestanding response token without extending the turn and giving further information. The same happens at line (5), S4 also asks the teacher to check her answer and the teacher approves it using "yeah" then uses a series of discourse markers "`okay, then, okay, so`" to shift the activity from checking the students' answers individually to the next step of the lesson. Checking the students' answers individually could have wasted the teacher's time and interfered with her pedagogical agenda.

The coming example is also taken from the chemistry class. It shows how the teachers use "yeah" to respond to the student's question. In this example, though, the student contributes to the ongoing interaction using a declarative question that functions as a confirmation check to give the teacher an opportunity to give an unmitigated feedback in case she does not agree or the answer is no. The teacher is demonstrating

where diamonds are formed. She prefaced that by explaining the layers from which the earth is formed i.e. inner core, mantle and crust.

Excerpt (27)

```
1    T:    ..↑diamonds,  actually formed
2          ((drawing)) (3.5) in ↑that ((pointing
3           At the drawing)) crust around a
4          hundred and sixty kilometers (.)
5          below the earth↓ ((looking at the
6          students))=
7          S2: ((XXX))
8    T:    =okay↓(.) ↑sorry ((get closer to S2))
9    S2:   they dig for them?
→ 10 T:    ↑yeah and they mine these
11         diamonds↓(.)Okay, ↑that is one
12         ((pointing at the drawing)) , one
13         place where they ↑find these
14         diamonds, the other uhm:: ((looking
15         at the students))does anyone know of
16         any other means Of umm::-
17   S4    °°from Lava?°°
```

At line (7) we notice that S2 self-selects herself to the turn to contribute to the ongoing talk at the first possible TRP by saying something that the teacher could not hear. At line (8), trouble in interaction occurs in what seems to be problems in hearing what the question is. The teacher displays having trouble with hearing using "sorry" with rising intonation at the same time when she gets closer to S2. At line (9) the student repeats her question to the teacher using a non-affirmative question "they dig for them". The teacher responds with a "yeah" at an initial position and builds on that using "and" to introduce other-initiated repair "mine" as oppose to "dig". The teacher, however, does not wait for the repair to be carried out by S2. In fact, she uses the multi- TCU turn to accelerate her pedagogical agenda. Here we also notice that the teacher uses further questions as a strategy for topic shifting.

In comparison to the teacher's use of "yeah" in excerpt (27), the next example shows how the students use "yeah" also as a response to yes/no question. It shows how, similar to their teachers, they use "yeah" in the second move of question-answer sequence. However, unlike teachers, when it comes to yes/no questions, students, in this

data, tend to use "yeah" as a freestanding token in a turn by its own in a sign to the teacher to resume her ongoing talk. The teacher in most of the cases goes on in her extended turn immediately following the response move. Sometimes, though rarely, the teachers give a positive feedback then continue their demonstration. The next example is taken from ECED classroom. It shows an instance where the teacher interprets the students freestanding "yeah" as a signal to proceed with her talk and a confirmation of intersubjectivity.

Excerpt (28)

1	T:	above his level(.) and the language
2		is too difficult(.) ↑okay, we may be
3		stressing the ↑child out, remember I
4		told you about your ah:: (.) this is
5		with(.) yeah, I think you are very
6		((XXX)) the:: (.) ECED teacher(1.1)
7		the newsletter? ((looking at the
8		students)) (0.7)
9	S?:	mm=
10	T:	=remember I said do not use difficult
11		(.) language even , if you are
12		writing to parents?=
→ 13	S2:	=↑yeah=
14	T:	=the reason why is you do not want to
15		stress them out(.) you have a message
16		to put across (.) you put it in
17		simplistic ↑language=
18	S?:	mm
19	T:	= you are not showing off, you are
20		saying ((miming) "I am a brilliant
21		teacher, I use these ↑big ...

In this example we notice that the teacher uses a question to nudge the students' memory to remind them of what she mentioned earlier. The teacher is expecting an unidentified student use the continuer "mm" to confirm a long with the class silence that the students are not ready to respond or that they are passing the floor. The teacher follows her question with a second one at line (10). This time S2 volunteers and latches with the teacher to answer the question with a "yeah". The teacher perceives "yeah" as positive sign to go on and continue her explanation.

Excerpt (29) is taken from physics classroom. In this excerpt, the teacher demonstrates to the students a new example of solving problems regarding objects motion. Following her demonstration (line 10), she asks the students a direct affirmative question related to their state of knowledge "do you understand what I did with the equation here".

Excerpt (29)

```
1    T:   as if square it (.) ↑so I am going to
2         take ↑this out ↑actually (.)
3         ((pointing at the equation)).
4         so for ↑horizontal motion I have
5         motion (0.2) < with (.)zero
6         ↑acceleration> , I have one or two
7         equations(.) and no acceleration↓
8         ((looking at the class))
9         (2.2)
10   T:   do you understand what I did with the
          ((pointing at the board and looking
          at the class))
11        ↑equations (.) here?
→ 12 S3:  ↑yeah
13   T:   okay↓, this(.)[because]
14   S3:                [Because of] the::
15        acceleration
16   T:   acceleration is ↑zero(0.6) ↑okay, ↑so
17        I put only acceleration is ↑zero and
18        then I just change the ((dates))(0.4)
19        let's look At the motion along the ↑Y
20        (.) what do we have along the ↑Y-
```

Noticing the teacher scan of the class looking for a volunteer, S3 at line (12) self-selects herself and answers with the minimal response of a single freestanding "yeah" without displaying having epistemic access to knowledge by adding any further information. The teacher accepts that as an answer and follows, in the third move, with the discourse marker "okay" with a falling intonation before she is interrupted by the same student who perceived "okay" as a request for more details and attempts to give an evidence of her understanding (Koole 2010). As a result, they overlap but the teacher abandons her turn to give the student the opportunity to complete her answer. The student provides her evidence of having epistemic access to knowledge by adding "`because of the acceleration`". The teacher waits until the student completes her turn to pick up where she stopped and build on it to move her pedagogical agenda.

Another position where "yeah" is also used as a freestanding response in a turn by its own by the whole class. It is been used by the class as a group in two cases; once when the teacher asks the students explicitly to display having epistemic access to knowledge and once when the teacher uses confirmation check devices such as "right" or "See". The flowing example is an illustration of such cases.

Excerpt (30) is taken from a chemistry classroom. The teacher is demonstrating about giant molecules such as “Buckminister Fllerene” when she shifts the focus and asks the students to show collectively and explicitly whether they have epistemic access to a sub-unit of chemistry named “Nanotechnology”.

Excerpt (30)

1	T:	yeah, and when we look at the next
2		slide, we will see (.) that it is
3		exactly ((hand gesture))the same as
4		a football↓ (0.7) since the discovery
5		of the ↑balls,((hand gesture)) (.)
6		they have now [found that we can]=
7	S?:	S?: [((XXX))]
8	T:	=find ↑tubes, so, uhm, and it is also
9		been a stimulus(.) ah to- have you
10		heard of this ah sub-unit of
11		chemistry nanotechnology?
→ 12	SS:	↑yeah
13	T:	so the tubes are now called
14		Nanotubes(.) and they have done ↑all
15		sorts of wonderful things to these
16		tubes, umm they can actually ↑dope
		the..

At line (12) the students respond to the teachers question as a group. They use "yeah" as a freestanding response devise in the second part of a question-answer adjacency pair. The function of "yeah" here is to respond to the question and confirm having epistemic access to knowledge regarding the term "nanotechnology" that is asked about in the prior term. The teacher at line (13) builds on their answer using the discourse marker “so”. She adds more information based on the students’ claim of having epistemic accesses to what she is talking about in the previous turn.

In this section we have seen that both teachers and students use “yeah” as a response to yes/o question. They both use it as a second part of question-answer adjacency pair. They both use it at initial position at the relevance TCU. However, teachers tend to use “yeah” with other components in the same turn. The components in most of the cases are related to adding more information or elaboration on the same topic that the students are asking about. The students, on the other hand, tend to use “yeah” also turn initially, yet uses it as a freestanding token. In the examples that we have demonstrated, the teachers perceive that freestanding “yeah” as a sign to continue their talk. The students as a group produce collective “yeah” when they are asked

explicitly by the teacher to show their state of knowledge in order for the teachers to go on in their pedagogic agenda.“Yeah” used turn initially as a pre-shift to topic focus.

In the following examples the teachers use “yeah” at the beginning of the relevant TCU but for functions that go far beyond answering yes/no questions. For instance, in the following example the teacher uses “yeah” as a follow-up to the student’s claim of the third move. In other words, in the previous examples we saw that when the student asks a yes/no questions, the teacher answers and adds extra information in a multi-unit turn, something that the students rarely do in this particular sequence. Claiming the speakership by extending the turn beyond the “yes” or “no” results in the student loses her right to the third move unless a new subsequence of questions is initiated either by the teacher or the student herself.

The next example is taken from a chemistry class. The teacher is demonstrating how to measure the accurate atomic mass.

Excerpt (31)

	1	S2:	((why it is)) a hundred percent?
	2	T:	<Because> it is in ((pointing at the
	3		board)) in percentage abundance
	4	S2:	aha
→	5	T:	Yeah, ((pointing at the board)) ↑all
	6		these are percentage values (.)
	7		seventy ↑five (.) and twenty four, so
	8		we divide by one hundred ((pointing
	9		at the board)) (0.8) to get that
	10		mass↓(0.7) so, ↑now here's one for
	11		↑you (0.9) we:: ((looking at a
	12		paper)) can work out ↑the atomic mass
	13		(.) of oxygen↓ (0.7) so we have got
	14		((pointing at the board)) the ↑three
	15		(0.3) isotopic (.) masses for sixteen
	16		oxygen(.)seventeen and eighteen..

S2 at line (1) asks the teacher an interrogative question "why it is a hundred percent". The teacher (at line 2) gives a relatively short answer explaining why the numbers are in hundred percent " it is in percentage abundance". The student at line (4), however, expresses understanding using the change-of-state device “aha”. Following, the teacher uses “yeah” at the initial position of the relevant TCU to confirm her previous answer and reclaims the floor again adding more information. She follows that by further explanation and uses the board to show more examples to enhance the student's understanding. The teacher then moves the

discourse to the next step by using the discourse marker “so”. In this case, “yeah” is used as a pre-shift token (Jefferson 1993) and to bid for the immediate turn (Gardner 2001, p.34)

The next extract is a straightforward example of the use of “yeah” by the teachers to bid for the immediate turn and to keep the present floor longer. The excerpt is taken from chemistry class. The teacher is explaining the mass of isotope.

Excerpt (33-a)

1	T:	….. do you remember asking this
2		question before it is twelve-point-
3		zero-one-one (.) and it is because we
4		(1.1)took into account(.) the twelve
5		six carbon (0.5) thirteen six carbon
6		and if we take (0.3) the six carbon
7		and then got an average value from
8		there↓ ((changing the slide)) (1.6)
9		so, similarly with- (.) uhm oxygen,
10		it has a Mass (0.6)((pointing at the
11		board)) of sixteen ↑fifteen-point-
12		nine-nine-four before that, another
13		thing we should °remember°, look at
14		the ↑accuracy ((pointing at the
15		board)) (0.2) of these values.
16	S?:	Umm::

At line (16) excerpt (39-a) a student displays an orientation to take the floor by using a stretched sound “umm:::” at the end of the teacher's first potential TRP. But the teacher keeps the floor starting the new turn with “yeah” that indicates immediate turn bids (Gardner 2001, p. 35).

Excerpt (33-b)

→	1	T:	↑yeah(0.5) and this is because
	2		↑all been measured by that technique
	3		known as mass spectrometry that I
	4		showed in (.) the first slide↓(0.5)
	5		so, ↑seventeen oxygen has (.) a mass
	6		f sixteen-point- nine-nine (.) nine-
	7		one a::nd eighteen oxygen seventeen-
	8		point-nine nine-nine ↑two (.) okay,
	9		<so what shall we ↑do> with these
	10		(0.5) masses and the percentage of
	11		abundance? (0.5) what- how do we work
	12		out the mass (.) of these elements↓
	13		(0.5) and the ↑masses that…..

The teacher uses “yeah” in excerpt (33-b) followed by “and” to connect what is she saying to what she has said prior to the student's attempt to take the floor at line (16). In this excerpt we notice that the teacher holds the floor despite the student's attempt to bid for it. The teacher prioritizes accelerating her pedagogical agenda without interruption over allowing the student to contribute to the ongoing talk. The teacher continues the demonstration about how masses are measures. "Yeah" here could also be understood as an acknowledgment of the student's orientations to participate while holding the floor because the teacher is simply not done from her explanation. In other word, the teacher is not ready to give up the speakership role yet.

2. “Yeah” as a response to confirmation check

The teachers and the students use “yeah” to respond to confirmation checks. In this data, “yeah” as a response to confirmation check functions in two different types of sequences. In the first type, “yeah” is placed in a post-expansion sequence following a question-answer adjacency pair (Schegloff 2007). It is placed in the second move of the newly inserted sequence that is a confirmation. It follows the following pattern:

a) Question (I)

b) Answer(R)

C) Confirmation request (I)

b) Yeah+ (R)

This pattern is best explained in excerpt (34). This example is taken from IS classroom where the teacher is explaining to the students a new technology that allows them to see him inside the classroom when he is actually in Canada.

Excerpt (34)

	1	T:	+where you can just see me walking
	2		around doing exactly what I am doing
	3		in my office in Toronto (.) <while
	4		[I am here>].
	5	S1:	[What is] called?
	6	T:	Ha? (.) hologram
	7	S1:	Hologram?
→	8	T:	yeah hologram ah:: imaging sort of
	9		thing, and ah:: (1.2) you know, you
	10		will hear my ↑voice, you will hear
	11		everything that I am doing and (.)
	12		you won't see the difference, you can
	13		↑touch me but=

At line (5) S1 waits until the teacher reaches what she perceives as a transition point at the end of relevant TCU to ask about the name of this technology "what is called". However, because the teacher pauses for a while but has not finished his sentence, overlap takes place but resolved when teacher finishes his turn. The student finishes her question in line (5). The teacher at line (6) displays having a problem with hearing or understanding, however, it did not take time before he realizes what the question is about. He answers the student's question at the same line but with the minimum response of one word. The student formulates her question as a repeat to display that she has heard and understood the teacher's answer rather than asking for information. Her question at line (7) , however, requires confirmation from the teacher. The teacher confirms at line (8) and repeats the same term and build on it by adding further information related to the hologram.

The second sequence in which "yeah" occurs is the second position. That is when the student asks about a particular part of the prior turn by repeating it and they initiate a confirmation check request. In the second type of pattern "yeah" follows this sequence:

a) Confirmation check request

b) Yeah

This type of pattern is better explained by the following example that is taken from a chemistry lesson. In this excerpt the teacher is explaining to the students the structure of the planet earth using a drawing on the board.

Excerpt (35)

1	T:	..↑now you can see some examples of
2		my very very ↑bad drawing↓ (1.4)okay.
3		(0.7) if (0.6) you ↑imagine um:: an
4		apple=
5	S2:	=mm
6		(0.8)
7	T:	Okay, so, this is ((drawing)) ah::n
8		apple(0.5) and let's take ↑out, like
9		a segment↓ (0.8) let's take that
10		((pointing at the drawing)) ↑away
11		(0.5) and imagine this ((pointing at
12		the drawing)) (0.4) is the earth, so

```
13          inside the earth we have what's known
14          as the [inner ↑core]
15    S?:           [((XXX))]=
16    S3:   =inner core?=
17    T:    =↑Yeah (.) and do you know the outer
18          ↑core? ((looking at the class))
19    S?:   ah:::
20    T:    =and [then]=
21    S2:        [okay]
22    T:    you have the ↑mantle (0.5), yeah, the
23          very thin ↑mantle (.) and then we
24          Have even a thinner ↑crust
25          ((drawing)) (1.1) see, I told you I
26          drew really badly.
27    SS:   ((laugh)))
```

While explaining, the teacher points at the different parts of the drawing telling the students what are they called. When the teacher reaches a possible TRP at the end of her TCU, a student overlaps with her and she abandons the turn. S3 seizes the opportunity and repeats "inner core" in a high contour that is perceived by the teacher as confirmation check. The teacher confirms using "yeah" followed by a rhetoric question. The teacher is not expecting the students to answer her question nor does she wait as she proceeds with her extended talk.

In this excerpt unlike (35), the confirmation check is not preceded by a question. In fact, it is preceded by an extended turn. The last use of "yeah" is more common in my data than the former one. The first type is usually followed by more explanation related to the same topic while the second is followed by a shift in the topic and acceleration in the pedagogical agenda by the teacher. It is important to emphasize here again that due to the small size of the corpus, these results are not aimed to be generalization. On the contrary, they should be treated as a trigger for further investigation into the sequence organization of the use of "yeah" as an answer for confirmation check by the students.

