

Discourse in Content and
Language Integrated Learning (CLIL) Classrooms

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Volume 20

Discourse in Content and Language Integrated Learning (CLIL) Classrooms
Christiane Dalton-Puffer

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Discourse in Content and Language Integrated Learning (CLIL) Classrooms

Christiane Dalton-Puffer
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Transcription conventions

Transcription conventions are an abridged and adapted version of Markee (2000, 166–167), itself based on Atkinson and Heritage (1984).

Identity of Speakers

T	teacher
T1, T2	teachers in team-teaching situations
S	unidentified student
Sm, Sf	unidentified male students, unidentified female student
S4?	probably student 4
Ss	several or all students simultaneously

Characteristics of speech delivery

S1: I [see	simultaneous overlapping talk by two speakers
S2: [yeh	
=	latching utterances; if inserted at the end of one speaker's turn and at the beginning of the next speaker's turn, it indicates that there is no gap at all between turns
.. ...	short pause, long pause; within or between utterances
?	rising intonation, not necessarily a question
!	strong emphasis with falling intonation
.	a period indicates falling final intonation
,	a comma indicates a low rising intonation suggesting continuation
goo:::d	one or more colons indicate lengthening of preceding sound
no-	a hyphen indicates an abrupt cut-off
<u>because</u>	underlined type indicates marked stress
ANDI	capitals indicate increased volume
°good°	degree-sign indicates decreased volume
pr[ou]duct	phonetic transcription

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Commentary in the transcript

- ((laughs)) comment about actions, including non-verbal actions
(xxx) indicates a stretch of talk unintelligible to the analyst
(founder) indicates an unclear or probable item
//thanks// indicates the English translation of an utterance made in German
could you **bold font shows material which is currently under discussion**
please start

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CHAPTER 1

Introduction

1.1 What CLIL is and why one should study it

The term *Content-and-Language-Integrated-Learning* (CLIL) refers to educational settings where a language other than the students' mother tongue is used as medium of instruction. While in principle, of course, any second or foreign language can become the object of CLIL, in this study, as well as in educational reality, English is the language which dominates the scene, be it as a foreign language in Europe and many parts of Asia, or as a second language in North America but also parts of Africa and Asia. A whole gamut of terms are in use internationally and nationally (e.g. Content-Based-Instruction (CBI), Bilingual Teaching, Dual Language Programs, English Across the Curriculum, Bilingualer Sachfachunterricht (BiLi), Englisch als Arbeitssprache EAA, and many more).¹ All have their particular historical and contextual roots and accompanying slightly different philosophical implications. However, the term Content-and-Language-Integrated-Learning (CLIL) is now well established in the European discourse on the matter and will therefore be used throughout this study.

The CLIL phenomenon as such is both new and old. Using a language other than the L1 as a medium of instruction is certainly an innovation in the state-financed formal education systems of European countries, which have been strongly oriented towards the conceptually monolingual nation state since the 19th century.² Educationalists like Gogolin (1994) have rightly spoken of the "monolingual habitus" of schooling in this context. Demographic developments, which have transformed European societies into communities that receive immigrants rather than dispatch emigrants, have begun to undermine this understanding, as has the political aim of European integration, embodied in the institutions of the European Union and the Council of Europe. More generally, of course, we are witnessing a trend towards internationalization and globalization, putting pressure on education systems to provide skills which will allow students to stand their ground in international contexts. For obvious socio-political reasons it is this last point in particular which has served as a motivation in many countries to offer CLIL education with English and a small number of other prestigious languages as a medi-

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um of instruction. With some exceptions like the German-French grammar schools which have been in place since the 1960's, in Europe at least the CLIL trend has become particularly visible since the early 1990's.

Despite being a relatively recent trend, CLIL education is also a very old practice. It was a feature of European schooling in medieval times and for a considerable time thereafter, when Latin was the language of instruction. Indeed, state-run education conducted in the vernacular or dominant language of the state territory was a major element in the formation of modern nation states. For members of linguistic minorities this meant and continues to mean that they receive all, or most, of their formal education through a second language. Nowadays, receiving schooling in a language other than their home language is an everyday experience for children and students in many parts of the world.

The term CLIL covers a wide range of educational practices and settings whose common denominator is that a non-L1 is used in classes other than those labelled as 'language classes' (e.g. Snow 1998, 244). The 'other language' is found to be used from kindergarten to tertiary level, and the extent of its use may range from occasional foreign-language texts in individual subjects to covering the whole curriculum. Where exactly the practices studied in this book fall in this wide array of possibilities, will be described in the chapter on data and methodology (chapter 3).

Rationales for the use of CLIL tend to direct their arguments towards the perception that outcomes of foreign language learning in school settings are frequently seen as unsatisfactory, especially in terms of active learner command of the oral registers.³ The sentiment that "The difficulty is not to teach second languages, but to teach them in classrooms" (Oller 1971) seems to be widespread. In fact, a good many pedagogical concerns with foreign or second language learning over the last few decades have addressed the fact that classrooms are widely considered to be places where languages cannot really be learned. Van Lier points out the consequences, if this position is thought through to its logical conclusion.

Of course we can argue, as some do, that successful learners learn more on the street than in class, but if we take that argument to its conclusion, ESL classes are unnecessary and EFL classes useless; in that case the profession [of language teaching; CD] is untenable. (van Lier 1988, 3)

While it is clear that in such an extreme form this position is 'untenable', it has been *the* argument in favor of CLIL education. Especially in situations where the L2 is a foreign language, CLIL classrooms appear to be a clever and economical way of turning classrooms into 'streets', as it were. When there are no 'streets' around the school in which the language could be picked up, one may try to convert school life, or parts of it, into a naturalistic environment where the toils of the foreign language classroom can be left behind.

Undeniably, CLIL classrooms are not typical 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. Mostly in such discussions, language as content of the interaction during foreign language classes is seen in terms of talking about grammar rules and explicit attention to formal, especially grammatical, correctness. Note that such an understanding implies that language classes have no legitimate content beyond metalinguistic knowledge, at most, some cultural information on the target culture(s) (cf. Met quoted in Snow 1998, 259). In how far such an attitude is justified is an intriguing question in itself, but it will not be pursued any further in this context.

The hub of the pro-CLIL argument is that the curricula of the so-called content subjects (e.g. geography, history, business studies etc.) constitute a reservoir of concepts, topics and meanings which can become the object of 'real communication' where natural use of the target language is possible.⁴ In this sense CLIL is the ultimate dream of Communicative Language Teaching (e.g. Brumfit & Johnson 1979) and Task Based Learning (e.g. Willis 1996) rolled into one: there is no need to design individual tasks in order to foster goal-directed linguistic activity with a focus on meaning above form, since CLIL itself is one huge task which ensures the use of the foreign language for 'authentic communication'. In the European context at least, CLIL classrooms are widely seen as a kind of language bath which encourages naturalistic language learning and enhances the development of communicative competence. In other words, CLIL classrooms are seen as environments which provide opportunities for learning through acquisition rather than through explicit teaching.⁵ What is worth noting about the image of the language bath in connection with the concept of acquisition is that it produces a potentially rather passive notion of the language learning process: the learner is pictured as being surrounded by the foreign-language bathwater which somehow stimulates the individual learning process much like hot water in a tub stimulates dermal circulation. This conception mirrors the dominance of psycholinguistically oriented, input-based theories of L2 learning in the discourse on CLIL, even though discussions mostly remain implicit on this account (Brinton, Snow, Wesche 1989, 3). However, the last word has not been spoken on this issue and Snow notes that "that there still seems to be uncertainty as to where it [CLIL] fits in the language teaching scene" (1998, 243).

For some reason, the impact of CLIL has been curiously divided: on the one hand there are substantial grassroots activities by individual teachers or teams at particular schools, by individual schools' programmes and occasionally by local education authorities. This is the main body of CLIL activity.⁶ On the other hand, there is a level of transnational initiatives, often funded by the European Union and/or the Council of Europe, which aim at exchanging and coordinating information on CLIL among different countries in order to disseminate best practice

and instigate professionalization.⁷ Such initiatives, usually in the form of multinational seminars, working groups or conferences, have resulted in information platforms or networks, whose most visible impact is their presence on the world wide web.⁸ Between these two poles of local grassroots activities and the supra-national level I (and many others, I presume) sense a big gap that ought to be closed with concepts and material feeding from two sources. The first needs to be located on the level of national education systems. In Austria, for instance, support of CLIL projects on the national level has been largely discontinued as other 'hot topics' in education such as information technology have taken over (cf. Tucker 1996). National education agencies must, however, continue to be involved because sustained development of CLIL education is crucially dependent on national policies, national curricula and the financing decisions depending on them. The second source from which CLIL education needs to be sustained more than it is at present, is situated on the level of research. Research results which can be fed back into the cycle of development are needed. With an eye to moving CLIL matters towards consolidation, a European think tank on CLIL formulated a number of 'goals' or 'potentials' that should enhance the development of CLIL in the 21st century. Among these is the call to include research-driven expertise to a greater extent than has been done to date in order to allow informed decision making on the future development of CLIL.

Initiatives should be made to include a wider range of expertise in CLIL than has previously been the case. Such expertise, generally research-driven, is needed to explore the multi-disciplinary and holistic features of CLIL. Objective empirical data are increasingly required to substantiate claims made for and against CLIL. The analysis of such data is instrumental in allowing informed decision-making on future development. (www.clilcompendium.com, accessed 4 March 2004)

In this statement from an international consortium of experts lies the perfect rationale for the study presented here. But decisions in research are rarely without a personal dimension. As a university teacher who regularly uses her second language as language of instruction (all classes at my department at Vienna University are taught in English) and is involved in pre-service teacher education, I am a tertiary level CLIL teacher myself. At the same time I am a member of a multilingual family, so that issues of language learning, bilingualism and bilingual education have had a direct relevance for my daily life for a long time. When in the late 1990's CLIL practitioners turned to me for expertise from applied linguistic quarters, essentially boiling down to the question "how should we teach?", I quickly noticed that there was little actual research literature on CLIL-type learning environments outside North America – as opposed to project reports or educational position papers.⁹ This was an important motive for embarking on this study and I

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decided to examine the reality of CLIL in my immediate surroundings. Since this was going to be a study based on naturalistic classroom interaction, on CLIL as it can be observed during actual lessons, it was clear that this was going to be a study about CLIL in Austria. Several years later and with more insight into the CLIL scene elsewhere, I can say that it is a book which has a lot to say about CLIL classrooms in general.

The purpose, then, is to throw some light on the conceptual uncertainties affecting CLIL practice by exploring two key issues. The first is the actual nature of the language bath that CLIL students experience and those areas of language where the 'bath' seems to represent a more (or less) rich habitat. The second key issue is setting these findings into an explicit relationship with expert as well as subjective theories of second language learning in order to arrive at a realistic view of the types and the extent of learning which can be achieved through integrating foreign language and subject content in school lessons.

1.2 The relationship of language and content

A major concern and one of the "main ongoing challenges" (Snow 1998, 258) in most forms of CLIL is the relationship between language and content. This relationship, despite the presence of the word "integrated" in CLIL, is characterized by a good deal of tension and sometimes conflict between the two areas. Much like the centuries-old controversy between the word and the music in opera, the conflict is about the primacy of one aspect over the other. Interestingly, the more frequently articulated voice is that of the content teacher concerned about the consequences of foreign language use on the students' eventual knowledge of the subject (e.g. Felberbauer 1996, Hallet 2002, Schmid 2000, Wildhage and Otten 2003, Ziegelwagner 2004). The concern reflects two fears: firstly, that the foreign language may slow down proceedings so that less subject matter can be covered and secondly, that lower language proficiency may result in reduced cognitive complexity of the subject matter presented and/or learned. The concern is thus about both coverage and depth. Alongside this there is, of course, also the level of professional rivalry between different groups of teachers (e.g. science teachers vs. language teachers) which cannot be discounted (cf. Davison and Williams 2001, 56–57). In actual fact, such tension can be observed regularly within one individual in those cases where teachers are qualified in both fields (as is the majority the case in the present study, cf. chapter 3). In post-observation de-briefings, some teachers in this study repeatedly 'confessed' to feeling "guilty" about having acted "too much like a language teacher" during a particular stage of a content lesson.

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For the time being, in the European context, the problem surrounding the relationship of language and content seems to be resolved mostly along the lines of the old operatic slogan *prima la musica dopo le parole* (first the music [=content], then the language) but without clear criteria why this should be so. After all, CLIL has also been called “an integral part of modern foreign language teaching” (Heindler 1998, 8). Language may not be the designated subject of in-class interaction in CLIL, but there are language-related goals on top of the content subject related ones or else what would be the point of doing CLIL at all? However, these goals tend to remain curiously unspecified. I hope that the groundwork done by the present study will facilitate the development of explicit curricular language goals for CLIL.

The challenge of spelling out what is, can or should be the relationship between language and content in CLIL is considerable, but it is high time that issues are addressed and clarified. Met (quoted in Snow 1998, 258–259) has provided a useful classification which shows that CLIL programmes may actually have different motivations and settings: they may be either content-driven or language-driven and the question is not which one is ‘better’ in absolute terms, but whether everyone is quite clear about which kind of programme they are in, because the implications in terms of objectives and reasonable expectations of outcomes are far-reaching. One aim of the present study, then, is to progress towards clarifying these matters for CLIL in Austria (and by implication, presumably, many CLIL programmes in Europe and elsewhere) and to help further the discussion with findings and notions which linguistics can provide. Since I am a linguist, the focus in this study naturally lies on language issues but equally naturally there will be occasions throughout the book when ‘content’ becomes an issue too. The two cannot really be separated.

Not only can they not be separated with regard to CLIL, they simply cannot be separated at all. With some justification Ehlich and Rehbein regard school as that institution in which a large part of the population will be confronted with language more massively than anywhere else before or after (Ehlich and Rehbein 1986, 1; see also Edwards and Westgate 1994, 16):

Die Kommunikation in der Schule erscheint als eine unablässige, äußerst dichte, selten abbrechende Folge des Sprechens. Die sprachlichen Äußerungen kennzeichnen diese Institution wie kaum etwas anderes.

(Communication in school appears as a continuous, extremely dense and rarely interrupted sequence of talk. Utterances characterize this institution like little else. my translation, CD) (Ehlich and Rehbein 1986,1)

The real and perceived tension between language and content in CLIL thus renders manifest an issue which is actually fundamental to large sections of formal education, but which largely remains below the general awareness threshold as long as

everyone's L1 is the medium of instruction. This is the issue of the relationship between language and learning, and the degree to which some subjects (as school subjects at least) are actually constructed through little else but oral encounters called lessons.

1.3 A constructivist and participatory understanding of learning

The issue of language, content and learning leads the discussion towards very fundamental issues which are not the focus of this study but which permeate its concerns to an extent that they cannot go completely undiscussed in the introduction. I am referring to the necessity of having a basic philosophy of learning which, I believe, is relevant for this study on two levels: on the level of the subject matter I am examining (classroom discourse) and on the level of the research questions which I am pursuing (language learning). On the level of classroom discourse the question of language and learning is relevant for the following reasons: since classrooms are for learning, their purpose will structure and co-determine the ways in which language is used.

By its very nature a lesson is a verbal encounter through which the teacher draws information from the class, elaborates and generalizes it, and produces a synthesis. His skill is in selecting, prompting, improving and generally orchestrating the exchange (Bullock Report 'A language for Life' 1975, 141).

With regard to the question of how language learning proceeds in CLIL classrooms, and what kind of learning is likely to take place, a general theory of learning is necessary in order to sharpen one's focus on the array of language learning theories through whose lenses one can consider empirical findings. Two types of learning theory have strongly influenced my understanding of learning and form a kind of backdrop against which everything that is said in this study should be seen: these are constructivist and participatory learning theories.

While constructivism as such is a meta-theory which has become relevant in numerous fields such as sociology, psychology, psychiatry, medicine, biology, history, linguistics, neuroscience, philosophy, physics, and political science,¹⁰ J. Bruner (e.g. 1966, 1990) is probably the prime intellectual mover of constructivism in learning theory. The hub of Bruner's learning theory is that learning is an active process in which learners construct new ideas or concepts based upon their current knowledge state. This idea is founded in the belief that much human activity is devoted to ordering processes that organize new experiences in terms of previous ones and the mental models the individual has derived from them. That is to say the learner relies on his/her already existing cognitive structures when selecting and transforming

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information during the learning process. Cognitive structures (e.g. schemata, mental models) thus invest immediate experience with meaning and allow the individual to integrate new information into their own knowledge system in an organized way. So, as far as instruction is concerned, the main task of the teacher is to present the material to be learned in such a way that it matches the learner's current state of understanding and encourages students to discover principles by themselves. These pedagogical consequences grow from the constructivist argument that the self is not an isolated island of 'mentation' but that persons exist and grow in living webs of relationships which shape the world of the experiencing self.

Bruner's ideas have been highly influential in educational research in the English speaking world and have been a major inspiration for research on the construction of knowledge in L1 classrooms (e.g. Edwards and Mercer 1987, Lemke 1989, 1990; Mercer 1995, Wells 1993, 1994, 1999, Nassaji and Wells 2000). Constructivist learning theories, with their focus on mental organization, tend to see learning as an individual act, albeit one that is a reaction to experiences made in an environment. Consequently, constructivist learning theory has been instrumental in the re-evaluation of the typical three-step pedagogical dialogue (*Triadic Dialogue*; cf. Chapters 2 and 4).

The second influential type of learning theory is based on the notion that learning hinges upon social interaction and takes place in a context where the knowledge or skill to be acquired is usually required or practised. The beginner or novice enters a community of practice and through participating in the behaviors practised in the community becomes an ever more expert member of that community, gradually acquiring knowledge and skills. The notion "legitimate peripheral participation" was coined for this process by Lave and Wenger (1991) and it is clear that it is applicable to all kinds of apprenticeship-type learning. As a general theory of learning, situated learning is less focused on language than constructivism. However, the theory has been expanded to include the concept of cognitive apprenticeship. Brown, Collins and Duguid (1989) emphasize that

Cognitive apprenticeship supports learning in a domain by enabling students to acquire, develop and use cognitive tools in authentic domain activity. Learning, both outside and inside school, advances through collaborative social interaction and the social construction of knowledge. (p. 39)

Prominent among the intellectual roots of situated learning is Vygotsky's theory of socio-cognitive development. Crucial to his thinking is the idea that social interaction plays a fundamental role in the development of cognition, so that higher

cognitive functions are not ontogenetically conceivable without the individual's interaction with her or his social environment. Vygotsky (1978) states:

Every function in the child's cultural 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 individuals (p. 57).

Since actual relationships 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 linguistic competence but to explain human consciousness as the end product of socialization. Nevertheless, the theory has predominantly been applied to situations of language learning (first and second) and has in recent years acquired a considerable following in the second language acquisition research community (e.g. Hall and Verplaetse 2000, see chapter 9 for more). The central idea is that learners in the learning situation first and foremost use language for social interaction and communication with peers and experts, and that this is the prerequisite for their being able to later internalize what was said as knowledge or competence.

Another important aspect of Vygotsky's theory is the idea that the possibilities for cognitive development at any given time are limited to certain span of potential, which he calls the "zone of proximal development" (ZPD). This means basically that not every kind and amount of learning is possible at any time. Additionally, it depends on the availability of full social interaction whether the full potential of the ZPD can be tapped. This position also implies that the range of skills that can be developed with expert guidance or peer collaboration exceeds that which can be attained alone. From here it is but a short step to the importance of the social embeddedness of CLIL education and to the significance of the learner group and their transactions within their educational speech community, which is one of the cornerstones of the present research design.

1.4 Research questions and goals of this study

The slogan "every teacher is a teacher of English" (Sampson 1934, quoted in Edwards and Westgate 1994, 5) started a process which led English speaking educationalists not only towards acknowledging that educational success is to a large extent language success but also into developing pedagogical measures for language development referred to as *Language Across the Curriculum* (cf. Edwards and Westgate 1994, 5). The same amount of awareness regarding the significance of language

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education for content learning cannot be found in the educational culture of the German-speaking countries. And it is actually only through this general 'invisibility of language' that the language vs. content conflict in CLIL (where language does become visible) can be explained. Occasionally, proponents of CLIL actually confess to a hidden agenda in this respect: they want to stimulate language awareness as such via teaching in the foreign language. Their rationale is that the novelty and challenge of the CLIL experience dramatically raises the readiness on the part of content teachers to reflect on language issues (personal communication).

Besides such general educational considerations there are additional ones, specific only to CLIL. It is clear that in CLIL lessons language is not the designated topic of in-class interaction, but at the same time there must be language-related goals to the enterprise alongside the content-subject related ones or else what would be the point of doing CLIL at all? However, these goals tend to remain curiously unspecified. The *CLIL Compendium*,¹¹ for instance, mentions the following five points as the "language dimension" of CLIL:

- Improve overall target language competence
- Develop oral communication skills
- Deepen awareness of both mother tongue and target language
- Develop plurilingual interests and attitudes
- Introduce a target language

It does not need pointing out that these formulations are highly general. As one gathers information on the language dimension on a less official level, 'enlargement of the lexicon' is easily the most widely and clearly formulated expectation of what CLIL can and should achieve, followed by 'increased oral fluency'. The same ranking of these two points has emerged in all my formal and informal contacts with people involved in CLIL in the course of this project: formal and informal interviews, discussions during and after conference presentations, as well as an informal paper and pencil question posed to listeners during a EFL-teachers' conference. Beyond that, however, it has proved difficult to locate palpable language learning goals, let alone explicit language curricula for CLIL programs alongside the subject-content curricula.

This lack of concrete language aims is partly a consequence, I believe, of a lack of concern, but very much also of the difficulties involved: since language itself (as an abstract system of 'grammar' but also as a set of general 'language notions and functions') cannot serve as the structuring principle of CLIL language curricula, an alternative principle or principles need to be formulated. I contend that these principles are to be sought along discourse-semantic and functional lines. However, but it is not really possible to determine how general these functions should be, i.e. to what extent they can be assumed to be common to 'face-to-face interac-

tion, or classroom discourse in general, and to what extent they have to be seen as specific of the discourse of a certain subject. It is thus necessary to study how language manifests itself in the individual subjects and how they appear in school in order to identify more exactly the potentials and opportunities for language development in the CLIL situation. The present study, then, is intended as a systematic effort to make headway in this direction so that, apart from describing actual classroom events, it also outlines the cornerstones of such a research programme both in terms of research topics and methodologies: what kinds of questions might CLIL research pursue? And what kinds of concepts and methodologies might such research profitably employ?

In this study, then, I take very seriously the contention about the naturalistic learning situation which CLIL lessons are assumed to be. The overarching question which results from this position is: what exactly are the 'natural' conditions under which the foreign language is used in CLIL education? This means that CLIL lessons need to be understood as contextualized events, for the simple reason that all 'natural' use of language for 'real communication' takes place in a specific context. With the concepts and tools provided by linguistics and some of its more interdisciplinary branches I want to determine in some detail which are the conditions under which language is used in CLIL classrooms and what are the linguistic patterns which result from them. This study sets out, therefore, to find what the most significant elements in the CLIL language bath are. If this results in a critique of the assumption that altering the topic of an interaction (e.g. 'world cotton production' instead of the 'Present Perfect Tense') fundamentally alters all the conditions under which the interaction takes place, this critique is intended. Taking the argument that language use is always situated seriously, means recognizing that CLIL lessons are just as much specimens of institutional pedagogic interaction as EFL ones. Accepting this fact is a first step towards grasping the limitations as well as the potential of the CLIL classroom as a language learning environment.

The detailed research questions concerning different aspects of language use in CLIL classrooms are formulated in the empirical part of this book (chapters 4–8). The overarching concern that unites all of these is situated at two levels, the level of description and the level of discussion and evaluation. The former covers the more specifically linguistic aspects of this study, the latter is more specifically applied in nature as it aims at feeding its research results into the cycle of evaluation and development of real educational projects. The present study will thus progress by addressing two umbrella questions:

1. What patterns of language use and language forms are characteristic of CLIL lessons? (chapters 4–8)

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2. What are the implications of these findings for a) the formulation of an explicit underlying model of language learning in CLIL and b) for pedagogical and didactic decisions in the classroom? (chapters 9–10)

This study, then, is concerned with analyzing CLIL classroom language as used by participants during CLIL lessons. In order to structure the sometimes overwhelming complexity of language use in school lessons, I have drawn on the notion of the three functions of language as proposed in systemic linguistics. According to systemic linguistics (Halliday 1978, 1994), each instantiation of language combines three functions and conveys three kinds of meanings: ideational, interpersonal and textual. The *ideational function* refers to the question of what is being represented and what is going on in the world. The *textual function* is concerned with what is prioritized in a message and how a text achieves its inner coherence or text-hood. The *interpersonal function* refers to what kind of interpersonal relationship is being conveyed or constructed and what the roles and relationships of the interactants are. Speaking very generally, languages possess different types of conventionalized formal means to express these functions.

The inherent necessities of a research project involving a single researcher have led to the decision to organize the book around *two* focal areas, the first ideational-textual, the second interpersonal. The textual function has thus been integrated and somewhat backgrounded because dealing with the text-hood of CLIL classroom discourse would mean heading towards a comprehensive genre study of classroom discourse as such, which is not the intention of this study. The two focal areas give rise to the following global empirical questions:

Table 1.1 Global empirical questions in the study of CLIL classroom discourse

Ideational and textual aspects	Interpersonal aspects
– How is the content of the subjects ‘language’ in CLIL lessons?	– How is the level of personal relationships expressed in classroom requests?
– What is the role of questions and answers in this?	– How are issues of feedback and correction dealt with?
– How are typical academic language functions represented in the data?	– How are concerns of face dealt with in both the above?
– What kinds of ‘comprehensible output’ are students required to produce, what are its quantitative and qualitative characteristics and what does this mean in relation to a differentiated concept of communicative competence?	

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As the table shows, underlying these two focal areas, there arises a further question which stands in close relationship to the claim that CLIL lessons enhance the students' communicative competence in the target language.

To the best of my knowledge these questions have not been asked much, some of them not at all, and this book intends to provide some answers based on naturalistic data from Austrian CLIL classrooms. The structure of the book is as follows: chapter 2 provides a global characterization of the lesson as a speech event in general (illustrated with examples from CLIL classroom interaction data) and discusses the theoretical, conceptual and methodological framework used for analyzing CLIL data later in the book. Because of the complex nature of the talk that happens during lessons, adopting a multiperspectival approach turned out to be preferable to theoretical purity. The framework combines several approaches to the study of classroom discourse, each with its individual strengths in making visible specific aspects of the reality studied. The intention of the chapter is to give readers a sense of the more global structures of classroom interaction within which the more specific concerns of the descriptive chapters can be contextualized and made meaningful. In the descriptive parts, individual approaches are selected and combined, depending on the specific empirical questions pursued. Chapter 3 is concerned with the fieldwork that was conducted in order to obtain the data upon which the rest of the book is based. It gives a short overview of CLIL in Austrian schools, describes the data collection process, provides information on the participants, schools, subjects and lessons which have been studied in this project. After this follows the descriptive part of the book, the five individual empirical studies. Chapters 4, 5 and 6 pertain to the ideational-textual focus area, dealing with knowledge construction through classroom talk, the role of questions in shaping classroom language and the role of specific academic language functions like explaining and hypothesizing in the CLIL classroom. Chapters 7 and 8 then deal with classroom requests on the one hand, and feedback and correction on the other, regarding them as expressions of the interpersonal relationships which connect the participants in the classroom in ways that are potentially different from other institutional and informal contexts. Chapter 9 then brings together these various empirical strands and relates the results of the analyses to an enriched concept of communicative competence in order to gauge what kind of communicative competence is likely to result from CLIL classrooms if they are treated as naturalistic second language learning environments. The discussion is set in the context of expert and participant theories of second language learning that have been or ought to be considered relevant for CLIL. Chapter 10 finally draws general conclusions regarding both pedagogical implications of the present findings as well as directions for further research in this area. The empirical exploration of CLIL education has only just begun.

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CHAPTER 2

The classroom as discourse space

The term *classroom discourse* labels a real world event of immense complexity. Whether one experiences it as a live observer, or whether one watches or listens to recordings or studies transcripts, one is invariably overwhelmed by the multiplicity of levels of action and meaning that are present and cannot help wondering at the ease with which the participants move in it and appear to be making sense of it all.

A specific challenge in studying classroom discourse, as compared to other kinds of institutional discourse, lies in that researchers, just as all readers of this book, possess a good deal of experiential knowledge about their object of study. We all know how classrooms 'work' from the inside, very often in both roles as teacher and as student. However, this experiential knowledge is inexplicit and it is one of the characteristics of inexplicitness that it tends to be quite tolerant of ambiguities and unconscious of the coexistence of contradictions. The challenge, then, is to find ways of getting an 'outside view' of classroom discourse which is principled, explicit, and capable of showing significant patterns and regularities. Over the last four decades researchers in education, but also from various other fields, have greatly enriched our understanding of classrooms and the talk which happens in them. Alongside frameworks developed directly for application to classroom discourse, our growing knowledge about the characteristics of other kinds of discourse has also been crucial in gaining a fuller understanding of the events that together make up 'classroom discourse'. In this chapter I will discuss the key points which characterize classroom discourse as one specific kind of languaged social activity.