Sometimes, though not often, teachers use double "yeah" such as in this example that is taken from a chemistry class. In this excerpt the teacher is asking the students about a precise and short definition for ionic bonding.

Excerpt (36)

1	T:	Okay(.) in one sentence ↑flat(0.4)
2		can someone tell me >what ionic
3		bonding is?< (0.7) in ↑one sentence.
4		(0.9)
5	S2:	it is when the:: (0.3) ((hand
6		gesture)) (.) one atom donates=
7	T:	((nodes no))
8		(0.5)
9	S2:	°okay°
→ 10	T:	Oh, yeah, yeah, sorry, yeah, donates
11		what?
12	S2:	an ↑electron (.) [to ano]ther atom=
13	T:	[aha]
14	S2:	=and the ((XX)) and (.) the- the main
15		electron gets (.) umm positive
16		↑charged.

At line (1) the teacher starts a question sequence by asking the students to tell her “what is ionic bonding” in one sentence. The student at lines (5-6) self-select herself and tries to give the answer but the teacher nodes disagreement which makes S2 stops. At line (9) S2 request confirmation using “okay” to ascertain whether she has got the right answer or not. The teacher does self-repair and apologizes for giving a wrong non-verbal negative evaluation to the student. She starts her turn with the change-of-state token "oh" followed by double “yeah” at line (10). The first “yeah” is to give a positive evaluation to the student's original answer, while the second “yeah” is an answer to the confirmation check request. The teacher finishes the turn by an apology and a request for elaboration on the same topic using a part of the student's answer followed by "what?" for continuation. The student elaborates on her answer at line (12). The teacher plays the listener role and encourages the student to go on by using the minimum response tokens "aha" during the student's turn and without interrupting or attempting to take the floor. The student completes her answer at line (16).

Another use of double “yeah” is when the students compete over the floor and simultaneously give different answers as a response to the teacher's question. This kind of use is not very common in this data, however, it deserves to be discussed such as in the next excerpt. Excerpt (37) is taken form a chemistry class. The teacher is discussing places where diamonds can be found and conditions under which they are formed.

Excerpt (37)

	1	S4:	in ° men mines°?
→	2	T:	↑yeah, in mines, yeah=
	3	S5:	=Or- (.) i think there is a lot
	4		in ↑Africa
→	5	T:	[yeah, lots]
	6	S2:	[it needs]high pressure to form?
	7		(0.4)
→	8	T:	ah:: yeah (0.2) yeah, you are
	9		↑all- ((pointing at S2, S4 and
	10		S5)) (0.4) some are formed on the
	11		seabed((pointing at S4)) we
	12		commonly ↑mine for them, and
	13		((pointing at S5)) you said (S5)
	14		sorry?
	15	S5:	there are in ↑Africa
	16	T:	yeah, mostly in ↑Africa (.) ah,
	17		other countries Russia,((counting
	18		in hand)) even ↑Australia, Borneo
	19		<is also known for> ah, .hh for
	20		ah the mining of diamonds, ↑but
	21		most commonly Africa.

The students are responding to the teacher's questions regarding "Which countries produce the most diamonds? And how they are formed? Where are they formed?" Because the teacher is asking many questions at the same time and does not sequence them, she receives several answers to the different questions. For instance, the students at lines (1, 3, and 6) self-select themselves and give answers to the teacher's questions without following any specific sequence related to the original questions. The answers are all formed with a rising intonation which makes them a sort of confirmation check .This strategy, according to Seedhouse (2004, p.17), gives the teacher the opportunity to use bald "no".

At line (2) the teacher uses "yeah" twice, once at the initial position of the TCU as a response to the confirmation request and a positive evaluation to S4's answer. This "yeah" is placed immediately after the second part of the question-answer adjacency pair. The second yeah, nevertheless, is used to acknowledge S5 orientation to contribute on the ongoing talk.

S5 waits until the teacher reaches the first possible TRP to offer her answer to the question "where diamonds can be found". The teacher uses "yeah" for the third time at the initial position of the TCU (line 5) followed by assessment "a lot". S2 overlaps with the teacher at line (6) giving an answer to the question related to the conditions

under which diamonds are formed also with a rising intonation. Then the teacher starts her turn with a sort of hesitation using "ah::" followed by a confirmation that can also be understood as positive evaluation to S2's answer. "Yeah" is followed by a (0.2) pause and a second "yeah" after which she sums the students up in what seems to be one positive evaluation "you are all". However, she stops and reevaluates their answers individually.

The way the teacher sorts out the reevaluation process is very interesting because it demonstrates how teachers incorporate verbal and non-verbal interactional resources to keep the flow of the conversation. The teacher starts by establishing a mutual gaze with every student while repeating the same student's answer in what is understood in this context as implicit positive evaluation. At line (13-14) the teacher acknowledges S5's orientation to contribute to the ongoing talk and initiates repair using "you said, sorry" which indicates trouble in hearing the student's previous answer. S5 repeats her contribution at line (15). The teacher repeats the student's answer at line (16) and builds on it by giving additional information to where and how diamonds are formed.

In comparison to the teachers, the students also use "yeah" to respond to confirmation check. However, their use is slightly different from that of the teachers. The students use "yeah" as part of a question-answer sequence that is mostly initiated by the teacher. The next example is an illustration. It is taken from a physics class. The teacher is going through the questions of a previous exam. In this part she is solving a problem with the students.

Excerpt (38)

1	T:	↑if it is minus seventy as I
2		↑understand, is going to be on the
3		<opposite direction> (0.2) ↑or you
4		can say one hundred ↑seventy((writing
5		on the board)) (1.1) to ↑the
6		(1.4)

```
7    T:    ↑left (.) because I consider- ((hand
8          gesture))
9          (2.0)
10   S?:   minus
11   T:    positive to be to the (0.3) right,
12         yeah (0.8) okay?
13         (1.0)
14   S2:   this question ((points at her paper))
15         (1.6)
16   T:    The one before that?
→ 17 S2:   °°yeah°°
18         (0.8)
19   T:    Okay (.) the question before ↑that it
20         says (1.1) ((reading)) "Two riders
21         on..
```

S2 attracts the teacher's attention and asks for a permission to talk. The teacher acknowledges the student's orientation using "yeah" and gives her the permission to go on and talk. S2 (line 14) points at her paper and asks the teacher about a question in the paper. The teacher asks for confirmation "the one before that?" and the student confirm at line (17) using "yeah" as a freestanding token. The teacher agrees and starts reading the problem a loud to the whole class. We have noticed in this example that the student responds to the teacher's confirmation check request using a freestanding "yeah" in a turn by its own. The student does not specify to the teacher what part of the question she is asking about exactly, however, the teacher perceives that as a request to solve the whole exercise and starts solving the problem.

The next example is also a common pattern in this data where "yeah" occurs in a post-extension sequence (Schegloff 2007) to question-answer adjacency pair.

Excerpt (39)

```
1    T:    If we have a vector that makes an
2          ↑angle with a positive X direction
3          (.) what can we do [with it?]
4    S?:                      [((xxx))]
5    S1:   °find the components°
6    T:    ha? ((looking at S1))
```

```
7    S1:   °((find the components))°
8    T:    find the two components?
→ 9  S1:   yeah
10   T:    find the X- Y- components (.) and
11         actually that is what we are going to
12         be doing (.) ↑find the X and Y
13         components of the:: (.) velocity
14         (1.5)↑so(.)now..
```

At lines (4 and 5) two students compete over the floor, however S1 is the one that succeeds in attracting the teacher's attention. The teacher gives S1 the opportunity to speak at line (6) by initiating other-repair using "ha" with a rising intonation, which indicates trouble in hearing what S1 has said. S1 repeats her answer in line (7) but quietly. The teacher checks her own understanding by reformulating what the student has said originally with a rising intonation, which requires confirmation from the student. The student uses "yeah" at line (9) to respond to what she projects as confirmation request from the teacher side. The teacher claims the turn at line (10), repeats what the student said and builds on it, which is understood as positive evaluation.

3. "Yeah" as an agreement device

The teachers and the students use "yeah" for agreement. However, there is a difference in the sequential structure of the relevance turn where "yeah" is used between the two groups. For instance, the teachers use "yeah" to display alignment and agreement with the students' assertions that are offered voluntarily by self-selection. The teachers in my corpus use "yeah" followed by other components depending on the relation of the student's contribution to the ongoing talk and its relevance to the teacher's pedagogic agenda. If the student's contribution fits within what the teacher perceives as related to the ongoing talk or helps in keeping the flow of the same topic, the teacher demonstrates agreement and builds on it. If it does not agree with the teacher's agenda, she/he displays agreement but shifts the topic to what she/he perceives as more appropriate to the ongoing talk. What is appropriate can be manifested by a continuation of the same topic that was tackled in the prior turn before the student's contribution is offered or a shift to a new but related topic to accelerate the pedagogical agenda. The following examples explain both scenarios clearly.

This excerpt is taken from a chemistry class. In this example, the teacher is demonstrating places where diamond can usually be mined.

Excerpt (40)

1	T:	Yeah, mostly in ↑Africa(.) ah other
2		countries Russia ((counting in hand))
3		even ↑Australia, Borneo <is also
4		known for> ah, .hh for ah the mining
5		of diamonds, ↑but most commonly
6		Africa.
7	S2:	it needs high pressure?
→ 8	T:	yeah it needs really really high
9		Pressure(.) yes, so where exactly
10		do we mine? (S4), where exactly
11		do we mine these diamonds? Or how
12		do we get hold of these diamonds?
13		more specifically, where are
14		these diamonds formed? does
13		anyone know that? ↑now you can see
14		some examples of my very very
15		↑bad drawing↓ (1.4) okay↓ (0.7) if
16		(0.7) you imagine um:: ,an apple=
17	S2:	=mm
18	T:	okay, so, this is ((drawing)) ah::n
19		apple(0.5) and let's take ↑out like
20		a segment↓ (0.8) let's take that
21		((pointing at the drawing)) ↑away
22		(0.5) and imagine this ((pointing on
23		the drawing)) (0.4) is the earth, so
24		inside the earth we have what is
25		known as the [inner ↑core]

The student (S2) waits until the teacher reaches what she understands as a possible TRP and self-selects herself for the next turn. She takes the floor and displays knowledge by offering her contribution to the ongoing talk by answering a question that has been asked by the teacher earlier ((see excerpt 37)). Though the student's contribution is related to the general topic of diamonds, it does not fit the teacher's agenda at that moment. The teacher is interested in places where diamond mining can be found rather than conditions for diamond formation that was the focus of the discussion earlier. The teacher uses "yeah" at line (8) and upgrades the student answer by adding "really, really". Yet, because that does not go a long with her pedagogical agenda, the teacher uses the discourse marker "so" to shift the topic back to diamond's mining. The same sequence is found when the student initiates a questions sequence that threatens to divert the teacher's pedagogical agenda.

The following example is taken from an IS class. In this example the teacher is introducing the students to the markup language XML using a local bank National Commercial Bank (NCB) as an example.

Excerpt (41)

```
1    T:   ..okay↓(.).hh ↑okay, we are good on
2         here?(0.5) any questions?
3    S1:  ah:: Mr. how:: NCB send an XML from
4         that?
5    T:   from what?((getting closer))
6         (1.2)
7    S1:  from NCB [to] Dell?
8    T:            [uhmm]to Dell?(0.2) how
9         would it, [ho-]
10   S1:            [yaani] ((tr. this means))
11        they ↑have ah:: a common language?
12   S2:  protocol.
13   T:   ↑yeah, there is a common protocol,
14        same thing, like the way (( walking
15        towards the board)) (1.3) so ↑before,
16        before (1.6)  NCB and Dell starts to
17        (0.3) communicate with each (.)
18        other, people like ↑you and me(0.5)
19        in ↑Dell, in NCB (.) you work for
20        Dell, I work for NCB (0.4) you and
21        me, we will meet and say, okay, we
22        t have a new contact where ↑every
23        time(0.3) our money is transferred to
24        Dell(1.1) they want to automatically
25        transfer that money to NCB (0.4) to
26        their account, right?
```

The teacher in this excerpt is finishing one part of the lesson and getting ready to move to the next part when he decides to invite participation by asking the students if they have questions (lines 1-2). At line (3) S1 starts a question sequence by asking the teacher how a bank can send an XML to Dell. The teacher has trouble with projecting the question and initiates first open other initiated repair using “what” to indicate trouble in hearing or understanding. Following a (1.2) pause, the student accepts the repair and reformulates her question at line (7) by repeating the last part of it, which demonstrates that she projects hearing as the source of the trouble in the interaction. But the teacher initiates a second repair by framing the student's answer as a confirmation check to give the student an opportunity to self-repair in the next turn (Seedhouse 2004, p.36). The student uptakes the repair before the teacher's TRP, which results in overlap

that could be explained by the student's enthusiasm to carry out the preferred self-repair. The student repeats her question in a declarative way to make it sounds like a confirmation check request, which requires a preferred confirmation from the teacher in the next turn. However, S2 competes over the floor with the teacher and self-select herself at line (12) offering other-initiated repair to her friend suggesting "protocol" as an alternative to "common language" that is used by S1 in the prior turn (line 10-11).

The teacher responds to S1 confirmation check at line (13) using "yeah" at the initial position of the relevant TCU. The teacher also accepts S2's repair and brings it into being in talk-in-interaction in his next turn. He builds on that repair and uses it as a base for further explanation. In this excerpt we notice that due to the trouble in interaction in the previous excerpt, the teacher diverts the agenda from conclusion to further explanation of how enterprises use XML to establish correspondence and carry on command.

Excerpt (42) is taken from a chemistry class. The student is telling the teacher that the slid entitled molecular is not clear.

Excerpt (42)

	1	T:	°I know° (0.3) would it help if I
	2		turned this round? ((move the
	3		projector))
	4	S4:	laá ((tr. no)) it is just (.) it is
	5		just not as clear as that((pointing
	6		at the board)) one.
→	7	T:	↑a:h it is not clear to visualize
→	8		yeah, yeah, you have to:: hmm (0.3)
	9		think about(.)well these, .hh well on
	10		uhmm (0.3)Wednesday, we are going to
	11		do molecular modeling(.) okay? so,
	12		perhaps you can take the balls ((hand
	13		gesture)) from the molecular modeling
	14		kit(.) and build it for yourself
	15		there.

The teacher projects the student's comment as a complaint regarding the clarity of image coming out of the overhead projector because they have had a problem adjusting it earlier. That can be understood from the teacher's next turn in which she asks the student "would it help if I turned this round". The student answers the teacher with a bald unmitigated "no", because the problem is not with the projector but with the model itself, which reflects a problem with the epistemic access rather than the artifact.

This problem in establishing intersubjectivity creates trouble in the ongoing interaction. The student tries to solve the problem and makes sure that they are talking about the same subject, i.e. the representation of the molecular rather than the overhead projector image. To specify the source of trouble in interaction, the student points at the representation of another simpler model and adds "it is just not as clear as that one". The teacher understands the source of the trouble in the interaction as reflected by her use of stretched "a:::h" which indicates change of epistemic state. She initiates other-repair at line (7) adding "a::h it is not clear to visualize". By adding "visualize", the teacher could specify the source of trouble in the interaction.

As can be seen from extract (42) the teacher uses "yeah" to agree with the student's assertion regarding the difficulty of the representation and intensifies her agreement by using double "yeah". The agreement, however, is pushed to a second position after the trouble dealt with and repair took place. Finally, the teacher shares her pedagogical agenda with the student assuring her that they will deal with this problem when they do actual modeling in Wednesday. Though in both examples (41 and 42) the teachers have to deal with troubles in the interaction, the source of the trouble is perceived differently by the teachers. For instance, in excerpt (41), the source of the trouble was not related to vocabulary choice (common language vs. common protocol)) but with the student understanding of the process of using XML in general. Besides, the trouble is related to the ongoing topic, which explains why agreement is followed by further explanation.

In excerpt (42), on the other hand, the source of the trouble is related to the use of the word (not clear) as oppose to (not clear to visualize). It is important to mention here that the teacher is referring to a problem with the picture that the projector is producing while the student is referring to visualization of the model as a cognitive process. From that we conclude that when the problem is with word choice, agreement is given its regular initial position, while when the problem is with intersubjectivity, the teacher has had to deal with the source of the trouble first before doing agreement because she wants to make sure that they are talking about the same thing.

In the previous example, we notice that the teacher's agreement with the student's assertion does not occur in the same sequential position, i.e. the initial position of the relevant TCU like the examples that we have represented earlier. In fact, the

agreement is pushed from the initial position of the relevant TCU to the end of the same TCU and before the beginning of the next ones. This delay is attributed to the emerging trouble in the interaction and the priority that the teacher gives to dealing with the trouble's source. The teachers tend to offer repair before demonstrating their stance or affiliative position from the students' assertion.

The student in this data use "yeah" to display agreement with the teachers or with each other assertion. Like their teachers, the students use "yeah" for agreement at initial position of the relevance TCU. In most of the cases, however, the students use "yeah" as a freestanding token in a turn by its own. The teachers project that freestanding "yeah" as a sign of understanding from the students' part and a signal to proceed with their pedagogical agenda. The only cases where the students use "yeah" turn initially and follow it with other components is when they are competing for the floor to display knowledge of the ongoing topic. The following examples show the different sequential organization of the students' various use of "yeah" to show agreement.

The following excerpt is a typical example of the students' use of "yeah" to display agreement with the teacher's assertion and their alignment with the information that she has just given. The example is taken from a chemistry class.

Excerpt (43)

	1	T:	hydrogen, ↑yeah, hydrogen, we
	2		((writing on the board)) have
	3		one- one, hydrogen, this is the
	4		hydrogen that we all know and love.
	5		(0.7)
→	6	S1:	°yeah°
	7		(1.1)
→	8	S2:	yeah
→	9	S3:	yeah
	10	T:	And ((looking at the class)) what's
	11		the isotope of it?
	12	S1:	two-one ((XXX)).
	13	S?:	[Two and] one - three
	14	S3:	[°two-one° and]=
	15	T:	[sorry did you say ?]
	16	S3:	=three-one
	17	T:	sorry what you're going to have to
	18		shout above everyone.

Prior to this excerpt, the teacher is asking the students to give examples of isotopes. The students give different examples including “hydrogen”. The teacher at line (1) repeats the answer "hydrogen" followed by "yeah" that is used here for agreement. She establishes shared knowledge as reflected by her use of the pronoun “we” and “know” in her assertion “hydrogen that we all know and love”. The students at lines (6,8 and 9) agree with the teacher's assertion of a shared knowledge and love for the “hydrogen” using a freestanding “yeah”.

The teacher projects the use of “yeah” as an agreement on her assertion and build on it. She starts her turn by “and” for continuation and to connect what she is saying to what she has said earlier in the prior turn. She asks for further detail about the same hydrogen. Three students bid for the floor by self-selecting themselves and offering three different answers at the same time. The students' enthusiasm creates overlap and trouble in hearing to the teachers. The teacher gazes at (S1), though, and tells her that she has to shout above the rest if she wants to be heard.

The same thing can be said about the student’s use of “yeah” as a freestanding token in the next excerpt. The excerpt is taken from an ECED classroom. The teacher is comparing books to TV in teaching the recipients manners and ways of talking.

Excerpt (44)

1	T:	TV (.) teaches all ↑these (0.4)	
2		different <manners> (.) way to talk	
3		to people, same thing with reading	
4		books((moving towards the monitor))	
5		(2.7)	
6	T:	((XXXXX)) (0.3) ((reading from	
7		slides)) "reading books provides	
8		scaffolds for emergent ↑readers.	
9	S3:	↑yeah=	→
10	T:	=what's ↑scaffold again?	
11		(1.6)	
12	S3:	uh:: taking them step by step to	
13		the (.) positioning.	
14	T:	good (.) ↑so it is like a starting	
15		point(.) your ↑scaffolding and you	
16		re, you are building on it,	
17		Remember that provides them for...	

The student at line (9) agrees with the teacher’s proposition in what seems to be demonstration of her previous knowledge of the ongoing topic. However, the teacher in this example does not take that display of access epistemic to knowledge for granted as

she responds by asking the students to identify “scaffold again”. The use of "again" by the teacher implies that the topic is not new and that they have had talked about it before which supports the claim that S3 (line 9) is displaying knowledge of the topic by using the response token “yeah” as a freestanding token.

In the previous two examples, we have seen how the students use “yeah” as a freestanding token to show agreement with the teacher’s proposition in the prior turn. We have seen that when the students use “yeah” for agreement it is projected by the teacher also as a sign of understanding and shared knowledge as well as a signal to accelerate the pedagogical agenda by building on it or moving to the next step of the lesson.

The following two excerpts exemplify the second sequential organization of “yeah” when used as agreement by the students. In those examples we see that the students use “yeah” followed by other components in a multi-unit turn when they are competing on the floor with another students to answer a question by the teacher and to display knowledge of the ongoing topic.

Excerpt (44) is taken from a chemistry class. The teacher is demonstrating the interaction between hydrogen and oxygen.

Excerpt (45)

	1	T:	((pointing at the board)) but then,
	2		what happens here with oxygen?
	3	S3:	two pairs [of electrons]
→	4	S2:	[yeah its two] electrons
	5		((XXXXX)).
	6	SS:	((XXXXX))

The teacher points at the board and initiates a question sequence at lines (2-3) asking “what happens here with oxygen”. At the same time when both S3 and S2 show orientation to answer the question and bid for the floor, S3 self-select herself and answers the question adding “two pairs of electrons”. S2 at line (4) overlap with S3 and displays agreement with S3 assertion using the response token “yeah” followed by other component. S3 uses “yeah” at initial position in the relevant TCU followed by a repeat of a slightly modified version of S2's answer. This could be understood as a display of having epistemic access to the same topic as S3 who has already won the floor and the teacher’s attention.

In the following example shows the way students use “yeah” again to display agreement with the proposition by the main speaker in the prior turn. However, in this example, we see the use of “yeah” more than once in the same initial position of the TCU. This excerpt is taken from an ECED class. The teacher is demonstrating how human tend to draw analogies between the stories they read in books and their own life. She uses movies as an example of that analogy.

Excerpt (46)

	1	T:	all right, ↑okay, so ((reading from
	2		slide)) "you ↑draw on analogies
	3		between stories and your own life"
	4		(.) okay, ((looking at the class)),
	5		<so you> you always think back to
	6		↑you, how does this connect to me?
	7		↑right(0.8) ah:: ((looking at the
	8		board then at the class again)), in
	9		fact we do that in movies, do not we?
	10		when you watch a movie and you are
	11		like "ush::that does not make sense"
	12		[that]
→	13	S3:	[yeah, yeah] ,yeah,
	14	T:	((looks at S3) yeah
	15	S3:	and the same a movie uh::
	16		(2.0)
→	17	S2:	yeah, then you see the same movie
	18		[again]
→	19	S3:	[yeah], yeah.
	20	T:	yeah, you see it yeah another time,
	21		and you go "owo, get out", another
	22		↑time you get more experiences
	23		through it?

S3 self-selects herself at line (13) and takes the floor showing agreement with what the teacher has just said but she uses “yeah” more than once to show enthusiasm and intensifies the degree of her agreement. She also displays having epistemic access to knowledge of the topic by adding other components to her agreement “and the same a movie uh::”. She tries to hold the floor longer by using a stretched “uh::” while searching for the right words, S2, though, finds that a good opportunity to take the floor by self-selecting herself at line (17). She uses “yeah” at an initial position at the relevant TCU to display agreement with both the teacher's and S3's prior turn. She uses “yeah” plus other components bringing in new information to the ongoing topic “then you see the same movie again”

S3 overlaps with S2 and reclaims the floor by using a double “yeah”, as can be seen at line (19). S3 use of double “yeah” at line (19) can be understood as showing alignment with her classmate's contribution in the prior assertion. Finally, the teacher agrees with S2 too and repeats her contribution in a sign of approval and adds to it using “and" to make what she is adding relevant to what was said in the prior turn.

6.3.2. Teachers exclusive use of “yeah”

1. “Yeah” for a positive evaluation

Teachers use “yeah” to give positive feedback to students’ answers. They use it at the initial position of the relevant TCU following the second pair of a question-answer adjacency pair sequence. The instances of teacher’s evaluation in this data preface an extended multi-units turn. It is usually followed by further elaboration on the same topic or intensifying words such as “exactly”. There are cases, however, when positive evaluation is treated like an agreement as it occurs at the end of the first TCU and is followed by other components.

The following example is taken from chemistry class. The teacher is asking the students to tell her more about units of measurement.

Excerpt (47)

1	T:	((writing on the board)) molarity
2		(2.0) equals-moles-over- volume
3		(1.1) and can you tell me something
4		((looking at the class)) more about,
5		ah:: the units?
6		(0.8)
7	S3:	it has to be in decimetre-square.
→ 8	T:	yeah, we always convert (.) the
9		volume into [decimetre centimeters]
10		cubed into=
11	S2:	[centimeters cubed]
12	T:	=decimeters cubed[to decimeter cubed]
13	S2:	[to decimeter cubed]
14	T:	.hh and many centimetres cubed in-
15	S2:	One [thousand]
16	SS:	[one[thousand]]
17	T:	[yeah one] thousand
18		centimetres cubed make up one
19		decimetre cubed, tell me something
20		about the units of molarity?.

At line (7) S3 self-selects herself and give the answer to the teacher's question. The teacher gives a positive evaluation at line (8) using the response token “yeah” at the initial position of the TCU, followed by other components, i.e. more illustration. S2 displays having epistemic access to the knowledge by overlapping and completing the teacher's turns (lines11-13)). The teacher ends the turn by initiating a new question sequence but the students do not wait for the teacher's turn to be completed. In fact, they anticipate the rest of the question which results in overlap with the teacher to give the answer (lines 15-16). The teacher gives a second positive evaluation at line (17) and confirms the answer by reformulating it in a new but complete sentence at lines (17-19) “one thousand centimeters cubed make up one decimeter cubed”. The teacher then moves the agenda by initiating a third question sequence at lines (19-20).

2. “Yeah” as acknowledgement

The teacher also uses “yeah” to give the floor back to the students in order to encourage them to contribute to the ongoing talk. “Yeah” in this case is used as a freestanding token in a turn by its own. Sometimes, however, it is followed by a word that indicates continuity and encourages the student to keep talking such as “go on”. The next excerpt is taken from an IS class. The teacher is closing down a topic about hologram.

Excerpt (48-a)

1		T:	=the hologram ((smiling voice)),
2			okay that is pretty much it guys,
3			uh:: we are done with chapter three.
4		S1:	but Mr-
5		T:	um↑m
6		S1:	ermm on the chapter internet (0.7)
7			two=
→	8	T:	=yeah
9		S1:	[it has] ((XXX)) about

S1 self-selects herself at line (4) and starts her turn using “but” which indicates disagreement on the prior talk or action (Pomerantz 1984). The student does not complete her sentence. The teacher, however, encourages her to go on using a non-verbalized sound “um↑m” which displays a recipient's understanding that the turn-in-progress is not complete (Schegloff 1984). S1 takes the turn again at line (6) pointing at

a problem related to chapter two without being specific about it "on the chapter internet two". The student does not complete her turn and specifies the problem so the teacher at line (8) uses "yeah" as a freestanding token to acknowledge the student's contribution and to display understanding (Gardner 2001, p.16). "Yeah" as a freestanding token in this sequence indicates continuity and that further talk is following by the same speaker. The student at line (9) projects "yeah" as a continuer. She starts specifying the problem when the teacher claims the floor asking her to be more specific which results in overlap.

Excerpt (48-b)

```
10   T:   [Where?]
11   S2:  internet
12   T:   internet two?
13   S2:  yes
14   T:   (( walking towards the student and
15        explaining on her handout)) these are
16        these are the features of internet
17        two in terms of- remember what we
18        talked about?  these are the new
19        features that will come up with
20        specifically the Wiki that we
21        talked about, where you can go,
22        internet two is very interactive,
23        if you go back to your slides you
24        will see that internet two is
25        where you can edit and interact
26        with the internet (0.1) ↑okay so
27        these are the features of internet
28        two specifically (.) alright but
29        these.
30   S2:  (( but something will happen))
31   T:   ↑yeah ↑yeah, you will see in the
32        Slide, on the slides at the back
33        Of the ((inaudible))
```

This overlap is a proof that the teacher uses of "yeah" at line (8) to acknowledge the student's contribution while the student's projects it as a continuer. The student answers the teacher's question at line (11). The teacher requests confirmation at line (12) and when he gets a positive response at line (13) he precedes with further explanation in what can be projected as understanding of the source of trouble. At line (30) the student makes a competing first start at the teacher's TCU and uses "but" at initial position of her TCU. The student expresses disagreement with the teacher's

assertion for the second time but this time she follows “but” by a pragmatically complete turn “something will happen”. The teacher agrees with the student's assertion that connect “internet two” to the previous discussion regarding the relationship among technology development, misuse and security. However, the teacher does not give any further detail as the class comes to its end. Nevertheless, he points out that this will be covered in the next slides.

In this example, we have seen how the teachers use “yeah” as a freestanding token in a turn by its own, a common position for a continuer, to display acknowledgement of the student's assertion at the same time signal that further talk is going to follow in the next turn, once the student's turn in completed. The student in this example projects “yeah” as a continuer and claims the next turn that creates overlap with the teacher's turn.

3. “Yeah” to give the floor

Excerpt (48) is an example of the teachers' use of “yeah” to carry out their institutional role as the main speakership allocators. They use “yeah” most of the time simultaneously with the students' verbal or non-verbal display of orientation to take the floor and contribute to the ongoing talk. The excerpt is taken from a physics class. The teacher is solving a problem.

Excerpt (49)

1	T:	↑if it is minus seventy, as I
2		↑understand, is going to be on the
3		<opposite direction> (0.2) ↑or you
4		can say one hundred ↑seventy
5		((writing on the board))(1.1) to ↑the
6		(1.4)
7	S?:	((XX))
8	T:	↑left (.) because I consider- ((hand
9		gesture))
10		(2.0)
11	S3:	minus
12	T:	positive to be to the right(0.3),
→ 13		((look at S2)) yeah (0.8) okay?
14		(1.0)
15	S2:	this question.
16		(1.6)

```
17   T:    the one before that?
18   S2:   °°yeah°°
19         (0.8)
20   T:    Okay (.)  the question before ↑that
21         it says (1.1) ((reading)) "two riders
22         on-
```

In this example we notice that S2 displays non-verbal orientation to take the floor during the teacher talk. The teacher acknowledges this orientation and establishes mutual gaze with S2. The teacher places "yeah" at the end of the turn in progress to hand the floor to the next speaker, i.e. S2. It is important to mention here that the allocation of the next speaker is usually associated with either an explicit nomination by name or by establishing recipiecy by a gaze followed by “yeah”.

4. “Yeah” as a discourse marker

Teachers use “yeah”, similar to “yes”, as a discourse marker in the middle of an extended turn to preface shift in the focus. In this case, it is followed by a cluster of discourse markers such as “so” or “okay” then a shift in the focus. “Yeah” in this case is part of a series of discourse marker used to facilitate the move between the lesson's different parts.

The next excerpt is taken from a chemistry class. The teacher points at images of diamonds on the board and asks the students to infer some information about their property based on the structure.

Excerpt (50)

```
1    T:    it does not conduct electricity.
2    SS:   it is none ((XXX)).
3    T:    umm (.) okay(( hand gesture)) keep
4          going.
5          (1.2)
6    S5:   it does not have any free electrons.
7    T:    ↑that is ((clap)) what I wanted to
8          hear, yeah, >it does not have any
9          free Electrons< (0.3)  yeah, if you
10         had not said that I was going to put
11         my hand over this ((put her hand over
12         the word not)) (0.2) and say, okay,
13         tell me what information you do have
14         for me (0.3) .hh it does not conduct
15         electricity↓ (0.3) so it has got no
16         free electrons (.)  and we ↑saw that
17         in the figure before, because=
```

```
18   S2:   ((XXX))
19         (1.2)
20   T:    =carbon has four ultra electrons,
21         ↑all of them were (.) bonded (0.5)
22         yeah? so it does not conduct
23         electricity, it is covalently bonded
24         to two others,
```

The teacher encourages the students to keep guessing, which they are doing as can be seen at lines (2, 6 and 18). The students' answers, though, are given with rising intonation which makes them sound like confirmation request. This technique gives the teacher the opportunity to give an evaluation in the next turn (Seedhouse 2004, p.17). Schegloff et al. (1977,p. 379) calls this technique a correction-invitation format that creates the best environment for other-correction. The teacher at line (8-9) gives affirmation to the student's contribution in the prior turn using "yeah". She makes her position from the prior assertion explicit by saying that this is what she wanted to hear which forms a strong version of agreement. She follows that by "yeah" that functions as a positive evaluation and agreement at the same time. The teacher then repeats again the student's contribution and gives another positive evaluation using "yeah" for the second time in the same turn. The teacher then adds more illustration incorporating S5's answer and building on it. At line (22) the teacher uses "yeah" for the third time but with a raising intonation to check understanding and announce a closure to that part of the lesson and a shift in the focus. This shift is done with the help of the discourse marker "so". The third "yeah" in this extract functions as a "pre-shift token" (Jefferson 1993). The pre-shift kind of "yeah" is very common in this data.