The tradition of research on instructional talk which I am referring to in this book started in the 1960s and 1970s in connection with the process of educational reform in many Western countries. At that time educationalists started to take an interest in what exactly happens when teachers and students come together to have a 'lesson'. As one of the first, Barnes (1969) analysed mainly teacher questions and how they guide and constrain pupils' choices for contributing to the discourse. Flanders' (1970) scheme for direct classroom observation shares this focus on who controls the topic of conversation but is based on temporal rather than linguistic units. The work of Bellack *et al.* (1966), on the other hand, shows more affinity to

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the descriptive models later developed by discourse analysts. For instance, Bellack *et al.* introduced the concept of 'move' and identified different types of pedagogical moves in classroom interaction (structuring, soliciting, responding, reacting). They also postulated the existence of a 'teaching cycle' – a notion which proved to be highly influential for the description of pedagogical discourse later on (at least in English speaking countries). In all these approaches, discourse is not recorded for subsequent analysis but evaluated on the spot by an observer according to a coding scheme. Methodologically, these sociological approaches rely on direct classroom observation during which predefined observational categories are identified and 'ticked off' as they occur. This yields readily quantifiable data which, however, cannot usually be checked against a documented version of the lesson in which they were gathered. Classroom activity types and their frequency of occurrence have often been investigated with this kind of instrument. Various kinds of observation scheme have been developed and widely applied, the COLT scheme for communicative language teaching being one of them (*Communicative Orientation of Language Teaching Observation Scheme*, Spada and Fröhlich 1995). Nowadays such schemes are mostly used as one of several tools and not as the main data gathering instrument.¹

Alongside this tradition, which often sought to answer practical pedagogical questions, there has always been an interest in the sociology of education, with the 1960s and 1970s being a particularly active period in this respect. The notion that participants in educational encounters act out predefined social roles eventually goes back to this strand of research. Essentially, the goal of this kind of work is to understand schools as part of society and thus to show how classroom life embodies the power relations which hold in society at large (Edwards and Mercer 1987, 15–17). This interest did not always go hand in hand with an interest in the actual talk that happens in the classroom. However, individual educational sociologists like Mehan (1979) did evince a strong interest in fleshing out in detail how language, especially the turn allocation machinery, is used to achieve organization and social order in the classroom.

Studying the establishment of social order and social organization via actions that are not necessarily concrete but often symbolic is also the concern of the more linguistically oriented discipline of pragmatics. Such studies of 'language as action' have often focused on institutional social activities like schools, courtrooms or surgeries and in these kinds of activities *agents* are seen as using the resources of language in *situations* and in pursuit of certain *goals*, an approach which clearly has some basic affinities with the notions of speech event or oral practice. That is, linguistic utterances are examined in terms of pragmatic acts (e.g. Ehlich 1991, Hatch 1992, Mey 2001) where language relies on and simultaneously co-determines the situation in which it is used. In this sense institutions can be seen as

social structures which arise because recurring constellations result in standardized dealings, also those of a linguistic nature.

Ehlich and Rehbein's work (1986) in particular offers an in-depth consideration of language use in school as an institutionalized social activity. They argue that the constellations and goals of institutions imply institution-specific, recurrent action patterns or 'Handlungsmuster' (Ehlich and Rehbein 1986, 5), which on the symbolic level find expression in specific, recurring language patterns. In their 1986 book the authors give an in-depth analysis of four such 'Handlungsmuster' which characterize the knowledge transfer activities in contemporary school lessons: 'Problemlösen' *problem solving*, 'Rätselraten' *solving riddles*, 'Lehrervortrag' *lecturing*, 'Begründen' *reasoning*. Their main argument runs as follows: throughout human history a great number of 'real world problems' have already been solved on a societal level and so institutions were created with the aim of passing on to younger generations the most important of these socially established solution patterns. These patterns form the body of 'educational knowledge'. The institutions, then, serve the purpose of what Ehlich and Rehbein call "akzelerierter Wissenserwerb" (*accelerated learning*): instead of waiting until a problem arises in the lives or minds of the students, motivating them to find a solution (and possibly reinventing the wheel, as it were), the problem is presented to them in the shape of an "Aufgabe" (intellectual problem or task) and they are then expected to remember the existing solution/answer or to try and solve it themselves and thereby learn. From this constellation the authors derive the "first maxim" upon which school operates and that is "Use time efficiently!"

What would invite criticism in the workings of institutionalized education is the fact that the tradition (in the literal sense) of passing on readymade societally sanctioned solutions carries the risk of dissociating the solutions from the problems, i.e. offering solutions for something that has not yet been not experienced as a problem. This implies that the student experiences no real need for a solution and this is thought to hinder 'true understanding'. Modern pedagogy has tried to counterbalance this by requiring that the knowledge be acquired by the students actively and autonomously rather than through a simple process of 'transmission of information'. This gives us the second maxim of modern institutionalized education: "Students should acquire knowledge actively and autonomously!" (Ehlich and Rehbein 1986).

On closer inspection the two maxims are actually in conflict, because autonomous learning cannot by definition be uniformly timed or scheduled, and Ehlich and Rehbein convincingly argue that this discrepancy is actually responsible for the dominance of the Initiation-Response-Feedback (IRF) pattern in classroom talk: rather than presenting the curricular content (the 'solutions') themselves by way of lecturing, teachers systematically use the Initiation move (question) to ac-

tivate the students and elicit contributions from them. These questions are considered to activate the students' existing reservoir of knowledge, and thus lead to active learning through forging connections between 'old' and 'new' knowledge. The interaction pattern thus seems to serve both maxims, seemingly neutralizing the contradiction that exists between them. The widespread presence of IRF teaching cycles in the CLIL data underscores the argument. The discussion of the IRF pattern will be continued in section 2.4.

2.1 School lessons: the speech event

In the early days of the study of classroom discourse the talk which happens during lessons was quite regularly singled out as being different from 'normal' talk, even distinctly 'odd'. Some characteristics which were seen as indicators that classroom discourse is crucially different from discourse in the 'real world' were:

1. the distribution of the talk among participants: two thirds of the talk is the teacher's and about two thirds of his or her talk consists of lecturing or asking questions (e.g. Mehan 1985, Edwards and Mercer 1987, Mercer 1999)
2. the way questions are asked and answered (e.g. Long and Sato 1983, Ehlich and Rehbein 1986, Brock 1986, Stubbs 1983)
3. the tripartite structure of most exchanges (e.g. Sinclair and Coulthard 1975, Mehan 1979, Burton 1981)
4. the way in which participants take turns at speaking (Schinke Llano 1983, Ehlich and Rehbein 1986, Lörcher 1986)

These are the main areas in which classroom interaction has been shown to differ from other kinds of spoken interaction and the implication has often been that if interaction in the classroom was more like talk in the 'real world', learning would be more successful (Sinclair and Coulthard 1975, Long and Sato 1983, House 1986, 53; Lörcher 1986). In my opinion it seems somewhat illogical to argue that the outcome of a pedagogical discourse would be more successful if it was more like non-pedagogical discourse, but the belief that classroom talk is somehow 'less real' than other kinds of talk is still widespread.² For first-language classrooms at least, a certain amount of re-thinking of the issue has taken place, certainly in the literature published in English (e.g. Mercer 1995, Wells 1999, Nassaji and Wells 2000, McCormick and Donato 2000). This shift in position is probably best seen in conjunction with the growing acceptance of constructivist approaches to cognition and knowledge (Bruner 1990, Vygotsky 1978, Wertsch 1991, 1992; see section 1.3). As an illustration for this altered position one may cite Mercer's statement that value judgements on classroom talk "can only safely be made if based on a

proper understanding of what teachers are trying to achieve through talking to children in class” (Mercer 1999, 316).

On the level of observable linguistic fact this more affirmative view of classroom talk has grown from the recognition that classroom language behavior is ‘odd’ only if judged against some abstract and general standard of language use represented by some elusive ‘natural everyday conversation’. Such an abstraction firstly denies the very situatedness of language use itself and it also does not recognise pedagogic action as a legitimate kind of action that has its own specific determinants and requirements.

As indicated, the negative view of classroom talk tends to operate with a rather diffuse picture of what interactions in the ‘real world outside education’ are like. It seems to assume that there is one kind of real-world communication which contrasts in some unique and clearly discernible way with classroom talk and conversely, classroom talk is depicted as possessing features that are never present in any other kind of interaction. To be fair, it has to be said that the more extreme negative judgements on classroom discourse were made at a time when research into talk-in-interaction was still in its early days and the principal ‘real world’ foil, against which classroom discourse was measured, was casual conversation. To the extent that our knowledge about all kinds of spoken interaction, significantly also institutional interaction, has grown, the ‘unnaturalness’ of classroom discourse has been relativized.

A more accurate and also more enlightening picture arises if one views classroom discourse as one item in an array of discourse types that share a set of defining parameters, the values of which vary according to context. In other words, this is to embrace the notion that *every* kind of spoken interaction is a process where participants collectively take and share meaning from the environment in order to accomplish their everyday social lives. This position entails that features of the environment are co-constitutive of how a specific interaction is going to proceed. The term ‘oral practices’ is used by Hall (1993) to capture such moments of face-to-face interaction where a group of people come together to create a shared activity on the basis of a common understanding of the situation and of shared habits and preferences for dealing with it.³

Participants – all members of an interaction

Setting – spatial, temporal and physical conditions

Content – what does or does not get talked about

Purposes – social and cognitive functions

Participation structures – turn taking, roles and rights of participants

Act-sequence – chronological ordering; openings, transitions, closings; formulae

Figure 2.1. Structuring resources which frame an oral practice (Hall 1993, 152)

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Hall's characterization of oral practices is a further development of Hymes's SPEAKING grid (Hymes 1974) but I find Hall's heuristic model possesses greater conceptual clarity (except for her category "rhythm", which I find difficult to interpret and have therefore not included here). Hall stresses that no hierarchy of relationship exists a priori among these elements.

With regard to the *participants*, a number of personal characteristics play a role (age, status, sex), but equally important is the quality of relationships among the participants: are the participants intimates, familiars or socially distant? Are they in a long-term or a short-term relationship? Is the relationship symmetrical or non-symmetrical? The issue of symmetry is relevant to the relative status of individual participants, but also has implications with regard to *roles* since for both, individuals and their roles, it matters what their position is in the societal status hierarchy. Consequently, in a concrete interaction there may be clashes between individual status and role status, as would be the case in the workplace between a young superordinate and an older subordinate, or between a young teacher and mature students. Roles as such may be symmetrical or not, and consequently another question which needs to be addressed in the study of each interaction type (oral practice) is whether there is a differentiation between roles or not. If there is, as in the case of doctor-patient, teacher-student, the roles may be either flexible, with participants being able to exchange roles easily, or stable (both my examples concern stable roles). And since roles are intimately tied to turn taking rights (who leads the talk and who responds), asymmetric roles will lead to asymmetries in the turn taking mechanism which characterizes an interaction. This is an often-noted point with regard to classroom discourse where the teacher role includes priority speaking rights and the right to nominate the other speakers.

Concerning *content*, interactions differ to the extent that the content, i.e. that which the interaction 'is about', is either predetermined or spontaneously decided upon by the participants. The former is typical of institutional talk. Furthermore, oral practices differ with regard to *act sequences*, in the extent to which they follow a pattern or schema, or run through recognizable stages or phases (more on classroom scripts in 2.2). As regards the *purpose* of an interaction, it may be cognitive (exchange of information) or social (establishment of social cohesion, comity; cf. Aston 1988). A perhaps more widely known opposition which captures this distinction is that between transactional vs. interactional talk (Brown and Yule 1983). The two poles of the opposition are not mutually exclusive and real interactions tend to combine both elements to differing degrees.

All these elements, then, inform the shape of an oral practice in general and a specific instantiation in particular, and it is clear that an impressive number of combinations of the different parameters is conceivable. Additionally, specific instantiations are also subject to individual and spontaneous interpretations and de-

cisions on part of the participants. It may, therefore, be helpful to single out two recognizable kinds of 'natural conversation' in order to illustrate parameter configurations and their effects: the two interaction types chosen are a telephone enquiry at a call center and talk at a dinner party (cf. Eggins 2000).

As a typical transactional encounter, the telephone enquiry displays a discernible generic structure with the interaction running through several foreseeable stages. In fact, it seems as if the interlocutors are running through an invisible script. Indeed this is probably exactly what they do, i.e. they follow their cultural script for 'enquiry at a call center'. (cf. Schank and Abelson 1977). Interestingly, in the case of modern call centers such scripts do have a material existence as pre-defined routines in the center's knowledge system which the call center agents are supposed to follow. Furthermore such transactional encounters characteristically have clearly differentiated roles for the interlocutors (e.g. call center agent and caller), roles which are usually strictly adhered to as long as the interaction lasts. The conversational topic (e.g. the information sought) remains constant throughout the interaction and there is a clear sense that there is an end point that is being talked towards. This entails that these interactions are usually short. It is not typical for such interactions to exhibit humour.

Casual conversation (such as talk at a dinner party), on the other hand, can be temporally very extended. People may talk, literally, for hours as they run through a variety of topics, go off on tangents, recycle previous topics, and so on. There is no linearity involved, no sense of heading towards a specific end point. The aim is spending time together and sharing ideas, experiences, emotions, and each others' presence. Usually casual conversation exhibits an element of humour (some times more, some times less). And even though casual conversation is not at all chaotic but a carefully orchestrated interplay of the interlocutors in sustaining the talk (as has been impressively shown by conversation analysts (e.g. Sacks, Schegloff, Jefferson 1974), there is certainly not the same sense as in a transactional encounter that certain phases are being run through and mentally ticked off. There is no script, only a very general frame and a number of small-scale strategies. The roles, if there are any at all, are far more fluid than in transactional conversations; for instance who steers the conversation and who responds may switch from one interactant to the other and back again during the talk.

Let me now turn to examine which features classroom discourse shares with the two kinds of talk-in-interaction just characterized. What classroom discourse shares with casual conversation is its extended nature; even though single instances of it are delimited by the temporal constraints of school lessons (the typical 45- to 60-minute slots), the discourse as such extends over a long chain of such events and sometimes stretches over several years. This has a curious effect on the issue of where the talk is heading. On the one hand, educational talk is of course aiming

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at the fulfilment of long-term educational aims stated in curricula and specified in syllabi. Such aims include the acquisition of certain skills or knowledge of facts or concepts, but also abstract qualities like 'intellectual curiosity' or 'open mindedness', and in this general sense the aims are probably subscribed to by all the participants. This is transactional talk. Within the single event of the lesson, however, there is a certain tendency to lose sight of these aims; if not on part of the teacher, then certainly on part of the pupils. For the latter the ringing of the bell announcing the end of the lesson and passing the time until then in as an agreeable manner as possible are at least as important and certainly more immediate aims than becoming competent citizens in a post-modern society. Equally, teachers crave emotional well-being at their workplace. The long periods of time which often characterize educational relationships actually parallel a context which is prototypically connected with casual conversation, namely family and friends. Classroom talk in school contexts often is talk among familiars, a fact which clearly sets it off against other kinds of transactional encounter. A good deal of the side talk observable in classrooms actually serves this 'casual conversation' purpose and incidentally this is also where most of the humour is to be found. However, there are also further ways in which classrooms show characteristics of transactional talk. For instance, the topics of conversation are largely predetermined either by the curriculum or other requirements of the institution. This means that there is a delimited number of legitimate topics and diverging from them is usually sanctioned. However, some classrooms do give space to 'personal talk' even if only at their margins. Furthermore, transactional encounters include a sense of what is central and what is not and in this sense, too, classroom discourse is transactional. This has to do with the fact that classrooms are generally highly predictable and have a discernible generic structure: lessons run through foreseeable stages (e.g. openings, lecturing, revising, closing), much of the talk is conducted in habitualized patterns and there are even elements of ritual (more on this in section 2.2 below). The roles of the participants are clearly circumscribed and non-symmetrical: there is a teacher and a certain number of students, with the latter embodying a kind of collective role. The distribution of the roles is stable: trying to alter topic nomination practices, for instance, requires considerable effort on the part of all the participants, and lessons where this happens without visible effort are rare events (on such example will be discussed in chapter 5). It has been pointed out (Coupland 1983) that in many service encounters it is actually instrumental for their success that the participants open up their roles somewhat and maintain a personal relationship. In the case of a travel agent, for instance, who can relate personal experiences of a destination, this is valued by both the clients and the travel organization: it helps the client to make a decision on where to travel and it helps the company to make a sale. A similar situation definitely holds in educational encounters: teachers who

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are perceived as 'good' commonly come across as 'whole persons' over and above the requirements of the curriculum. The frequently long-term relationships in school education are a further factor working in this direction. In sum, classroom talk is definitely transactional talk but with distinct interactional elements.

2.2 Roles and scripts: ritual aspects of classroom talk

The above short characterization has shown classroom discourse to be a strongly transactional speech event. Since transactional encounters commonly make extended reference to predefined schemata, this section will give a more detailed account of these aspects in order to discuss which top-down elements define the talk that happens during lessons.

The main source discipline for the central notions in this discussion is cognitive psychology. There, the understanding that human minds have an inherent tendency, even desire, to order their perception of everyday experience has led to the claim that humans learn to interact with the world on the basis of cognitive structures which are shaped through experience (and thus through socialization and culture) but that these structures also shape experience themselves. This basic idea is captured by concepts like *schema*, *frame*, *scenario* or *script*. What these notions share is the basic tenet that humans want to create conceptual order in their experience of the world, and tend to refer novel experiences and expectations of future events to already existing knowledge structures. (Cf. the section on constructivist learning theory in the introduction).

For our purposes it will be sufficient to draw on two main schematic elements according to which participants in classroom discourse appear to orient their behavior. One is the action sequences which recur in everyday experience, the other is the patterns by which the human subjects participate in them. The terms I will use for these schematic entities are *scripts* and *roles*. While scripts provide an overall frame of expectations of how the interaction will proceed sequentially towards its goal, roles offer sets of behavioral choices along which individuals can orient as they fulfil their part in the script. Both scripts and roles, in a sense, lie outside the participants, as they are shared with the other members of the discourse community. Yet participants continuously orient their own behavior as well as their interpretation of the behavior of others on these entities.

Roles

Roles define the expected and acceptable behavior of those who occupy a particular position or carry out a particular set of activities. When relative strangers meet

and talk in order to achieve a specific shared goal they usually take on social roles, and in such (transactional) interactions it is normal for roles to be functionally and hierarchically distinct. Sociolinguistics has come up with two sets of distinctions which appear relevant with regard to roles in educational encounters.

- symmetrical roles vs. a-symmetrical/complementary roles
(e.g. Bateson 1973 cited in Aston 1988)
- positional roles vs. personal roles (e.g. Brown and Yule 1983)

On a general level, in symmetrical role relationships both participants can choose from the same pool of behaviors (e.g. the same set of initiations and replies), while in asymmetrical or complementary ones, for instance, a standard set of initiations from role bearer A receives a standard set of replies from role-bearer B. Complementary roles are typically connected to relationships of dominance-submission or nurturance-dependency, aspects of both of which are built into educational contexts. Because of its directly observable effect on turn taking behavior, the symmetry-asymmetry issue has played a prominent role in the analysis of classroom discourse: beside their task as managers of a multi-party conversation, teachers are also representatives of adult authority and this gives them the power to control the dialogue in both form and content (cf. McHoul 1978). Teachers have the right to speak at any given time, to decide who else will speak and what will and will not be talked about. Whenever a student finishes his or her turn, the right to speak automatically returns to the teacher. This control of student behavior, however, happens not so much through teachers directly telling students what to do, but rather through the expectations built into the patterns of typical classroom activities to which the teachers themselves are also subjected (cf. Lemke 1990, 63).

As I have just indicated, with regard to the teacher's control of form and content two aspects of his/her role can be distinguished: the first is that of manager of the interaction. As in other goal-directed interactions with a larger number of participants such as board or committee meetings, there needs to be somebody who ensures that the discourse proceeds in an orderly manner so that "as far as possible, all participants contribute to, and benefit from, the co-construction of knowledge that is the purpose of the discourse" (Nassaji and Wells 2000, 378). The second aspect is more specific to pedagogical encounters and that is the teacher's role as „primary knower“ (Burton 1981), that is the participant who has privileged access to situationally valid knowledge and truth. Burton mentions two other situations where primary and secondary knowers are involved, parent-child interactions and quiz-shows, but school is clearly the most prominent one.

The positional-personal role distinction captures the tension between the fact that individuals participate in classroom discourse as representatives of a particular 'official' social category (teacher, student, judge, police officer), but also as

agents enacting their individuality. Classroom discourse clearly is an instance where the former plays a dominant role, whereas two strangers talking on the bus or at a party would be mostly an example of the latter. In real interactions, of course, both elements are usually mixed together: participants in the classroom know and perceive each other as “local versions of some abstract identity” (Goffman 1978 cited in Aston 1988, 217) while conversationalists at a party also perceive each other as representatives of social categories defined along the lines of gender, age, class, occupation or ethnicity. Moreover institutional roles or positions are not complete straitjackets or mere givens: participants interpret their opportunities for participation on a moment-by-moment basis so that in reality institutional interaction is a mixture of positions and positionings (cf. Heras 1994, 275). As with many service encounters successful interaction in the classroom requires representatives of the institution to carry out role shifts in order to open up a personal space with their partners in the interaction.

Given that classroom discourse is a type of institutional discourse role complementarity and role stability are clearly important defining elements. However, it should not be forgotten that, while teachers officially have greater power and authority in the classroom, and do generally hold the initiative, “students retain an absolute veto over activities the teacher tries to impose” (Lemke 1990, 71). This is a frequently underestimated force that keeps teachers on the straight and narrow within standard classroom routines, and teachers who want to introduce new activities cannot expect students to welcome these or even to cooperate.

Scripts

The above-mentioned resistance to changes in classroom routines is, of course, not only a reaction to perceived shifts in the interpretation of roles but also a response based on the fact that participants in classrooms orient towards more general knowledge structures about what events in classrooms should be like. Such ‘scripts’ (Schank & Abelson 1977, Hatch 1992) are mental representations of stereotypical event sequences. The most frequently mentioned examples are ‘shopping for groceries’ and ‘eating at a restaurant’, where experience tells us that participants use certain props or features of the environment to carry out certain actions in foreseeable stages and in habitualized ways. Such scripts or conventions are naturally culture-specific. When novices begin to participate in a particular social routine a certain amount of negotiation and explicit instruction is necessary, but once the particular pattern of behavior has been established, the course of the action becomes automatic and routine. According to Goffman (1967) this would actually correspond to a ritual having been established. With regard to classrooms Griffin and Mehan (1981, 199) observe that over the school year and over school careers

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there is an observable decrease in explicit work on establishing behavior patterns. That is to say, in elementary education as well as at the beginning of new school years there is relatively more explicit talk about interactional norms than at other times. In the context of the present study this means that the participating students can be expected to possess well established routines with regard to classroom procedures as they are all at secondary level and can look back on several years of experience in the education system. In this context the question arises in how far specific lingua-cultures and their influence on classroom interaction can and have to be accounted for when studying CLIL classrooms. Since different lingua-cultures can be assumed to give rise to differences in classroom cultures, it cannot be discounted that the use of L2 for classroom proceedings influences the shape of these proceedings or that L1 lingua-culture is a powerful factor. In her work on Hungarian-English CLIL classrooms of the early 1990s Duff (1995, 1996) found clear indications of 'Anglo' classroom practices that were not part of traditional Hungarian school culture. In contrast, the conventions in the Austrian CLIL classrooms observed by myself seem to be well within the practices of L1 German classrooms (cf. the discussion in chapter 7 on issues of politeness).

What, then, are the main elements of such a classroom script? Even though every reader of this text possesses classroom experience and operational knowledge, I consider it important to make these knowledge structures visible by putting the "act sequence" (Hall 1993) into a visible order and labelling the individual stages. Only then is it possible to appreciate the ways in which classroom lessons are similar to or different from other types of speech event. Mehan (1979) postulated that lessons consist of an opening phase, an instructional phase and a closing phase but Lemke's somewhat more enriched sequence seems to me to capture more authentically the rhythm of typical school lessons. (see Figure 2.2)

For each of these steps, there are sets of sub-scripts which are often connected to particular lexical and phrasal realizations. For instance, teachers' bids for Getting Started often contain the words *today* or *yesterday* (today, we are going to look at pressure in liquids). The overall script and the numerous subroutines (e.g. collecting homework, taking attendance) are well-known to all participants and make for the "metronomic quality" of classroom lessons. Griffin and Mehan, however, warn against interpreting classroom interaction as consisting of mechanical, automatic and completely predictable rituals that are endlessly repeated. From time to time elements will emerge spontaneously and give classroom interaction the character of "negotiated convention" (Griffin and Mehan 1981, 200–205), a phenomenon that will be treated in the descriptive chapters of this book. The intention of the present chapter is to outline those aspects of classrooms which are pre-structured, conventional, habitual, established and common. The following section will therefore look at some further schematic elements of classrooms. Not all of these,

however, can be subsumed under the notion of script as they lack of a strictly sequential character or temporal contiguity.

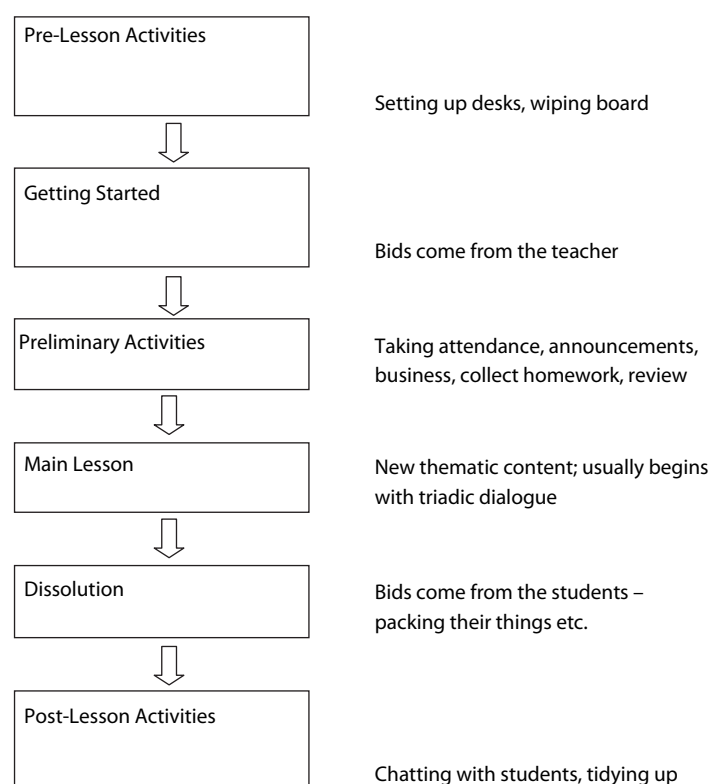


Figure 2.2 Basic lesson script (cf. Lemke 1989, 50–51)

2.3 Classroom registers and activity types

The German socio-linguists Ehlich and Rehbein (1986) have identified an overall structure of classroom discourse which cannot be captured by the sequential representation of stages given in Figure 2.2 above but can be mapped onto it at certain crucial points. This representation of classroom discourse structure takes account of the fact that classrooms are complex scenarios with numerous participants, where different lines of action proceed and different things happen simultaneously. The following diagram illustrates this.

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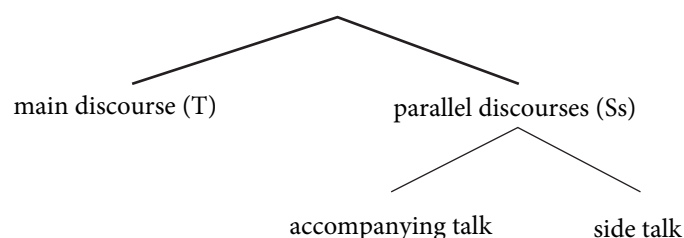


Figure 2.3 A general structure of classroom discourse

The main discourse is firmly in the hands of the teacher, who controls the topic and manages the turn taking. The parallel discourse is controlled by the students. If they remain 'on task' by asking each other for clarification of a term, for instance, they conduct an accompanying discourse which has the same topic as the main discourse. Alternatively, the students may follow their own purposes which have nothing to do with the instructional goals of the lesson. This side talk is where the majority of interactional talk elements can be found, where personal topics have a place and also plenty of humour (cf. Götz 1994). During Pre- and Post-Lesson phases teachers may themselves actively seek interactional talk with students while during "Main Lesson" such initiatives for side talk always originate with the students. Teachers occasionally decide to participate in such talk because they see it as serving the legitimate goal of social cohesion. But normally teachers will aim at keeping the talk during Main Lesson 'on topic' and will sanction student side-talk as un-cooperative (Hall 1998).

Generally only the main discourse is captured in scholarly models and descriptions and is therefore implicitly equated with 'classroom talk' as such. As can be seen from this chapter so far, I will not break with this tradition in the present study and the theoretical and empirical focus will indeed be on the main discourse. There are very practical reasons for this, since it is extremely difficult to obtain usable audio data of anything but the main discourse. At the same time, I consider it extremely important to maintain an awareness that this is not all the talk which occurs in the classrooms studied and that a consideration of the parallel discourses would be an important next step towards an overall assessment of the language potential of CLIL classrooms. In particular questions of code switching and code choice cannot be treated seriously on the basis of the main discourse alone and they therefore fall outside the scope of this study.

Returning to the main discourse, it is useful to consider an additional level of analysis that transcends the strict temporal sequencing of scripts such as the one given in Figure 2.2. What I am referring to here is the differentiation between talk that serves the immediate purpose of instruction and talk designed to organize

instruction and learning. Some analysts add as a third category talk serving social and personal goals. Three such categorizations are represented in Table 2.4 below. Significantly perhaps, the analyses of both Ellis (1992) and Ernst (1994), which feature social talk, were based on elementary school classrooms. The secondary level content classrooms investigated here offered little reason to operate with this third category in the present study, since no cases of social talk in the main discourse were found in the data.

Table 2.4 Descriptors for functional orientations in classroom discourse

	<i>Classroom registers</i> (Christie 2000)	<i>Interactional goals</i> (Ellis 1992)	<i>Types of classroom talk</i> (Ernst 1994)
<i>Content</i>	instructional register	core goals	instructional-informative
<i>Management</i>	regulative register	framework goals	organizational-procedural
<i>Social cohesion</i>	–	social goals	personal-expressive

I have therefore adopted Christie's distinction between a regulative and an instructional register (e.g. Christie 2000, 186–190). The former represents a quantitatively smaller share of classroom talk than the latter, but it frames the instructional talk and gives it purpose, order and direction. Regulative talk typically occurs during initial phases or at transitional stages of lessons and so instructional talk can be said to be embedded in it (Christie 2002, 24–25). Regulative talk is of a strongly monologic nature and does not welcome student interruption or comment. It is geared towards establishing student and/or teacher behavior (more on these issues in chapter 7). Instructional talk, on the other hand, is mostly dialogic in nature and student contributions are invited and essential. This is possibly contrary to the widespread perception of 'teachers spending their time lecturing'.

I will now discuss some aspects of the two registers in more detail. Concerning the regulative register I would like to suggest the working hypothesis that regulative talk is not uniform but can and should be further differentiated according to what is being regulated. I suggest that the regulative register has two aspects: firstly, there are those utterances which have to do immediately with the pedagogical activity connected to the topic of the lesson like instructions for tasks, or requests to start or stop a certain activity (could you start reading on page 84; open your books). Secondly, there are those utterances which refer to the more general personal or physical working conditions, personal needs and well-being of the participants as well as to the administrative requirements of the institution (whose turn is it to clean the board; shall we open the window a bit).⁴ Based on these considerations I would like to suggest an alternative representation of classroom registers where, while the instructional remains embedded in the regulative overall,

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there is a zone where the two are interlaced. This can be graphically represented as in Figure 2.5:

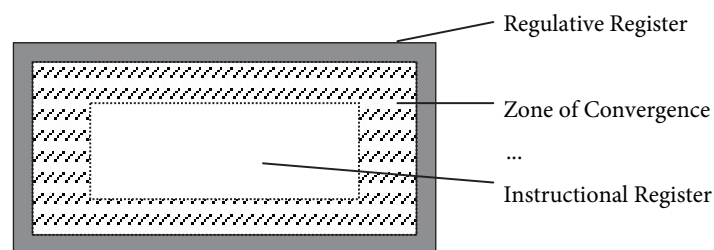


Figure 2.5 A model of classroom registers

This view is backed up by Christie's observation that

Where the teaching is really successful there will be long sequences in which *the two registers converge* [emphasis mine; CDP] as students engage with learning about the 'content' (realized in the instructional register), while working towards clearly defined tasks (realized in the regulative register). (Christie 2000, 186).

Mapping the register distinction on the lesson script represented in Figure 2.2, it can be seen that the instructional register is indeed concentrated in the "Main Lesson", but that the regulative register occurs throughout: before and after the "Main Lesson", but also during it. The distinction between regulative and instructional register will turn out to be highly relevant in accounting for variation in the formal realization of classroom language as observed in the CLIL data.

I would now like to discuss very briefly the main ways in which instructional talk can be organized during the "Main Lesson". This is necessary in order to appreciate which activity structures are represented in the CLIL data and which are not. Each type of instructional talk may be conceived of as a sub-script or sub-routine which forms part of the general classroom script or the macrogenre of pedagogical discourse (Christie 2002). Insightful treatments of the matter have been provided also by Lemke (1989) and Ehlich and Rehbein (1986), but I will limit the presentation to what I consider the basic ways in which instructional talk can be organized. It would not be economical to provide a detailed account of each form of organization at this point, since only a subset of all activity types is observable in the data at hand.

- whole class interaction
- group or pair work (student-led)
- individual seat work
- student monologue
- teacher monologue
- group work (teacher-led)

Figure 2.6 Principal activity types in the instructional register (cf. Hatch 1992, 93)

Whole class interaction consists of the teacher conducting a dialogue with the class as a collective conversational partner. In general the study of classroom talk (as well as the evaluations it has received) has centred mostly on this type of activity and its marked tripartite Initiation-Response-Feedback structure. The teacher ‘owns’ both the Initiation and the Feedback slot and decides whether responses will be individual or in chorus and how the students can bid for turns at talk (volunteering or nomination).⁵ In this connection the question has been raised in how far whole class discussion is actually dialogic in nature since teachers regularly and routinely channel pupils’ ideas “towards a viewpoint held by the teacher but unstated at the beginning of the lesson” (Edwards and Westgate (1994, 110). Interactions of this type are consequently summarized by the authors as “slightly tempered versions of teacher-exposition” (p.111). In a similar vein Ehlich and Rehbein (1986) coined the phrase “Lehrervortrag mit verteilten Rollen” (*dramatized teacher monologue*; my translation, CDP) to capture the character of most whole class discussions.

The second activity type in the above list consists of students working together in pairs or small groups to solve a task with little supervision from the teacher. In these situations it is common for one group member to take on the role of discourse manager, thus acting out part of the teacher role. In CLIL classes this activity type represents a crossroads as regards language choice between L1 and L2: in the present data it was almost invariably carried out in L1 German, as will become evident in many extracts cited in chapters 4–8.

Individual seat work means that students work alone at their desks at solving a problem or task with the teacher available for help. Obviously, in itself this activity type requires no talk but when the teacher is called to help, a true one-to-one dialogue takes place. Student monologue, on the other hand, refers to those instances when students are given the floor for longer stretches of time, giving them a certain authority over topic choice albeit within the limits of the overall topic of the lesson or task. Such situations arise when students give individually prepared presentations or act as spokespersons for a work group. The opposite situation, longer stretches of coherent teacher talk is the classic lecture-type format for presenting curricular information. Lemke (1990, 22–24) has argued that lecturing

offers more coherent expositions of subject-specific meanings and tends to be more explicit regarding subject-specific thematic patterns than whole class discussion. Finally, teacher-led group work refers to a situation where the teacher meets with a small number of students in order to work together on some more extended task. This is a situation where the basic rules of talk are the same as in whole class interaction (turn taking, authority) but is mediated not only by a smaller number of participants but frequently also by a less strictly defined desired outcome.

The ordering of items in Figure 2.6 reflects their likelihood of occurrence in the CLIL classrooms investigated in this study. Whole class interaction clearly dominates the CLIL corpus overall, accounting for at least two thirds of all the talk. There is no lesson without whole class discussion. Group work also occurs quite regularly, though by no means in all lessons, which is also the case with individual work. Neither group work nor individual work tends to take up much time, that is, short phases of these activity types are commonly slotted into an overall flow of whole class interaction. A few lessons have a strong share of student monologue, that is, student presentations. Teacher monologue, on the other hand, is hard to find. In fact, there is no extended teacher monologue at all in the data corpus (!). Also Lemke (1990, 105) notes that pedagogic practice with an emphasis on student participation has led to a reduction of teacher monologue in classrooms, but it seems that in the CLIL classrooms this development has gone quite far. On the surface this appears to indicate a high degree of student centredness in classroom proceedings. However, lack of teacher monologue is not equivalent to de-centralization, as whole class discussions still have the teacher as their hub (see Edwards and Westgate 1994, Ehlich and Rehbein 1986 cited above). Teacher-led group work, for instance, would be different in this respect because it implies that while it is going on, the rest of the class is busy with a different kind of activity (either alone or led by another teacher). This, however, does not occur in my data. Altogether, the clear dominance of whole class interaction makes for a rather limited set of activity types that are realized with some regularity in the CLIL classrooms. Inquiring into the reasons for this reveals a number of factors all of which probably work together to create the situation in the data corpus:

- a) Teachers feel safer with whole class interaction since it is under their control without being stigmatized in the same way as 'lecturing' (Teacher Monologue) is. They therefore decided against other activity types, at least in those lessons where the researcher was present.
- b) Whole class interaction is easier to capture on tape and easier to transcribe, and has therefore been foregrounded in the conversion of raw data to final data.
- c) Austrian content classrooms simply tend to be like this, no matter which language they are conducted in or whether researchers are present or not. Apart

from culture-specific traditions class size is an important factor here: group size in the lessons studied was never below 15, the average was around 25.⁶

Whatever the reasons, the dominance of whole class interaction certainly has an impact on the ways in which students get to use language during their CLIL lessons. Since each activity type has its own specific potential for linguistic interaction, favoring one and excluding others significantly limits the variety of interaction patterns which can be experienced and practised. Selected aspects of this situation and their consequences are examined in detail in the descriptive chapters of this book.

2.4 Whole class interaction and the IRF-cycle

After Bellack *et al.* (1966) had suggested the existence of a “teaching cycle” (soliciting, responding, reacting), Sinclair and Coulthard (1975) were the first to conduct a detailed analysis of naturally occurring classroom talk from a linguistic and discourse analytic vantage point. It should be noted that Sinclair and Coulthard’s work was undertaken not with an a priori interest in classroom discourse per se but in order to lay the foundations for a grammar of spoken discourse in general. It was their intent to extend the rank-scale organization of Hallidayan systemic-functional grammar (e.g. Halliday 1978, 1994) beyond the single utterance. Classrooms were merely intended to serve as a spring board to uncovering the rank-scale organization of less obviously structured forms of spoken interaction.

Thirty years later one can say that Sinclair and Coulthard’s structural-functional approach to spoken discourse has had its main impact in the study of educational discourse and has thereby been exported to other disciplines such as educational psychology and educational sociology, without, however, buying into the entire framework.⁷ Precisely for this reason I will not present the full system of analysis (this is done very succinctly by the authors themselves in Sinclair and Coulthard 1992), but only those elements which re-appear in one form or another in the descriptive parts of this book.

The main rank scale in pedagogical discourse, then, is shown in Figure 2.7 below. This rank-scale is a hierarchical structure where each item consists of one or more representatives of the next lower rank (e.g. an *Exchange* consists of one or more *Moves* of various types) much in the way that *Words* consist of *Morphemes* which themselves consist of *Phonemes* in conventional grammars. Subclasses of the individual ranks are put in brackets.

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Lesson (subclasses not specified)
 Transaction (Preliminary, Medial, Terminal)
 Exchange (Boundary, Teaching)
 Move (Framing/Focusing; Opening, Answering, Follow-Up)
 Act

Figure 2.7 Rank scale in pedagogical discourse (Sinclair and Coulthard 1975)

The top three ranks capture the fact that lessons consist of recognizable phases with different purposes as demonstrated in section 2.3. in the shape of scripts and phases. The exposition there uses the descriptive categories of other scholars because they are partly more developed (e.g. Lemke's structure of a typical lesson (1989, 50–51), and also because a strict application of the Sinclair and Coulthard framework leads to a proliferation of ranks, levels and categories which obfuscate rather than clarify the issues which are of interest to me.⁸

The area where the Sinclair and Coulthard analytic scheme has actually been most influential is at the level of *Move*, especially with those moves which make up the “Teaching Exchange“. This is the habitat of the already mentioned famous Initiation-Response-Feedback (IRF)-sequence which has become the centerpiece of classroom discourse analysis and which I will, therefore, discuss in more detail. For the ways in which the IRF-exchange has been evaluated in pedagogical terms, I refer readers to chapter 4 on knowledge construction. The teaching exchange, then, consists of three moves: Opening, Answering and Follow-Up. Already mentioned alternative terms that are commonly used are Initiation, Response and Feedback/Evaluation (hence IRF or IRE).

Table 2.8 The structure of the Teaching Exchange

	<i>Opening Move (I)</i>	<i>Answering Move (R)</i>	<i>Follow-up Move (F)</i>
<i>Classes of act</i>	Marker, starter, elicitation, directive, informative, check, prompt, clue, nomination	Acknowledge, reply, react, comment	Accept, evaluate, comment

The following extracts illustrate how this scheme is realized in actual classroom talk.

Extract 2.1 Triadic Dialogue, History, grade 10

I	1	T	... which, ah, religion did he have? did, did you, did your article say? Spanish, the Spanish king, Philip the Second, was Catholic, Protestant, Puri...?
R	2	S	Catholic.

F 3 T Catholic, exactly. good.....

Extract 2.2 Triadic Dialogue, Geography, grade 6

I 1 T do you know anything about istanbul.... anything about istanbul. Astra
 R 2 S (xx) two continents
 F+I 3 T yes istanbul belongs to two continents this is the european part and this is the ((points to a map on the wall))
 R 4 S2 As=
 Rsupp 5 T =part of=
 R 6 S2 =asia=
 F+I 7 T =asia yes okay there is a famous street between these two parts a famous street amir

Extract 2.3 Triadic Dialogue, History, grade 11

I 1 T all right. why were sons preferred?... ahm.. Astrid.
 R 2 S1 that they could provide the future citizens and soldiers
 F+I 3 T okay. ah now two more reasons ((laughs)).. Mario?
 R 4 S2 äh to support the parents when they are.. old
 F+I 5 T Yes. and the third reason?... a-ah Verena
 R 6 S3 to inherit a property off.. the parents
 F 7 T yess.... to inherit the property.... right.... aahm.. ((continues with other subtopic))

By way of the Initiation move the Teacher introduces a topic and solicits a relevant contribution from a student. This contribution (which is frequently linguistically minimal) is then often evaluated as relevant or not (as in Extract 2.1). However, it is equally possible that the teacher makes no overt evaluation and the follow-up move serves to develop the material presented in the student response so that it becomes maximally useful for the purpose of the lesson (Extract 2.2). This in itself is conventionally read as a sanctioning of the student's response. Many lessons where new material is covered or old material is revised progress by chains of exchanges like these (Extract 2.3). Note that individual speaker turns may contain more than one move: this holds particularly for the teacher's Follow-on which is often immediately followed by an Initiation move (e.g. turn 7 in Extract 2.2). In the same vein, an individual move may combine several types of acts. For instance, turn 1 in Extract 2.1 combines an initiation with a prompt.

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Since the I-slot and F-slot are reserved for the teacher, and the R-slot for the students, this explains very well why students' opportunities for participation in classroom activities of this kind are limited. Student initiation moves are not entirely impossible, but where they occur they mostly concern procedural rather than content matters. Kramsch notes this important imbalance when she states that

the rights and duties of the teacher in the traditional classroom and those of speakers in naturally occurring conversations shows that the classroom discourse of the teacher parallels quite closely that of interactional partners in natural conversations. (Kramsch 1981, 17)

The implication is that the rights and duties of the student do not show this parallelism and she concludes from this that students should be taught to "speak like the teacher".

While Sinclair and Coulthard's system has certainly been successful in putting the ubiquitous IRF-exchange on the map, it leaves less space for capturing other activity types which also exist in classrooms (cf. section 2.3 and Hatch 1992, Lemke 1989). And while whole class interaction based on IRF-sequences is highly frequent in my data, just as it was in Sinclair & Coulthard's from the 1970s, other forms of interaction can be observed in classrooms. Another drawback of the framework is its rigidity. While being good at capturing the mechanical aspects of classroom discourse, the framework is less good at capturing the dynamism of face-to-face interaction which classroom discourse also possesses. The authors' original intention of using the structural and hierarchical framework to create a grammar of discourse explains this phenomenon. When applied to naturally occurring talk the framework turns into a straitjacket, very much, in fact, as grammars in general tend to do when mapped on natural data. That is why the structural functional model needs to be complemented with other approaches like Conversation Analysis or Speech Act analysis. These approaches will be explained in the next section.

2.5 Classroom talk as conversation

The most radically bottom up approach to talk-in-interaction was developed by anthropologists and sociologists: *Conversation Analysis* (CA).⁹ The approach has long since crossed disciplinary borders (with all the accompanying more or less serious shifts in underlying assumptions) and has been widely used also by linguists interested in discourse in general and classroom discourse in particular (e. g. Mehan 1979, Kasper 1986a, Lörcher 1986, van Lier 1988, McHoul 1990, Ohta 1999, Markee 2000, Mori 2002). The attraction of using CA instruments and

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adopting a CA perspective at certain points in this study on CLIL classrooms is that it 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. This, I believe, allows a clearer view on the similarities and differences between how things are said and done in classrooms and how 'the same things' are done outside classrooms. Because of its distrust of idealizations and abstractions Conversation Analysis offers a radical open-mindedness to the ways in which human beings construct their social activities through talking to each other.

The basic question underlying the CA framework is quite simply "what do we do when we talk?". This is the foundation of the CA view of talk-in-interaction as a generative mechanism or a machinery through which people create social life by taking turns talking to each other. This explains the strong initial emphasis of CA on turn taking mechanisms (e.g. Sacks, Schegloff, Jefferson 1974) where questions like the following were pursued: when is it appropriate for a change of speaker to occur, how can one decide on who speaks next and how is a change-over carried out? Topic and content of the conversation are built and assembled through the dynamics of the turn taking and feedback mechanisms which all conversational partners share. The asymmetrical relationship between the participants in classroom talk lays the foundation for the particular and well-documented turn taking mechanisms prevailing in classrooms (e.g. McHoul 1978, Lörcher 1986, Van Lier 1988, Markee 2000). As a consequence the student role offers little opportunity for rehearsing how to introduce one's own topics and generally take an active, leading role in oral interaction (cf. Kramsch 1981). In the present study, however, special emphasis has been put on another central concern of talk-in-interaction, namely how 'trouble' is dealt with by the participants in classroom talk, which interactive means they use and how these relate to the 'same' activities in non-educational encounters (cf. chapter 8 on feedback and correction).

An important consequence of viewing talk as a "dynamically negotiated interactional achievement" (Egins 2000, 130) is that it becomes impossible to continue adhering to a transmission model of communication where a message and its meanings are supposed to be completely in place before transmission. From an interactional perspective, messages and the meanings derived from them are co-constructed by the partners-at-talk as their interaction unfolds. (cf. chapter 4 on knowledge construction.) It is one of the great achievements of CA to have established the insight that conversational partners are bound in a reflexive relationship.

The research process in CA is designed to emulate the emergent character which an interaction has for the participants themselves: in the same way that the conversation unfolds for them on a moment-by-moment basis, so it should for the researcher. The researcher examines how individual acts and behaviors are inter-

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preted and mutually ratified by the interlocutors, and it is only the ratification which 'makes' the situation, for instance if it is a service encounter or an instance of troubles telling (cf. Aston 1988, 1993), or whether something is repair or error correction. From the analyst's perspective, the 'intention' of speakers should therefore be secondary (this is an important difference to Speech Act analysis in pragmatics, see below) and what counts is how an utterance is handled in the ensuing talk. In practical analytical work this axiom of complete empathy of analyst and participants is not unproblematic, as I discuss in chapter 8 on feedback and correction.

The fact that nothing, not even the most minute detail of talk is a priori unimportant for CA has led to criticism as it leads to a situation where descriptive categories often arise spontaneously and impressionistically, so that very general and very differentiated categories exist side by side. Another respect in which CA does not serve all the requirements of the present study is its low level of concern with the lexico-grammatical realization of utterances and the regularities and variations found in them. In my opinion, however, these criticisms, do not diminish CA's potential as an approach which directs our analytic focus to classroom discourse as a kind of human discourse in general, as something 'normal' and legitimate, rather than something which is basically 'odd'. This, I believe, ties in well with my intention to regard classroom lessons as a kind of oral practice in the context of numerous other oral practices with which they share some features but not others.

2.6 Speech acts and the management of interpersonal relations

An approach to discourse which is concerned with the formal aspects of linguistic acts and the interrelation of linguistic form and pragmatic value is the study of speech acts. Speech act analysis tends to take the perspective of the individual speaker and to study which choices they make, the constraints they encounter in using language, and the effects their use of language has on other participants in social interaction. The approach has proved useful in studying the interactive behavior of second language speakers, and a considerable number of studies in the field of interlanguage pragmatics and second language learning bear witness to this (e.g. Ellis 1992, Eisenstein & Bodman 1993, Takahashi, and Beebe 1993, Trosborg 1995, House 1996, Cohen 1996, Koester 2002).

Linguistic pragmatics views speakers' utterances as symbolic actions and *speech acts* are a particularly well developed take on this general position. It is a decisive quality of speech acts that they represent some underlying intention on part of the speaker which is not directly accessible to the analyst but may only be identified via the form of the utterance, which is produced as a 'pragmatic act'. Consequently, in pragmatic theory a considerable amount of thinking has gone

into the question of what conditions must prevail for an utterance to actually 'count as' a particular speech act (such as through the use of speech act verbs like *I promise*; Mey 2001, 98). However, when speech acts are employed in discourse analysis these theoretical questions usually remain in the background while the focus is on the illocutionary force and interpersonal (perlocutionary) value of different speech act realizations. The propositional content of the speech act (cf. its ideational function in Halliday's terms, cf. Halliday 1994) also tends to remain masked under this perspective and it is probably no coincidence that Representatives (see Table 2.9 below), where propositional content is more prominent, appear to have been studied much less than Expressives or Directives.

Searle's categorization of speech acts as rendered in Table 2.9 usually serves as the theoretical backdrop when speech acts are applied in analysing discourse. The present study is no different in this respect.

Table 2.9 Speech Acts (Searle 1969)

- | | |
|----|---|
| 1. | Declaratives/Performatives require extralinguistic institution for their performance; both fit words to world but also world to words |
| 2. | Representatives imply commitment to the propositional content (truth value) of the utterance: they express beliefs, assertions, illustrations etc. |
| 3. | Expressives express psychological states of speaker: apologize, complain, compliment, congratulate, thank |
| 4. | Directives impose some action on the hearer: command, order, request, advice, warning, permission |
| 5. | Commissives commit speaker for the future: offer, promises, refusals |
- (cf. Mey 2001, 119–124; Celce Murcia & Olshtain 2000, 25)

It is possible to characterize classrooms in a global way as speech situations where certain speech acts are more likely to occur than others. This would effectively link speech act analysis with pragmatic action theory (cf. Ehlich and Rehbein 1986), affording a view on lessons as institutionalized activity chains which naturally limit the kind of 'action' which can take place in them. This would afford a principled way of explaining why expressives and commissives are rare in lessons while representatives and directives are frequent.¹⁰

As indicated above, in the present study the speech act approach has been used particularly because of its potential to uncover aspects of the interpersonal dimension of classroom interaction, using directives as an example (see chapter 7). That is, I use speech act analysis in order to uncover which forms and realizations of this particular speech act can be found in the CLIL classrooms investigated. Such results are of interest because of the light they throw on how the interpersonal relationships are interpreted by the participants. My main interest, however, needs to be formulated conversely: in what ways do the role relationships

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of the classroom determine (and thereby limit) the kinds of speech act realizations which students encounter actively and passively in the CLIL classrooms.

There are some affinities with conversation analysis in the sense that the latter also works with analytical units that are remarkably like speech acts, without designating them as such: openings, closings, leave takings, question-answer sequences etc. Speech act analysis as conceived in pragmatics is different, however, in that a major concern is with details of linguistic form in speech act realization as well as with the effect which their different variants have on the interpersonal level. Also, in their most frequently found conception speech acts are a one-way affair (based on speaker intention) and not bound into longer sequential stretches with the same intensity as is conceived in CA (but see Trosborg 1995, 23–24).

Given the theoretical background of language as action, speech acts in classrooms can be seen as products of goal oriented, purposeful activity on the part of the participants who are operating within a culture-specific matrix. This understanding has a remarkable affinity with definitions of *genre*, especially one like Martin's (1984) formulated within the Systemic Functional framework. It is to this notion that I turn in the next section.

2.7 Genre aspects of classroom talk

In a very global way, the description of CLIL classroom discourse presented in this book is an enterprise in genre analysis, since it is indeed my purpose “to study situated linguistic behavior in institutionalized academic or professional settings”, which is Bhatia's (1997, 181) definition of genre analysis.

Among the various strands in the field of genre analysis I will here make reference to two in particular: the Australian School of genre analysis whose most prominent representative is Martin (1989, 1992, 1997; Halliday and Martin 1993, Eggins and Martin 1997) and the ESP approach represented by Swales (1981, 1990ab) and Bhatia (1993, 2004). The work of the Australian School has grown from Systemic Functional Grammar (e.g. Halliday 1994) with its strong emphasis on the social meanings transported through and created by language. Martin defines genre as a “staged, goal-oriented, purposeful activity in which speakers engage as members of our culture” (Martin 1984, 25). Note the words “of our culture”: the approach is very much concerned with the social and cultural situatedness of communicative practices, and therefore studies carried out within the ‘Australian School’ commonly have had a strong pedagogical and social-emancipatory motivation. At the same time, its roots in linguistics also mean that sufficient attention is paid in this approach to the distinctive semantic and lexico-grammatical structures by which each stage in the schematic structure of a text (spoken or written) will be

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realized.¹¹ The Australian studies have dealt with subject-specific genre clusters and literacies, concentrating on science (talking science, writing science; Halliday and Martin 1993) but also dealing with social studies subjects like history or geography. (e.g. Eggins *et al.* 1993, Veel 1997). For history, for instance, four groups of genres have been identified which take the students from autobiographical recount to the analytical discussion of two contrary points of view: *chronicling – reporting – explaining – arguing*. A similar progression of genres exists in science and the Australian studies mentioned above share the observation that over the years spent at school there is a shift from more spoken to more written. This observation, however, might not be true of Austrian schools, at least not to the same extent.

The other important strand in genre analysis is the so-called ‘ESP approach’ originating with Swales (1990a; recently Bhatia 2004). The research conducted within this strand is almost exclusively concerned with writing and thus not directly transferable to the present data.¹²

An issue which has been worked out particularly clearly by the ESP approach to genre analysis, however, and which is equally relevant for spoken genres is the notion that texts consist of strategic rhetorical steps or phases which are themselves characterized by certain obligatory and optional moves in a certain order. The moves for their part are often connected to specific lexico-grammatical patternings, as in the case of definitions, where the initial move aims at ‘identification’ and is realized through the copula construction *an X is a Y*.

I said above that to some extent the present study is an exercise in genre analysis and we are therefore justified in asking what genre it is we are studying. Unfortunately this is a highly problematic question to answer at the present stage of development of the field of genre analysis. Of course a school lesson could certainly be characterized as an “interactional process that unfold(s) in recognizable stages”, which is Ventola’s definition of genre (1995, 8). On the other hand, classroom discourse is far too complex and multi-faceted to seriously count as *one genre* of the kind that has been studied in detail by genre analysts. At this point it is not my intention even to summarize discussions in the field about exactly what is to be understood by the term *genre* and what language events would count as one and how different but similar ‘genres’ of this type relate to each other.¹³ A particular thorny problem in this connection is to satisfy the need for a certain amount of hierarchical ordering or at least part-whole relations between different objects which have been identified as genres or recognizable constituents thereof while our understanding of the constituency of the objects themselves is frequently still hazy. Definitions, for instance, are such a small-scale entity that they can hardly be called a genre even though, as they are employed within the ESP approach, they consist of recognizable moves. From the point of view of genre analysis as a discipline it would of course be desirable to develop a clear understanding of their

standing with regard to genre constituents, sub-genres, genres proper and macro-genres and the like (cf. Christie 2002, 97–99).

Bhatia's recent suggestion that genres might and should actually be defined and described at different levels of generalization seems a way forward here (Bhatia 2004, 59). Classroom discourse could in this scheme of things be seen as a genre colony (maybe called 'instructional genres') held together by a common but very general communicative purpose, and populated by genres which are themselves defined through their individual, more specific communicative purposes (e.g. teacher exposition or lecture, student presentation). It is however, not among the aims of this study to develop a coherent model of instructional discourse on the basis of Bhatia's suggestion. This would be a research programme in itself.

For the purposes of the present study it was decided to operate on a generic level that is at the same time more general and more specific than instructional genres proper. The activities of defining, explaining and hypothesizing were identified as speech functions which form an integral part of academic work across subject boundaries. In Bhatia's terms these would most likely be "Rhetorical Acts" that operate on the level of "Generic Value" (2004, 59). In this sense then, the relevant chapter (chapter 6) will look at elements recurring in various instructional or academic genres rather than at any specific genre like "chemistry lab report" in particular. The purpose is to explore how these functions are realized in the classrooms and by whom, and also how much explicit attention (if any) is paid to developing such academic language skills in the target language (or any other language for that matter). I believe that some of these generic elements characterize academic and 'decontextualized' language use in general and they can therefore be considered to be relevant also outside the immediate context of the school lesson and transferable at least to other educational contexts if not to learning contexts in general.

2.8 A multi-perspectival approach

The complexity which characterizes classroom discourse as an object of research interest makes it difficult to envisage a theoretical and/or descriptive framework which will do equal justice to all aspects of the event. The top-down perspective adopted in the first half of this chapter (sections 2.1–2.3) aids understanding of the sometimes overwhelmingly complex reality of naturalistic classroom discourse by offering higher-order categories in terms of which the proceedings can be grasped and some conceptual order recognized in (or imposed on) them. A bottom-up perspective (followed in sections 2.4–2.7), on the other hand, seeks to understand classroom discourse by investigating proceedings as they unfold in time. I am convinced that, whatever the purpose of studying classrooms (cognitive, pedagogical,

linguistic, or sociological), a combination of both perspectives will deliver the best results. In a study like the present one, however, where the aim is to obtain a deeper understanding of the linguistic potential of the CLIL classroom for foreign language learning, a combined perspective is indispensable.