6.3.3. Students exclusive use of "yeah"

1. "Yeah" as a response to a confirmation request to having epistemic access

The students use "yeah" as the second part of a question-answer adjacency pair when asked to confirm having epistemic access to the teacher's proposition. In this case, "yeah" is used as a freestanding token in a turn by its own. The following example is taken from a physics class. The teacher is solving a problem with the students.

Excerpt (51)

```
1    T:   The maximum height is the [Y] ,↑see
2    S?:                            [Y]
3    S3:  °yes°
→ 4  S?:  ↑yeah
5    T:   Okay (.) so let's ↑look, what
6         ↑happened in the Y direction? We had-
7         so we had to ((display)) the problem
8         the same thing we used for our
9         ((problems)). We have the
10        initial (0.2) ((writing on the
11        board)) Y ↑component, which should
12        ↑be (0.2) twenty-five, meter per
13        second↓ (.) we have the acceleration
14        (.) which ↑is
```

In this excerpt, the teacher points at the letter "Y" on the board adding "`The maximum height is the Y-`". The teacher then checks confirmation by asking the students to display having epistemic access to the topic that she is explaining using the verb "`sees`" `with a rising intonation`. Two students respond to the teacher request including S3 who uses "yes" to confirm understanding. The other unidentified student uses "yeah" also to display having epistemic access to the same topic. They both use "yeah" as a freestanding token in a turn by its own. What is interesting in this example is that we see the students using "yes" and "yeah" in the same sequential position which confirms our previous argument that "yes" and "yeah" are used as variations of the same token in this data and that the difference in their distribution is a matter of style and preference. The teacher treats "yes" and "yeah" (lines 3-4) as a confirmation of the students' understanding and a display of their epistemic stance from the ongoing topic. She responds with "okay" at the initial position of the TCU to signal a "prefiguring of movement towards next matter" (Beach 1993). The teacher follows "okay" with "so" to close the topic and move to the next step of the pedagogical agenda. She asks the rhetoric question "`what happened in the Y direction`". The teacher does not ask the question to receive an answer. In fact she answers the question herself and resumes demonstrating the next step of the problem.

The students use "yeah" as a group also to respond to the teachers' request to explicitly confirm having epistemic access to the discussed topic or to show their position from the teachers' proposition. In this case, "yeah" occurs as a second part of

the question- answer adjacency pairs. It occurs as a freestanding token in a turn by its own as in the following example. Excerpt (51) is taken from IS class. The teacher is explaining computer programming language and the importance of having a common protocol.

Excerpt (52)

1	T:	…. agree that we need to (.)
2		communicate at the ↑same level,
3		same languages, whether it is the
4		back end of computer systems, or
5		it is the HTTP, HTML (0.2) ↑so
6		Protocols- we all agree that we
7		need to (.) >speak the same language
8		within the community< and if we
9		do not (0.2) then we do not
10		understand each other, right?
→ 11	SS:	Yeah
12	T:	↑so from that perspective ((moving
13		towards the board)) (.) we ↑all know
14		that the internet needs to follow
15		certain level of ↑standards
16		((pointing at the board)) in order to
17		follow those HTTP protocols and
18		↑languages (0.3)..

The teacher is demonstrating the importance of having the same protocol in order for communication to be accomplished. In this example, the teacher uses “right” following an extended turn of demonstration and before moving to the next bit of the lesson. He uses “right” with a rising intonation to check understanding and make sure that the students have epistemic access to the topic he is talking about. The teacher is talking to the whole class and not to a particular student, thus he receives a group confirmation by the use of “yeah” as a response to understanding check. "Yeah” is used in this sequence by the students to confirm their understanding and display to the teacher that they have epistemic access to the topic he is talking about in order for him to move on.

The next example is common practice in teacher-centered classrooms where the teacher asks display questions in order to build “understanding of complex concepts” (McCormick and Donato 2000, p. 183). In this data, the students use “yeah” as a group response also when they display acceptance for other-initiated repair as represented in

the following case. This excerpt is taken from a chemistry class. The teacher is asking the students about the use of diamonds.

Excerpt (53)

```
1    S5:   You cut [your ↑glass]
2    T:              [pardon me]
3    S5:   °cutting glass°
4    SS:   (( cutting glass))
5    T:    uhmm (0.9) engraving
6    SS:   Yeah ((laugh))
7          Yeah, yeah
8    S4:   Engraving?
9    T:    engraving, yeah, because the ti-
10         diamond tip is very very hard,
11         Yeah (0.2) so, hard and ↑durable, so
12         you can ENgrave uh:: glass (0.4) and
13         based on that same thing_?
```

S5 at line (1) self-selects herself and responds to the teacher previous question. The teacher has trouble in hearing the last part of the answer due overlap with S5 and noisy background. She looks at S5 and displays trouble in the interaction using "pardon me". S5 reformulates her answer at line (4). Other students give simultaneously the same answer like that of S5 time. Following some hesitation and a (0.9) pause, the teacher initiates others repair at line (5). She introduces "engraving" as an alternative to "cutting". The students use "yeah" as a freestanding token at line (6) followed by a laugh to express agreement on the repair. At line (7) S4 asks for confirmation by repeating "engraving" with a rising intonation. The teacher responds at line (7) by repeating "engraving" followed by "yeah" as an answer for the request for confirmation. As explained earlier, because the teacher is using "yeah" as an answer to a request for confirmation, it occurs following the part of the question that requires confirming and before the additional components, which is in this case giving further explanation for the reason why diamond is used for engraving.

8.4. Use of "no"

8.4.1. Teachers use of "no"

Response Token "no" is among the top 10 frequent words in this data. It is used (111.15) times in every 1000 words. It is also ranked third in the word list that shows the difference in use between the teachers and the students. The students in SCLIL use "no" seven times more than their teachers (ratio, 7:1). They use "no" (97.26) times in

every 1000 words they produce. The teachers, on the other hand, use “no” (13.89) in every 1000 words they produce.

This difference in frequency between the teachers' and the students' use of the response token “no” highlights the importance of looking at the use of "no" in the immediate context using a turn-by-turn analysis, something that I will do in the following section.

1. “No” as content related

The majority of the teachers' use of “no” in this data is as a negation device in a content related context. That is to say, that “no” is used semantically and has very limited interactional function. The next excerpt is a straightforward example that shows the use of “no” in this data. The excerpt is taken from ECED class. The teacher is discussing the “Wizard of Oz” story with the students.

Excerpt (54)

1	S1:	she ↑has this- those slippers (.)that
2		she[clicks when she wants to go home]
3	T:	[yes, <get the red slippers if you
4		want to go home, find it>] there is
→ 5		no place like home=
6	S1	=she, she had ↑this magic thing, you
7		know, she can get everything done,

S1 self-selects herself at lines (1-2) and offers her contribution to the discussion. The contribution of S1 can be projected as a display of having prior epistemic access to knowledge about the story. She says that the girl “has those slippers that she clicks when she wants to go home”. The teacher at line (3) overlaps with S1 to show agreement and approval of her contribution. Commenting on student’s previous contribution, the teacher adds that “there is no place like home”.

As can be seen from this example, that is very common in the teachers' corpus, the teacher is using “no” for negation in context. The use of "no" is content related rather than for interactional purpose. This type of use is very common in both SCLIL-T and SCLIL-S.

2. “No” as an answer to a polar yes/no question

One of the common uses of “no” in this data is as a response to a polar yes/no question when the answer is negative. For instance, the next example is taken from a chemistry classroom.

Excerpt (55)

	1	S3:	do we have to memorise these?=
→	2	T:	=no, any other ↑examples of
	3		Isotopes (.) that you have come
	4		across?

The student at line (1) points at the board and initiates a question sequence by asking the teacher if they have to memorise what was written on the board. At line (2) the teacher responds quickly to the student's question with the negation "no". In this sequence "no" occurs in the initial position at the second pair of the question-answer adjacency pairs. The teacher uses "no" with other components, however, what comes after "no" is usually a shift in topic. The teacher, in this example, moves the agenda by initiating a new sequence of questions in the same turn so the second move in the previous sequence becomes the first move for the new subsequent. The way the teacher responds to the student's question reflects that she projects the question as a diversion from the main agenda, i.e. examples of isotopes so she answers that question with the minimum response and move to a new sequence.

3. "No" as a response to confirmation check

The teachers use "no" as a response to confirmation check by the students. However, the structures of the teachers' response's turns vary based on the students' question. For instance, when the confirmation request does not entail an assessment, the teachers respond with "no" as a freestanding token in a turn by its own. When the students do assessment and ask for confirmation, the teachers' responses vary depending on their position from the assertion. For instance, when the teachers do not completely agree with the student's opinion, they mitigates the answer and delay the dispreferred response "no" in an extended turn after giving further explanation to why they disagrees (Seedhouse 2004). The next example explains how teachers negatively respond to confirmation check in this corpus. This excerpt is taken from an IS class. The teacher is talking about cookies and the reasons why are they used.

Excerpt (56)

```
1    S4:  but it's not ↑good to keep that
2         right? [I usually-].
3    T:           [no] no
4         (0.4)
5    T:   [if you]
6    S?:  [no]
7    T:   a:: .it is completely up to you if
8         you are, you are  concerned about
9         your privacy issues then sure, it
10        depends.
```

At line (1), S4 shows disagreement with the teacher by starting her turn with "but". She follows that by telling her opinion about keeping cookies in the computer and that she believes it is not good. At the end of her turn, the student asks the teacher for confirmation of her assertion but she does not wait for an answer and start to elaborate on her stand. The teacher at line (3) overlaps with the student displaying his disagreement using the response token" no" twice. The teacher uses the first "no" as a response to the confirmation request and the second one for disagreement. Another student (S?) at line (4) echoes the teacher's response "no". At line (5), the teacher overlap with the other student and takes the floor to explain his position from the student's proposition adding that it all depends on the individual himself whether to keep the cookies or to delete them. The teacher's addition at lines (7-10) is a proof for that the argument that the second "no" at line (3) is for disagreement. In those lines he offers his account or justification for disagreeing with the student's assertion (Pomerantz 1984).

In this example, we have seen how the teachers use "no" as a freestanding token in a turn by its own to respond the students' request for confirmation for an assertion that the teachers do not agree with. The next excerpt, however, shows another case where "no" is used also by the teachers to respond to confirmation request but this time in the middle of an extended turn.

Excerpt (57)

1	S1:	does it affect the speed of the:: (0.2)
2		computer ?[I think so, sah((tr.
3		Right))?]
4	T:	[uh:: ((caught)) it depends
5		what computer you are talking about
6		(0.6) uh:: the new computer, the new
7		laptops are two point six gag hertz
8		the RAM is three four GB RAM, (0.5)
9		uh:: you got three hundred and twenty
10		Five hard drives (0.8) you have got
11		dual core Intel processors (0.4) these
12		are the computers ten years ago I used
13		to use for servers (0.4) we used to run
14		applications.
15		(0.4)
16	S1:	aha=
17	T:	= ↑today (.) we use them for just
→ 18		surfing (0.6) so, no cookies can't slow
19		that down↓(0.2) if you have got a ↑
20		Pentium one (.) that is going to slow
21		it down, so, it depends what, what your
22		computer is, but today's laptops and
23		computers, do not forget these were
24		servers ten years ago, this kind of
25		computer was running applications like
26		a whole organisation,
27		(1.3)
28	S?:	aha=
→ 29	T:	so ↑no, today's computers won't be
30		slowed down (0.8) uhm, if you are using
→ 31		a public computer(.) then ↑no, you do
32		not want cookies (1.0) if it is your
33		private computer, you have a log in
34		password, you have a firewall, you do
35		not think people can hack ↑it (0.4)
36		you do not really have anything to
37		hide from your (.) husband, wife or
38		whatever.

At lines (1-2), the student asks the teacher if keeping the cookies will slow down the computer's speed and adds that she thinks so, yet requests a confirmation. The teacher takes the turn at lines (4-14) and tells her that it depends on which computers she is talking about "new or the old one". The student at line (15) uses the change of state device "aha" to express understanding of what the teacher has said. She uses "aha" as a

freestanding token during the turn of the teacher to display a change-in-state without claiming the turn. The teacher projects that as a signal to continue and claim the turn at line (16). We notice in this excerpt the teacher hold the dispreferred “no” answer until line (16). He prefaced “no” with the discourse marker “so” then “no” followed by a reformulation of the student's question. Then, because the student's question is closely related to the teacher’s pedagogical agenda, the teacher picks it and topicalises it and builds on it. However, he keeps negating the proposition offered by in the question all along the turn. In the rest of the turn, the teacher keeps building on the same notion that the student suggests. At line (31), the teacher goes back to the same notion using the discourse marker “so” for the second time within the same extended turn followed by “no” for the third time.

4. “No” as disagreement

Teachers in this data use the response token “no” to display disagreement with the students' proposition. The teachers use “no” for disagreement in two different sequential structures. First, when the students self-select themselves and suggest something that the teachers do not agree on but formulate their assertion as a confirmation check. In this case, the teachers respond with a direct unmitigated “no” that is placed at the initial position of the relevant TCU or in the middle of a multi-units turn following the part of the prior speaker's turn that the teachers disagree with.

The following excerpt is a clear example of the teacher's disagreement with the student's assertion. We notice in this sequence that the student self-selects herself to contribute to the ongoing talk, however, she formulate her contribution as a confirmation check so “no” in this sequence is placed in the second part of the question-answer adjacency pair. This excerpt is taken from an IS classroom. The teacher is introducing the technology hologram.

Excerpt (58)

```
1    S4:  it's like tracking you?
2    T:   it is like tracking what?
3    S4:  tracking you
4    S1:  spying
6    S4:  like spying
7    T:   ↑spying ah::: no, it is not tracking
8         me because (0.9) it depends- again-
9         the- see this is the point, this is
10        (0.1) technology, now you can use it
11        the way you want to use it.
12   S?:  °mm°
13   T:   if you want constantly apply a
14        ↑hologram to watch exactly where I am
15        going↓ (0.8) then you are spying on
16        me, but if I get to choose (0.5) when
17        I can let my class (0.4) a::nd I am
18        going to tell and I give the consent
19        that ↑yes (1.1) I want to let my
20        hologram show up in Jeddah in this
21        classroom (.) and let them see what I
22        am doing, then it is okay (0.4) if ↑I
23        am in control of what-  of that
24        specific activity then it is not
25        spying.
```

At line (1) S4 is suggesting that using a hologram is like tracking the person whose image is being transferred. The teacher at line (2) has trouble with hearing or understanding "tracking". The teacher uses the "open next turn repair initiator" what (Drew 1997). The student at line (3) appears to be unable to locate the precise problem in the interaction. She projects hearing as the source of the trouble and repeats the answer. S1 thinks that the word "tracking" is the source of trouble and initiates other-repair suggesting "spying" as an alternative. S4 uptake the repair at line (6) and bring it into talk-in-interaction. The teacher repeats the word "spying" and use the response token "oh", the change-of-state response, to indicate that he understands what the students are trying to say. The teacher, then, displays disagreement with the student's assertion using "no" in addition to the original suggestion from line (2), i.e. tracking which confirms that the trouble is with hearing the last part of the question "you" rather than with word choice. Because the teacher disagrees with the student's assertion, he offers further explanation in the lines (13-25) and concludes with negating the same notion with which he starts the turn, i.e. "it is not spying".

The next excerpt is also another example where the teacher uses “no” to display disagreement with the students' proposition. We notice again that the students' participation is a result of self-selection not nomination by the teacher. The teacher uses “no” at the initial position of the relevant TCU followed by some explanations. The excerpt is taken form IS class. The teacher is announcing that Google is sold or bided to be bought out.

Excerpt (59)

1	T:	can you believe that that (sniffing))
2		(1.0) they sold- I think Google
3		so::ld or (0.5) Google was bided to
4		be bought out by someone else for
5		two billion dollars (.) or something
6		like that=
7	S1:	=yes I think Microsoft.
8		(2.3)
→ 9	T:	no, they never bought it, they never
10		got it but they were bidding at some
11		point I do not know was it Microsoft
12		or was it-
13		(0.8)
14	S2:	↑Yahoo=
15	T:	No, Microsoft was with Yahoo

In the previous excerpt, the teacher announces that Google was sold or bided for billions. He breaks the news in a question form to start the telling. The students, though, does not treat the teacher's proposition as news. In fact, S1, at line (7), treats the teacher's information as non-newsy by using the response token “yes” at the initial relevant TCU. Furthermore, she displays epistemic access to knowledge by adding the name of the company that she thinks has bided to buy Google, “I think Microsoft”. Following a (2.3) pause, the teacher rejects the student's suggestion at line (9) using “no”. He offers other initiated repair adding that Microsoft has not bought Google but Google was bidding to buy it at certain level. The teacher also shows uncertainty that it was Microsoft. S2 at line (14) displays epistemic access to the topic. Considers the teacher's (0.8) pause as a possible TRP and offers a completion to the teacher's turn suggesting "Yahoo". The teacher also rejects S2 suggestion at line (15) using an unmitigated negation “no” at an initial position of the relevant TCU. Moreover, he offers others-initiated repair and adds “Microsoft was with Yahoo”.