This kind of shopping round for theoretical and descriptive frameworks has not been much in favor in applied linguistics and the study of language acquisition, where adherence to sometimes very specific schools of thought and research traditions is very common and undeniably useful in the interests of theory development. If however, the aim is to obtain a broad grasp of as many aspects of a complex piece of reality as possible, in order to create a basis for solving real-life questions, it will be advantageous to choose judiciously among a number of theoretical-methodological options according to the specific question pursued.

In the study of talk-in-interaction in general, such theoretical and methodological pluralism has always been part of the enterprise, with sociological, cognitive-psychological, philosophical, linguistic, and semiotic approaches providing rich cross-fertilization. A successful example of such an eclectic approach is provided by Eggins and Slade's (1997) analysis of casual conversation. Recently, this position also seems to be making its way into applied linguistics. Green and Dixon (2002) argue that

...the promise for Applied Linguistics, particularly in educational settings, rests not in the purity of a particular tradition but in the purposeful and systematic development of a *coherent set of perspectives* [emphasis mine, CD] either within a particular study or within Applied Linguistics in general (Green and Dixon 2002, 404)

Of the perspectives on classroom discourse which I have presented in this chapter, some have been developed in a more sociology and communication-oriented environment, some are more directed towards language structures. Reality of course does not support such strict divisions, and there has been considerable cross-fertilization between related areas in different disciplines like anthropology, cognitive psychology, education, ethnography, linguistics, and sociology over the years. The diagram below illustrates the particular set of perspectives explained in this chapter and chosen for this study of CLIL classroom discourse.

It is hoped that in combination these perspectives will allow a rich enough description of the talk happening in CLIL classrooms to enable us to evaluate their full potential as environments in which a foreign language can be used and learned.

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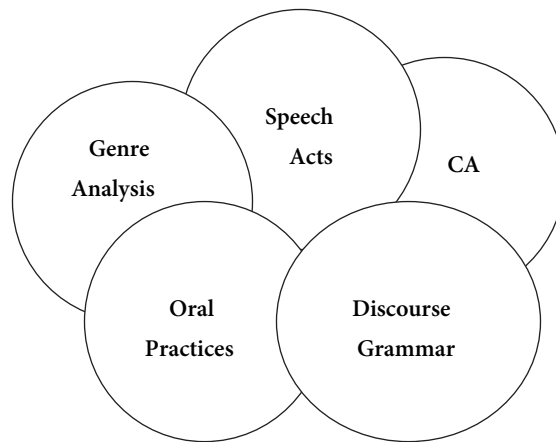


Figure 2.10 Perspectives on classroom talk used in this book

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CHAPTER 3

The study – setting, methods, data

3.1 The sociolinguistic and institutional context of CLIL in Austria: a sketch

As users of English Austrians belong to what Kachru (1990) would call to the “expanding circle” of communities where English is used as a foreign language for international communication. Austria is also a typical European country in that it has a dominant national language (German), constitutional rights for several (smallish) autochthonous minorities whose languages (Czech, Hungarian, Slovenian and Croatian) are a national language across one border or another, plus a sizeable immigrant population, originating especially from south-eastern Europe and Turkey. Despite the inevitable differences in national language policies, education systems and educational practices, I believe Austria can in many ways be regarded as representative and indicative of the overall multilingual and sociolinguistic landscape in European countries. From this I would deduce the claim that conclusions about CLIL education drawn in the present study are generalizable to a certain degree to many European countries and possibly beyond.

During the last fifteen years or so, it has become increasingly commonplace for mainstream schools in many European countries to use English as a medium of instruction in some or all non-language subjects. There are several factors which have conspired to support this educational practice both on a European political but also on a national, local and even personal level. Firstly, this form of education is strongly supported by the European Commission, as it is perceived to be in line with the language policies of the EU aiming at creating ‘plurilingual’ European citizens for the future (see e.g. *CLIL/EMILE – the European Dimension*; European Commission White Paper 1996, 44ff). Despite the fact that the European political ideal of plurilingualism explicitly targets the lesser spoken languages, in reality English is the language predominantly chosen as the language of CLIL education, reflecting its ever increasing role both as the European lingua franca and as the most influential international language (e.g. Hoffmann 2000; Seidlhofer 2002, Breiteneder 2005). European language policies have thus paved the way for the implementation of CLIL education in many countries while global sociolinguistic

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developments are furthering the choice of English over other community languages as the preferred language of instruction.

In Austria the political climate for launching foreign language teaching initiatives was particularly favorable in the early 1990s because of the country's upcoming accession to the EU (Austria joined in January 1995). This impetus was reflected in a number of foreign language teaching (FLT) initiatives on various levels of the education system: the extension of early foreign language learning to grades 1 and 2 of elementary education, the creation of fully-fledged bilingual school programmes at selected locations within the state education system, and finally the movement which came to be known in Austrian educational circles as *Fremdsprache als Arbeitssprache* (FsAA – Foreign Language as a Working Language). It is of course the last item on this list which the present study is concerned with. Subsequent political initiatives supporting foreign-language-medium learning and teaching were the European Commission White Paper 1996, which actually mentions and recommends the use of the first foreign language as a medium of instruction at secondary level, “it could even be argued that secondary school pupils should study certain subjects in the first foreign language learned” (p.47) and the European Year of Languages 2001.

Even though all these initiatives were in principle directed towards all the foreign and second languages officially represented within the Austrian education system (French, Spanish, Italian, Russian, Slovenian, Croatian, Hungarian, Czech), in reality English dominates the scene very strongly, as seems to be the case in most European countries (cf. Smit 2004, De Cillia 1995).

Alongside European and/or national educational policies, the unprecedented status of English as a global means of communication and its prestige as the lingua franca of international business and trade have served as powerful motivating forces in favor of CLIL education. Programmes are sometimes initiated in response to parents' demand (as was the case with the original French Immersion programmes in Quebec in the 1960s) and sometimes even with the support of local business organizations. Where the initiative comes from the schools, CLIL programmes are enthusiastically embraced by the 'customers': certainly by the parents if not always, initially, by the students themselves. In a recent survey in one of Austria's federal provinces, 25% of all lower-secondary schools self-reported to have conducted CLIL projects of some sort over the last five years. If one considers only the academically-oriented among these schools (Gymnasium), the percentage is 45% (Gierlinger 2007). There is reason to assume that at upper-secondary level, especially in the upper-vocational sector, percentages are well above the 50% mark.¹

Interestingly, and not untypically, the implementation of CLIL in Austria has been very much a grass roots movement. The teachers who started the CLIL ball rolling were often in mid-career, with plenty of professional experience, looking for

a new challenge and new avenues for professional development (cf. my characterization of the participating teachers in the next section). Subsequently the innovative impetus was taken up by many school heads, seeking to enhance their school's profile and customer appeal through advertising CLIL as part of the school programme.² In this way sometimes teachers who were not initially inclined towards CLIL were also edged into the practice. In general one can say that a great deal of energy and effort has been put into individual projects at numerous places. Initial teacher education programmes in Austria do not, as a rule, include separate modules on CLIL, but some postgraduate qualifications have been developed,³ the latter frequently doubling as in-service CLIL teacher education programmes. These are usually organized on a regional basis. Individual school-based measures are also known to have happened, mostly following strong demands from practitioners.

Somewhat atypically for the Austrian education system in general, the formal provisions regarding the use of foreign languages as medium of instruction are very general and non-restrictive.⁴ Under these circumstances it was possible for individual schools and teachers to start experimenting with one of the many variants of CLIL without having to overcome endless administrative hurdles before they even started. This attitude was explicitly supported by the national center for school development (ZSE Graz) which created a CLIL task force in 1991. The project group stressed the great variety of forms which CLIL can take: from using single foreign language texts in certain topic areas, to teaching whole curricula in the foreign language. Despite the activities of the project group regarding organizational and didactic advice (curriculum analysis, materials development, analysis of teacher development needs; e.g. Abuja 1996, 1998, 1999; Abuja and Heindler 1993, 1996, Abuja *et al.* 1995ab, 1996, 1997, 2000; Kaiser 1996), there is, as far as I can tell, as yet no sense of a consolidated CLIL scene that would follow clearly defined curricular models, working towards explicitly formulated objectives. The general fragmentation of the CLIL scene is also reflected in the above-mentioned lack of nationwide statistical information on the matter.

Apart from a generally favorable atmosphere and a positive sometimes even enthusiastic response on the part of students and parents (cf. Ziegelwagner 2004, Fronaschütz 2003), the gratification of CLIL teachers is almost exclusively symbolic, the satisfaction deriving largely from meeting a professional challenge successfully. There are no financial rewards, no reduced teaching hours and sometimes not even extra funds for additional teaching materials. Quite a number of teachers have been practising CLIL for several years now, and there is a rising awareness that it is time for reflection and consolidation. CLIL teachers at a workshop expressed as one of their desiderata improved conceptual backing for the enterprise.⁵ As pointed out in the introduction to this book, the same need is formulated in the European CLIL Compendium.⁶

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Generally in Europe empirical research on CLIL education has only started to become visible since the year 2000 or so and currently seems to be gaining momentum as reflected in the appearance of collections of articles, the organization of conference sections, workshops and research networks (e.g. Wode 1995, Zydati 2000, Bonnet and Breidbach 2004, Dalton-Puffer and Smit 2007, Dalton-Puffer and Nikula 2006). Reflection on CLIL practice in Austria has happened mostly in the shape of practitioners' action research (e.g. Gergitsch and Kracher 1999, Staudner 1999ab, Annau 2002) in connection with a nationwide postgraduate CLIL diploma. Some research has been done for MA and PhD theses (e.g. Felberbauer 1996, Peter 2000, Trentini 2000, Ziegelwagner 2004, Mewald 2004, Haunold 2006), all but the last two with a strong emphasis on the content subjects taught through the medium of English. This emphasis seems to grow out of a concern for the interests of the content subject under CLIL conditions and there is often an underlying criticism of official and semi-official documents which suggest that CLIL is a "definite component of modern foreign language teaching" (Heindler 1998, 8; in Abuja 1998; translation mine). The present project is an important move towards checking such claims against a broader empirical and theoretical basis.

3.2 Research concept

The present study is designed as a predominantly qualitative study of naturalistic classroom interaction in CLIL contexts. It aims at uncovering practices of language use in these classrooms and matching them against underlying rationales and theories about second language learning. The main elements in this research concept are represented in the following diagram.

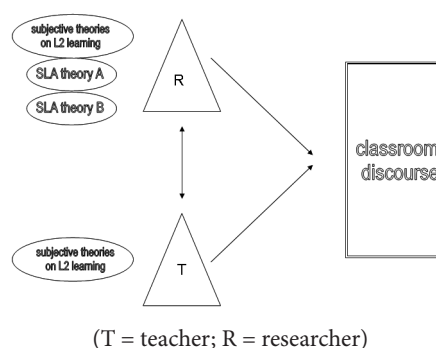


Figure 3.1 Basic elements forming the focus of this study

The main object of interest is English-medium classroom discourse itself and as it is viewed by the researcher (R). R occupies a vantage point essentially outside the field itself, a vantage point characterized by an array of expert theories concerning spoken discourse in general, educational discourse in particular plus theories concerning L2 acquisition and learning. These co-exist with the researcher's experiential knowledge and subjective theories derived from personal language learning and teaching experiences. The same object is also viewed and reflected upon by the teacher (T), who is simultaneously a participant in the field requiring ongoing decisions and actions from her or him. These actions are in turn informed by the personal theories (implicit and explicit) of the teacher. It is therefore of great interest for R to gain an insight into the views which T has on the main object, classroom discourse.

It is noticeable that the students, who clearly are participants in classroom discourse in equal measure to the teachers, are not included in the present concept as having a separate perspective on the main object of interest. This was a conscious decision which arose from the limitations set by a research project that involved only one researcher. It is, however, desirable, that the perspective of the students be included in future research on the matter.

Given the basic elements of the study just introduced, the following instruments were employed to generate data and evidence for answering the overall research questions.

- Recordings of naturalistic CLIL classroom discourse
- Teacher interviews in order to access participants' theories about second language learning in general and their own CLIL classrooms in particular
- Document analysis of (semi-)official publications on, as well as the study of specialist SLA, SLL and CLIL literature

In the following I will discuss in more detail the setting/s in which the recordings of classroom discourse took place and characterize the participating students and teachers. Subsequently I will describe the process of data collection and give a global characterization of the resulting data base of 40 CLIL lessons.

Schools

The aim of the present study is to portray CLIL as it can and indeed does happen at any average school with average resources, without the provisions of special funding or other institutional support, but simply based on the initiative of school teams or individual teachers. For this reason official bilingual school programs in the Austrian public sector like *Vienna Bilingual Schooling*⁷ or the fully bilingual grammar schools in the provincial capitals were consciously excluded from data

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collection in order to ensure consistency in the database. The database for this project thus contains lessons from lower-secondary level (age 10–14; grades 5–8) and upper-secondary level (age 14–19; grades 9–13) respectively. At upper secondary level, the Austrian school system diversifies into general academic and vocational academic schools, all leading to university entrance qualifications. Both types are represented in the data. My aim was to assemble a set of cases that can count as representative for the Austrian educational landscape at secondary level in and around the urban centers. In the absence of nationwide or even regional statistical information on how many schools and which schools run CLIL programmes (cf. Nezbeda 2005), the selection of schools for inclusion in the study had to proceed incrementally, with the researcher tapping her own local knowledge and the knowledge of her professional and private networks. The following table gives an overview of the schools participating in the study.

Table 3.1 Schools in the CLIL study. Classroom recordings November 2001–February 2003.

	Characterization	Teachers	Subjects	Classes (sizes)	Grade
LOWER					
School 1	General academic Vienna	T1-SKO	History	1 (28)	Grade 6
School 2	General academic Vienna	T2-MEI	History, Physics	1 (25)	Grade 6
School 3	General academic Vienna	T3-BUC T4-GER	Physics, Biology Geography	3 (77)	Grades 5–7
UPPER					
School 1	General academic Vienna	T1-SKO	Music	1 (21)	Grade 9
School 4	Vocational Tourism, Vienna	T5-WES T6-WIE T7-FRO	History; Business Studies; Accounting; Tourism	4 (74)	Grades 10–11
School 5	Vocational Business, Vienna	T8-EAN	History	2 (41)	Grades 12–13
School 6	Vocational Business, Linz	T9-BAM	Marketing	1 (16)	Grade 11
School 7	Vocational Technol- ogy; Linz	T10-BAE	History	1 (23)	Grade 13

In all the schools initiatives for teaching content through English were welcome and enjoyed a certain amount of positive publicity, which does not mean that there

was not also resistance from part of the teaching staff. Students attending CLIL classes derived some prestige and self-satisfaction from the fact (source: interviews, personal communication, Fronaschütz 2003). The degree of school-internal support varied greatly, ranging from individual teachers reporting that their initiative was largely regarded as their personal hobby, to efforts on the part of school administrators to relocate human and financial resources (e.g. native speaker assistant teachers, textbooks) towards the CLIL teachers and classes. At the time of data collection, school 1 was experimenting with setting up a stream with a CLIL focus and had set aside a small portion of teacher T1's weekly teaching hours for supporting content teachers. School 3 had set up a CLIL stream three years earlier, and the oldest students had reached grade 7 in September 2002, when the last recording was made. School 4 had also implemented a CLIL stream some years prior to the recordings, aiming at dedicating at least 50% of classroom time to English-medium teaching in all subjects. At the time of recording a new school project involving IT and the use of personal notebook computers in all subjects had begun to outrank CLIL as the school's prestige stream, a fact which elicited open comment from the students during lessons.

Students

Altogether 305 students in 14 classes participated in the lessons which were recorded for the project. The size of the classes in which they found themselves ranged between 15 and 28. That is to say the teacher-student ratio is rather high compared to the situation reported for Finland by Nikula (2005). There is not only a wide age range (11–19) but also a variety of social backgrounds: the general academic schools were situated in different parts of Vienna with different socio-economic profiles, while the vocational schools commonly have a wide, socially rather unspecific catchment area. The majority of the students have German as their L1 and home language. Especially in schools 2, 4 and 5, however, there is a sizeable share of multilingual, German L2 speakers, reflecting the mixed population of present-day Vienna. There are at least some German L2 speakers in all classes. The home languages of these students are mainly Bosnian/Croatian/Serbian, Turkish, Macedonian, Albanian, Russian, Hungarian or Polish. All German L2 students had been in the Austrian education system for long enough and successfully enough to give them access to higher schooling. Given the monolingual habitus of the Austrian school system (cf. Gogolin 1994), German is probably their stronger language for higher literacy functions. The students' contact with English was mostly established through foreign language classes from elementary grade 3 onwards, with EFL classes intensifying from grade 5 onwards (five hours per week in grade 5). All were having EFL lessons parallel to their CLIL lessons. In school 3

there was a handful of students who spent some time abroad in an English-speaking country with their parents and several more who learned English through private tuition or intensive English programmes at elementary level. Outside school, the German-speaking environment provides students with little contact with the English language other than through pop lyrics and the general presence of English in the linguistic landscape of modern cities. Because of the fact that the German-speaking countries dub all films and TV programmes, the students have very little opportunity to watch media products in the original English version. In Vienna there are a number of movie theatres programming films in the original version and visits are sometimes organized by the teachers, but this can hardly count as regular contact with English outside school lessons.⁸

Teachers

The ten teachers (eight female, two male) are Austrians (nine) and American-Austrian (1) and thus all but one are native speakers of German. The one exception is U.S. American by birth but received her teacher training at an Austrian university. The teachers are mostly in their forties, possessing between 15–20 years of professional experience; T4 is younger but also very experienced, while T7 was in her first professional year after a career change from tourism management to teaching. As teachers in Austrian secondary schools are qualified to teach two school subjects, the most frequent CLIL scenario is for an EFL teacher to teach his or her 'other subject' through the medium of English. There are five teachers who fall into this category, their second subjects being History, Religion, Tourism and Business Studies respectively. As English language specialists they possess well-developed metalinguistic knowledge and a high degree of language competence, usually acquired not only during university study but also through extended and repeated stays in English speaking countries. Two of the teachers also live in bilingual English-German family situations. T1, the native speaker of American English, is a balanced bilingual qualified to teach EFL and German L1 language and literature. In CLIL lessons her role is to co-teach with the German speaking subject teacher, but two of the lessons recorded were conducted by her alone. The other teachers have qualifications in subjects other than EFL (Geography, Science, Business Studies) and have acquired their English-language competence through various channels: study abroad, extended stays in English-speaking countries, travel, or working for international companies who use English for internal communication. In some lessons in school 3 and school 4 assistant teachers are present who are native speakers of English. One is Australian, the other U.S. American: neither of them has specific teaching qualifications either in ELT or in the respective subjects but they are employed as 'all-rounders' similar to teacher T1. There is, however, an

important difference in that the latter takes on the role of leader of the interaction in the classes that she co-teaches, whereas the two assistant teachers never fully assume that role, even when the subject teacher hands over the running of an activity to them. They are, therefore, strictly in the assistant role as a language resource, and the last word regarding speaking rights or content is always with the class teacher. Nevertheless, the non-EFL teachers who had this opportunity said that they greatly appreciated the confidence boost provided by the presence of an English native speaker in class.

Data collection

The classroom data were collected in the seven schools between November 2001 and February 2003. Recording equipment was normally introduced after an initial visit to introduce the project and to observe the class. The lessons were audio-recorded only. Videotaping would have been unfeasible because of the many locations, which made it impossible to set up one room with all the recording equipment (video and audio). Additionally, in Austrian schools it is teachers who move between rooms rather than students. In practice the tight schedule of everyday school life meant that setting up the audio equipment alone was barely achievable in the time slots available. The audio-recording equipment was always visible to the participants, but after the first session even the youngest students stopped paying attention to it. During a recording session a professional double microphone (mounted at a 90° angle, emulating the dimension of human ears) was placed on a stand in front of or among the front rows of desks, facing away from the teacher. In this manner the pick-up of student speech from the back rows was surprisingly good and transcripts of whole class discussions with a low degree of inaudible material could be achieved. The material was recorded on a Sony digital tape DAT recorder and later transferred to CD for transcription purposes.⁹ In group work situations two microdisc recorders were used to record the interaction in randomly selected groups. No attempt was made to cover all the talk in all the groups in groupwork situations.

The database

The final database consists of 40 lessons taught by the ten participating teachers. Fourteen lessons, just over one third, stem from the lower-secondary grades.

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Table 3.2 Corpus size

<i>Number of lessons</i>	<i>Classroom time</i>	<i>Number of words</i>
40	1770 minutes 29 hrs 30 minutes	226 900 Ø 5700/lesson

Though nominally individual lessons last 50 minutes and would amount to over 33 hours running time, the average actual lesson lasts 45 minutes because the usual five minute breaks are often too short for teachers to travel across the building to their next class.

Transcription proceeded in two stages: raw transcripts were produced by graduate research assistants.¹⁰ After a global check the researcher decided on the basis of the raw transcripts which incidents, passages or extracts were going to be of interest for the various research questions and those parts of the transcripts were then refined by the researcher herself. The transcription conventions used (see Appendix) are a slimmed down version of the standard conversation analytical conventions (Atkinson and Heritage 1984, ix-xvi) as adapted by researchers like van Lier (1988) or Markee (2000) for the purpose of studying classroom interaction. All participants have been anonymized in the transcripts; numeral indexes are used in the data extracts to identify individual speakers (S1, S2, etc.).

Although concerned with a large range of different topics at different grade levels, and in groups of different sizes, the 40 lessons in the database can be characterized in global terms with regard to the prevailing interaction patterns. The dominant activity type, by far, is teacher-led whole class discussion, featuring the typical IRF-pattern in long stretches of Triadic Dialogue. It is possible that the extent of this dominance of one activity type is an artefact of the observation situation, since whole class interaction is easier to record and the teachers may have planned their lessons accordingly, even though they were asked to conduct “business as usual”. Another reason might have been that whole class discussions give the teacher better control of the direction in which the interaction is going, making teachers feel more secure about delivering an effective lesson in the unusual situation of being recorded – even though they said that the equipment and the presence of the researcher was not disturbing them. A third reason for the dominance of whole class discussion is, I believe, that this form of classroom activity is simply very frequent in Austrian content classrooms. This is not to say that pair work and group work activities do not happen. They do, especially frequently in history and geography lessons, whose subject-specific teaching cultures have become more student-centred than those of most other subjects in the Austrian school system. Another regular feature in the upper-secondary classrooms are student presentations (i.e. student monologues) either reporting on a more extended

group work task or based on individual research. What is quite remarkable is the absence of teacher monologue: students experience teachers asking innumerable questions and rephrasing or summarizing students responses but never (!) as providing a coherent, monologic exposition of a certain topic or concept.

The atmosphere in the classes recorded was generally co-operative and friendly, possibly enhanced through a solidarity effect caused by the presence of an outsider. What was noticeable was the complete absence of personal topics of conversation regarding, for instance, problems with another class member, or with other classes or teachers. For students this taboo also included talking about grades they had received on tests written in previous lessons. These and similar matters were always deferred to the 'next lesson' i.e. one without the presence of the researcher.

Teacher interviews

In order to gain a perspective on the CLIL classrooms that would complement that of the researcher, narrative interviews were conducted with all the participating teachers. The intentions of this interview are rooted in the principles of professionalization research (cf. e.g. Hackl 2002, Borg 1999, 2003), namely that all professional behavior arises from a foundation which combines explicit and implicit knowledge. In other words the day-to-day actions of professionals are guided by both, the knowledge they acquired during different stages of their education and training, and also by the relevant experiential knowledge they have assembled throughout their lives in their profession and outside it. It is evident that personal experience strongly co-determines the way in which the knowledge base acquired in the course of professional training is shaped and used in professional practice. The interview guideline was structured accordingly into three sub-topics:

- The teacher's own language learning history
- The teacher's personal language learning theory
- The teacher's CLIL teaching situation

The first subtopic was chosen chiefly in order to learn something about the personal experiential background of that teacher with regard to language learning. It was anticipated that these experiences would feed into their personal language learning theory, but this relationship was found to be less straightforward than imagined (cf. chapter 9). The rationale of the second subtopic was to find out about the motivations, attitudes and explicitly formulated theoretical positions that may inform the teachers' actions and pedagogical decisions in the CLIL lessons. The third theme was concerned with the professional history and current professional situation of the teachers as well as their goals, planning practices, problems and satisfactions with CLIL. Several interviewees expressed satisfaction about the fact

that the interview had at last given them an opportunity to think about these issues in a coherent form.

The ten interviews yielded over twelve hours of material. The interviews with the two teachers who were personally known to the researcher before the onset of the research project were conducted by my colleague Ute Smit, whom I would like to thank for her support on this occasion. The interviews were tape-recorded and subsequently transcribed by the researcher. Analytical methods for interview data are well documented in the literature (cf. several contributions in Flick, Kardoff and Steinke 2000, Goetz and LeCompte 1984, Spradley 1979). Given the focus of this book on structural and functional aspects of classroom language, only a selection of interview topics is discussed in this report. These deal with specific points that promised to widen the perspective derived from the lesson transcripts themselves.

Other types of data

Even though the forty classroom lesson recordings form the core of the project database, with an additional perspective derived from ten interviews, further material was assembled to complement the evidence from the transcripts. These are

1. Field notes made by the researcher during the observation and recording of lessons
2. Teaching materials used in the 40 lessons
3. Official and semi-official written materials concerning CLIL issued by schools and education authorities

The *field notes* were primarily aimed at recording background information which might be useful at the moment of transcribing. These contain sketches of the layout of classrooms, location of doors, windows, desks, blackboards, recording equipment, and the seating arrangements. This helped to identify individual speakers during transcription. Note was taken of any significant events or nonverbal actions that would not show on the audiotape but would be valuable at transcription stage for explaining what was going on. Note was taken also of any other circumstantial information that seemed relevant at the time. Short protocols of the interaction with the teachers before or after the lesson were also made if anything pertinent to a research question had been said. The field notes were complemented by copies of the *teaching materials* employed in a particular lesson, which were kindly provided by the teachers. These sources are not drawn upon systematically but constitute background information on the spoken classroom interaction to make clear what is being referred to in some stretches of talk.

A further group of data sources collected are *written materials*, mainly official and semi-official publications produced by the education authorities at different

hierarchy levels (such as EU position papers, regulations and guidelines for CLIL, legal texts, ministerial decrees, curricula for training courses, publications by the Austrian CLIL development project group, sample lesson plans), and schools' own PR materials like web pages and brochures, where they exist. These throw interesting light on how the aims of English-medium instruction are formulated and on what conceptual grounding these appear to stand. It is not expected that underlying theoretical assumptions will be stated explicitly. Interpretive methods like thematic coding were therefore applied. As with interviews, there is ample documentation of these methods in the literature within the qualitative paradigm (e.g. Flick/Kardoff/Steinke 2000, Strauss & Corbin 1990, Mayring 2002) Given the dynamic of the research process which strongly foregrounded interaction in the classroom, these materials now occupy a more marginal position in the project than anticipated (but cf. chapter 9).

3.3 Methodological reflections: the researcher and the field in qualitative classroom-based research ¹¹

Since the early nineties qualitative research methods have been gaining ground in research on language learning and teaching. By now it is a buoyant field that is showing signs of consolidation. Overviews of classroom research dedicate sections to it (e.g.), and leading journals and organizations of the field have issued guidelines and research standards (e.g. TESOL Research Agenda 2000, AILA ethical standards document). A common denominator to be found in all of these is a strong awareness that research is a process in which researcher and 'the field' interact. From this follows the importance accorded to reflexivity and transparency of the research process, honesty about the subjectivity of the researcher and about the limits of what we can know (e.g. Müller-Hartmann and Schocker von Ditfurth 2001). In this section I would like to address some of these points with reference to the present research project.

All research activity is informed by personal motivations of one kind or another. Some research traditions have ignored this, and have pronounced it a defining characteristic of scientific activity that the researcher as a person remains completely outside. While this stance has been somewhat shaken even in the 'hardest' disciplines (e.g. Pietschmann 2002), it has always been difficult to maintain in the social sciences. Bringing the researcher's subjectivity into view is not the same as turning research reports into confessional literature, but there are aspects of the researcher as a living and feeling human being which are directly pertinent to the object of the research and the interpretations derived from it whether we want it or not. It is my conviction that laying them open and making them visible has a

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great advantage. The influences are there. If we know what they are, we can take them for what they are and need not take them for something else that might distort our view in less tractable ways. My intrinsic personal motivations for becoming involved in the topic I have briefly discussed in the introduction. Here I will focus on the relationship and interaction between the researcher and the people 'inhabiting' the CLIL field, most importantly the teachers. On this basis I will develop a general model of role repertoires available to the parties concerned that can be of help in developing awareness of the complexities involved.

Negotiating access to the field

Even though the focus of this project is classroom talk it would be a mistake to conceive of 'the field' as just the classroom itself. A wider conception is necessary since classrooms are deeply embedded in an elaborate institutional structure called 'school'. In the context of this section I do not wish to discuss the numerous theoretical aspects of school and education as institutions which social and educational research have identified and, at times, hotly debated. It is my purpose to draw attention to the various groups of people involved and the positions they occupy in relation to the research project. In general one can identify the following groups of stakeholders (in alphabetical order): education authorities, head teachers, parents, political entities, professional organizations, students, teachers. For the present project, with the classroom lesson at its center, they can be viewed as a constellation which takes the form of concentric circles or an onion. (Figure 3.4)

The actual focus of the research, the classroom with students and teacher, takes center position. It follows that other research questions would involve other constellations even though the stakeholders might be the same. Initially, the researcher finds herself outside this constellation and she should, in principle, remain there. However, this can hold only on an abstract level, because in order to actually do the research and answer the research questions, the researcher needs to gain access to the field. She needs to be there in order to find out what is going on and in doing this s/he temporarily becomes part of the field in a small way.

Considering the loose (if any) relationship between applied linguistic research and the educational system in Austria, it is understandable that I approached the task of negotiating field access with some reservations and even trepidation because I anticipated resistance. Very much like most other researchers in school contexts (cf. Schachter and Gass 1996), I did not attempt to gain access to the field via the students, even though they form the largest group of stakeholders and are the actual target group of the whole institution (at least officially). However, they are also in the lowest hierarchical position. Apart from that I decided that it would probably be best to work several layers of the onion simultaneously. This meant

addressing education authorities (at ministerial and regional level), school administrators and individual teachers. The rationale behind this was that really the central agents, the teachers, should to be addressed first since their openness to the project was paramount and I assumed that they would be likely to react hostilely to an interference with their daily work which they perceived as decreed from above, like many other things in their professional lives. At the same time it was necessary to ensure the back-up of educational decision makers at higher levels of the hierarchy so as not to endanger the project after it had already got under way. The motto for this phase could thus be said to run ‘the teachers are not everything but without the teachers everything is nothing’.

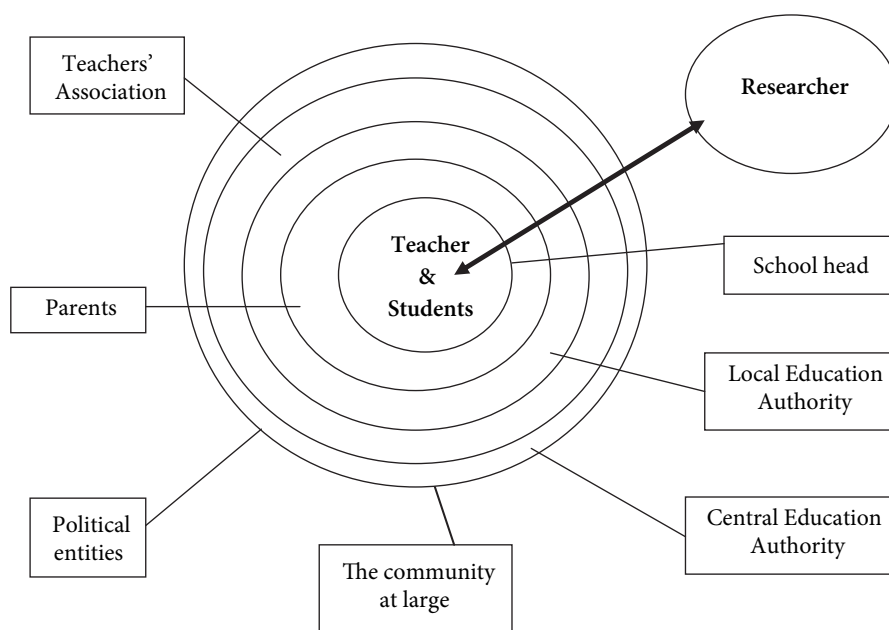


Figure 3.4 Participant structure of the field ‘CLIL classrooms in state education’

Perhaps unsurprisingly, at the highest hierarchical level negotiations turned out to be easiest. Upon reflection two reasons can be identified for this. One is very prosaic: research activity to be carried out in classrooms which are other people’s workplace is not going to affect the policy makers’ daily lives in any way at all. Hence, there are no personal reasons for employing avoidance strategies. The second reason is more serious. As a rule, policy makers are involved in orchestrating the implementation of relatively abstract policy goals or themes like “language learning for a wider Europe” or “IT Initiative”, often expending a considerable

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amount of personal effort. By the time an individual policy has reached implementation stage at grassroots level, the central offices frequently find themselves busy with the next theme or policy so that feedback about impact and outcome of what they did frequently eludes them. Despite the recent obsession with “evaluation for quality control” on the individual school level, the educational sector in Austria, it seems to me, is not embracing the idea with the same gusto on the more general level of policy implementation. In this light, the offer of a research project conceived and financed entirely by somebody else (even though public money was being spent here as well) must have seemed like something that one has not much reason to refuse.

Attitudes and reactions were somewhat more ambivalent at the next layers of the onion: local education authorities and head teachers. I see the reason for this in that they are more directly answerable to parents as clients and the parents could regard research activities as jeopardizing their children’s learning success and file complaints. On the other hand, research does carry a certain amount of prestige and may therefore be turned into a marketable asset in the increasingly competitive educational marketplace. Furthermore, it must not be neglected that classroom-based research is also an instrument promising information of what ‘actually goes on at the assembly line’: after all, despite their shared position at the end of a chain of command, teachers and students are in a position to conduct the central transactions of teaching and learning largely behind closed doors.

Clearly, the reactions on part of the teachers were going to be most central to me since it was their daily work which would be most directly affected by letting a researcher into their classroom. They would have to carry on business as usual under conditions which were not quite ‘as usual’ and I therefore considered it likely that teachers would react more strongly to the potential infringement of their territory by an outsider. The literature on the topic repeatedly expresses concern for the rapport between teachers and researchers (Flowerdew and Miller 1995, Flowerdew, Li and Miller 1998; Schachter and Gass 1996). Quite to my surprise and relief, however, I found open doors almost all around. The reasons for this absence of the anticipated resistance are without doubt multiple and include the following factors: teachers are generally helpful people, in most cases contact was established by way of personal networks (addressing the friend/colleague of a friend), teachers who use CLIL are pre-selected for open-mindedness, initiative and professionalism, and, finally, becoming part of a research project was perceived as a form of acknowledgement of their work. This last reason may be significant because the extra effort and expertise necessary for implementing CLIL is not acknowledged either financially or symbolically (e.g. by promotion) in the education system. I contacted some twenty teachers, negotiated with fifteen of them and finally visited the classrooms of ten. This short statement sums up a

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time-intensive process. The many months I spent working contacts, co-ordinating dates, travelling between schools, waiting in corridors, talking in staff rooms and sitting in classrooms represented an intensive social experience so that I think it was only natural for me to start philosophizing about how the teachers (probably) experienced my involvement. The next section is dedicated to the organized presentation of these thoughts.

The relationship between teacher and researcher: a model

Applied linguists do fieldwork in many areas of professional and social life and, as in all social research, clarity about the researcher's position vis a vis his or her subjects is of great importance. Two factors need to be considered especially in situations where applied linguists and language teachers work together. The first factor is one which applied linguistics in educational settings shares with educational research in general. It consists in the fact that in such settings researchers bring with them a rich repository of personal, experiential, in short biographical, knowledge of the field. Such knowledge is much thinner (if it exists at all) in other contexts of applied linguistic research such as courtrooms, hospital wards, business meetings and the like. As a long-time participant in the business of education (also as a university teacher) doing research in school classrooms, the applied linguist thus easily finds herself an "insider in a strange land" (Pajares 1992, 323) or vice versa "an outsider in a strangely familiar land". Educational research has started to address this particular constellation (e.g. Hackl 1994) but the relationship between applied linguistics and language teaching reaches beyond this in one very significant aspect: for a language teacher to have an applied linguistics researcher in their classroom is arguably a greater incursion into their professional territory than for a science teacher. A science teacher has the possibility to adopt the stance that, if the researcher wants to look at language, that is fine since language is not his/her responsibility; after all a science teacher is there to teach science. For language teachers it is arguably more difficult to affirm their 'own territory' in this sense since both, teacher and researcher, are in the language business and often share significant parts of their university education.

In approaching the question of how the many complex teacher-researcher interactions within this project could be grasped it became obvious that the concept of *role* would provide a useful foothold (e.g. Malamah-Thomas 1987). By virtue of being carriers of roles, the people within the research field are construed as subjects participating in the research process, rather than objects that are merely being looked at. It also means that the perception and ascription of roles is not one-sided ('teacher sees researcher as *xyz*') but mutual. It is also the case that 'researcher sees teacher as *xyz*'. Upon reflection a whole spate of possible ascrip-

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tions and roles can be identified. As they mostly come in pairs of semantic opposites they have been arranged in this way in Figure 3.5.

subject – analyst		equal – spy
insider – outsider	active – passive	give – take
observed – observer	expert – novice	helper – client
host – guest/intruder		supportive – threatening

Figure 3.5 (Some) Role pairs available in the teacher-researcher relationship

Several comments on these notions are in order. Firstly, none of the contacts with teachers I have experienced can be sufficiently characterized by one role pair alone. Rather, such relationships are multi-dimensional, and several if not all roles are co-present in a particular teacher-researcher dyad. Secondly, there is the fact that the distribution of roles is quite fluid. With the possible exception of the pair “subject-analyst” all roles may be filled by both teacher and researcher. And in any particular teacher-researcher dyad they may move from one to the other over time. Additionally, contradictory stances may be simultaneously present in both participants in the interaction. The *insider – outsider* pair may serve as an illustration. Though initially clearly the outsider, the researcher may be given insider status by the teacher through the perception that “we know what this kind of teaching is like but the head of my school has no idea”. Conversely, the teacher may feel like an outsider if s/he perceives the researcher as part of a larger network including other CLIL teachers and experts while s/he is “doing it all alone” at her school.

In the following I would like to comment on several other role pairs. Let me first turn to *expert – novice*. The general philosophy of qualitative research is quite explicit and positively affirmative about the expert status of the members of the field. There is no doubt that the teachers are the experts for their own situation. Nobody knows it as intimately as they do and it is this expertise which the researcher depends on for gaining an ‘emic’ view of the field. At the same time the researcher represents an institution which stands for scientific knowledge, a type of knowledge that is frequently regarded as of higher status than its non-scientific counterparts. Even though things are slowly changing, the conviction is still dominant that because of its higher rationality scientific knowledge is superior to non-scientific and everyday knowledge. This, in turn, accords the researcher *qua* being a representative of scientific knowledge the status of an expert. If everyone in-

volved operates within a framework which accepts the scientific–non-scientific hierarchy, the contention is that if practice integrated more rational, scientific arguments, then practice would improve. It is natural that this conditional relationship has more subscribers within the scientific community than outside, but this does not stop practitioners from expecting scientific enquiry to deliver pertinent diagnostics and quick-fix solutions in particular situations, an expectation which is bound to lead to disappointment more often than not.

I believe that such a science-centred conception can and should be altered, since the relation between theory and practice need not necessarily be thought of as hierarchical. The two can also be seen as two different kinds of knowledge which are qualitatively different and which stand in a dichotomous relationship to each other. Scientific and experiential knowledge would thus be regarded as the two sides of the famous coin, meeting at the superordinate level of professional knowledge (cf. research design diagram earlier in this chapter).

Another role, which can be rather problematic in a research relationship, is that of the ‘spy’. For the present project it has been advantageous on several occasions that (while being publicly funded), the research was not commissioned by anyone. None of the powers-that-be sent me to look over people’s shoulders and to report back on what they were doing.¹² In actual fact, my experience was teachers often wanted to help this person from the university to gather data for her study. If this is all there is to the transaction, the relationship remains one-sided: the teacher gives, the researcher takes.

An important instrument in achieving the give-take equilibrium is the written agreement containing exactly what it is that the researcher wants (how many interviews and how long, how many school visits, which written materials...) and also what the teacher will receive in return (tapes and transcripts, feedback, the possibility to give the researcher observation tasks during the lessons where she is present). On the basis of such a formal framework teachers were quite ready to conclude a deal which, even if it meant no extra work, was certainly not less work for them. In this set-up, it is always clear when the researcher starts asking for something ‘extra’, so that teachers need not worry in advance that the intruder may continue to make demands on their time indefinitely.

Being in the giving position rather than a more reciprocal one may actually feel sager for the teacher, because with the roles thus firmly cast, the researcher can be expected to take away the data without giving any potentially disconcerting feedback. The researcher, too, draws a seeming advantage from this interpretation of the situation because there is no pressure on her to produce results that can be quickly translated into pedagogical practice. This is of course far removed from

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the aims formulated by, for instance, the TESOL Research agenda. It says that the results of studies in language learning

help members of the TESOL profession to improve processes, conditions, and outcomes of language teaching, learning, and assessment.

(*TESOL Research agenda 2000*. [accessed Feb 02] <http://www.tesol.org/assoc/bd/0006researchagenda01.html>)

A more or less converse situation prevails in typical action research: teachers are researching problematic aspects of their own practice as defined by themselves and may use the researcher as an instrument, counsellor or moderator in a self-initiated process of change (cf. Babel 1994). Even though the present project is clearly not action research, some elements that do point towards teachers' needs have repeatedly surfaced in the research process: post-observation conversations, interviews and probably the sheer fact of having another interested adult present in one's classroom for several hours tend to stimulate reflection and raise questions. At later stages of the project I was asked by some participating teachers to give them draft versions of chapters to read and was invited to present results at teacher education events.

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CHAPTER 4

Content teaching, meaning making and the construction of knowledge

In chapter two I discussed how every instance of language use is embedded in a web of determinants which together constitute a specific speech event or oral practice. Conversely, one may say that every piece of language, in our case classroom talk during school lessons, makes a statement about the world, about the participants and their relationships as well as about the discourse of which it is part (cf. also Halliday 1978, 1994). The fact that the interpersonal and the ideational, relationship and proposition are intertwined emerges every time one considers a stretch of naturalistic data. The focus in a specific interaction, however, may be more on the interpersonal or more on the ideational, and in school lessons it is ostensibly the latter which is dominant (cf. section 2.1), since the declared purpose of such lessons is the recreation/transmission of those subject specific themes and topics which have been declared as curricular knowledge.

The following three chapters are all concerned in one way or another with how this 'subject matter teaching' is embodied in CLIL classroom talk. The first of these chapters (chapter 4) will consider some general mechanisms of interactive talk and examine how they are put to use in the business of content subject teaching. While subject-specific lexis is probably the most obvious embodiment of 'the subject' in classroom talk, general practices of interactive talk such as topic management, turn taking and repair are also heavily involved in how content is represented, constructed and languaged in the classroom. I therefore consider it crucial to explore how such general interaction strategies are put to use in classroom discourse for the build-up of curricular concepts. Subsequent chapters will look more specifically at the role of questions and special academic speech functions in the pursuit of this aim. In all cases my focus is on the linguistic level. That is, I am concerned with what the *language* looks like as a consequence of its employment in content teaching. After exploring the interpersonal dimension of classroom language (chapters 7 and 8), the final chapters of this book will then be dedicated to discussing the implications that the facts of classroom language have for language learning (e.g. Boxer and Cohen 2004, Seedhouse 2004).

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An equally important focus *can* of course be put on the consequences which these uses of language have for the learning and understanding of subject content, which is the field of educational linguistics. Though the aims of the present study lie in a somewhat different (but adjacent) area, the interrelation of learning content and learning language is such that educational linguistics has necessarily played an important role in developing my own analysis. That the interrelation of language learning and content learning is a timely topic once again, at least in the English speaking countries, is attested by significant number of recent book publications (e.g. Bloome *et al.* 2005, Foley 2004, Christie 2002, Marton and Tsui 2004, Schleppegrell 2004). To the extent that chapters 4,5 and 6 are concerned with the ongoing construction of subject matter teaching in the classroom, they also connect immediately to the classroom-based research on CLIL that is being done in the German-speaking countries (e.g. Bonnet 2004, Breidbach *et al.* 2002, Zydatisß 2000, Lamsfuß-Schenk 2000, Lamsfuß-Schenk and Wolff 1999 etc., Ziegelwagner 2004, Vollmer *et al.* 2006), as this research scene is primarily concerned with questions of subject content learning, subject-oriented teaching methodology and the impact of CLIL on both of them. Other than in studies coming from that research community, however, my theoretical outlook as well as my analytical perspective remain oriented towards the learning of foreign languages rather than content subject facts, concepts, or skills even though the two can never be separated in real terms.

4.1 Introduction

Focusing on how content is embodied in CLIL classroom discourse touches upon a number of major and very basic issues in the field of language and education. It is not possible for me to deal with these either broadly or deeply (but cf., for example, Edwards and Mercer 1987, Edwards and Westgate 1994, Mercer 1995, Ehlich and Rehbein 1986, Barnes and Todd 1995 and the recent spate of books mentioned in the previous section (Bloome *et al.* 2005, Foley 2004, Christie 2002, Marton and Tsui 2004, Schleppegrell 2004). However, I would like to mention some of the issues in order to sketch the wider implications which are involved when we talk about content in CLIL classroom discourse.

The aim of schooling, it is said, is personal empowerment and cultural reproduction. The former means developing the personal potential (whatever one may understand by this) of the students to the full, the latter aims at handing on to the younger generation a body of knowledge which is somehow ('culturally') agreed to be relevant, necessary, or even indispensable for them if they are to become full members of the society to which they belong. Accumulated through the efforts of previous generations, the greater part of this educational knowledge is embodied

in language. In fact with regard to this kind of knowledge it is hard to conceive of 'knowing' without 'linguaging', something one can conceive of for other kinds of knowledge of the more 'experiential' or 'procedural' kind.¹ Furthermore, educational knowledge as we find it in modern schooling is not knowledge laid down in an oral tradition, as in pre-literate societies, but it is knowledge which is highly dependent on the written word, even though the actual process of passing it on is predominantly oral. A spate of questions arises from this. There are, of course, basic philosophical concerns with the relationship between language, thought and knowledge but there are other issues, too, which are more immediately relevant to our interest in what happens linguistically when a foreign language is used as the medium of teaching and learning.

First of all, there is the question of how this knowledge is (best) re-created in the minds of the learners. Underlying this is the need for a theory of communication, a need education shares with linguistics. Awareness of this need is, it seems to me, significantly higher in linguistics than in education, however. Be that as it may, the crucial questions are: How are meanings or knowledge 'transported' from one mind to another? How are meanings present in the mind of the 'knower' created in the minds of the 'unknowing'? And what do people do to make this happen? In other words, how is this acted out on the level of interactional (conversational) strategies?

4.2 Cornerstones in the analysis of knowledge construction

A model of communication

Talking, as I have done above, of 'transporting' knowledge from one mind to another, pays tribute to the power of one particular model of communication, the so-called information transfer model. Formulated most conspicuously by Shannon and Weaver (1948) and of continuing popularity among non-specialists, this model works something like this: some abstract 'unit of information' or a 'meaning' is encoded by the sender and transferred to the receiver where it is decoded. The aim of the process is complete exchange of information. If no disturbances occur at either end, neither through faulty encoding or decoding, nor during the process of transfer (noise in the 'channel') then this aim has been successfully achieved. That is to say the information transfer model works on the built-in assumption that there is a 'baseline condition' where complete exchange of information does actually take place. Implicitly, this baseline condition is usually taken to prevail in communication between competent native speaking adults where 'pure' and 'undisturbed' exchange of information is supposed to happen.

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The study of actual talk-in-interaction, however, has shown that pure information transfer is not the normal case in naturally occurring talk. Rather, participants are normally found engaged in a process of negotiation by which they jointly shape what is the 'meaning' of the interaction. 'Meaning' is thus not a fixed concept but something which is developed in co-operation locally by drawing on the available resources. Grammar with its semantic and syntactic meanings is one of these resources, but only one, and the participants just as naturally orient to their assumptions about their interlocutors' knowledge resources as well as elements in the physical environment. Thus all turns at talk are designed for specific recipients and the meaning of each turn is what the next speaker makes of it. In this sense there is no 'optimum' general baseline of communication; negotiation and co-construction is "the prime ongoing activity of the conversationalists" (Wagner 1996, 222). This may be called the constructivist model of communication.

It is important to sketch these two essentially different models of communication because the disciplines which deal with classroom interaction (linguistics, education, sociology) have been influenced by both models at different times and different stages in their history. This makes for interesting and challenging tensions in views on and expectations of what will result in educational encounters, be they CLIL or otherwise. Take, for example, the common practice of contrasting 'classroom communication' with 'genuine communication'. It is indeed the case that in classrooms the information passed from learner to teacher as an answer to a teacher question is usually known to the teacher. Within the logic of the transfer model no 'new information' travels from learner to teacher and it is argued that no genuine communication has taken place. Under the premises of the transfer model this makes sense and the logical consequence is that educational and non-educational exchanges appear maximally different. The former is full of non-communication and unreal and the latter is designed for true communication and authentic. It is worth noting, however, that from this perspective what is considered to be a 'communicative act' seems to be rather a small unit, approximately of the size of one exchange of teacher question and student answer. This raises the interesting theoretical question of what size entity is actually considered an 'act of communication' in the meaning transfer model, but this is an issue I will not pursue any further in this context. Under the premises of the constructivist model, on the other hand, the matter presents itself somewhat differently. If communication is a process of meaning construction carried out collaboratively between the interlocutors, then teacher question and student response cannot be viewed as a complete 'act of communication' but as one step in a chain of events that in their totality make up a communicative event which possesses its own purpose and authenticity. Under the assumption that communication per se is a continuous negotiation of meanings, the difference between pedagogical and non-pedagogical-

cal discourse is thus much less pronounced than under the traditional conduit model (cf. Shannon and Weaver 1948, above).

Common knowledge and the notion of intersubjectivity

In this section I would like to discuss in some more depth the notion of collaborative construction of meaning which has emerged at the end of the previous sections and to examine the specific expression it finds in educational discourse. As already mentioned, the idea that verbal interaction is a process by which interlocutors move towards shared understanding is an underlying assumption widely accepted in the analysis of discourse (e.g. Aston 1988, 1993, Heritage 1989, Wagner 1996). Importantly for my purposes, this underlying notion has also been taken up in educational studies in the last decades and has gained considerable prominence through authors like Edwards, Mercer and Westgate (e.g. Edwards and Mercer 1987, Mercer 1995, Edwards and Westgate 1994). The main line of argument of these scholars rests on the premise that educational institutions are there not only for the purpose of 'passing on curricular knowledge' but that they achieve this by making the knowledge publicly accessible to those who are supposed to acquire it (compare the title of Mercer's 1995 book *Common knowledge*). Accordingly, the ongoing interaction of instructors and learners naturally becomes a key focus of interest, as does the role of the medium of speech and/or writing. Undeniably, the written word as an instrument for developing, laying down and preserving human knowledge lies at the hub of modern human development. Individual literacy is the key to this knowledge store and it is therefore rightfully regarded as a central concern of modern education systems. Despite the centrality of literacy for the knowledge system, however, the role of oracy should not be underestimated, especially in the actual process of teaching. Thus Edwards and Westgate argue that

Talk remains the main means of transmitting information, and books and other prepared resources are essentially only adjuncts to it (Edwards and Westgate 1994, 16)

In the last few years public discourse about electronic media in education has often challenged the centrality of the personal encounter between teacher and student because these media offer apparently highly economical means of knowledge transfer, partly also through talk in the form of video lectures. It is too early for a final evaluation, but I believe in the robustness of the 'lesson' as a personal encounter because I am convinced that two-way face-to-face interaction is an indispensable part of the meaning making which is learning. Furthermore, a constructivist model of communication underscores the robustness of the lesson as a place of teacher student dialogue.

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In a constructivist view of meaning in communication a common principle can be seen to underlie all kinds of spoken interaction (whether informal chit-chat or classroom talk) namely that they are a process through which the interlocutors move towards a convergence of their knowledge states. Naturally, the kinds of knowledge which are typically traded in such interactions are different. Educational talk is typically about matters which are relatively remote from the immediate physical and personal context of the interlocutors; informal conversation, on the other hand, usually deals with topics which directly affect the participants either physically, intellectually or emotionally.² Secondly, educational talk has to make knowledge accessible to what are usually much larger groups of interactants than in informal conversations, and the accessibility of knowledge is tied to the purposes of the interaction in a much more direct way than in informal conversational talk. It can therefore be expected that special strategies for achieving this 'public quality of meaning' develop in educational situations, especially as the number of participants in the interaction considerably outnumbers the ones who do the actual talking.

As my purpose in this chapter is to move beyond the level of general considerations about the interdependence of language and learning, to the level of how these principles are enacted and expressed linguistically in the CLIL classrooms, it is necessary to have some analytical concepts which are useful for this purpose. As a school of thought which lays great emphasis on the social construction of talk, Conversation Analysis seems particularly well suited to approach classroom talk also from the vantage point of knowledge construction. The way in which conversation analysis is oriented towards the observable surface of an interaction and towards what is said by the interactants in the here-and-now, tallies very well with views of school learning as something which is acted out among the participants in the ongoing classroom interaction.

The increments to a child's skills, concepts or information base that a lesson is designed to facilitate are not available for the teacher to offer, or for the child to grasp, or for the analyst to locate except as they are instantiated in the social negotiations of the speech event...It may be possible to participate in a lesson without achieving the increments in learning that the lesson was planned to promote....but it is not possible to get those increments in learning from a lesson without participating in the assembly of that lesson. (Griffin and Mehan 1981, 193)

A notion which has been a central concern in CA from its beginnings (e.g. Schegloff, Jefferson and Sacks 1977), is to see 'repair' of 'conversational trouble' as an integral part of the web of interaction. While the notion of conversational repair can be and has often been interpreted as a strategy for dealing with miscommunications in order to secure a base line of 'smooth, trouble-free interaction', it soon

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became clear that the function of 'repair' is more than just serving as a kind of emergency tool kit. In an early application of conversation analytical ideas about repair to conversations involving non-native speakers, Schwartz (1980) quietly interpreted repair as a process of negotiation "involving speakers conferring with each other to achieve understanding" (p.151). Meanwhile, the most prominent proponents of conversation analysis (e.g. Schegloff 1992a) have also argued extensively that 'repair' should indeed be understood as the basic mechanism for establishing intersubjectivity in conversation thus according it the central role in collaborative meaning making.³ Schegloff regards intersubjectivity as the prerequisite without which 'understanding' cannot be achieved and defines it as the "systematic provision for a world known and held in common by some collectivity of persons" without which "one has not a misunderstood world, but no conjoint reality at all" (1992a, 1296). The construct of 'common culture' is frequently invoked by social theory as the main source of intersubjectivity to which the interlocutors can turn, but Schegloff points out that this common culture does not exist in a void but is transmitted through socialization (primary and secondary). There is an ongoing debate whether socialization actually operates by creating a consensually shared outlook or by imposing the view of some set of persons or interests, but I do not wish to make this my concern in the present context. No matter which side one would take in the debate, the fact still remains that we cannot assume intersubjectivity to be a robust and unshakeable state and consequently we can expect the communication practices by which people interact to contain some provisions for its upkeep. In Schegloff's words

the procedural basis for locating and dealing with breakdowns in intersubjectivity is woven into the very warp and weft of ordinary conversation and, by implication, possibly of any organized conduct. (1992a, 1299).

What Schegloff means by this becomes evident when he speaks of how each next turn in conversation provides "a locus for the display of many understandings by its speaker" as well as for "the display of mutual understanding and problems therein" so that these can serve as "one running basis for the cultivation and grounding of intersubjectivity" (1992a, 1300-1).

The following section will discuss in some detail how this "procedural basis" of interactive strategies surfaces in classrooms with their particular transactional goal of sharing knowledge publicly. In this case certain conditions apply namely the kind of knowledge and its distribution, the number of participants, and the purpose of the interaction. Section 4.3 will then offer an analysis and interpretation of the strategies as they are employed in the CLIL classrooms.

Triadic dialogue as a prototype of instructional talk

The basic facts about Triadic Dialogue (the IRF-pattern) have already been introduced in chapter 2. Here I would like to review some arguments why this interaction pattern has proved to be so robust despite the bad press it has been getting for decades. My main point will be that Triadic Dialogue typifies an interaction pattern that is very well suited to establishing a shared public space of meaning and in which intersubjectivity needs to be routinely ratified because it is the main purpose of the interaction.

Two of the points on which the critique of Triadic Dialogue as highly artificial has centred are its asymmetricality and its tripartite structure (e.g. Stubbs 1983, Ehlich and Rehbein 1986, Poole 1990, 1992). As regards asymmetricality, the teacher's 'ownership' of the Initiation and Follow-On slots is a fact. In consequence, this limits the student's conversational (and linguistic) space to a significant degree through the way in which students' turns are "sandwiched between the teacher's initiation and feedback" (Stubbs 1983, 116). The tripartite structure (IRF) of the exchanges is considered to be somehow abnormal by some authors because 'natural conversation', which tends to serve as a baseline of comparison, is characterized by adjacency pairs (e.g. Burton 1981). Against this, others have argued that tripartite structures are not as rare in non-educational interaction as it might seem, the main difference being that the feedback move is obligatory in educational contexts but not in casual ones (Berry 1981). It is true, however, that IRF-structures from outside formal education always involve situations where there is a knowledge differential built into the situational context. A TV quiz show would be one such context, but the most frequent one is probably interaction between adults and children, especially very young children. Here are two examples:

Extract 4.1 Cooking (mother and child (4ys) cooking together) (Stubbs 1983, 123)

- Mother: Right, now – what do you think the next instruction is because that's what I've got to do?
 Child: Put it in the baking tin.
 Mother: yes, well, first of all we've got to grease it though – why, do you think? Why do you grease it tommy?
 Child: so the pastry doesn't stick.
 Mother: Right.

Extract 4.2 Photo album (Grandmother and child (1;6) looking at photos) (my own data, translated from German)

- Grandmother: so who's that?
 Child: mmmmmaaa
 Grandmother: yes, that's grandma

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The examples show that primary care givers, too, initiate topics by asking known-answer questions and then give feedback on children's responses. Other than in formal-educational contexts, however, it seems uncontroversial that such exchanges have a positive quality about them and are frequently conducted and experienced as something like a verbal game or a knowledge game. Such a sense of playfulness is not a priori excluded from classroom interaction but is not, I presume, a frequent state of affairs. However, it should be noted that it is probably not the IRF-structure itself but wider contextual factors that make much of classroom interaction non-playful and frequently boring.