In the following example, the teacher uses “no” following the question-answer adjacency pair as a non- minimum expansion. She uses “no” as a freestanding token in a turn by its own. It is not followed by any components. It is important to make it clear that in this example the teacher is responding to the student's guessing answer. Schegloff et al. (1977, p. 379) refer to this type of answers as a “correction-invitation format”. They define this kind of sequential position as the most inviting for other-correction which could be offered as a good reason for the use of the unmitigated freestanding "no" by the teacher. The excerpt is taken from a chemistry class. The teacher is introducing the properties of diamonds.

Excerpt (60)

1		so generally we can say there is,
2		very very strong bonds (0.4) in this
3		structure↓ ,and that is what is very
4		very hard .hh (0.4) and yes, diamond
5		is the >hardest known< substance to
6		man↓ (0.2) do you know any other
7		substance that is (1.1) almost as
8		(0.5) hard?
9		(2.9)
10	T:	you ↑all((hand gesture)) possess it
11	S3:	iron
12		(1.3)
→ 13	T:	ah:: (1.0) ((hand gesture)) no
14		((smiling voice))

The teacher, in excerpt (59) uses “no” to show disagreement with the students' propositions. "No" here is placed as a freestanding token by its own, however, it is mitigated by the hesitation that the teacher used turn initially and the non-verbal components with which it is simultaneously produced.

From what have been said we understand that there are two types of sequence organization through which teachers show disagreement with the students' participations. First, when the students self-select themselves and offer their suggestion voluntarily and without being asked to do so, the teachers tends to mitigate their disagreement and offer justification or reasons to why they do not agree with the students. They usually, use no in the middle of the relevant turn, however, they also use “no” more than once in the same turn to constantly remind the students of their position from the prior turn's assertion as well as the aim of the whole discussion. Second,

teachers tend to be more direct in using “no” when the students participation is a response to a question from the teachers' side. In this case, they use “no” as a freestanding token in a turn by its own and it occurs as non-minimum expansion following the second pair of the question-answer adjacency pair.

8.4.2. Students' use of “no”

1. “No” to display having no epistemic access to the topic

One of the most important uses of “no” in the students' corpus is to display lack of having epistemic access to knowledge especially when asked by the teacher to explicitly display their state of knowledge whether by using a confirmation check or a content related question. The students' display of their lack of epistemic access to knowledge always occurs in the second pair of the question-answer adjacency pair. It is used as a response to a question by the teacher that is directed to a particular student or to the whole class. The analysis of the examples where teachers' request the students to display access to knowledge show that “no" is less preferred by both teachers and students compared to “yes” that occurs more often.

The following examples, better explains the use of “no” to display having no epistemic access to knowledge. The excerpt is taken from an IS class.

Excerpt (61)

	1	T:	Tuesday, alright so we will do a
	2		review on Sunday, we can do a review
	3		on Sunday, uh::((reading))"hypertext,
	4		a way of formatting pages with
	5		embedded links" ((looking at the
	6		class)) does everybody understand
	7		what hypertext is?
→	8	S?:	°no°
	9	T:	are you guys aware of hypertext?(1.6)
	10		anybody?(0.3) no?[shall we go to it]
	11	S?:	[the HTTP]
	12		(0.6)
	13	T:	((clear throat)) HTTP(.) ah:: is the
	14		type of protocol (0.5) uhm (0.8) that
	15		((reading)) "that enables the
	16		formatting of pages with embedded
	17		links that connect documents to one

```
18          another"(0.8), so this is our
19          typical(0.1) ((hand gesture))
20          webpage, right?(.) in our webpage,
21          the formatting is done in a hypertext
22          way(.) ah:: the language we use in
23          the back end is HTML, right?
24    SS:   yes
```

In excerpt the teacher is using the slide's title "hypertext" as a discourse marker to preface a shift in focus from the previous part to the new section under the same title. At lines (3-4) he reads a short explanation regarding what "hypertext" is, and then he asks the students if they all "understand what hypertext is". Usually, when the teacher asks the students to confirm their understanding using yes/no questions, the teachers get the preferred positive answer "yes" or "yeah" as explained thoroughly in part (A and B) of the analysis. This example, however, stands for those few cases when the students respond with the less preferred "no" to explicitly display lacking access to the relevant knowledge that the teacher is asking about.

"No" in this example occurs as a freestanding token in a turn by its own following the turn where the request for is made. That is to say, it occurs as a second part in a question- answer adjacency pair. The "no" turn in most of the cases is followed by either further talk related to the same topic. In some cases, however, the teacher initiates a new subsequent question sequence following the negative response. The excerpt is taken from a chemistry class. The teacher is explaining the shapes of diamonds.

Excerpt (62)

```
1     T:    do you know the ↑story behind this
2           One (.) the shape of this one?
3     S2:   °no°
4     T:    it has a very strange name as well,
5           it was the marquise de ↑Pompadour,
6           who liked this, who fell in love with
7           this lady and he actually wanted- ,
8           uh:: and she had very nice thin lips,
9           much like this ((pointing at the
10          shape)) if you think these are her
11          lips=
12    SS:   ((laugh))
13    T:    =and he asked for a diamond for her
```

14 in the >shape of her (.) lips< and
15 then the shape was named after him,
16 the marquise de Pompadour (.) so
17 that's the shapes of diamonds, and
18 then finally, uses of diamonds,
19 (2.6)
20 okay, and then finally, uses of
21 diamonds, the first use ↑is?

The teacher at lines (1-2) asks the students if they know that story behind the Marquise diamond shape. Because the teacher is looking at S2, she self-selects herself and responds to the teacher's question by displaying having no epistemic access to the topic. She uses “no” as a freestanding token in a turn by its own. The teacher projects S1 voluntary answer as representative of the whole class and enough reason to give the answer herself. She explains the reason behind the name to the rest of the class. The students projects that as funny and laugh at line (12). The teacher uses the continuation device “and” to connect what she is saying to what she has said. Then, the teacher uses the discourse marker “so” to shift the focus from demonstration to summing up and then to the next step of the lesson, i.e. the uses of diamond.

In this section, we have seen that the students use “no” mainly to respond to the teachers' questions when they have no epistemic access to the discussed topic. The teachers, on the other hand, respond to the use of “no” either by further questions related to the same topic or by offering further explanation. In this data, we notice that the teacher do not challenge the students' claim of having no epistemic access to knowledge. In fact, they consider one student's answer as enough reason to abandon the question and offer further explanation.

2. "no" as content related

The students in SCLIL, similar to their teachers, use "no" in a content-related context where it functions as a grammatical device to negate the following noun. In this context "no" has no interactional function.

The following example is taken from a chemistry class. The extract is used earlier but it is an example of the students use of "no" as can be seen at line (8) where S3 uses no before the adjective central to negate the existence of the noun carbon.

Excerpt (63)

```
1    S2:   =is this carbon?
2    T:    ↑yeah (.) <↑that is carbon, that is
3          carbon, that is carbon, that is
4          carbon, that is carbon> it is ↑all
5          ((hand gesture)) carbon, pure carbon
6          (0.8) okay? ((moving towards the
7          board)) (1.3) ↑this on the other hand
8          is graphite, ((what is)) what can
9          can you say is the main difference?
10         (.) between (0.1) the two?
11         (0.7)
12   S?:   °((XXX))°
→ 13   S3:   it is not (.) connected, there is no
14         [central carbon]
```

3. "No" for disagreement

The students in SCLIL also use "no" to disagree with the teachers' proposition in the prior turn. They place "no" at the beginning of the TCU of the relevant turn. Usually, they follow it with an account of their disagreement or a counter argument proposition. The following example is taken form ECED class. The teacher is playing the "hang man" game with the students to activate them by guessing the word she is looking for.

Excerpt (64)

```
1    T:    come on, that is scary(.) see the
2          impact i have on you ((smiling
3          voice)) you can't even remember((hand
4          gesture)) what we talked about.
5    S2:   ((laugh))
→6   S3:   ↑no, i remember, but you know, we do
7          not remember (.) the exact words.
8    T:    Ahaha (fake laughter))
9          (5.9)
10   T:    you ((pointing at the board)) have
11         more letters
```

After some attempts to guess the teacher tease the students by saying "you can't even remember what we talked about" in an indication that they are not doing what they supposed to do. S2 at line (5) laughs with the rest of the class at the teachers teasing but S3 response seriously (Drew 1987) denying the teacher's proposition in the previous turn. She adds that she remembers "but not the exact word". Here "no" is used at initial positing of the relevant TCU followed by an account or justification.

4. "No" as a response to a polar yes/ no question

One of the most common uses of "no" by the students in this data is as an answer to a polar yes/no question. They place it at the initial position of the TCU of the relevant turn. However, it is been noticed that the majority of "no" use as a response to a polar questions is used both as a free standing token and followed by other components. It is used as a freestanding when the students are asked a display question where the "preferred answer by the teacher is explicitly "no". This position does not have any face lose (Seedhouse 2004).

This excerpt is taken form a physics classroom. The teacher is solving a problem with the students on the board.

Excerpt (65)

1	T:	Now the the problem- we just had- do
2		we have acceleration there?
3	S3:	[No]
4	S?:	[No]
→ 5	T:	↑no if we do not have acceleration
6		life is easy?.

The teacher looks at her copy of the questions and asks the students if they have the "acceleration". Because it is a display question, the answer requires nothing but looking at their own copies of the same questions. S3 and another classmate, however, self-select themselves (lines 3 and 4) and simultaneously give the same answer "no" as a freestanding token. The teacher at lines (5 -6) does not give an overt positive evaluation but appraise the students' answer by repeating and adding to it, a strategy that the teachers in this context use to give positive evaluations.

It is important to mention here that the students use "no" in Arabic, their L1, to do the same interactional functions that they have accomplished using "no" in the target language.

In this chapter I have presented a detailed analysis of the response tokens “yes, yeah and no”. I have also shown the different interactional functions of those “small” tokens and how they are used by teachers and students in SCLIL. The micro analysis of the use of response tokens has reflected their multifunctional nature. It has also highlighted the important role they play in maintaining the conversation’s flow, hence the lesson’s smoothness. The chapter answered the research second and third questions

regarding the co-construction of meaning in CLIL classroom and reflected how language, interaction and orientation to knowledge are manifested.

The next chapter discusses the results introduced in chapter seven and eight with special emphasis on how CL successfully pointed at the most important linguistic aspects of CLIL. Those linguistic aspects have been proved to play a crucial role in shaping the interactional architecture of CLIL classroom and the co-construction of knowledge in this context.

Chapter 9. Discussion

9.1. Introduction

In this chapter, I will discuss the results that are presented in chapter seven and eight with reference to literature review. I will show how CL works with CA as indicator of the most important aspects of classroom interaction by pointing at the most frequent features that are used to facilitate the interaction in this context. I will tackle this by going through the numbers that are revealed by CL and how they can be interpreted using CA.

The first part is a reminder of the results obtained using CL followed by interpretation of the results using CA. In both parts, I will show the difference between the students' and the teachers' use of the identified linguistics item when used to interact. The focus, though, will be on the difference in use between "yes/yeah and no".

9.2. Summary of the result

9.2.1. Phase one: numbers as an indicator

This work has been motivated by some questions that can be listed as the following:

1. What are the most frequent linguistic features of CLIL university classrooms in a Saudi context?
2. What are the interactional functions of those linguistics features?
3. How do teachers and learners co-construct meaning in that context using those features?
4. What is the relationship between language, interaction and orientation to content knowledge in CLIL classrooms?

To answer these questions, a total of 12 hours of teaching is collected. The data consists of four content-subjects from a Saudi university where English is used as a medium of instruction (chapter 2). Though language acquisition is not mentioned in the university's policy or statement of vision, concepts such as globalization and internationalization are used which implies the importance of language to this context. The final result of transcribing those (12) hours is a corpus of more than 51,000 tokens.

The corpus consists of a balanced number of tokens from subjects such as (physics, chemistry, information system and early child education) (see table 12).

Subject	Number of hours
Physics	3
Early childhood Education	3
Information system	3
Chemistry	3

Table 12: the data

The corpus is named Saudi Content Language Integrated Learning (SCLIL). SCLIL is fed into a Wordsmith processing program and a frequency word list is generated. However, to validate the results and make sure that the identified linguistics items are characteristics of SCLIL, two bigger reference corpora are used (BASE and BNC). BASE stands for the British Academic Spoken English Corpus, while BNC stands for British National Corpus that represents the baseline of mundane conversational interaction in British English.

The results show that SCLIL's top frequent word list is not different from that of the previous two corpora. For instance, while the pronoun "you" appears on the top of the most frequent words list in SCLIL, it is ranked third in BASE and second in BNC. The pronoun "I" is ranked fifth in SCLIL and BASE together but first in BNC. A look at table (2) in chapter (7) shows that SCLIL falls between BASE and BNC. It is been noticed that some words in SCLIL word list are similar to BASE in their ranking (e.g. what). Others such as "so and can" are ranked similar to BNC.

In general, the ranking of the identified linguistics items in SCLIL is closer to BASE than to BNC, which means that SCLIL uses more academic linguistics items than BNC, which is a mundane conversation. Based on that I decided to drop BNC as a reference corpus and use BASE for the rest of the analysis.

The identified keyword list of SCLIL compared to BASE does not indicate whether those items are used mainly by the teachers or the students. For that reason, two new sub-corpora are generated by isolating the students' turns from the teachers' turns. The result is the sub-corpus SCLIL-T for teachers' turns and SCLIL-S for those of the students. Both corpora are subjected to word frequency processing using Wordsmith program in order to identify the most frequent linguistic features in each corpus. Not surprisingly, the list is topped by content related words that I deleted for not being relevant to this study. The generated lists are compared to the one generated earlier from

BASE using another Wordsmith feature called keyword list. This is done in order to find out if the identified items will hold their rank when applied to a larger context. Finally, the two identified list of top frequent keywords in SCLIL-T and SCLIL-S are compared to each other to generate a list of the words that are used markedly higher or lower by the students compared to the teachers in SCLIL. This phase of the analysis has answered the research first question regarding identifying the SCLIL linguistic features.

The final list shows that there is a significant difference between the students' use of L1 (TRA), short response tokens (yes, no, and aha), the verb "do", the pronouns "we and you", the discourse markers (so and okay) and finally (what and that). Due to the limited time and space of this thesis, I have to cut the list short and choose among the identified items. I decided to look at the short response "yes/yeah" and "no". I have included "yeah" as a variable for "yes" though it does not show in the list of the top12 items.

The reason for choosing the response tokens “yes/yeah and no” is not only due to their occurrence as the top second and third item in the list. In fact, I have chosen them because they are among the few interactional devices that have not received enough attention in the CA research despite their importance to the flow of the interaction and the contribution they have in shaping the speakers' next turn (see chapter four). Choosing response tokens as the main focus of this thesis is the departure point from which I moved to the second phase of the analysis that is based on the principles of CA.

9.2.2. Phase two: the results in words

As has been explained in chapter seven, dividing the corpus into two sub-corpora has generated two unequal corpora with a ratio of (8:1) in favor of the teachers’ corpus. This suggests that we are dealing with a traditional teacher-centered classroom where the teacher's voice is the only one that can be heard. From a conversation analytic point of view, it indicates an asymmetric relationship between the teachers and their students. However, a closer look at the distribution of turns in the corpus reveals that the students produce more turns than their teachers. The students, turns represent 57% of the total number of turns produced in this corpus. The fact that the students produce more turns than their teacher falsifies the previous assumption and suggests further investigation into the nature of those turns.

A simple statistic is carried out to find the average words spoken by the students compared to their teachers. The results show that, though the teachers produce less turns

than their students, their turns are much longer than those of their students. The teachers are found to produce average of (46.91) words in every turn compared to their students who produce an average of (4.7) word in every turn (Table 13). It is been noticed also that the teachers' turns are formed mainly of multi-units while the majority of the students' turns are single-word turn. This fact explains the difference in the corpora size between SCLIL-T and SCLIL-S. This initial finding confirms what CA have already established regarding the teachers' tendency to extend their turns to perform multi functions in the same turn (Seedhouse 2004).though this result answers the study first questions, it does not tell us much about the construction of those turns and what pedagogical functions do they perform. For that reasons further analysis is carried out.