I would go along with Stubbs (1983, 123) that Triadic Dialogue is "one specific level of communicative behavior at which culture is transmitted" and this is probably the reason why it has been found a stable constitutive element of classroom interaction over many years of research across different countries, continents and educational cultures. The question is simply whether one considers it a 'good thing' or a 'bad thing': there are not too many areas where it becomes equally obvious that the scholarly interpretation and evaluation of reality is also guided by beliefs, convictions and ideologies. If one is convinced that education is concerned with the cultural renewal and personal empowerment of individual members of the community, then the fact that the IRF pattern often locks students into making minimal, one-word contributions to a teacher-dominated discourse is indeed a serious disadvantage. Poole's conclusion that "The expert constructs an elaborate support structure within which the novice may speak" (1990, 204) is made from this vantage point and consequently meant as a sharp criticism.

From a different vantage point her description, however, could also be read in a different light. I can make out two lines of argumentation which grant instructional talk and the IRF structure in particular a more constructive role in the creation and/or reproduction of educational knowledge. One is to see instructional talk from an essentially game-theoretical perspective (e.g. Ehlich and Rehbein 1986, Appel 2003), the other is to consider the IRF structure an organic element in a constructivist view of education. What both perspectives have in common is the notion that it is neither desirable nor appropriate to measure instructional talk against a base line of 'informal conversation'.

The notion of 'verbal game' is present in Ehlich and Rehbein's (1986) analysis of the IRF structure in that they postulate the prototype of Triadic Dialogue to be the genre of riddle. There are indeed a number of striking parallels between the two, although with riddles the cognitive deficit is not with the one who asks the question as is the case with normal information questions. The one who poses the riddle is the very person who is in possession of the solution. The hearer, on the other hand, is under the communicative obligation to seek for the solution and this usually includes various attempts at finding the right answer. If a solution can-

not be found, the hearer may ask the poser of the riddle to give away the solution. In the end the solution is imparted, often resulting in a positive emotive reaction on the part of the hearer. Subsequently, the roles of questioner and questioned may be switched and a new riddle is posed. Ehlich and Rehbein show that children aged 4–6 usually possess the receptive and productive competence to participate in this kind of knowledge game (1986, 35; cf. extracts 4.1 and 4.2 above). Historically, riddles are definitely one of the earliest didactic genres, if not the earliest that are documented (e.g. Old English and Old High German riddles which are among the earliest recorded texts). It is easy to see why: riddles provide the prototypical structural framework which accommodates the roles of primary and secondary knower that are essential to the dialogic transmission of cultural knowledge (Berry 1981). Clearly, the conditions and requirements of institutional formal education are responsible for some differences between the riddle and Triadic Dialogue: role switches, for instance, are heavily dispreferred, and in the classroom the primary knower is rarely begged to give away the solution! Despite these differences, I think there is a strong argument that the two discourse patterns are connected at a deep structural and functional level.⁴

A line of argumentation more widely acknowledged outside the German-speaking countries has evolved in contexts concerned with ideas of cultural transmission and in an intellectual climate increasingly open to constructivist ideas (in education, communication and, maybe less so, applied linguistics). Especially in the English speaking countries a slow but steady re-interpretation and re-evaluation of the IRF exchange has been taking place since the early 1990s. A first, but in my view decisive, step was taken by Lemke (1990) who, by calling IRF-sequences ‘Triadic Dialogue’ (TD), dissociated the three part structure from the functions which its individual parts may assume at concrete points in an interaction. This practice has since been pursued by several other researchers in the linguistics-and-education field (e.g. Wells 1993; Christie 1995; Jarvis and Robinson 1997), but the label TD (instead of IRF) is only slowly progressing into applied linguistics publications (e.g. Nassaji and Wells 2000).

The reinterpretation of the IRF exchange is closely tied to an understanding of learning not as a one-way affair, where knowledge travels from the more competent to the less competent participant,⁵ but as a reciprocal process in which the learner plays an integral part in a continuous give-and-take and a common movement towards the development of educational knowledge. The cognitive psychologist Vygotsky (1934/1986) has been a particularly influential figure in this respect.⁶ One of Vygotsky’s key ideas is the differentiation of two kinds of concepts: those that are based on direct personal experience and are themselves not subject to conscious awareness he calls everyday or spontaneous concepts. The other kind are scientific or systematic concepts. These have little connection with direct, sen-

sory perceptions and are typically encountered in the course of instruction in the shape of verbal definitions and explanations.⁷ Such concepts are constructed in collaboration with the teacher and require conscious awareness. Verbal exchanges between teacher and student are thus seen as constitutive for the learning of systematic concepts, and the teacher's utterances are considered to guide the student towards a full understanding and accurate representation of the concepts to be learned. This technique is called scaffolding. From this vantage point it can be argued that an 'elaborate support structure' such as the IRF-pattern is not only "very defensible" (Christie 2000, 189) but actually forms the very foundation of language-based learning: the Initiation move opens up that space where the already existing cognitive structures of the learner become accessible to further development, expansion and change, that is, learning. The consequence of this view for learning theory is the recognition that new meanings are first constructed in interpersonal contexts and only later transferred to ideational ones. Wells (1994) argues that a closely related and in many ways complementary view is represented by Halliday's insight that in language the interpersonal and the ideational are inextricably intertwined. From the juxtaposition of Vygotskian and Hallidayan ideas, Wells develops a specification for a theory of learning which should not only show how cultural knowledge is gained through language, but also „how this knowledge arises out of collaborative practical and intellectual activities" (Wells 1994, 84). In the following I will look at some instances of this in the CLIL data.

4.3 Classroom practices

I have argued above that Triadic Dialogue provides a pattern and a structural base through which a shared language can be developed in order to deal with a certain field of knowledge (cf. Christie 2000, 189). Especially the way in which the typical components of Triadic Dialogue involve demanding, giving and validating information "can be argued to be central to the notion of teaching and learning as reciprocal process" (Measures, Quell and Wells 1997, 26). Apart from the teacher's control of topic sequencing by means of his/her privileged access to the Initiation move, it is the Follow-On move (F-move), in particular, which is seen to offer the best opportunities for the guided construction of knowledge (cf. Wells 1996, 26).

In this section I will focus on the F-move in Triadic Dialogue, trying to demonstrate that the notion of repair in the sense of "establishing intersubjectivity among participants" (see above) is crucial in the co-construction of curricular knowledge. At this point in the study, then, I am interested in repair particularly with regard to its role in constructing the ideational level of classroom talk, whereas in chapter 8 I will concentrate on the interpersonal dimension of the same phenomenon.

In studying lesson transcripts it is noticeable that the participants rarely show signs of having problems with the simultaneous presence of these levels. The difficulties rather lie with the analyst who soon realizes that coding decisions tend to obliterate parallel ‘truths’ or realities because the clear categories employed for coding rely on one-on-one mappings and thus gloss over multifunctionality and ambivalence. Thus, once an instance has been identified as representative of one type rather than another, it becomes very difficult to maintain a parallel awareness of other levels.

In the following I will review a number of examples from the CLIL data which show that pedagogical discourse without ‘repair’, and consequently classroom discourse without correction, is hard to conceive of. The following extract illustrates the skeleton, as it were, of the IRF-pattern.

Extract 4.3 History, grade 11

I	1	T	why were sons preferred?... ahm.. Astrid
R	2	S	that they could provide the future citizens and soldiers
F	3	T	okay

The teacher’s Initiation move (I) consists of a so-called display question and a nomination. This is followed by the response (R) of the student nominated, which is itself followed by the teacher’s feedback (F). This example is basic in the sense that the F-move consists only of a bare positive validation of the propositions contained in the student’s response. But in this slimmed down version it is perhaps more clearly visible what the okay does: it validates the propositions as a legitimate component of this particular part of the curriculum. Their status as intersubjective ‘facts’ is confirmed and they are thus declared part of ‘common knowledge’. The F-slot, however, can do much more than this. Evidently, student contributions do not always match curricular scripts as smoothly as in the example just quoted. In other cases, for instance, teachers use the F-move to select and reaffirm those parts of a student contribution which they can integrate into the thematic progression of the discourse as they had planned it, while dropping those elements that do not fit their agenda. In the following extract the teacher ignores the response of S1 (even though it is not strictly speaking wrong) and takes up the response of S2 because this allows a smooth transition to the introduction of another item on a virtual list of ‘important things in London’.

Extract 4.4 Geography, grade 6; the class is talking about people’s holidays; visual material is being used

F+I	1	T	they are tourists. yes! and they are walking on the=
-----	---	---	--

R	2	S1	[=on the street
R	3	S2	[=bridge
F+I	4	T	on a bridge. yes. good. on a bridge and so there has to be a river i think.
R	5	S3	themse [temse] ((German pronunciation))
F	6	T	the river? themse! [t ^h ems] yes! ok. that is the themse. good.

Another function of the F-move is that it enables the teacher to rephrase a student response. The reasons may be that the response was either linguistically or factually incomplete or incorrect or a combination of these. This kind of move is called 'recast' by some analysts (e.g. Long 1996, Lyster 1998) and occurs with considerable frequency. Its usefulness for activating language-oriented learning has been called into doubt (Lyster and Ranta 1997), but this is an issue I will not take up at this point.

Extract 4.5 Marketing, grade 11: Revision phase

I	1	T	now we had a homework that was mmh about the product life cycle. ina would you please tell me what is the first phase when a new product comes on to the market
R	2	S	at first there is a introduction
F+I	3	T	an introduction phase. what is going on in the introduction phase what is it
R	4	S	well you make erm (xx) vermarkten you make a (xx) for a product i think

In this particular instance it is debatable whether this is a case of language (lexical) repair or factual repair (or even whether distinguishing between the two makes any sense at all). What is certain is that by uttering the rephrased introduction phase the teacher reaffirms that this is the legitimate expression for what is being talked about and that the term introduced in a previous lesson still holds.

Such joint reconstructions of what had been talked about at a previous occasion are frequent occurrences in the content lessons studied here and often represent extended stretches of talk. At the outset of a lesson, such as in the above example, these sequences serve to activate a common understanding which had been (or is supposed to have been) established during the previous lesson or through an external source like a text. The same strategy, however, is also pursued in order to create a shared version of what actually 'happened' earlier in the same lesson or in an experiment, for instance.

Extract 4.6 Science, grade 6: Talking about what happened in an experiment

I	1	T	philip, water pressure ...there was another experiment we did! do you remember that one?
R	2	S1	yes we took a bottle ...and we made a ...ahm holes in it {T: mhm} yes and ah
F/I	3	T	where did we put the holes? ...where were the holes?
R	4	S2	ach ja ...all sides
R	5	S1	on the bottom
F+I	6	T	at the bottom of bottle and all around the bottle ...and what did denise do?
R	7	S1	she she put water in it and then the the water ah spread out in all directions ...and equal
F	8	T	...in equal?
R	9	S1	sides
F+I	10	T	distances ...so what does that mean?
R0	11	S	ahm
I	12	T	for the pressure of water? why did the water come out of the wholes?
R	13	S1	because of pressure
((13 turns about another bottle with vertical holes))			
F	27	T	((summarizing what has been said about pressure in the bottles)) at the bottom. it's much stronger at the bottom than on top ((more questions follow until teacher considers the sequence completed))

At his point in the physics lesson the teacher is trying to revise fundamentals of pressure in liquids by anchoring them in the direct experience the students made when observing an experiment in the previous lesson. In turn 10 she explicitly invites the students to share publicly what a certain observation (water coming out of all holes round the bottom in equal measure) *means*, i.e. what generalization can be drawn from it.

On other occasions, such reformulations in the F-move expand a student response or even re-contextualize it to achieve a better fit with the agenda of the moment. In the science lesson from which the following extract is taken, the teacher is concerned with contrasting atoms and molecules as building blocks of matter at large with the biological category 'cells' as building blocks of living beings, while wanting to remind the students that cells are, of course, also made up of molecules and compounds. This is proving difficult for the class to catch on to and the teacher is receiving varied suggestions for concepts which could name

parts or components of a cell: cell membrane, water, liquid. At this point the teacher tries again:

Extract 4.7 Biology, grade 6

I	1	T	and if molecules combine and are hooked together? ... they are either
R	2	S	compounds.
F	3	T	compounds. right. water is a compound and there're lots of <u>other</u> chemical substances inside cells of <u>course</u> ...but the small building blocks of <u>living</u> beings are cells.

In initiating the exchange the teacher indicates that there are two possible answers to the question she is posing ('they are either...'). When she gets one of the expected answers, she validates it (compounds. right.). At this point it seems the teacher abandons her plan to get both possible answers to her question. Instead, she decides to validate a student response that was given a few turns earlier (water) at which point it caused a distraction because the student introduced water in terms of its quality as a liquid: even though factually correct, the response was not 'right' in the context at hand. But now that the concept compound is publicly available the teacher can take up the previous response water and validate it by re-contextualizing water with compound. The phrase water is a compound thus provides one instance (of countless more) of how teachers work at weaving the instructional discourse into a coherent web.

The recast in extract 4.5 has already furnished a first instance of 'repair' as an integral element of Triadic Dialogue. In the following I will broaden the basis of the argument by showing how tokens of what looks like repair and correction through the Conversation Analytic lens also play an important role in establishing subject-specific knowledge in instructional dialogue. The F-move in Triadic Dialogue as the carrier of 'repair' is central to maintaining intersubjectivity in classroom interaction. I will argue, therefore, that corrective feedback is an essential part of how shared concepts and educational knowledge are generated through classroom interaction. In order to ground my argument I will now turn to a longer stretch of classroom discourse where it will be shown that, despite the presence of 'repair' and correction, intersubjectivity leads a precarious existence in the fleeting reality of spoken words in the classroom.

With reference to extract 4.7 I argued that teachers use the F-move as an instrument to weave a coherent topical and conceptual web which is compatible with the requirements of the subject. On closer inspection of longer stretches of talk, this web turns out to be breath-takingly complex: while one connection is being made explicit, several others may be overlooked or fall by the wayside. In

order to appreciate this complexity it is necessary to consider this one exchange (extract 4.7 above) in its larger context.

Extract 4.8 Biology, grade 6

- | | | |
|----|----|---|
| 1 | T | shhhh ...okay ...cells eukaryote cells what are cells? what are cells? |
| 2 | S | cells ...das ist very small //that is very small// |
| 3 | T | betty! |
| 4 | S1 | small building blocks |
| 5 | T | small building blocks i thought these were molecules or atoms...so what's the difference? |
| 6 | S1 | ahm every living thing consist of cells |
| 7 | T | of cells and cells consist of course ofcome on! ... david if you don't stop moving, talking or doing anything useless, you are going to leave the class.
(pause) |
| 8 | T | what do you think cells consist of? sssshhhh |
| 9 | S1 | a cell membrane |
| 10 | T | yes but are there any because i said molecules are building blocks are there any molecules in cells? |
| 11 | S1 | water |
| 12 | T | water for example water is a? ...philip |
| 13 | S2 | a liquid |
| 14 | T | is a liquid and what is it? physics? a ... what kind of a ah ah of of matter? you know atoms can combine! how? what can we build? |
| 15 | S1 | mole=molecules |
| 16 | T | and if molecules combine and are hooked together? ...they are either ... |
| 17 | S1 | compounds |
| 18 | T | compounds right water is a compound and there're lots of other chemical substances inside cells of course ...but the small building blocks of living beings are cells and now you have to think back for quite a long time first form human body ...ja? does anybody remember? ... stefan ja? ah if there are cells of the same type which do the same job what do they form? |
| 19 | S3 | elements |
| 20 | S1 | elements |
| 21 | T | Stefan cells! in humans! |

The proposition “cells are small building blocks of living beings” is established straight away by the responses of S1 (turns 4, 6) even against the teacher's challenge in turn 5, namely that there also exists the seemingly contradictory knowl-

edge item about molecules being building blocks. After the switch into regulative register in turn 7 the teacher returns to her agenda of establishing that cells themselves also have building blocks. None of the several responses offered (mainly by S1) are factually wrong. However, they do not take the perspective which the teacher has in mind at this moment and it takes a number of turns (8–17) until a response supplies an item which the teacher considers satisfactory. Note that turn 18 is the first F-move in this sequence which contains a positive evaluation ('compounds. right.'). Now consider again the continuation of this follow-on move in turn 18: 'water is a compound and there're lots of other chemical substances inside cells of course'. This statement contains the following propositions:

- water is a compound
- there are several chemical substances inside cells.

Apart from these, the following inferences also become available:

- cells contain water,
- water is a chemical substance,
- chemical substances can be compounds.

The teacher's overall plan for this part of the lesson – also beyond the sequence shown – seems to be to demonstrate how physics (atoms), chemistry (molecules, compounds, chemical substances) and biology (cells, tissues, organs, organ systems, organisms) are connected in a long chain of part-whole relations.⁸ At this particular point I presume the proposition the teacher aimed at it is something like: "the small building blocks of cells are molecules". However, this does not become available on the surface of the discourse, because the teacher's next step is already to introduce a contrast 'but the small building blocks of living beings are cells'. Exactly what this contrasts with, however, remains inexplicit but would theoretically be retrievable from the previous discourse if it were not so transitory: the IRF-cycle in turns 16–18 had built up another inference which may still be 'hanging around' somehow (though exactly in whose minds would be fascinating to find out!):

- compounds are made up of molecules.
- molecules are building blocks
- atoms combine into molecules

In all likelihood, for the teacher, this web of co-constructed concepts and their interrelations must have seemed rich enough to consider her point made so that she saw no need to state it explicitly. I submit that this is the case because her disciplinary knowledge as a university-educated scientist provides her with a higher order mental schema in the way of "units of A make up B, units of B make up C, units of C make up D etc." no matter whether the units themselves conventionally 'belong to' physics, chemistry or biology and thus can give order to the propositions and

inferences which have been activated. It remains open, however, whether and to what extent such an ordering mental structure is available to the learners.

Such a close reading of a relatively short stretch of classroom discourse is an instructive experience because it makes visible the impressive number of concepts and semantic relations activated in the space of a few minutes, each of them offering starting points for countless more inferences. Looking at the frozen reality of a transcript, these concepts and relations are not difficult to identify. The learners, however, are expected to accomplish the same task a) in real time and b) without possessing (at least not the full) mental schemata which steer their teacher's understanding of the interaction. Turns 19 and 20 of extract 4.8 demonstrate that at least some of the learners' minds may actually still be busy working out the inferences contained in the previous stretch of discourse: the two respondents show signs that they are still thinking in terms of chemistry rather than biology and on these terms their answer actually makes a lot of sense: atoms of the same type are referred to as 'elements'. What would presumably have helped the students to align their reasoning would be an explicit summary statement by the teacher which declares a subset of the possible inferences as 'valid', thus reducing the cognitive complexity of the situation and establishing an inter-subjective ground from which further reasoning can continue.

It has been my intention in analysing this sequence to show in close-up an instance of regular and perfectly normal instructional discourse and to demonstrate how the language by which educational knowledge is co-constructed frequently remains underspecified. Contrary to the widespread view that Triadic Dialogue is highly constricting, in this example as in countless others in my data, the students actually have considerable mental space to construct their own versions of the 'facts' – maybe too much space at times! As I have demonstrated in my analysis of extract 4.8, a considerable number of alternative contextualizations and inferences may become available during Triadic Dialogue and the degree of semantic complexity may consequently be considerable. Using 'correction' in the F-move to identify off-track contextualizations or inferences in this multiplicity of available readings at the very point where they arise (within the same IRF-cycle) seems vital for scaffolding the conceptual growth of the students. The following example, taken from the same lesson as extract 4.8 above, illustrates this:

Extract 4.9 Biology, grade 6

I	1	T	if you have a quick look at the plant cell just below. where is the difference ... theresal
R	2	S1	the plant cell has a bigger nucleus
F-I	3	T	ah that's not the nucleus no just concerning the outside and the shape of the cell

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R	4	S1	it ...has a ...ahm
F-I	5	T	a ...it has a stronger membrane yes a cell wall/ and what about the shape. ...the shape of the plant cell is much more
R	6	S1	ah ...ahm regelmäßig
F-I	7	T	regular exactly. so why do you think that is sowhy do plant cells have a regular shape and a cell wall and animal cells ((bell rings)) just have a membrane ...pshshsh ...what are animals able to do compared to plants? anja!

Structurally, the situation is quite similar to the one in 4.8: a contrast is being made, this time between plant cells and animal cells. This time, however, the mental space for constructing the difference is not left open. The student response 'bigger nucleus', which is factually correct but shows that she had contextualized the question as referring to 'inside the cell'. This is immediately rejected by the teacher and the desired context 'just concerning the outside' is made explicit. In the following turn (turn 4) the student is apparently struggling to formulate an appropriate response (whether her resources are mostly on finding the right content or the right linguistic packaging cannot be established). The teachers steps in and expands the student's syntactic frame 'it has a' into a proposition: it has a stronger membrane and subsequently supplies an alternative expression for 'stronger membrane': yes a cell wall. The rest of her turn she uses for her next I-move (and what about the shape) but immediately returns to a repair structure, providing a clue for the next answer: the shape of the plant cell is much more with dangling intonation. The student's response in turn 6 is factually correct but made in German, upon which the teacher reacts with direct repair combined with a positive evaluation (Turn 7 regular. exactly). Note that this linguistic rather than factual correction is carried out by means of direct correction by the teacher herself while with factual errors the teacher usually tries to get the student to do the repair herself/himself. Interestingly lexical errors, although they are linguistic ones, are treated like factual errors and I believe this is the case because factual content and lexical material used to label it are often coextensive. Consider the following examples.

Extract 4.10 Business studies, grade 11: The class are analysing a self-authored customer complaint role-play which has just been performed

I	1	T	then... what does Mister Willis do?
R	2	S1	er regt sich ur auf //he gets really worked up//
F/I	3	T	ha... he does what? ((initiation 1))
R	4	S1	(laughs loudly)

I	5	T	in English please ((initiation 2))
R	6	S1	he informs Shell Seafood ((self-repair))
R	7	S2	very exactly
F/I	8	T	informs them of what?
R	9	S1	(laughs) very exactly of the legal possibilities

Extract 4.11 History, grade 11

R	1	S1	daughters could not do this because they were not permitted to inherit property or money. if a man could not have a son he could adopt a boy who would inherit from him.
F-I	2	T	yes, what does <i>inherit</i> mean? that's (XX)
	3	S1	(XX).. asso
	4	T	another point for the legal status (?)
	5	S2	ahm
	6	S3	na fußstapfen.. (XXX) //well footsteps//
	7	S2	fssorgen, oder
	8	T	no
	9	S	inherit (??)
	10	S	verdienen (?) //earn//
	11	S3	in die fußstapfen treten, oder //to step into one's footsteps, innit?//
	12	S	dienen (??) //serve//
	13	T	naja ja ja wwird wärmer, ja //weell it's getting warmer//
	14	S	folger- nachfolger /follower- successor//
	15	T	nachfolgen, was kriegt der nachfolger? //follow, what does a successor get//
	16	Ss	erben //inerherit//
	17	S	den titel //the title//
	18	S	erbe (?) //heir//
	19	T	ja, erben. <i>inherit</i> heißt 'erben'.
	20	S	asso

In the first example (4.10) the student response in turn 2 deviates from the norm in three ways: the content focus 'emotional state of the customer' is not the appropriate one (the level of observable action is preferred), the informal lexical choice is stylistically inappropriate, and it is in German. The teacher's repair initiation in the F-slot in turn 3 appears to be interpreted by the student in terms of the stylistic/content inappropriacy because the reaction is laughter on the part of the student. The second repair initiation directs the student towards repairing the choice

of language (turn 5) upon which the student makes an utterance which sets the response right on all three accounts. Whether the teacher's first repair-initiation (turn 3) was directed to the content/style or language level cannot be determined, but the sequence shows how the student, even without an explicit prompt, orients towards a superordinate conceptual frame of what is an appropriate topic of talk in business studies and what is not.

In the second example a perfectly appropriate and very articulate student response is followed by a teacher question which effectively initiates repair by proxy: the teacher assumes that not all members of the class may have understood the word *inherit* and takes the initiative to secure the whole group's understanding of the response given in turn 1. Clearly, the teacher knows the meaning of *inherit*, likewise, the teacher is not calling into doubt student S1's knowledge of the meaning of *inherit* but it is definitely the case that the teacher wants to establish for the whole group what *inherit* means. The fact that it takes another 17 turns to move the group's understanding of turn 1 from the global semantic relations to the precise translation *erben*, shows that her intuition was right and through her intervention knowledge of the meaning of the lexical item *inherit* has been made publicly available and intersubjectivity has been established.

What is so important about the F-move and repair, then, is their function as providers of alignment between the discourses of the participants in the classroom and it is the teacher's role to secure this alignment in the interest of intersubjectivity and the creation of *common knowledge*. The level on which this occurs, may vary: it may be on the conceptual-semantic or on the lexical level as in the previous extract, the level of the channel (extract 4.12) or also on the formal-linguistic level (4.13), as I will show using phonology as an example. The following extract, for instance, is a case of channel-oriented repair, where the teacher seeks to establish that everyone in the class has actually heard the answer given by students Sf1:

Extract 4.12 History, grade 12 (the topic is Robert Dudley, Earl of Leicester, one of Elizabeth the First's chief courtiers)

R	1	Sf1	he, ahm,... who helped Pros... Protestants at home and abroad.
F-I	2	T	he helped, ah,... could you say this again because I think only I understood it. who did he help at home and abroad? did you understand?
R	3	Ss	Protestants.
F	4	T	aso. okay. Protestants. good.

Even more often, however, teachers do not explicitly require repair of inaudible utterances but tacitly accept their personal role as 'amplifier' who plays back the

barely audible answers of individuals to the plenary. Extract 4.13, on the other hand, establishes common ground with regard to the pronunciation of a name:

Extract 4.13 History, grade 11

I	1	T	Greek, yes, and the Greek alphabet was.. ah.. developed from
R	2	Ss	(XXX) Phoeni(XX)
R	3	S8	Phoenicians (/fœ'ni:tsiəns/)
F/I	4	T	hm?
R	5	S8	(Phoe)nicias (/nitʃis/)
R	6	S9	Phoenician(s?) (?) (/fœ'nitiʃiəns/)
F	7	T	from the Phoeni(/i:/)cians (/fəni:ʃiəns/) okay, all right....

While being sure about the fact as such, the students are insecure about how to pronounce the name *Phoenician* in English. The teacher's low key response in turn 4 makes room for several versions and it is the teacher's 'duty' in a sense to supply the standard pronunciation and thus resolve the insecurity. This example illustrates an instance where the F-move of triadic dialogue provides opportunities for creating alignment between different versions of 'reality' which have openly emerged in the course of classroom interaction. I would argue that this is clearly not a situation where the face threat of correction is in the foreground, if it is relevant at all. Though face concerns are undeniably relevant where classroom correction is concerned they have, I think, been given too much weight by critics of teacher-repair of student utterances (cf. especially Truscott 1999). Evidence comes from sequences where students themselves demand correction of errors.

Extract 4.14 History, grade 13. Student presentation on the 1961 Cuba Crisis

	1	S1	help the cuban military officer batista ...ah to establish power himself ((is writing the name on the blackboard)). ... but he became increasingly corrupt and repressive and the cuban / <u>citizens</u> / saw it as a symbol of american control.
I	2	S2	ma soitat sogn das ma des aunders ausspricht! // one should say that this is pronounced differently//
R-I	3	S1	wos? //what//
R	4	S2	des haßt 'citizens //it's <u>ci</u> tizens//
F	5	S1	<u>ci</u> tizens ((self-ironically, other Ss are laughing))

The reason for the student intervention in turn 2 is that S2 wants the correct pronunciation to be made public and available to be shared among the whole group. However, he does not act on this behalf himself but puts an indirect request to the teacher to act out his role as the supplier of 'legitimate intersubjective truths', in this case of the stress pattern of the word *citizen*. Since the teacher in this class consciously practises a very reduced version of the teacher role and does not answer this call immediately, the correction is eventually carried out by the student (S2) himself. This is an example which underscores the observation made by another teacher during her interview that the students themselves frequently set stricter standards of correctness for their own production than the teachers do (cf. chapter 8, extract 8.24).

On the whole, however, it is mostly lexical gaps for which students actively invite teacher 'repair' (cf. the results regarding trajectory 6 in chapter 8). Practicing CLIL teachers have commented that this is maybe one of the chief distinguishing characteristics of CLIL classrooms over EFL lessons: that students are much less reluctant to use this strategy for getting help in constructing their utterances. Here is one representative example:

Extract 4.15 Biology, grade 6

R	1	S1	ahm there were many ... ah krankheiten ah
F	2	T	mhm disease
R/I	3	S1	disease which ah bacterias ahm ...übertragen?
F	4	T	cause
R	5	S1	cause
F	6	T	ya/ bacteria cause a number of diseases ...can you tell me a few. just examples.

After supplying two English words to help in constructing the response, the teacher decides in turn 6 to give a syntactically complete reformulation: this plays S1's responses back to the whole class in a grammatically coherent fashion and makes it available as a common resource. Appeals for help as in turns 1 and 3 above are, however, by no means exclusive to CLIL classes. They can also be observed in L1 content teaching, though not quite as frequently. The following extract comes from a class taught in German by the same teacher as extract 4.15. Here, too, the responding student requires help with a lexical gap only that in case of the L1 one is more inclined to regard it as momentary lexical gap rather than a systematic one. This interpretation is supported by the fact that another student actually provides a first suggestion (*ausgetauscht* 'exchanged'), which S1 rejects, whereupon the teacher supplies the 'proper' term *ersetzt* ('supplanted, replaced'). S1 recognizes

this as the word she was looking for and reacts, very much as teachers usually do, with a positive evaluation.