	SCLIL	SCLIL-T	SCLIL-S
No of tokens	51.869	45.791	6.078
No. of turns	2273	976 (42.93%)	1297 (57.061%)
Means of spoken words	22.81	46.91	4.68

Table13: General statistics about the data

To answer the second and the third questions of this thesis regarding they ways teachers and learners co-construct meaning in SCLIL context the investigation is limited to the response tokes " yes, yeah and no" . Based on that further questions have surfaced such as ; how teachers and students use "yes/yeah and no"? Where do they place them in the turn? What interactional and pedagogical functions do they do by using them as freestanding tokens? What about when they use them with other components? Is there a difference between the teachers' and the students' usage of those response tokens? How do those tokens contribute to understanding the architecture of SCLIL classroom?

To answer those questions a turn-by-turn analysis for every case of occurrence of those tokens is investigated. The case-by-case analysis has revealed the following:

1. THE USE OF "YES"

The data shows that the students use "yes" more than their teachers. They use it (191.2) times in every 1000 words they produce. However, (59.3%) of the students' use of "yes" is as freestanding token in a turn by its own while only (18%) is used with other components. The teachers, on the other hand use "yes" (16.35) times in every 1000 words they produce, of that number only (5.3%) is used as freestanding tokens. Though those numbers reflect the interactive role that the students play in co-constructing meaning in the SCLIL classroom, it shows also a tendency to use the

minimum linguistics resources (Seedhouse 2004). It also reflects the teachers' tendency to use extended turns when they respond to the students (Seedhouse ibid).

It is important to notice here that the teachers use "yes" turn initially almost (44.2%) compared to (55.8%) in the middle of the turn. When used in the middle of an extended turn, "yes" is followed (18.3%) times by discourse markers such as "and, okay, and so" that mark a shift in the topic. A closer look at the data, however, has shown that despite the difference in turn length between the teachers and the students, they both use the minimum response tokens to demonstrate multi interactional functions. Among those functions is the following:

A. COMMON USE OF " YES"

1. "Yes" as continuers

Using "yes" as a continuer is witnessed mainly in the students' corpus. They use "yes" as a freestanding token during the teachers' turn to indicate that they have no problem with understanding the ongoing talk, which is a common function of response tokens in this sequential position. However, what is interesting is that the students use "yes" during the teachers' turn to do more interactional functions than just displaying understanding or passing the floor. They use it to display having epistemic access to the teachers' assertion in the prior turn. The proof for this claim is found in the next turn. It is found that the students wait until the teacher's turn comes to completion to nominate themselves, take the floor and add to what the teacher has just said. By contributing to the ongoing topic in the same sequence where "yes" is initially used, the students display more than understanding. This finding goes with Schegloff (1982) who states that response tokens demonstrate understanding only when there is a trouble in the communication and a repair becomes an inevitable action. It also supports Hopper and Drummond (1990) who believe that continuers do perform more interactional functions than passing the floor.

The teachers respond to the students' use of "yes" as a continuer by proceeding with their, mostly extended turn. Following, the students take the floor again and add something related to what the teacher said earlier. Here, by using "yes", the students are saying, "I know what you are saying, you can precede". What is interesting about this use, though, is that the students do not overlap with the teachers to take the floor.

2. Acknowledgement

Similar to using “yes” as a continuer, the students use “yes” to acknowledge the teachers' assertion. In this case, they use "yes" followed by other components to indicate having epistemic access to the discussed topic (Heritage 1984). They use it towards the end of the teachers' turn and exactly at the borderline where transition is a possibility. Hopper and Drummond (1990) believe that acknowledgement tokens are usually placed at the end of a grammatically and pragmatically complete TCU and accompanied with a falling intonation. Jefferson (1983) argues that they are associated with topic shift. Gardner (2001), on the other hand, argues that acknowledgment tokens can be used as continuers to indicate that though their producers are passing on the turn and still playing the recipient role, they still have something to say. Within acknowledgement, it is noticed that the students follow "yes" by further talk either in the same turn or wait until the teachers’ turn is finished to add to what they have said. Here the students are saying, “we know what you are saying and the proof is”. The difference between the use of "yes" as continuer and as acknowledgement is that the students show more involvement in the case of acknowledgment.

3. Agreement

Agreement is one of the most common uses of "yes" by both teachers and students. It is used with other components to demonstrate agreement with prior assertion. When used as an agreement device, "yes" is mainly placed at the initial position of the relevant TCU followed by other components to display affiliation with what is been said (Pomerantz 1984). The difference between teachers and students, though, is in what comes after “yes”. The students, for instance, follow “yes” with assessment that is aimed to display having epistemic access to the discussed topic (Pomerantz ibid). The teachers' response to agreement is usually a pre-closure discourse marker followed by a shift in the topic.

The agreement "yes" is also found in the data as a freestanding device to demonstrate affiliation and readiness to take the floor from the students' side. The teachers, in this case, respond by shortening their turn to the give the students the chance to contribute to the ongoing talk.

The students also use "yes" to display alignment and agreement with their classmates' contribution especially when there is competition over the floor and when other classmate wins the bid. The student in this situation shows agreement on the given

answer to display her position and to show the teacher that she has epistemic access to the same information that the other classmate has just contributed to the ongoing talk. The teachers, on the other hand, use “yes” with a discourse marker that signal a shift in the focus after which the topic is usually closed.

4. “Yes” as a response to confirmation check

The teachers use "yes" as a response when asked for confirmation by the students. It is placed at the initial position of the relevant TCU of the second pair of a question-answer adjacency pair followed by other components. We notice here that, unlike their students, when the teachers are asked for confirmation, they use “yes” followed by other components to make sure that the students understand precisely the task or the issue that they are asking about. The students, on the other hand, use “yes” as a response to confirmation check but as a freestanding token in a turn by its own after which the right to speak goes back to the teacher. This can be explained by the predetermined institutional role of the teacher as the source of information in the classroom.

5. "Yes" as an answer to a polar yes/no question

The teachers use of “yes”, similar to the students, to answer a polar yes/no question that is directed to them by the students. It is placed as a second pair in a question-answer adjacency pair. It has been noticed that the students' questions to which “yes” is used as a response are usually either content or procedural related, thus they are always followed by other components in order to illustrate those areas that the students are asking about.

B. STUDENTS EXCLUSIVE USE OF “YES”

1. “Yes” as a response to other initiated repair

The students use "yes" to respond to other initiated repair in order to show acceptance of this repair. They use "yes" at the initial position of TCU of the unit where the repair is carried out. They use it followed by a modified version of their original answer based on the introduced repair in the previous turn. Schegloff (2007, p. 117) refers to this kind of sequential use as a “post-expansion”, i.e. when expansion in the talk takes place after the occurring of the second part of adjacency pair. We have seen examples, though not common, where the student delays the uptake of the repair to later in the sequence. In this case, they carry on in presenting their position from the repaired

issue in a way that shows some type of dispreference to repair. When repair occur for the second time, as seen in excerpt (13a&b) they follow that with a freestanding "yes" but this time without carrying out the suggested repair. This happened only when there is a tension in the conversation and the student's explicitly challenge the teacher's position. This kind of sequential organization confirms conversation analysts' position from other-initiated other-repaired as the least favored trajectory of repair even inside the classroom (Seedhouse 2004).

2. "Yes" as a response to explicit request to display epistemic access

CLIL classroom is similar to any other classroom where the students are expected to display having epistemic access to the discussed topic every now and then in order for the teachers to proceed with the pedagogical agenda and introduce a new topic. Sometimes, though, the teachers use rhetorical questions to accelerate the pedagogical agenda and to know the students' positions form the ongoing discussion.

When "yes" is used to respond to a request from the teachers to display epistemic access to knowledge, it is placed as a second pair in a question-answer adjacency pair. This pair is initiated by the teacher to ratify as shared knowledge something that has already in some way been shared. This epistemic work is associated with a larger sequence and activity and it always relevant to continuation. Using this type of display question is common to classrooms as they are used as "structuring devices to drive the talk forward, introduce new topics and generally direct the focus of the interactants" (Dalton-Puffer 2007, p.123). They are relevant to the continuation of the ongoing talk, hence, the acceleration of the pedagogical agenda. This type of "yes" is very common in this data.

3. "Yes" as a group response

The students use "yes" to response as a group (18%) of the identified cases in the data. It is usually placed as a freestanding token in the response move in a question-answer adjacency pair. In this case, the teacher asks the students yes/no questions to guide them through the lesson in preparation to present new information. This kind of question usually takes the shape of a confirmation check or direct request to display epistemic access to a shared knowledge. Usually, after getting the favored positive answer that the teachers are looking for, they proceed in their pedagogical agenda. But when there is disagreement amongst the students, the teachers suspend the agenda and

try to solve the interactional problem before they get back to the demonstration business. The teachers' questions are usually formed using positive words such as “good”, “okay”, “right” etc.

4. TEACHERS EXCLUSIVE USE OF "YES"

1. “Yes” for next speaker selection

One of the very interesting aspects of this data is the few incidents where teachers practice their institutional role to allocate the next speaker in the classroom. In the few cases when teachers allocate the next speakers, it has been noticed that students precede that by showing orientation to participation either by establishing a mutual gaze with the teacher or by attracting their attention by raising their hands in a request for permission (Stivers 2010).

The teachers' placement of "yes" depends on the timing during which the students expressed interest in participating. They place it, mainly, at the end of the last TCU of their turn immediately following them noticing the student's orientation to take the floor. Sometimes, though, the teachers, delay giving the turn until the end of their talk, nevertheless, they acknowledge the students' orientation by establishing mutual gaze.

2. “Yes” as positive evaluation

In CLIL, the students' contributions are always subject to evaluation. However, it is noticed in this context that evaluation is mostly given by using "yes" to show agreement and alignment with the students. This "yes" precedes the part of the students' answer with which the teacher agrees and gives a positive evaluation. SCLIL, however, is not a context where evaluation is overtly given. In fact, positive evaluation is understood from the way the teachers respond to the students' participations. The teachers in this data use “yes” at an initial position of the relevance TCU's in the thirds move following the second pair of a question-answer adjacency pair to give positive evaluation. Negative evaluation hardly takes place in this data and when it does, it is mitigated and delayed as will be explained under the section allocated for "no".

3. “Yes” as a discourse marker

Because the teachers use extended monologic type of turns, they need several types of connectors and discourse markers to keep the flow of the lesson. One of the used devices in this case is "yes" that is used heavily in the middle of extended turns mainly

to connect an idea that was spoken about earlier to what comes later. This kind of "yes" is found as part of a cluster of discourse markers to return to the original topic following a slight diversion due to expansion. “Yes” is also used, in this case, to remind the recipients of the speakers original position from the discussed issue, which is an agreement and has relevance to topic closure. So, “yes” here functions as a connector between what is being said and what has already been said earlier in the same turn. It is used with cluster of discourse markers including such as in “okay, so, yes” to return to the main topic before the insert-expansion (Schegloff 2007).

It is important to mention here that because the context is a classroom, it is common to have an evaluation following the students' response to a question-answer sequence. The expansion in this example takes place between the second and the third moves of the traditional IRF. So, “yes” is used with other discourse markers and it functions as a retrospective discourse marker to return the focus to the main topic and remind the students of the positive evaluation that took place before the insertion.

2. THE USE OF “YEAH”

Researchers disagree over whether “yeah” is a variation of “yes” or a different response token. Gardner (2001), for instance, considers "yes" and "yeah" as variants of the same token. In this thesis, I consider "yeah" as a variation of "yes" and attribute the difference in its distribution among classes to the difference in style. However, to confirm this a case-by-case analysis of the occurrences of "yeah" has been conducted and its interactional functions are identified.

It is found that "yeah" does almost the same functions like "yes" in the same sequential organization. More details will be presented in the next section.

CL analysis has shown that the students use "yeah" more often than their teachers as they use it (80.1%) times in every 1000 words they produce. The teachers, on the other hand, use it (26.3%) times in every 1000 words. The detailed CA analysis shows that the sequential structure of the students' use of "yeah" is also different from the teachers. For instance, while the students use "yeah" (55.3%) as a freestanding token in a turn by its own, teachers use it as a freestanding only (3.9%). This means that the majority of the teachers’ use of "yeah" is with other components. The following table shows the distribution of "yeah", "yes" and "no" in the students' and the teachers’ corpora.

	TYPE OF SEQUENCE	SCLIL-S	SCLIL-T
yes	FREESTANDING	59.30%	5.26%
	YES+ COMOPENTS	18%	94.73%
	DOUBLE	3.48%	2.1%
	TURN INTITAL	97.67%	44.2%
yeah	FREESTANDING	55.31%	3.92%
	YES+ COMOPENTS	27.65%	96.08%
	DOUBLE	6.38%	4.57%
	TURN INTITAL	97%	37.25%
no	FREESTANDING	18.46%	3.89%
	NO+ COMOPENTS	44.6%	96%
	DOUBLE	10.76%	5.19%
	TURN INTITAL	92.30%	24.67%

Table 14: Distribution of response tokens in the students'' and teachers' corpora

A. COMMON USE OF "YEAH"

The corpus shows that teachers follow "yeah" with a discourse marker in almost (18.3%) of the cases. Students, on the other hand, tend to use "yeah" as a freestanding response token. This means that they pass the opportunity to take the turn and usually does not invite change in speakership. On the contrary, it invites the prior speaker to keep going. "Yeah" is also used as a freestanding response (10.63%) by the students as a group to respond to the teachers' requests to display having epistemic access to knowledge. The teachers perceive that freestanding "yeah" as a sign to continue their talk.

1. "Yeah" as an answer to a polar yes/ no question

One of the common uses of "yeah" is an answer to a polar affirmative yes/no question. In this case "yeah" is placed at the initial position at the TCU of the second pair of a question-answer adjacency pair. It is important to notice here that teachers and students use response tokens mainly at the initial position of the relevant TCU of the second pair of a question-answer adjacency pair. However, teachers tend to extend the turns by introducing new topics with the help of a discourse marker such as "okay" and "so" or, as an alternative, they elaborate in the same topic.

2. "Yeah" as a response to confirmation check

The teachers and the students use "yeah" to respond to confirmation check. "Yeah" as a response to confirmation check functions in two different types of

sequences. In the first type, “yeah” is placed in a post-expansion sequence (Schegloff 2007) following a question-answer adjacency pair. The students answer the question but for a reason either trouble in hearing or problem with understanding, the teachers check for confirmation by reformulating what the student has said originally. It is placed in the second move of the newly inserted sequence that is a confirmation. It follows the following pattern:

Question → Answer → Confirmation request → yeah

The second sequence in which “yeah” occurs is the second position. That is when the student asks about a particular part of the prior turn by repeating it and they initiate a confirmation check request. In the second type of pattern “yeah” follows this sequence:

Extended turn Confirmation request → yeah

It is preceded by an extended turn. The last use of “yeah” is more common in this data than the first one. The first type is usually followed by more explanation related to the same topic while the second is followed by a shift in the topic and acceleration in the pedagogical agenda by the teacher.

In comparison to the teachers, the students also use “yeah” to respond to confirmation check. However, their use is slightly different from that of the teacher. The students use “yeah” as part of a question-answer sequence that is mostly initiated by the teacher. It is always used as a freestanding token.

3. "Yeah " as agreement

The teachers and the students use “yeah” for agreement. However, there is a difference in the sequential structure of the turns where “yeah” is used between the two groups. For instance, the teachers use “yeah” to display alignment and agreement with the students’ assertions that are offered voluntarily by self-selection. They use it followed by other components that vary based on the relation of the student’s contribution to the ongoing talk and its relevance to the teacher’s pedagogical agenda. If the student’s contribution, for instance, fits within what the teacher perceives as related to the ongoing talk or helps in keeping the flow of the same topic, the teacher demonstrates agreement and builds on it. While when it does not agree with the teachers’ agenda, they display agreement but shift the topic to what she/he perceives as more appropriate to the ongoing talk. What is appropriate can be manifested by a

continuation of the same topic that is tackled in the prior turn before the student's contribution is offered or a shift to a new but related topic to accelerate the pedagogical agenda.

The same sequence is found when the student initiates a questions sequence that threatens to divert the teachers' pedagogical agenda. The teachers use "yeah" to show agreement and then go back to same topic that she is discussing prior to the question. Sometimes when trouble occurs in the interaction, agreement is pushed to the next position after the trouble is dealt with and repair took place (See excerpt 42 for example)

It is been noticed that when there is a problem in the interaction related to words choice, agreement is done in its common initial position, while when the problem is with intersubjectivity, the teacher deals with the source of the trouble first before doing agreement. The teachers, in the former case, tend to offer repair before demonstrating their stance or affiliative position from the students' assertion.

The student use "yeah" to display agreement with the teachers' or classmates', assertion. Like their teachers, the students use "yeah" for agreement at initial position of the relevant TCU. In most of the cases, however, the students use "yeah" as a freestanding token. The teachers project that freestanding "yeah" as a sign of understanding from the students' part and a signal to proceed with their pedagogical agenda. The only cases where the students use "yeah" turn initially and follow it with other components is when they are competing over the floor and oriented to display having epistemic access to the ongoing topic. They use it at initial position in the relevant TCU followed by a repeat of a modified version of the other student's answer. This could be understood as a display of having epistemic access to the same topic.