Extract 4.16 Biology, grade 8

R	1	S1	und ähm da dann dann das versteinerung da das da wird dann die schale durch das sedimentgestein ähm wie heißt das
I			//and erm then then the fossilization the ah the then the shell through the sedimentary rock is erm what do you call it//
R	2	S2	ausgetauscht //exchanged//
F	3	S1	nein (xxx) //no//
R	4	T	ersetzt //replaced/supplanted//
F/R	5	S1	ersetzt genau ersetzt und ähm dann... //supplanted exactly supplanted and erm then...//

Incidentally, extract 4.16 shows an unorthodox turn structure in terms of the usual IRF-exchange: in turn 4 the teacher is actually found giving a response to a student appeal, which the student then evaluates as fitting her expectations (turn 5). I would therefore like to suggest that the IRF-exchange structure, while certainly being restrictive on students in comparison with informal conversation, is by no means the straightjacket it is sometimes made out to be (Poole 1990). Rather, students find their own ways of making use of the pattern for their own purposes, as is also illustrated in the following extract.

Extract 4.17 History, grade 11. Ancient Egyptian agriculture

F-I	1	T	.. yeah, that's right, now let's let's first of all define: when is the flood?
R	2	S	in July.. no?... yes... yes
F	3	T	yes, it is in July, yes.. in July
F	4	S	Okay
F/R	5	T	in july there is the flood
F	6	S	yes
F/R	7	T	and after the flood's gone.. people can farm the land

In the episode leading up to this extract the student has already successfully diverted his response from having to explain the reasons for the fertility of Egyptian fields

into a reconstruction of the temporal sequence of flood, fieldwork and harvest. Now he ‘delegates’ some more of his job to the teacher by making her supply the continuation of the time sequence (turn 7). This is achieved by the student through filling what would nominally be response slots with typical feedback items (turns 4 and 6), thus edging the teacher into the role of the respondent. Older students in particular are quite skilled in turning the IRF-structure on its head in this way.

The basic function of teacher repair in the F-slot, however, remains. Situated on the borderline between the lexical and the factual-conceptual it serves to develop the thematic and conceptual patterns that characterize the subject-specific curriculum (cf. Lemke 1990) through reducing the number of legitimate associations and inferences which automatically arise from the talk. In the following extract the teacher is aiming at establishing the term “organ system”: her initiating stimulus was organs that work together and she has been getting a variety of answers about real or supposed examples, e.g. stomach and intestines, kidneys, spleen. Then a student makes the following contribution:

Extract 4.18 Biology, grade 6

R	1	S	brain
F/I	2	T	astra, did you listen to my questions. i want organs that work together
R	3	S	but the brain has connections with the organs
F/I	4	T	yeah so what does it do?
R	5	S	they work together
F	6	T	no it <u>controls</u> what the organs do
R/F	7	S	oh
F-I	8	T	okay ... denise! any other organs ((etc.etc.))

This very short sequence affords a window on semantic complexities of considerable depth: The teacher seems to use *work together* as a synonym or stylistic variant of *co-operate*: organ systems are groups of organs which co-operate to fulfil a common function, for instance digestion. That is, the components are conceived of as being on the same hierarchical level. The student, it seems, has been giving ‘work together’ a more general reading, meaning ‘having a connection and some kind of give and take’ (turn 3), but neutral with regard to the hierarchical ordering of the components of the system. In this sense the answer *brain* is by no means wrong. The teacher, however, does not recognize this (I am not implying that she ought to have recognized this. The whole sequence lasts only a few seconds and half a dozen things are competing for a teacher’s attention at any one time). The teacher corrects the student’s response by introducing the lexical item *control* which directly expresses the hierarchically ordered situation prevailing with regard to

'brain' and 'other organs'. What the teacher does not provide is the stylistically equivalent *co-operate* which would express the non-hierarchical 'working together' of organs within organ systems. The question whether this is a language problem or a factual-conceptual problem is not easy, perhaps impossible, to answer. What I think one can say is that without the right words which express structural relationships between concepts of the field with the right degree of resolution one cannot really develop an appropriate 'understanding' of the subject (Lemke 1990). Learning to talk the talk of the subject may not suffice to learn the subject, but there certainly is no learning the subject without learning the talk (cf. Griffin and Mehan 1981 quoted above).

4.4 Summary and conclusions

Episodes like the ones discussed in this chapter represent the very core of subject matter teaching and it would be a promising and worthwhile undertaking to study more closely how school subjects are 'talked into being' in classrooms be they CLIL or mother tongue. In several English speaking countries Systemic Functional Linguistics (Halliday 1978, 1994), in particular, has inspired a good deal of insightful work into this direction (e.g. Unsworth 2000ab, Martin 1989, Christie 2002, Lemke 1990, Wells 1994). Much of this work is concerned with science teaching but it would be necessary to obtain detailed analyses also for a range of other subjects from the social sciences, arts and also more practically oriented fields. By doing this it would be possible to ascertain in how far school education really is a socialization into a variety of subject-specific discourses, as has been claimed (e.g. Widdowson 1993; and personal communication June 2005) and/or to what degree school education actually constitutes a specific discourse in itself which is only marginally affected by discipline-specific patterns (in this sense see also Bonnet 2004). It would, however, go far beyond the aims of the present study to take this path, not least because the groundwork concerning German L1 content classrooms that can serve as a baseline comparison for CLIL has yet to be done.

The close study of classroom interaction shows that repair and correction, as frequent occupants of the Follow-On slot in Triadic Dialogue, are an integral part of interactive talk which aims at the collaborative construction of knowledge. Correction, whether teacher-initiated or teacher-completed, effectively narrows down the number of possible contexts in which lexical items arising during the talk can be placed. This reduces the – sometimes considerable – number of inferences available to the students. In this sense the observation frequently made about Triadic Dialogue (the IRF-pattern), namely that it constrains the students' discourse space, is correct. Whether this constraint is necessarily to be evaluated negatively in terms

of the students' conceptual space is, however, another question and I hope to have shown that during interactive knowledge construction in whole class discussion students' conceptual space is actually frequently under-determined rather than being over-constrained. Seen in these terms, then, repair and correction are indispensable for maintaining intersubjectivity among the participants: without a shared understanding of the topic there can be no curricular learning. Repair and correction are thus to be seen as expressions of the continuous process of negotiation of meaning which is going on during any verbal interaction. Their relative prominence in classroom discourse is a direct consequence of the pedagogical and didactic purpose of the interaction and it represents not so much a categorical but a quantitative difference from other forms of face-to-face interaction. The relatively restricted discourse role of the students is a fact which cannot be argued away, but I have shown that even the strict asymmetry of the IRF-pattern is amenable to subversion and the presupposed passive role of the students is not absolute.

I would even go so far as to argue that there is not enough teacher talk in many of these lessons, at least not teacher talk of the 'right' kind. If one regards the follow-on slot as the locus where terms and concepts present in the discourse are re-contextualized and thereby publicly sanctioned as legitimate parts of subject knowledge, then it is noticeable, if one regards whole lessons, that this kind of teacher activity is highly local and rarely exceeds the last couple of turns. As I pointed out in the discussion of example 4.8, the exact thematic pattern (cf. Lemke 1990) which guides the teacher in his or her conduct of the interaction is left unsaid and extract 4.8 is not at all exceptional in that. A summary or explication that retrospectively covers a longer stretch of whole class discussion would, of course, require longer speaking turns on part of the teacher. However, even though summarizing "seems to be an important discursual means by which meaning is potentially shared by being publicly articulated" (Jarvis and Robinson 1997, 220), this type of teacher utterance is somehow dispreferred. I suspect that the reason may lie in the fact that such summaries and explications as this would give rise to teacher monologue, but 'lecturing' is considered undesirable and almost a kind of taboo. I do believe, however, that the sometimes complex cognitive relations between facts and concepts also need to be made explicit in a linguistically coherent way. It is not enough if they are exclusively present in distributed talk. From a language learning perspective, moreover, the virtual absence of longer and syntactically complex teacher utterances (informative speech acts) means a considerable impoverishment of the linguistic input available to the learners.

In whole class interactive talk, then, the tension between the aim of keeping spaces open for students to express their ideas and the aim of constricting these spaces to enable students to acquire culturally validated semantic and conceptual

patterns is a constant one and has to be dealt with by teachers on a minute-by-minute basis.

When used dialogically, the F-move provides opportunities for the guided construction of knowledge, as the teacher evaluates, extends and contingently responds in ways which provide for the assisted performance of students (Wells 1996, 26)

In conclusion, I would argue that when one considers the school lesson as a speech event in its own right rather than an 'aberration' from casual conversation, it becomes evident that interactive feedback is a cornerstone for maintaining intersubjectivity on the ideational plane. Without a sense of what is the publicly sanctioned meaning to be derived from the interaction, there can be no sense of curricular learning. In chapter 8 I will examine what this involves on the interpersonal level of language. The following two chapters (chapter 5 and 6) will look at two more aspects of how subject-specific content is construed linguistically in the CLIL classroom: by means of classroom questions and through other specifically 'academic speech functions'.

CHAPTER 5

Questions in the CLIL classroom

This chapter will look at a further language aspect in the discourse of knowledge construction, namely the role of questions. The discussion of triadic dialogue in the previous chapter has already shown how important questions as part of the IRF-cycle are to the development of curricular knowledge through classroom talk. The degree of this importance is highlighted when one considers that extended teacher monologue is absent from the CLIL classrooms investigated, a fact that makes teacher questions the prime strategy by which curricular content is conveyed through structuring, connecting, and extending discourse in the classroom.

This role of questions in the learning process itself will be discussed briefly at the beginning of the chapter, making reference to the substantial educational literature on the topic. The conceptualizations about classroom questions developed in this research area will then be used to examine issues closer to the level of language use, namely

- how questions condition the discourse patterns which are possible in classroom interaction, and
- how questions influence the quality and quantity of students' contributions to classroom talk.

5.1 Introduction

Asking questions is the key to knowledge and in this sense questions are our most important intellectual tool (e.g. Postman 1979, 140). On the individual level it is normally the case that individuals are internally motivated to ask a question: they want to know something. In the context of formal education this very basic connection becomes tenuous for at least two reasons: a) formal education has to synchronize the knowledge wants of large groups of individuals and b) the kind of learning which is the essence of formal education is not normally fuelled by an experienced need that learners want to satisfy, or a problem they want to solve on an individual level. Rather, in formal education students are made aware of *potential* or *historical* 'problems' as well as the 'solutions' which have already been found

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by previous generations. This, in a nutshell, is exactly what educational knowledge is: a collection of socially and historically established solutions made available for accelerated learning.¹

A good deal of ink has been used to criticize teachers for asking too many questions to which they already know the answers. But when we adopt the view that school education *is* accelerated learning and is essentially based on supra-individual (and ultimately de-personalized) needs and knowledge wants, then it is hard to conceive how teachers could act differently.² Deeply personal, experiential and/or emotional knowledge wants are not the regular case in formal education, so it is necessary to guide individual learners to problem awareness on a cognitive level in order to create a kind of opening or 'gap' in which learning can occur. The asking of known-answer questions is, therefore, odd only if we judge by some de-contextualized standard of what is 'normal language use', irrespective of the purpose or goal of a particular interaction (cf. Mercer 1999). It has been found that if the purpose of an interaction is pedagogical, the known-answer question is also routinely used in primary socialization, and this has led to the suggestion that there are "important cultural predispositions [which] underlie its pervasiveness" (Poole 1992, 600). Poole suggests that one such predisposition would be the conviction that content of mind can actually be shared through talk.

Indeed questions in the classroom are

[a] fundamental discursive tool for engaging learners in instructional interactions, checking comprehension and building understanding of complex concepts (McCormick and Donato 2000, 183)

and there is a sizeable literature dealing with their nature and role (e.g. Cazden 1988, Chaudron 1988, Ehlich and Rehbein 1986, Hatch 1992, Mehan 1979, Tharp & Gallimore 1988, Wells 1996). From the perspective of content pedagogy, then, the most important aim in studying classroom questions is to identify their functions in order to evaluate what contribution they make to the process of learning subject content. Earlier analysts in particular have tended to take a critical view on teachers using questions (as well as their privileged turn-taking rights) as a tool for expressing and maintaining their dominant role in classroom discourse (e.g. Long and Sato 1983, Stubbs 1983) and discussions of pedagogical reform have always included a consideration of ways in which students can be made more active participants in educational encounters. The design of more student-centred, or task-based learning environments thus always involves the aim of shifting some of the question-asking from the teacher to the students.

Over the last 10 years, however, a re-evaluation of display questions can be observed. This revised view has been triggered by the realization that display questions not only monitor state of mind in order to test and evaluate, but also enable

the student to make a contribution to the shared construction of a proposition which it would be beyond an individual student's capacity to construct by herself or himself. Equally, display questions serve to establish an agreed account of events witnessed by the participants in the classroom (Wells 1993, 27; cf. also the discussion in chapter 4). In combination, these two factors have led to a less critical view of the role of display questions in the classroom. McCormick and Donato summarize this positive re-evaluation of teacher questions, stating that

[questions] function as dynamic and discursive tools to build collaboration and to scaffold comprehension and comprehensibility (2000, 197).

In the context of studying CLIL lessons as language learning environments one can, however, remain basically agnostic with regard to the value, effectiveness or otherwise of different types of questions for content learning. This means that I am interested in questions mainly as linguistic input or as stimuli for the production of output (teacher questions), and additionally as linguistic output (student questions).

5.2 Typologies of classroom questions

Extensive research on classroom questions can be found both in applied linguistics and in education, and in the following I will introduce two well-established question typologies and develop a third for the analysis of the CLIL data. Even though these typologies were originally developed for teacher-oriented research I can see no argument against using them for the analysis of student questions as well. Rather, I believe that new insights can be gained by this, as it relativizes some generalizations which have been made on the basis of teacher questions alone and gives a fuller picture of the classroom as a dialogic environment.

One of the most influential typologies is that which distinguishes between display questions and referential questions (Mehan 1979).³ The distinction between display and referential questions is based on the status of the information being sought: in other words whether the answer is known to the questioner or not. In the case of known-answer questions students are obliged to display whether they possess a certain knowledge item or not. So the teacher is not interested in gaining new information not on the subject matter itself but on the state of mind of the student. In this sense display questions do target new information, but on a different level. Additionally, display questions also aim at putting a topic or a knowledge item center stage, thus making it available for collective access and reference. The same is true of referential questions but these, by contrast, seek out propositions which are not already known to the teacher. Since this is taken to be the 'normal' purpose of a question, they are also referred to as 'real' or 'authentic'

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questions. In this connection Berry (1981) has introduced the distinction between 'primary' and 'secondary knowers', teachers being a case of a 'primary knower'. In situations where these roles are activated, it is the primary knower who asks display questions from the secondary knower; in situations where the distinction is irrelevant, 'authentic questions' are asked. The usefulness of Berry's distinction lies in the fact that it broadens the scope from the classroom to other situations where similar knowledge distributions and interactional goals hold (e.g. quiz shows, expert-novice environments). The following examples illustrate the two categories of questions from the data:

Display questions

what kind of city do you know about in the east of America.
what is it in german

Referential questions

why didn't you do your homework
did anybody of you try to dive already

Referential questions are frequently seen as more 'natural' and are expected to generate student answers that are somehow qualitatively better (more authentic, more involved, longer, and more complex) than answers to display questions. Their relative infrequency in classroom discourse is consequently often deplored. Answers to display questions, on the other hand, are seen as notoriously restricted, quite often consisting only of one word. Long and Sato (1983, 283) note that the teachers in their study used significantly more display than referential questions, while Musumeci (1996, 299) even found referential questions practically non-existent in her data. Display questions, on the other hand, made up 70–90% of all teacher turn initiations in the lessons studied by her (1996, 295). Zuengler and Brinton (1997, 265) report studies on the language directed at L2 learners in content classes which show that display questions are used more frequently in these classes than in classes where content is taught through the L1. I will demonstrate below that this trend does not emerge so clearly from the present data.

Another widely-used question typology is the distinction between open and closed questions. It was applied to instructional talk by Barnes (1969) but is also familiar from other contexts of interaction (interviewing methodology in the social sciences, personal communication skills, sales talk) and makes no specific reference to educational discourse. Rather, the terms 'open' and 'closed' refer to the amount of built-in 'freedom' or scope which the questioner gives the respondent for her/his answer. In the case of closed questions, the possible responses are lim-

ited to a simple, one-word answer, which makes them quick and easy to answer and leaves the conversational control with the questioner. Open questions, on the other hand, leave the respondent more space and also tend to put higher demands on the questioner in terms of an appropriate reaction: less predictable answers are potentially more difficult to integrate into a coherently progressing teaching unit and may thus put a greater strain on the teacher's cognitive and linguistic resources.

While this distinction is quite evident in principle, finding an empirically reliable formal definition of closed vs. open questions is rather tricky. The problem has been solved in respect of devising written tests or questionnaires where closed questions are characterized by the fact that respondents can choose among a set of given answers (*yes/no, true/false* or any other type of multiple choice answer). The situation is, however, much more difficult in talk-in-interaction, since pre-defined sets of possible answers are hard to come by. The only clear-cut case seems to be the choice between *yes* and *no*, as exemplified in the examples below (cf. Long 1981 "forced-choice questions"). Apart from that there is maybe a handful of meronyms such as the possible answers to the question *Which day of the week do you prefer?* Because of this situation in interactive talk, definitions of closed questions generally limit themselves to *yes/no*-questions. All other questions thus have to be considered open and are said to typically begin with words like *what, how, why, where, who* (cf. below) and to receive longer and more complex answers.⁴

Closed questions

did anybody of you try to dive already?
 was that a four-star hotel?
 do you think do you really think that parents know what their kids are doing just by calling them?
 are they really gods or are they monsters

Open questions

who fought against whom in the First World War
 how was it under water
 what would be the result of dropping a hundred percent of my products, martin
 who are the rich men in an early society
 why the cold war was going so long

However, in the analysis of naturalistic data it quickly becomes evident that the formal criteria introduced above are somewhat problematic, and researchers have noted the difficulty of distinguishing between open and closed questions in practice. Identification by opener alone is certainly not reliable since some questions may be open in form but closed in function in a specific situation. Subsequent

discourse often reveals that a teacher was in fact seeking a particular answer (Cazden and Beck 2003, 177) even though the question 'looked' open. Initially I hoped that a cross-classification with the display/referential distinction might create a satisfactory degree of distinctiveness in that display questions somehow 'turn' a question which is open in form into one which is closed while referential questions that are open in form are automatically open in function. However, the data show that this is not necessarily the case. An analysis of open/closed questions therefore needs to proceed in a qualitative, context-sensitive manner.

A third typology of classroom questions begins to emerge if one considers the objects that all these questions are directed at, in other words, what kind of information is sought. Some notions which might serve this purpose are mentioned by Zuengler and Brinton (1997, 264; cf. Richards and Lockhart 1994) but I am not aware of a study which has examined the objects of teacher questions in a systematic way. Incidentally, such an emerging analytical tool would facilitate a fine-grained analysis of requests for information (cf. chapter 7).⁵

A tentative categorization of 'types of information asked for' would include: facts, opinions, reasons, and explanations. Questions for 'inner states or emotions' were originally considered for inclusion in the analytical framework but the category turned out to be irrelevant for the data analysed and has therefore been dropped. In the literature on instructional talk one other category has received particular interest, namely meta-cognitive questions. Such questions are intended to engage the learner in an extended dialogue in which s/he has to explain or argue a particular position. They are often realized as open questions introduced by 'why'. However, in the event of a meta-cognitive question, the student is required not to give the presumable reasons of the actions of others (e.g. why did the spartans prefer sons?) but to reason their own point of view or way of thinking. (e.g. why are you saying this? why do you think this is correct? what do you mean?). This type of questioning strategy is considered central in concepts of 'dialogic teaching' which have been developed by educational theorists since the mid-nineties (e.g. Nystrand 1997, Cazden and Beck 2003).

A typology of classroom questions according to goal, then, is not binary like the ones presented earlier but comprises the following categories:

- questions for facts
- questions for explanation
- questions for reasons
- questions for opinion
- meta-cognitive questions

In addition to the three question typologies introduced, one needs to allow for the possibility that the two classroom registers (instructional and regulative) influence

how questions are dealt with by the interlocutors. It is thus necessary to examine whether procedural questions asked in the regulative register are treated in the same way as content questions posed in the instructional register. This question is particularly relevant in the light of our overarching interest in the richness of the language environment in CLIL classrooms. Given that the two registers generally tend to offer different opportunities for language use, the question arises in how far regulative-procedural functions are in fact pursued in the L2 rather than the L1. The distinction between questions on content and questions on procedure, then, is an additional dimension to pursue in the analysis.

Data and empirical questions

As in the other descriptive chapters, a subset of the whole data set was chosen for close scrutiny and serves as the basis of the quantitative analysis. Ten lessons, again one lesson per participating teacher, were submitted to coding and quantification. As is typical of the data as a whole, the lessons were dominated by whole-class activities, but phases of group work also occurred.

As stated above, this chapter deals exclusively with questions for on content and not with questions regarding procedure. This means that unlike some other studies of teacher questions, I do not consider in this chapter interrogatives which serve as indirect requests for action (e.g. Could you pass this round? cf. Musumeci 1996, 299). These cases are discussed in chapter 7 as requests for goods/services.

In view of the problems with demarcating open and closed questions outlined above, the present analysis has employed a restrictive definition of 'closed question' for the purposes of coding, so that only yes/no questions were coded as closed. The discussion of examples in context will demonstrate that formally 'open' questions introduced by wh-words may actually be closed questions too.

On the basis of the three classroom question typologies, this chapter pursues the following empirical questions:

- What kinds of questions do students ask?
- What kinds of questions do teachers ask?
- What kinds of output do students produce in response?

My predominantly qualitative analysis is guided by an interest in how questioning and responding to questions shapes the language which occurs in CLIL classrooms.

Since no data analysis starts without expectations of what will be found, let me briefly state what these are. Personal experience and previous classroom research directs our expectations about CLIL classrooms towards anticipating them as places where many questions are asked but only few of them are asked by the students. Also, teachers' questions are expected to be predominantly display ques-

tions, which leave little space for students to formulate extended answers that are personally relevant to them. The following discussion will show that the picture is more differentiated than this.

5.3 Quantitative overview of findings

With a total of well over 650 questions asked in ten lessons (approximately 520 minutes of classroom time), the statistical average is more than one information question per minute (1.3 Q/min). Of course, such averages say little about the conditions in individual lessons since these always show a great deal of variation, which itself depends on the types of activities that are being conducted. A lesson with teacher monologues (hardly in evidence) or student presentations (several) will show a lower incidence of questions than a lesson where revision of already covered material is carried out by means of a quiz game, for instance.

Table 5.1 Distribution of teacher and student questions over the registers

	Teacher	Student	Total
Total	496	161	657
Instructional Register	414	96	510
Regulative Register	82	65	147

The overall distribution of question activity between teachers and students holds no surprises: three out of four questions are asked by teachers. The range of variation expressed by this average reaches from 100% teacher questions to 53% teacher questions in an individual lesson. That is to say, in a lesson where students become highly involved, about half of all the questions are actually asked by them. In the particular lessons referred to, there was a high share of content questions among these. Other sources for relatively high shares of student questions are vocabulary questions and also procedural questions, especially in phases of lessons where the matter being dealt with is not strictly curricular but administrative. If one looks specifically at the instructional-regulative dimension, it becomes evident that the interactional asymmetry in the classroom between teacher and students is particularly marked in the instructional register: only 18.8% of the questions are authored by students in this register, whereas students 'own' 44.2% of the questions in the regulative register. The different distribution is most likely caused by the central role subject content information plays in the educational encounter, and by the function of teachers as primary knowers. As Table 5.1 shows, in the regulative register questioning activity is spread out more evenly among the participants.

A result which is somewhat contrary to expectations is the overhang of referential over display questions in a ratio of 53% to 47% (cf. Table 5.2). This can be explained by two factors: firstly, the inclusion of student questions into the count, which are referential by definition, and secondly, by the fact that all teacher questions referring to procedural matters are referential, as are, indeed, some of the teachers' content questions.

Table 5.2 Distribution over different questions types (N=657)

<i>Referential</i> 53% (349)	vs.	<i>Display</i> 47% (308)
<i>Open</i> 63% (412)	vs.	<i>Closed</i> 37% (245)
<i>Facts</i> 89% (586)	vs.	<i>Explanation, Reason, Opinion</i> 11% (77)

With regard to open vs. closed questions, the distribution is 63% open vs. 37% closed. As mentioned above, the analysis was conducted on the basis of a restrictive definition of 'closed question' that is, only yes/no questions are contained in this count. Further discussion below will show that when considered in context, questions which are open in form may be treated by the participants as closed – and vice versa. I am making this point here in order to explain why no overly optimistic expectations regarding length of student answers should be based on the share of 63% open questions. The most significant percentages are perhaps the ones relating to the question objects categories: only one in ten questions does *not* target facts.

Generally speaking, classifying classroom questions according to what are essentially formal criteria can only be regarded as a first approximation. The following sections, which examine questions in context, will show that surface form (e.g. open-ended question) does not necessarily pre-empt the way a question is interpreted in interaction.

5.4 Classroom practices

Student questions

The category of display questions is irrelevant for studying students' questions as students' role in the classroom is clearly not of 'primary knowers' who ask display questions (Berry 1981). This is noteworthy because there are episodes where students do take on the role of expert either as the spokesperson of a group or during

a presentation which they have prepared. On close scrutiny, however, it turns out that they always enact this role through monologue or by reacting to prompts from the teacher but never by taking the leading role in triadic-dialogue-type discourse. In other words, student questions are by definition 'real' questions. Another major difference from teacher questions concerns their distribution over the classroom registers: 40 per cent of student questions are asked in the regulative register (compared to 16 % of teacher questions).⁶ The questions are directed to both teacher and fellow students and frequently concern the whereabouts of learning materials, aspects of group work, or speaker nomination.

Examples 5.1

- | | | |
|----|--|---|
| a. | frau professor, brauchen sie die folie noch? | //teacher, do you still need the transparency?// |
| b. | wo hast des her g'hobt? | //where did you get that from?// |
| c. | wir müssen zu dritt bleiben? | //we have to remain in threes?// |
| d. | was soll ich mit meinem tisch machen? | //what should I do with my desk?// |
| e. | was soll ma jetzt machen? | //what should we do now?// |
| f. | wo steht das? | //where does it say so// |
| g. | sagt einer das ganze oder teil ma's uns auf? | //does one say everything or shall we share it?// |
| h. | mochst du des? | //will <u>you</u> do this?// |

The above examples are representative in showing also that this type of questions is almost exclusively formulated in German, even if they are a direct reaction to something the teacher said in English.

Extract 5.2 Physics, grade 6

- | | |
|---|------------------------------|
| T | we have to collect the books |
| S | welche books? |

During group work, students in the observed lessons nearly always switched to the L1, so that questions asked outside the whole-class forum tend to be in German. The strong pull of German is also visible to some extent with content questions even though the instructional register seems to be a strong determinant for choosing English on the whole. As already mentioned elsewhere, local 'contracts' about the rules of interaction and language use also play an important role.

Unlike procedural questions, content questions fall into two large groups with interestingly different characteristics. On the one hand, we find questions regarding vocabulary or spelling (significantly none on pronunciation), on the other

there are the 'real' content questions. The former have a very limited formal range (English: how do you say x? what does x mean; German: was is x auf Englisch? wie sagt man x? See examples 5.3 below) and are predominantly in German. Only one English vocabulary question has been identified (Extract 5.4), while in many lessons questions of the type 5.3 are the predominant type of student question overall, for instance up to 22 vocabulary questions can be found in one lesson.

Examples 5.3 Students' vocabulary questions

was heißt x?
 wie schreibt man x?
 was is (x) eigentlich(x)?
 wie sagt man x?
 was is x auf Englisch?

Extract 5.4 History, grade 6

1 T ya, pa(/æ/)tron de(/ei/)ity
 2 Sf1 de(/ei/)ity... **what.. means deity?**
 3 T what could a deity be?... a god
 4 Sf2 i don't know... ah
 5 T a deity is a god
 6 Sm ... und patron is.. beschützer, oder?

Given the highly formulaic character of these questions, the students' language competence can hardly be the issue in their preference for L1. It seems to me that students have a strong sense of differentiating between a subject content core that is 'in English' and a procedural periphery which is preferably enacted in the language of the environment, German. In those classes where the L1 is less expansive, an explicit code of practice had been installed and enforced by the respective teacher. A more extensive examination of code-switching practices would, of course, be a most interesting undertaking.

The 'real' student content questions, then, are mostly in English with very few exceptions. However, they are unevenly distributed in the data corpus and are basically concentrated in two lessons (both of them history lessons). In all the other lessons students ask content questions that are not about new vocabulary only very sporadically.

The content questions with the lowest threshold seem to be those which ask for extra facts and all isolated cases of content questions follow this type.