Students and teachers also use double "yeah" to perform different actions. For instance, the teachers use double "yeah" to perform two different functions such as agreement and positive evaluation. But when the students use "yeah" twice in the same turn then it can be understood as a demonstration of enthusiasm and to intensify the degree of agreement (e.g. excerpt 46).

B. TEACHERS' EXCLUSIVE USE OF "YEAH"

1. "Yeah" turn initially as pre-shift

Teachers use "yeah" turn initially to take the floor back. In most of the cases, they use that "yeah" to bid for the immediate turn (Gardner 2001, p.34). Jefferson (1993) calls the use of "yeah" in this context a pre-shift token as it is usually followed by a shift in the focus of the conversation from the topic that is discussed in the former turn. The use of "yeah" in this context is related to the teachers' institutional role as the ones who decide who talks next, when to talk and what to say.

2. "yeah" for positive evaluation

Teachers use "yeah" to give positive evaluation to the students' answers. They use it mainly at the initial position of the relevant TCU following the second pair of the question-answer adjacency pair sequence. The instances of teachers' evaluation in this data preface an extended multi-units turn. It is usually followed by further elaboration on the same topic or intensifying words such as "exactly".

There are cases, however, when positive evaluation is treated like an agreement as it occurs at the end of the first relevant TCU and is followed by other components. It is important to notice here that when the teacher is answering a yes/no question, "yeah" occurs at the beginning of the turn. But when it is used for a positive evaluation, the teachers first amplify the answer, which they are evaluating, and then use the response token "yeah" or "yes". Sometimes "yeah" is doubled in order to show consolidation in the social relation and agreement with what the students said (McCarthy 2002). I did not find any example of a sequence where the students use "yeah" to give positive feedback, which makes this as an exclusive feature to teachers' talk in this corpus.

3. "yeah" to give the floor

This use of "yeah" is also closely related to the teachers' institutional role as the allocators of the next turn speaker. Because the students in this corpus tend to nominate themselves, teachers use "yeah" immediately following the students' verbal or non-verbal display of orientation to take the floor to contribute to the ongoing talk. It is placed at the end of the turn in progress to hand the floor to the next speaker. The allocation of the next speaker is usually associated with either an explicit nomination by name or by establishing recipiency with a gaze followed by "yeah".

4. "Yeah" as a discourse marker within extended turn

Teachers use “yeah”, similar to “yes”, as a discourse marker in the middle of an extended turn to preface shift in the focus. In this case, it is followed by a cluster of discourse markers such as “so” or “okay”, and then a shift in the focus. “Yeah” in this case is part of a series of discourse marker used to facilitate the move between the lesson's different parts. In other words, “yeah” here functions as a “pre-shift token” (Jefferson 1993), a function that is very common in this data.

C. STUDENTS’ EXCLUSIVE USE OF “YEAH”

1. “Yeah” as a response to a request to display epistemic access

The use of "yeah" as a response to a request to display epistemic access is limited to the students due to the predetermined institutional role of students as knowledge receivers. In general, students use “yeah”, in this sequential action, as a second part of a question-answer adjacency pair when asked to display having epistemic access to the teacher's proposition in the prior turn. In that position, the students use “yeah” as a freestanding token.

The students use “yeah” also as a group in the same sequence organization to respond to the teachers' request to explicitly display having epistemic access to the discussed topic or to show their position from the teachers' proposition. In this case, “yeah” occurs as a second part of the question-answer adjacency pairs. The difference between the "yeah" when used by an individual student and the whole class is that the students, as a group, have never used "yeah" as with any other components. In fact, they always use it as a freestanding token after which the turn goes back to the teacher. "Yes" and "yeah" in this sequence are the preferred answer to the teachers' request as will be explained under "no". This use of "yeah" is a common practice in teacher-centered classrooms where the teacher asks display questions in order to build “understanding of complex concepts” (McCormick and Donato 2000,p. 183).

3. USE OF NO

The response token “no” is among the top 10 frequent words in this data. It is used (111.15) times in every 1000 words. It is also ranked third in the word list that shows the difference in language use between teachers and students. The students in SCLIL use “no” seven times more than their teachers (ratio 7:1). They use “no” (97.26)

times in every 1000 words they produce. The teachers, on the other hand, use “no” (13.89) in every 1000 words they produce.

This difference in frequency between the teachers' and the students' use of the response token “no” highlights the importance of looking at the use in the immediate context using a turn-by-turn analysis.

A. COMMON USE OF “NO”

1. “No” as content related

"No" is used mainly as a negation device in a content related context by both teachers and students. That is to say, that “no” is used semantically and has very limited interactional function. In this case, “no” is placed in the middle of the turn before the noun it describes.

2. “No” as an answer to a polar yes/no question

One of the common uses of “no” by the teachers and students in this data is as a response to a polar yes/no question. In this type of sequence “no” occurs at the initial position at the second pair of the question-answer adjacency pairs. The difference between the two groups is that the teacher uses “no” with other components. What comes after “no”, however, varies according to the question posed but it is mainly a shift in topic especially when teachers project the question as a diversion from the main agenda. Teachers sometimes move the agenda following "no" by initiating a new sequence of questions in the same turn so the second move in the previous sequence becomes the first move for the new subsequence.

Students, on the other hand, also use “no” to answer polar yes/no questions. They use "no" in this sequence as a freestanding token. Sometimes they place “no” at the initial position of the TCU of the relevance turn. This use of “no” as an unmitigated bald response to a yes/no question is only witnessed in those cases where “no” is the preferred answer by the teachers (Pomerantz 1984). This position does not entail face lose to the students (Seedhouse 2004).

3. **"No” as a response to confirmation check**

The teachers and the students use “no” as a negative response to confirmation check. However, the structures of the teachers' response turns vary from those of the students. The students use “no” mainly as a freestanding token, while the teachers’ use of “no” varies according to the nature of the students' question. For instance, when the

confirmation request does not include assessment of the issue in hand, the teachers respond with “no” as a freestanding token. This kind of response is not face-threatening because “no” is not an evaluation of the students’ judgment. But when the students perform confirmation that includes assessment and the teachers do not completely agree with their opinion, they mitigate the answer and delay the dispreferred response “no” in an extended turn after giving further explanation to why they disagree (Seedhouse 2004). This result agrees with Pomerantz’s (1984) stance from dis/preferred responses positioning. She states that preferred actions are usually produced without mitigation, hesitation or delay. According to her, they are normally placed at the start of the response turn.

The result also adds to Seedhouse’s (2004) discussion regarding the use of “no” by teachers. He differentiates between the teachers’ use of “no” as an answer to students’ questions and "no" as negative evaluation. He states that unlike "no" in the third move of IRF, when "no" is part of question-answer adjacency pairs, there is no “loss of face” for the learner involved and “no” is a must. Otherwise the teacher will lose face if he or she doesn’t give the right answer (Seedhouse 2004, p.170). This, he argues, makes a bald unmitigated “no” acceptable.

Another position where a bald "no" is acceptable, he explains, is when teachers are giving negative evaluation to procedural troubles. That is when the students misunderstand the procedure that the teacher wants them to follow. In this context, he illustrates, "no" points at trouble in the procedure rather than the students’ linguistic knowledge, therefore, "it does not involve loss of face” (p.173).

4. "No" as disagreement

Disagreement is another common function where teachers and students use “no” with slight difference in the sequence organization. Teachers, for instance, use “no” to show disagreement with the students' propositions in two types of sequence organization. First, when the students self-select themselves and offer their suggestion voluntarily and without being asked to do so, the teachers tends to mitigate their disagreement and offer justification or reasons as to why they do not agree with the students. They usually, use "no" in the middle of the relevant turn. However, they also use “no” more than once in the same turn to constantly remind the students of their position from the prior turn assertion as well as the aim of the whole discussion. Second, teachers tend to be more direct in using “no” when the students participation is

a response to a question from the teachers' side. In this case, they use “no” as a freestanding token in a turn by its own and it occurs as non-minimum expansion following the second pair of the question-answer adjacency pair (Schegoloff 2007). The excerpt (58) is a clear example of the teacher's disagreement with the student's assertion.

The students, in this data, also use "no" to disagree with the teachers' proposition. They place "no" at the initial position of the TCU of the relevance turn. Usually, they follow it with an account of their disagreement or a counter argument proposition.

B. STUDENTS' EXCLUSIVE USE OF “NO”

1. **“No” to display having no epistemic access to the topic**

One of the most important uses of “no” in the students' corpus is to display having no epistemic access to knowledge, especially when asked by the teacher to explicitly display their state of knowledge whether by using a confirmation check or a content related question. The students' display of their lack of epistemic access to knowledge always occurs at the second pair of the question-answer adjacency pair. It is used as a response to a question by the teacher that is directed to a particular student or to the whole class. The analysis of the examples where “no” is used as an answer to the teachers' request to display access to knowledge shows that "no" is less preferred answer to both teachers and students compared to “yes” that occurs more often.

The “no” turn in most of the cases is followed by further talk related to the same topic by the students. When the teachers notice the absence of the expected account following the dispreferred “no”, they respond by asking further questions related to the same topic or by offering further explanation. It is been noticed, however, that the teachers do not challenge the students' claim of having no epistemic access to knowledge. In fact, they consider one student's answer with "no" as enough reason to abandon the question and offer further explanation.

9.4. SCLIL classroom interactional organization

In this section, I will briefly describe the overall organization of classroom interaction in the Saudi CLIL based on the turn-by-turn unfolding of the talk-in-interaction as introduced in chapter eight. The analysis is done by looking at the immediate sequential context in which the turns of the identified devices are used.

However, before starting the discussion, it is important to make it clear that CLIL is looked at as an institutional sitting[9] (McHoul 1978; Drew and Heritage 1992) where the character of talk is explored in the light of the institution's goals. The broad goal of this SCLIL context is the instructors teaching content-subjects using English as a medium of instruction. It is used so the students master the language as well as the subject knowledge.

Drew and Heritage (1992) discuss the different types of institutional talk. They state that each institutional setting has its own characteristics that work as a "fingerprint" that "comprised of a set of interactional practices differentiating both from other institutional forms and from the baseline of mundane conversational interaction itself (p.26)". Despite the use of a second language in SCLIL, it is not the focus of attention and linguistics properties of language are rarely discussed. Therefore, linguistics mistakes are not subject to evaluation in SCLIL and largely ignored as long as they do not impede communication. In fact, factual or content related mistakes are more important and are constantly subject to evaluation by the teachers especially when confusion or breakdown in the interaction takes place. Unlike the L2 classroom where language plays a dual role, in CLIL language only the medium and is taught by the use of content subjects, which makes it believed to be a natural and more economical context for language learning.

It is been noticed through the analysis of excerpts of SCLIL classrooms that there is a reflexive relationship between the pedagogical goal and the interaction (Seedhouse 2004). This has been clearly reflected in those instances where there is conflict between the students' contribution and the teachers' pedagogical focus. The pedagogical focus (sometime referred to as agenda) in this context is evident in the details of the interaction. This is similar to what Seedhouse (2004, p.184-5) states about L2 classroom where the interactants are "always displaying to one another their analyses of the current state of the evolving relationship between pedagogy and interaction and acting on the bases of these analysis (p.185)".

I noticed in SCLIL that the teachers sometimes ask the students to explicitly display their epistemic stance from what is being discussed. The teachers often use the students' responses and build on it in order to move to the next step of the lesson or shift

[9] For more information about the characteristics of institutional talk see Drew and Heritage (1992)

the focus. The questions that the teachers ask are mainly display questions that are not designed to inform the teachers about something they don't know or to test the students' knowledge. In fact, they are designed to make the students display the knowledge they are supposed to have gained from the previous talk. This is to say that they are designed to construct step by step the social action of presenting the pedagogical agenda. This is not done by one single question but usually by the juxtaposition of the whole questions through the whole or a section of lesson (Dalton-Puffer 2007). The students' questions, on the other hand, are mainly constructed as confirmation check through which they shape their answers to the teachers' questions. Genuine questions are sometimes asked by the students, but only related to the teachers' procedure.

In general, the case-by-case analysis of this data has given us a broad idea of the interactional organization of SCLIL that can be summarized as following:

a. **Turn taking:** I have noticed in this data that, unlike L2 classroom, turns in SCLIL are rarely allocated by the teacher. In fact, the students are capable of nominating themselves and they don't wait for the teacher to allocate turn. The teachers, on the other hand, nominate the students only when they notice orientation from the students' side to participate either by holding their hands up in the air or by establishing a mutual gaze with the teacher that is aimed at establishing recipiency. In the majority of the cases, nevertheless, the students nominate themselves and take the floor as soon as the teachers come to what they perceive as a possible TRP. Sometimes students attract the teacher's attention to their desire to take the floor by using some short response tokens during the teachers' turn in order to display their orientation to take the floor without disturbing the teachers' agenda or interrupting them. When it comes to sequence organization, we notice that there is a heavy use of question-answer adjacency pairs. Clarification requests and confirmation checks come from both the teachers and the students.

b. **Overlap and interruption:** I have found that the students in SCLIL can easily pass the floor and overlap with the teacher and sometimes manage the turn locally. This means that despite the fact that the teachers do most of the talking, they are not completely safe from being interrupted by the students. Overlap with the teacher, though, is mainly witnessed when the students compete for the floor or when there is a tendency to "intensify the affiliative or disaffiliative

nature of particular social actions (Seedhouse 2004, p.29)". Overlap also takes place when the students want to ask questions related to the procedure. The overlap is solved by giving up the floor by one of the participants and a restart by the other one.

c. **Topic management and development:** The teachers in SCLIL have very tight control over topic management. They are the ones who introduce the topic, develop, and manage it. It is important to mention here that the students are not given much interactional space (Walsh 2006) to express personal meaning or to develop topics on their own. Even when they do, the teachers claim their institutional authority and shift the topic back to what they perceive as appropriate to their pedagogical agenda.

d. **The organization of repair:** Repair is considered by many researchers as a core element to the learning process especially in L2 classroom (Seedhouse 2004; Markee 2000). Therefore, it has been given a lot of weight. In CLIL, though, repair seems to be focused mainly on factual or content related issues. The majority of repair in this data takes the shape of other-initiated self-repair. Repair is carried out when breakdown in the interaction takes place in a way that affects the flow of the conversation, hence the pedagogical agenda. It usually takes the form of question such as clarification request or confirmation check, which makes it less threatening and factors such as loss of face are not possibilities. Direct overt repair is witnessed mainly among the learners themselves rather than the teachers and students. When a learner initiates the less preferred repair trajectory (other-initiated other-repair) it also targets the fact rather than the linguistics form of her classmate. Seedhouse (2004) notices a close relationship between repair and the teachers' pedagogical focus, something that this thesis supports.

From what has been mentioned we can see how the students are oriented to the pre-allocated turn-taking system in SCLIL. We also see here that the students have almost equal rights to express a personal opinion on the matter being discussed, but they don't have equal time to their teachers to fully express that opinion which make them tend to use shorter turns with less TCU. Dalton-Puffer (2007) tackled this classroom phenomenon inside CLIL under her discussion of “explanation”. She attributes those short responses to the asymmetric distribution of knowledge that

leads the students to assume that a simple and short utterance is enough "to serve as a trigger in order to activate the right kind of conceptual pattern in the teacher's mind" (ibid. p. 151). However, this thesis shows via step-by-step analysis that such phenomenon can be attributed also to the teachers' lack of emphasis on explicit verbal explanation from the students' side. The teachers tend to use few genuine Wh-questions that usually generate more explicit verbalization of knowledge.

9.5. On the methodology

This thesis, as explained in the methodology chapter, is a departure from the traditional way of looking at classroom interaction to a new way that combines a quantitative and qualitative method to get the best out of the two methods and to overcome their shortcomings (Walsh 2011).

The analysis starts following a basic transcription of the data. The resulted transcriptions are marked only for the basic features of CA such as turn taking, pauses and non-verbal interaction where necessary. This is done in order to avoid violating the first and most important concept of CA, i.e. tackling the data in a completely unmotivated way (Hutchby and Wooffitt 2008). To start with a quantitative method is something that conversation analysts might frown upon. Conversation analysts, though not totally against the use of quantification, but they prefer to start with a detailed qualitative analysis of the data followed by quantification. Schegoloff (1993), for instance, is one of those researchers who use quantification with CA. Nevertheless, he emphasizes the importance of turn-by-turn analysis adding that quantification does not replace analysis, something that this thesis by no means is aiming at.

Jefferson (2002) also uses simple statistics such as ratio, and chi square test to compare the difference in usage among the British doctors and civilians, on one hand, and the American doctors and civilians, on the other. Her analysis goes through two phases. The first stage is a descriptive one in which she uses statistics to balance the data and identify the direction of the analysis. The second phase of her analysis is a case-by-case that uses CA in order to investigate the difference in usage among the four groups. The study reveals interesting results regarding the use of the minimum response token "no" as an acknowledgement (See chapter 5 for more detail).

Seedhouse (2004) discusses the CA position from quantification adding that CA is not against quantification. On the contrary, he adds, CA has been always informed by the "methodological quantification". He cites Schegolff (1977) as an example where

quantification is successfully used with CA. However, Seedhouse argues, what CA is against is a premature quantification, i.e. using predefined obvious interactional phenomenon.

He argues for a holistic emic analysis of the whole context prior to quantification. He adds that "using premature quantification of superficially identifiable and decontextualized phenomena will tend to divert our attention" (p.259).

Heritage (1995, p.404), in Seedhouse (2004, p.260), states that there are four ways through which CA can be quantified;

1. As a way of isolating interesting phenomena.
2. As a mean of consolidating intuitions which are well defined but in which the existence of a practice is difficult to establish without a large number of cases.
3. In cases in which independent findings about a conversational practice can have indirect statistical support.
4. In almost all cases in which a claim is made that the use of outcome of a particular social or psychological categories, such as gender or status.

Based on that, we see that the way CL is used in this research does not contradict the principles of CA. In fact, it confirms the findings of CA and gives further evidence to research in social interaction based on a relatively big numbers of instances from naturally occurring data. The approaches used in this thesis strengthen any claims that are made regarding language use. But it is important to mention here that the use of CL is not aimed to reach generalization as I believe that every context is unique and is shaped by its participants in a moment-by-moment decision based on negotiation of meaning.

My finding goes with that of CA analysts such as Schegloff (1993), Heritage (1995), Jefferson (2002) and Seedhouse (2004). I agree that there is no substitute to the analysis of turn-by-turn sequence organizations to investigate any context. However, to restrict the order of the analysis to qualification then quantification is unnecessary. In fact, I believe that using a systematic method of unbiased quantification method allows the analyst to clearly notice the patterns in the data in a systematic and unmotivated way. Walsh (2011) recommends a combination of CL with CA based method to look at classroom interaction. He refers to the new approach as (CLCA). He states that using the two together

> "gives a more 'up-close' description of spoken interactions in an educational setting than is offered by using either one on its own. From the analysis, we can

> gain powerful insights into the ways in which interactants establish understandings and observe how words, utterances and text combine in the co-construction of meaning (p.99)".

Despite the superficial differences between the bases of CL and CA, Walsh finds a number of features that connect them together. For instance:

1. Both use a corpus of empirical data.
2. Both refer to baseline comparison with other types of interaction (canonical sequential order in the case of CA, reference corpora in CL)
3. CA offers an emic, close up perspective, CL complements by providing a bigger picture.
4. Both starts from the data and work outwards to construct context (from turn order in CA, from patterns in(CL).
5. Words pattern (CL) often lead to consistent turn pattern (CA) (Walsh 2011, p.100).

Walsh et al. (2011) also use the same combined method to look at small group teaching in Irish universities. They conclude that the combined approach "highlights the inter-dependency of words, utterances and text in co-construction of meaning". One of the strength of their study is that it uses a reiterative way to the data something that this thesis highly recommend in order to get the best of the two approaches.

This thesis also recommends the use of a data with the minimum mark-up at the initial stage of the analysis, i.e. CL in order to meet the CA's condition of looking at the data in unmotivated way. Since CL is a relatively flexible method that response to the analysis' need, I see no problem with combining it with CA. In fact, I add my voice to that of Walsh et al. (2011) and recommend it as a method to organize and deal with huge date. However, this use should be done with certain factors in mind. For instance;

a. The data fed into the CL program should be raw and should not be coded for anything beyond the basics such as turns taking, pauses and non-verbal interaction if required.
b. It should be understood that quantification is not a substitution to analysis. It fact, it is a pointer to those phenomenon that requires attention thus, further analysis. The idea is, then, not to say that those numbers should be an end by itself. Numbers, in this case, should be looked at as an indicator or a tool that direct our investigation especially if we agree that the presence of certain devices is "a fingerprint" or a characteristic of that context.

This chapter I have summarised the data discussed in the previous chapter in relation to the review of literature and research questions. I have also argued for methodological and pedagogical implications of the use of CA and CL to investigate classroom interaction. The chapter has brought new insight into the linguistic and interactional characteristics of SCLIL.

Chapter 10. Conclusion

10.1. Introduction

In this thesis I have shown how CL and CA work together to give us better understanding of classroom interaction. In the first part of the result I demonstrated the way CL work as a pointer towards the most important linguistics features that plays a very important role in the interaction or what Drew and Heritage (1992) refer to as context “fingerprint”.

I used a corpus of more than 51,000 words to investigate CLIL in the Saudi higher education classroom. In the first part of the analysis I used CL to filter the data and answer the thesis first question regarding the identification of the linguistics features of SCLIL. The use of CL approach helped me in identifying the linguistic features that characterize the teachers as well as the students' corpus. The initial findings suggested that we are dealing with what seemed to be a teacher-centered context where the teachers do most of the talking and the students can hardly be heard. But a further analysis of the data showed that despite the fact that the students speak much less than their teachers they produce more turns that are characterized as being short and most of the time consist of a single-word turn. When the analysis moved to the next phase that deals with the micro details of this context using CA, it shows that those linguistic features that are identified by corpus- driven approach are very important to the flow of the interaction inside the classroom. If McCarthy’s (2005) position form fluency as mutual responsibility of the speaker as well as the listener then the excerpts from this corpus is the best example.

In this thesis we have seen how the students are able to use limited linguistics resources to accomplish very important interactional functions such as taking the floor, pass turns, interrupt, clarify and ask for clarification, i.e. all the important aspects of what McCarthy (2005) refers to as "confluency". Nevertheless, the questions remains whether those features are enough for CLIL classroom as an environment where the students are expected to learn higher thinking skills than speaking skills. Walsh (2011) quotes Markee's (2008) definition of interactional competence as the learners' ability to "co-construct with their interlocutors locally enacted, progressively more accurate, fluent and complex interactional repertoires in L2 (p.161)". However, Walsh (ibid) does not agree on the notion of accuracy, fluency and complexity "as indicators of interactional competence (p, 161)".He seems to agree more with Young (2008, p.100) who define interactional competence as "the relationship between participants' employment of linguistic and interactional resources and the context in which they are employed". The results of this thesis support Young (2008) definition of interactional competence. It shows how the students' creative use of their limited linguistic resources is positively reflected on the flow of the interaction in the context where they used it.

10.2. Pedagogical implications

Based on the results of this thesis a successful marriage has taken place between the students' limited linguistics resources and their use of those resources to interact in this context. But by going back to the problem at the beginning of this thesis, this successful marriage does not necessarily mean successful content-subject learning. In fact, it is been noticed in the identified data the absence of evidence that suggest that the students are learning processes such as identifying, comparing, drawing conclusions and finding similarities and differences that are considered as requirements for learning in CLIL (Coyle 2006). These characteristics are important for CLIL to succeed (Naves

2009). From that we conclude that if we believe learning is "a social activity that is strongly influenced by involvement, engagement and participation" (Walsh 2011) then it is important to raise the teachers' awareness of their use of language inside SCLIL (Walsh 2002) and to encourage them to give the students more opportunities to display having access to those higher thinking skills by techniques that are more sophisticated than just using display questions, or using confirmation check such as "okay", "alright" and "are we good". The results are also a further proof for the importance of the teachers' role in building the students identity as participants in the classroom as a science community (Evintskaya and Morton 2011). It shows that though CLIL seems to be a more naturalistic environment for learning L2, content specific- knowledge requires more skills than the ability to keep the flow of the conversation on. It requires a higher level of language that should be purposely introduced by the teacher to enable the students to compare, describe and locate using L2 as a member of the science community.

10.3. Limitations of the study

Despite the several contributions and the originality of many aspects of this research, it remains an individual effort that has its limitations and shortcomings. However, the limitations of this study, I believe, are due to limitations in space, resources and time. Those factors has pushed me to disregard several hours of the data that I have collected and stick to whatever time has allowed me to transcribe by myself. This has resulted in a relatively small data that does not stand to the level of generalization. Based on that, it is important to mention that this study is not meant to be a generalization about CLIL classroom. In fact, it is an attempt to shed light on some of the interesting aspects of CLIL at the Saudi higher education and similar context.

10.4. Contribution to Knowledge

This thesis is among the few studies that have combined CL with CA in a way that benefit from the strength of each method. As far as I am concerned there is no research that looked at CLIL in the Saudi higher education that used the two methods together. It is also a contribution to the body of research that has been done to investigate response tokens in spoken discourse using a case-by-case analysis to identify the multi-function of "yes/yeah and no" in a classroom context. It confirmed several findings of CA research using a tool that has always been known for its reliability, namely, quantitative method. It also shed light on an aspect that has been always been neglected in classroom interaction, i.e. the learners language. The most important contribution, though, is how language, interaction and orientation to knowledge work together in a classroom to co-construct meaning and keep the flow of the conversation.

10.5. Recommendations for future studies

This thesis is among the few studies that have looked at CLIL within a social constructivist framework. Based on the thesis' results, I recommend conducting more studies that look at CLIL using CA and CL in order to have better understanding of CLIL and to overcome any possible problem related to interaction and consequently, learning in this context.

Educationalists, especially teachers, will benefit from any future study that is focused on the rest of the identified linguistic items in CLIL. The linguistics items that are used markedly higher or lower by the students in SCLIL compared to the teachers should also be investigated.

Revealing the different functions of response tokens in CLIL may have implications for L2 Classroom Interactional Competence and facilitates the preparation of related teaching material.

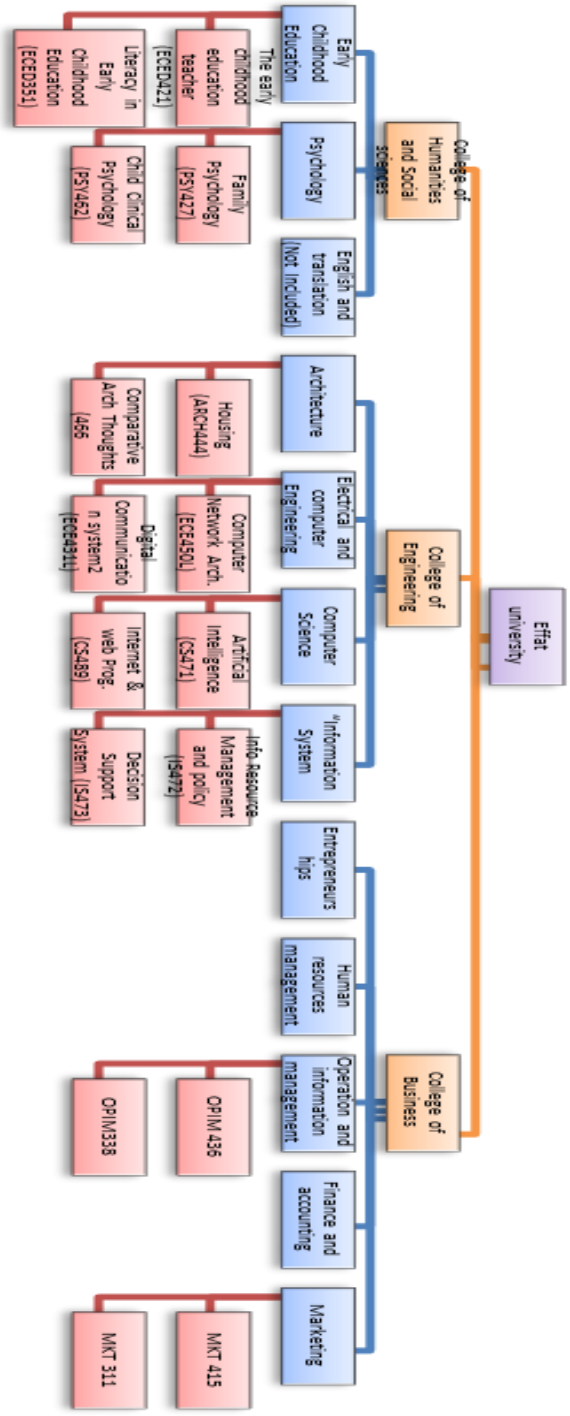
Taking the analysis to a higher level than individual devices such as two, three or even four-word chunks will contribute to our understanding of the way teachers and students interact in this context. Since this study is focused only on CLIL, carrying out comparative studies that look at the interaction inside CLIL and EFL at the same time is highly recommended.

I also recommend duplicating this study in other contexts and taking other variables such as gender and level of education into consideration. This might reveal more in depth and unexpected results.

Finally, investigating how students in CLIL carry out interactional activities such as explanation and problem-solving is highly recommended especially for researchers and practitioners in that field.

APPENDICES

Appendix A



Appendix B

The initial stage of corpus design

Department	Course
Early childhood Education	Development creation and communication (2hurs)
	Or development of artistic skill (2hours)
Psychology	Family psychology(2 hours)
	Or Social work(2hours)
	Or Population sociology(2hours)
Business Administration	Social responsibility in business (2 hours)
	Or risk management(2 hours)
	Or managerial communication (2 hours)
Computer science	Compiler networks (2 hours)
	Or expert systems (2 hours)
Information systems	Decision support systems (2 hours)
	Or Geographic information system (2 hours)
	Or Management information systems (2 hours)
Architecture	Project management (2 hours)
	Comparative architectural thought (2 hours)
Electrical and computer engineering	Signal detection and extraction theory (2 hours)
	Or parallel system performance (2 hours)
	Advanced digital computer architecture (2 hours)
	Computer network analysis and design (2 hours)

Appendix C

Transcription Conventions

Adapted from Hutchby and Wooffitt (2008)

(1.8)	Numbers enclosed in parentheses indicate a pause. The number represents the number of seconds of duration of the pause, to one decimal place. A pause of less than 0.2 seconds is marked by (.)
[ ]	Brackets around portions of utterances show that those portions overlap with a portion of another speaker's utterance.
=	An equal sign is used to show that there is no time lapse between the portions connected by the equal signs. This is used where a second speaker begins their utterance just at the moment when the first speaker finishes.
::	A colon after a vowel or a word is used to show that the sound is extended. The number of colons shows the length of the extension.
(hm, hh)	These are onomatopoetic representations of the audible exhalation of air)
.hh	This indicates an audible inhalation of air, for example, as a gasp. The more h's, the longer the in-breath.
?	A question mark indicates that there is slightly rising intonation.
.	A period indicates that there is slightly falling intonation.
,	A comma indicates a continuation of tone.
-	A dash indicates an abrupt cut off, where the speaker stopped speaking suddenly.

↑ ↓	Up or down arrows are used to indicate that there is sharply rising or falling intonation. The arrow is placed just before the syllable in which the change in intonation occurs.
<u>Under</u>	Underlines indicate speaker emphasis on the underlined portion of the word.
CAPS	Capital letters indicate that the speaker spoke the capitalized portion of the utterance at a higher volume than the speaker's normal volume.
°	This indicates an utterance that is much softer than the normal speech of the speaker. This symbol will appear at the beginning and at the end of the utterance in question.
> <, < >	'Greater than' and 'less than' signs indicate that the talk they surround was noticeably faster, or slower than the surrounding talk.
(would)	When a word appears in parentheses, it indicates that the transcriber has guessed as to what was said, because it was indecipherable on the tape. If the transcriber was unable to guess as to what was said, nothing appears within the parentheses.
+	marks the onset of a non-verbal action (e.g. shift of gaze, pointing)
italics	English translation

Appendix D
Consent Form

As part of this the study I have made a video recording of you while you participated in the research. I would like you to indicate below what uses of these records you are willing to consent to. This is completely up to you. I will only use the records in ways that you agree to. In any use of these records, your name will not be identified. (Please circle as appropriate)

1. I must not be recognized in the records (blur my face)

Photo	Yes	No
Video	Yes	No

2. The records can be used for scientific publications.

Photo	Yes	No
Audio	Yes	No
Video	Yes	No

3. The records can be shown at meetings of researchers interested in the subject.

Photo	Yes	No
Audio	Yes	No
Video	Yes	No

4. The records can be shown in classrooms to students.

Photo	Yes	No
Audio	Yes	No
Video	Yes	No

5. The records can be shown in public presentations to nonscientific groups.

Photo	Yes	No
Audio	Yes	No
Video	Yes	No

6. The records can be used on television and radio.

Photo	Yes	No
Audio	Yes	No
Video	Yes	No

7. The records can be shown to subjects in other experiments.

Photo	Yes	No
Audio	Yes	No
Video	Yes	No

I have read the above description and give my consent for the use of the records as indicated above.

Name _____

Signature _____ Date _____

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