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Extract 5.5 Physics, grade 6

((deep-sea submarines have just been discussed))

- 1 T okay so we've nearly finished with pressure in liquids. there is just one thing as usual. grace.
- 2 Sf ah what material is this
- 3 T ah its metal special metals but i don't exactly know which metal it is
- 4 Sm **ist das wellblech** //is this corrugated iron//
- 5 T no

Such questions for extra facts are also the predominant type in the two lessons with the highest concentration of visible student questioning activity. Examples 5.6 show that, while these are all 'real' questions, they are mostly yes/no questions.

Extract 5.6.a.-g. Student content questions

- a. but could she manipulate the.. her man.. to vote?
- b. ah was it allowed to bee.. a metics as a woman?.. for the women?
- c. ahm could a metics woman marry a citizen(s)?
- d. i have a question: could the the wife ahm ah the woman say she w- she wants to be divorced?
- e. S1: ahm are the women ah allowed to.. S2: work
- f. how how big was the...radius?...the radius how big was it?
- g. wasn't a war between soviet union and afghanistan?

Language choice here is also worthy of comment since it is a mirror image of the practice observed with procedural questions: the L2 dominates the scene, one factor certainly being that all these questions are asked by upper-secondary students with more developed L2 skills.

Questions which seek reasoning or explanations from the teacher, let alone challenge what she or he has said, are very few and occur only if embedded in plenty of questions for facts. That is to say they occur almost exclusively in lessons where general student activity is very high. Such questions are characteristically introduced by *if* or *why* (and if she was poor? but if the hu- ah husband dies?):

Extract 5.7 History, grade 13

- 1 Sm i never found out ah... they tried ah why the war the cold war was going so long? was it a fear or...fear from each other or...was it prestige or is it...to be the best?
- 2 T mhm well ah why was it going on ah that long? you you said the end of the cold war was marked by ...

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Extract 5.8 History grade 10

- 1 T and so.. ah.. you had an independent ah Greek town (XXX).. and they traded with.. mainland Greece, with Athena, or... other towns.... independent Greek colonies or cities all around the Mediterranean.
- 2 S **and why were they called.. colonies?**
- 3 T it's a question of terminology, you could call them independent settlements...
- 4 S but the language...
- 5 T we called them we called them colonies, the books call them colonies today

How, then, do teachers react to student questions? Musumeci (1996) observed that the teachers in her study tended to answer the few student questions they received with relatively extensive monologues. Something like this does not happen in the present data. As I have observed on several occasions, teacher monologue is not much in evidence altogether here. If students ask for additional facts, they tend to receive either short factual answers or the teachers play back the question to the class as a whole in order to see if answers are forthcoming from other group members, or to engage in collective reasoning.

Extract 5.9 History, grade 10

- 1 T she had no.. rights.. at all... and she only had ah things that were forbidden.
- 2 S1 ahm.. can you
- 3 T yes?
- 4 S1 can you think of something why it was like this
- 5 T .. a reason why it was like that?
- 6 S1 yes
- 7 T aah
- 8 S1 ... and.. you (xx) can think of it?
- 9 S2 in the New Stone Age.. it began
- 10 Ss ((laughs))
- 11 T began (xx)... it began in the New Stone Age, yes. ah... ya, i think ahm.. i thinkah men.. i don't know, what do you think
- 12 S the women
- 13 S i don't know
- 14 T is it natural.. that men always want to have power over women?
- 15 S no

In sum, in the case of student questions in general, the students' prime concern seems to be to ensure that they can fulfil the tasks set by the teacher, and occasionally to obtain specific information but very rarely to obtain explanations or arguments, or to check their own understanding of the proceedings (cf. Musumeci 1996). Because of their tendency to use German for questions which are not about core content, the learners formulate very few questions in English themselves and thus get little practice in taking an active speaking role in the target language.

Teachers' referential questions

As the rough quantitative overview above has already indicated, teachers do seem to ask quite a few 'real' questions in the classrooms studied. Since it has sometimes been implied that classrooms would be better places if teachers asked more referential questions (e.g. Long and Sato 1983, Stubbs 1983), this looks like a very positive result as it seems to indicate that these CLIL classrooms are pretty 'good places' to be. Good places, that is, in terms of how subject matter is made personally relevant to the learners by means of engaging them in 'real' exchange of 'real' information. Since the studies from the 1980s referred to above took place in ESL classrooms, this result seem supports the position that CLIL classrooms are crucially different from ESL/EFL ones. The following qualitative analysis will, however, relativize the implications of the quantitative findings.

A first important observation to be made with regard to the frequency of referential teacher questions in Austrian CLIL classrooms is that a substantial number of them belongs to the regulative register. I will briefly look at these first and will then turn to the instructional register since the latter is what the positive evaluations of the role of referential questions for learning presumably refer to. The regulative register provides the frame in which content work can proceed. The teacher is the one who orchestrates and organizes this, and who therefore not only has an advantage over the other participants on the content level but on the procedural one as well. Interestingly, however, in the regulative register, this does not result in the deployment of display questions. Rather, these are practically non-existent in the regulative register. Apart from one case, all teacher questions regarding procedural matters are 'real' questions. They may concern school matters in general, like the whereabouts of books to be collected at the end of the year, or pieces of classroom equipment.

Extracts 5.10. Typical teacher questions in regulative register

- a. has anybody got the books down at the wardrobe
- b. ah...you should remind me to do it or... (('it' being the signing of forms for the finals))
- c. have you got a ruler
- d. have you got a piece of chalk somewhere
- e. i prepared a transparency for it...so we will look to the food inventory account first...it doesn't work (('it' = overhead projector))

In contrast to their students, in performing these procedural questions, teachers switch to the L1 only on very few occasions even if the topic of conversation is further removed from content level. Regulative questions which organize group work, query for spokespersons, sequence events, or check for comprehension are a step closer to content work (see Extracts 5.11–5.13.).

Extract 5.11 Geography, grade 7

- 1 T okay we are playing teams ...here is one team! two ...what are you? five people! four people, three and four
- 2 S wir sind team one //we are team one//
- 3 T so who wants who ...who wants to do the list? have we a list?

Extract 5.12 Geography, grade 7

- 1 T okay bettina who is going to talk?
- 2 S1 du mußt das sog'n! //you've got to say it//
- 3 S2 warum? //why//

Extract 5.13 History grade 13

- 1 T didn't we talk about it last time, yeah? we said we all trust in mister sackl and he is not here. perfectly! okay then well let's have one of the other reports!...ah what was the one you had?
- 2 S ((swallowing)) after war!
- 3 T mhm after the war. ah yours is about d-day! aha okay what else have you got? what's yours?

For these content-related questions the teachers in the sample invariably stay within English as their code of choice. Equally invariably this is also the case in the instructional phases of the lessons to which I now turn.

During the extensive and therefore crucial whole-class phases dominated by triadic dialogue referential questions are perhaps less expected, but certainly ob-

servable. It must be noted, though, that a considerable share of these referential questions can be considered ‘referential’ only in purely formal terms. They contain formulae like *do you remember* any names, *do you know* when it fell, *can you tell us* what the pressure on those divers is and thus nominally enquire about the student’s ability to say or remember something that is ‘common knowledge’. However, none of these questions is ever answered with a literal *yes* or *no*, but is treated as a display question by the respondents. It can therefore be assumed that in reality these formulations are an indirectness strategy occasionally employed by teachers to cushion display questions.

Another kind of referential question serves to bring information which has been generated outside it onto the discursive floor of the plenary. These are questions

- asking for results of group work, pair work, or homework
- asking for further details during presentations
- asking for experience or knowledge gained outside the classroom

Asking for the results of group work or homework may also be an instance where a strict categorization into display and referential questions reveals itself as somewhat problematic.

Extract 5.14 Asking for results of group work

T okay? so, what did you find?

Since the tasks are set by the teacher, who has made a decision of why s/he wants the students to study this particular material, questions like the one in 5.14 have mixed qualities. It depends very much on the kind of materials and the openness of the task whether the students have the chance to create knowledge which has not been pre-empted by the teacher. An occasion where this frequently holds true are student presentations. These often provide the opportunity for the students to take on the role of expert for a given period of time. The following sequence of extracts is from a grade 13 history lesson where a student is giving a presentation on a Nazi concentration camp that was located near his home town. The information presented is not exclusively derived from published material but also based on the student’s own research through interviewing neighbours and elderly relatives. This prompts the teacher to ask a number of questions during this presentation, several of which spin off a lively discussion among the class.

Extract 5.15.a.-c History, grade 13

- 1 S1 in sankt georgen, yes that’s right.
- 2 T **could you give us an idea of the location.** i don’t know whether all of us are so familiar with

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- 3 S1 oh i am just about to do this because i had photos but (clears his throat) they didn't want to go with the computer (laughter) so mmh let's draw... the danube (laughter) okay? and let's assume that here is mauthausen
(.....)
- 4 T ah let me just ask you one more question. ah we we have it talked it over before ah **what about the people living near** or ah ah near the concentration camps, people from sankt georgen an der gusen or langenstein **what did they know about it?** have you heard anything about them?
- 5 S1 ah the people in sankt georgen ah we have to say that the area where the underground factory is ah was not a area where people live at that time but i'm quite sure that the people knew what happened there because ah one of my grandfathers was an engineer there and they must have seen what happened to the people there but ahm... ah i think that they just tried to get over this because you have to imagine you see every day hundred people walk into a tunnel and no one comes out again and you know what happens there (XXX) but anybody wants to talk about this.
(...)
- 6 S2 during the war ah the whole people i don't think that they knew it so my my ah grand...mum ah from klein ah they did not know what happened in the concentration camps. they know that there were some camps
- 7 T mhm yeah that is what i wanted to ask. **did they know that there were any camps near?**
- 8 S2 no no i i talked to her few years ago...ah for a work in the school and... aso interviewed her...she said i don't know it. from i man they were ah they never get ah got anywhere than their hometown so
- 9 T mhm... mhm
- 10 S3 i think they didn't wanted to know.
- 11 S1 or perhaps the parents of those people didn't want their children to know.

A similar situation in terms of who the 'knower' is exists in cases where the students' extramural experience can confer on them a kind of expert status. Such situations arise more often in vocational schools, at points where the students' practical work experience reflects directly on curricular matters. The following example comes from a tourism management lesson where present and future source markets of the Austrian tourist industry were studied by means of text-based group work and subsequent presentations. By asking questions about the students' experiences during their hotel internships, the teacher then aims at relativizing the im-

portance given by the texts to Russia and China as source markets in comparison with Germany. This triggers lively participation from the class, much of which is in German. The short extract is representative of several others. Note the absence of a teacher feedback move in the follow-up to the student responses.

Extract 5.16 Tourism management, grade 11

- 1 T eben, das will ich wissen. war irgendjemand amal in einem hotel wo keine deutschen gäste waren?
//that's right, that's what I want to know. Has anyone ever been in a hotel where there were no German guests//
- 2 Ss na, nein // no, no//
- 3 Sm sowas gibt's nicht, würd ich sagen
//such a thing doesn't exist, I'd say//
- 4 S1 S (laughs)
- 5 T hat jemand irgendwo schon amal chinesische gäste gehabt?
//has anyone ever had chinese guests//

But also non-specialist extramural experience is drawn upon either to mark or to relativize the relevance of curricular material. In the educational literature, especially on science teaching, the fact that curricular content needs to be made personally relevant for the students in order to create true learning is much discussed, as is the question of how specialist subject knowledge can be created from or built upon knowledge derived from everyday experience (e.g. Lemke 1990). 'Real questions' are thought to be one way to achieve an activation of relevant personal knowledge or experience, and it is likely that a fair number of referential questions arise from such considerations on the teachers' part. For instance, the topic of political organization of ancient Greece is introduced by questions about holiday destinations on the Greek islands, homing in on the fragmented geographical conditions which were the basis for the kind of political entities (city states) the teacher was planning to discuss in this lesson. In physics, the topic of pressure under water is introduced by a question about whether anyone in the class has done any diving. Only once in the 40 lessons does the occasion arise that a teacher opens up a space for a genuinely personal issue. The lesson topic is embalming practices in Ancient Egypt.

Extract 5.17 History, grade 6

- 1 T okay. so the egyptians were very interested in life after death. death is when you die when you are gone and afterlife is if you live after death okay, how many of you think there is a life after death ((5 secs))
- 2 T i think so, yeah

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- 3 Ss (°xx°) ((students raise hands))
 4 T T: and who thinks life er sorry who thinks death is the end nothing af-
 ter death

However, not only when the topic is death but also in none of the other cases does a teacher's referential content question during lock-step activity trigger extended discussion (see section on student responses below). On the contrary, the most successful lesson in this respect is one where the teacher apparently (intentionally or not) refrains from asking such questions of 'direct personal concern' ('Betroffenheitsfragen'), but the concern is articulated by the students themselves. The lesson is about democracy and social structure in Athens.

Extract 5.18 History, grade 11; all female group

- 1 T they had elections all the time, ah not all the time.. ah... e-every.. year....
 so the government was in power only for one.. year, and then they had
 to change. you're not sure that that was so democratic
 2 S1 yes.. the women
 3 T the women?
 4 S1 the women!.. were
 5 Ss (laughter)
 6 T what about the women?
 7 S1 weren't allowed to vote.. at that time
 8 T no, the women were not allowed to vote, no
 9 S1 yes, it's not equal
 10 T no no
 11 Ss ((laughter))
 12 S1 okay
 13 T but they women weren't citizens

The sequence occurs several minutes into the lesson which from then on is characterized by exceptionally high student participation. A conspiracy of several factors is probably responsible for this: the topic is women's status and rights and the group is all female. But I submit that the teacher's question format is not to be underestimated in this: she uses referential questions sparingly and the ones she does use are actually rather vague. The question what about the women?, for instance, throws back the job of filling in the facts to the students and thus opens up a space for them to argue their position. Whether intentional or not, this technique is used several more times during this lesson. I will return to this in the section on student responses.

Student responses

I pointed out in the introduction to this chapter that students' questions together with their responses to teacher questions actually form students' oral output in CLIL lessons. From the facts presented so far in this chapter it is obvious that the bulk of student L2 output must be in the responses to teacher questions rather than in the questions asked by the students themselves since the likelihood of an individual student asking a question during a lesson is less than one question per student. Responses, on the other hand, are required for about 500 teacher questions.

This section will deal with what these responses look like in terms of length and linguistic complexity, with a special emphasis on the relationship between the type of question and the shape of the answer it generates. I will therefore consider the length of student response turns as well as their linguistic complexity: my working assumption is that shorter answers will be structurally more simple than longer ones.⁷

The great majority of student responses is very short indeed and consist of one word or one clause element. One-word responses mostly consist of a noun, or much more rarely a verb or an adjective. The most frequent clause elements are "determiner + noun". These short answers occur not only as a reaction to display questions, but are the normal kind of answer also to referential questions, as these are predominantly closed (see previous sections).

Extracts 5.19–21 Responses to closed referential and display questions

- | | | | |
|------|---|----|--|
| 5.19 | 1 | T | yes, good... Anita, was this from you? |
| | 2 | S | no |
| 5.20 | 1 | T | what are the egyptian gods. |
| | 2 | Ss | (°xx°) |
| | 3 | T | are they really gods in stargate or are they cats or are they monsters
are they ghosts michelle |
| | 4 | Sf | aliens |
| | 5 | T | aliens okay |
| 5.21 | 1 | T | favelas belong to which town? |
| | 2 | S | rio de janeiro |
| | 3 | T | yes |

Examples 5.21 and 5.22 show the classic Initiation-Response-Feedback pattern, which is as typical of CLIL classrooms as of any other classrooms present in the research literature. Interestingly, it seems irrelevant for the answer format whether

these questions are referential, display, open or closed. It must be the context of triadic dialogue (IRF) which determines that numerous questions that are formally 'open-ended' are treated as closed by the participants. Questions introduced with *what* in particular tend to generate short, minimal answers which simply provide individual facts without encoding them in a full proposition. Rather, the propositional frame seems to be provided by the question itself, or by the immediate subject-specific conceptual context, as in the following example (5.22). In spite of the open formulation of the question "what did you write", the student's answers can come from a limited set of options only (even though the teacher claims that "there were quite a lot of where you could choose from").

Extract 5.22 Marketing, grade 11

- | | | |
|---|----|---|
| 1 | T | mhm then show three different examples what structured questions could look like (more or less) depends on whatever you wrote martin what did you write |
| 2 | Sm | erm smilies erm boxes and erm scala |
| 3 | T | smilies for instance boxes for eight numbers a scale and so on so there were quite a lot of where you could choose from. |

This is not to say that students do not have a space within which they can decide how to treat a teacher question: as a display question which gets a minimal response like S1 does, or as a 'real', more conversational question like S2 (see extract 5.23).

Extract 5.23 History, grade 13

- | | | |
|---|----|---|
| 1 | T | ah did you know which kind of an aircraft that was? |
| 2 | S1 | a fighter |
| 3 | S2 | i think it was a fighter with machine guns |

But reactions like the one of S2 in the above extract are rare and it is evident that students routinely collude in the construction of typical instructional dialogue.

If asking for facts generates student output of low linguistic and conceptual complexity, what *are* question formats which encourage more extended student responses? On the surface questions for definitions seem to be a promising choice, taking the form of *what is a(n) X?* and requiring an extended answer. Such questions also occur with promising frequency. Under the specific conditions of the CLIL classroom, however, they are nearly always interpreted as requests for translation (Extract 5.24). The same happens in 5.25 where an explanation is then added by the teacher herself. Much more often, however, the translation is accepted *in lieu* of a definition or, perhaps, as an explanation. (cf. chapter 6 on academic language functions).

Extracts 5.24–26 “What is a”- questions for definitions

5.24	1	T	what is a sniper?
	2	Ss	scharfschütze
	3	T	scharfschütze. so, very dangerous, the snipers.
5.25	1	T	what is a P-and-L account?
	2	S	gewinn und verlust. profit and loss.
	3	T	gewinn-und-verlust konto, ja? dieses konto zeigt mir als bi- als balance dann, als saldo den gewinn oder verlust.
5.26	1	T	what is market growth we always think about market growth but did not yet explain it (xx) do you know what is market growth
	2	S1	erm how fast a market erm grows
	3	T	yeah Kerstin: erm
	4	T	that is how fast. use different words
	5	S1	erm it ex extend na (x)... extend
	6	T	yeah, how fast consumers are buying it, how quickly more buyers are come coming and so on. so market growth is not the only measure.. why (etc.)

It is only in example 5.26 that the teacher actually avoids getting a translation, presumably because she explicitly uses the word *explain*. The student, however, finds it difficult to produce an explanation that is not circular (“market growth is how fast a market grows”). The most obvious interpretation of this difficulty would of course be that insufficient L2 competence hinders the student in providing a valid explanation, as she can only offer the verb *extend* whereupon two alternative verbalizations (or explanations) of the concept of market growth are provided by the teacher herself. However, similar observations have been made about L1 science classrooms (Lemke 1990) so that a verdict on the matter with regard to CLIL classrooms without a prior comparison with L1 content lessons in the same situational context (Austrian secondary schools) would be highly premature. It is not unlikely that formulating definitions is a skill in itself which needs to be learned and practised (cf. Chapter 6).

Apart from definitions, which, as we have seen, are mostly circumvented by translations in CLIL classrooms, requests for descriptions and the giving of reasons represent prompts that trigger more extended student turns. Descriptions and reasons are elicited through questions typically introduced by *how* and *why*.

Extract 5.27 Giving a description

- 1 T mhm how do producers make parents buy the cellular phones (xxx)
 2 Sf erm they er give them the feeling er if your kid has a mobile then you can call them and you can be parent even if you are at work and don't have don't really have time for your children but you can call them

Extract 5.28 Giving reasons

- 1 T ah.. in nineteen seventy-eight, why was there a conflict between the Islamic fundamentalists and the left-wing government in Afghanistan?
 ((28 turns during which T repeats the question several times; only when a specific student is nominated does the rationale materialize))
 2 T okay. Monika. why was there a conflict. could you put your long statement into very short sentences.
 3 Sf1 ahm the government wanted to make a land reform.. butt thee Islam is against it because (the?) Islam says that [only (?) Alláh (?) can decide who is rich
 4 S2 [psch
 5 Sf1 and who is poor. and so em the government also made.. other.. reforms which the Islamic.. population didn't want to have... em
 6 T okay, so this was a mini-speech. the point is you should have.. mentioned a Communist government,... which wanted reforms, like land reform, like women to college – this is what most people wrote...

Extracts 5.27 and 5.28 demonstrate that descriptions and rationales are indeed opportunities for students to produce longer and more complex turns. Note, that the teacher in 5.28 calls the student's response a "mini-speech", pointing to the unusualness of such an extended student turn (lines 3 and 5), which at 46 words does not seem overly long in absolute terms. It is worth mentioning that 5.28 is part of a sequence that revised the questions which had been asked in a written test. In other phases of the lesson such reasoning questions are absent. It would be necessary to investigate more closely whether reasoning processes in the lessons might be present in other ways than through explicit questions. On the surface it looks as if test questions require students to establish causal and argumentative connections which are not regularly and explicitly rehearsed during the presentation phase in class.

Sometimes, though not frequently, students are also asked to give their opinion. Such teacher initiatives are usually flagged by signal words like *opinion* or *you think* and possibly also the use of subjunctives in display questions.

Extracts 5.29–5.30 Giving an opinion

- 5.29 1 T now **in your own opinion** do you think **do you really think** that parents know what their kids are doing just by calling them,
 2 S1 no they can do this because the children can also say im with a friend and in real [they are
 3 T [and in=
 4 S1 =in somewhere in reality they are somewhere else
- 5.30 1 T but what if you produce only poor dogs what then.. according to the matrix you should drop them off **what would be the result** of dropping a hundred percent of my products martin
 2 S yeah find new ways of selling developed products or erm
 3 T mhm you are already one step in front of me i just want to do it more slowly more careful....

Techniques like returning student questions to the group (see Extract 5.18), and asking very general referential questions like anything else? does anyone know anything about...? are used, but with low frequency. What these question formats have in common is that they open up the floor to a wide range of responses. The challenge is certainly not always taken by the students, but if it is, the teacher runs the risk that the talk may lead into unplanned directions.

Metacognitive questions, which in the literature have been given some prominence as promoting higher thinking skills (together, I presume, with their concomitant linguistic realizations) are hard to find in the present data (cf. Mehan 1979, who also found only 4% metacognitive questions in his data). The next extract represents the only example among approximately 500 teacher questions (0.2%).

Extract 5.31 Metacognitive question

- 1 T why is there pressure
 2 S1 the molecules can ahm ahm walk in all directions
 3 T **wu what do you mean like that** but don't think about molecules how can you picture water what did we say last lesson=
 4 S1 =(xxx) be in a container
 5 T could be in a container and

Note, however, that after the meta-cognitive question the teacher does not leave space for the student to actually explain what he meant but immediately starts to guide the student into a different direction. She asks him to abandon the conceptual context he is operating in and elicits a description "how can you picture water", which is immediately followed by a question for facts "what did we say last lesson".

The quantitative overview at the beginning of this chapter showed that all non-facts questions taken together (explanations, descriptions, rationales, opinions, and meta-cognitive) account for just over one tenth of all questions in the classrooms studied. Example 5.31 shows that of these even fewer actually receive the extended student responses which they have the capacity to elicit. It is certainly the case that students seem much more ready to engage in providing single facts during the game of ‘guess what’s in teacher’s head’ than in more open question types, but perhaps they would merely need more time to think and formulate.⁸ What frequently happens in instances when no student answer seems to be forthcoming is that the teacher follows up the initial, more complex question with a less complex one, repeating the step until an answer is offered.⁹ Extract 5.31 already gave an indication of such a trajectory: meta-cognitive question – description – fact. In 5.32–5.34 I give three more examples illustrating how more complex questions that might engender more complex answers are discursively treated in CLIL classroom interaction. About half of the 11% non-facts questions adopt this practice.

Extract 5.32 Progressively diminishing complexity of questions. History, grade 11

- | | | |
|----|----|--|
| 1 | T | .. ah, but that comes close... why do people have a lot of power in a society where there is.. no industry? |
| 2 | S1 | they were born into it |
| 3 | S2 | they were upper class |
| 4 | S3 | (XX) men (?), the were... |
| 5 | T | they were upper class,.. they were born into their.. social.. status,.. if your father was a nobleman, you are a nobleman, yes, but... |
| 6 | Ss | ahm.. no... no |
| 7 | T | they are rich. yes okay, why are they rich? what have they got? |
| 8 | S | money |
| 9 | S | they have mines |
| 10 | T | they have...? mines |
| 11 | Ss | land |
| 12 | S | ... yeah, there were s- there were silver mi- |
| 13 | S | land |

Extract 5.33 Progressively diminishing complexity of questions Physics, grade 6

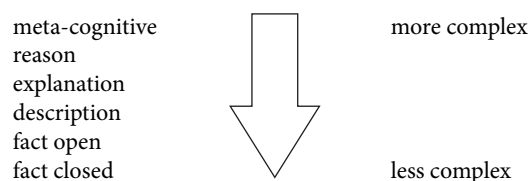
- T and.. okay erm **what about** the pressure in water **is it the same** everywhere

Extract 5.34 Progressively diminishing complexity of questions Biology, grade 6

- T **how** do plants live **what** do they live on

Based on the evidence from the ten CLIL lessons analysed in this chapter I submit that there is a complexity ranking for questions and responses which runs roughly like this:

Complexity ranking of questions/responses



This ranking has the status of a hypothesis at the moment and would need further empirical support, also from comparisons with L1 content teaching in order to find out whether CLIL classrooms do indeed encourage question types that are less complex, as has been suggested by some researchers (Zuengler and Brinton 1997 on content-based classrooms).

What can be said with some confidence is that teachers themselves often cut short what they would profess (and what, I surmise, they honestly believe) to propagate, namely the linguistic expression of complex thinking processes. Whether these complex thinking processes happen independently of linguistic expression is yet another matter (cf. the role of inner speech in sociocultural theory). Generalizing over students and teachers, it is evident and quite striking that neither group asks for explanations, reasons, and opinions with any frequency and it seems that the bread and butter of Austrian CLIL classrooms is facts, facts, and more facts. The linguistic consequences of this state of affairs are that the situationally appropriate student responses, which make up the lion's share of oral student output altogether, are short and simple. Further in-depth research into the lexicogrammatical structure of student responses would clearly be a desideratum.

5.5 Questions and the handling of communication breakdowns¹⁰

As we have seen, classroom questions are truly constitutive elements in the production of classroom language because of their crucial role both in the construction of knowledge and the organization of classroom proceedings. But there is a further dimension to the contribution questions make to the language input and output in CLIL classrooms, and that is their function in handling communication breakdowns. A whole strand of research within second language acquisition studies stresses the fact that the signalling and/or prevention of communication break-

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downs is a crucial way in which learners are provided with more, and more comprehensible, input that will enhance language learning (e.g. Long 1983ab, 1985, 1996, Pica 1994; cf. Chapter 9). A number of discourse moves have been identified in the interaction of language learners which are thought to reassure interlocutors that they are understanding and being understood. These discourse moves, first introduced by Long and Sato (1983), have played an important role in a whole strand of SLA research: comprehension checks, clarification requests and confirmation requests. While research within the 'interaction paradigm' has mostly concentrated on conversational dyads or small groups, I will in the following examine to what extent such discourse moves play a role in CLIL classrooms (cf. Foster 1998, Foster and Ohta 2002). First, however, here is a short illustration of the different kinds of discourse moves that are assumed to mediate interaction and prevent communication failure:

- a. comprehension check
ok? does everyone understand?
- b. clarification request
pardon? sorry? what do you mean, i don't understand
- c. confirmation check
did you say 'he'?

(cf. Long and Sato 1983, 176)

Comprehension checks are phrases uttered in order to ensure whether one's interlocutor understands what one has said. Looking at the surface of the teacher-student role relationship one would consider comprehension checks to be a natural consequence of the teacher's role as the more competent interlocutor and would thus expect them to be a regular feature in all classrooms. In my data, however, comprehension checks like *do you understand my question, is that clear, do you have a question* are extremely rare. Those that do occur never lead to a negative answer in the sense that a student might indicate that they cannot follow the teacher's words. On the verbal plane at least, students on these few occasions always convey that they understand what the teacher is saying. Maybe this is the reason for the low incidence of comprehension checks in the classrooms investigated: since teachers make the experience that students never say they do not understand, they stop asking whether they do.

When teachers are acting as listeners, they usually are very active and cooperative and will go to great lengths to derive meaning also from minimal or even cryptic student responses, an observation which has been reported in many studies on classroom language (e.g. Edwards and Westgate 1994). Here is one illustrative example from the CLIL data.

Extract 5.35 Marketing, grade 11

- 1 T but what if you produce only poor dogs what then.. according to the matrix you should drop them off. what would be the result of dropping a hundred percent of my products martin
- 2 S yeah find new ways of sell developed products or erm
- 3 T mhm you are already one step in front of me i just want to do it more slowly more careful...

Not only does the teacher give a rich interpretation to a basically incoherent student response, she even claims that the student is 'ahead' of her and then proceeds to take the class through the putative consequences of her question step by a step. Example 5.35 definitely represents the normal case but there are instances when failure to understand is signalled openly and *clarification requests* are made. According to Long these are expressions "designed to elicit clarification of the interlocutors preceding utterance(s)" (1983b, 137). In the classroom data the least risky signal of this kind seems to be *pardon?* When it is (very occasionally) used by teachers, students usually read it as signalling an acoustic problem and give a straightforward repetition of what they said.

Extract 5.36 Teacher clarification request

- 1 S companies
- 2 T pardon
- 3 S companies

Extract 5.37 Teacher clarification request

- 1 S the problem is that we don't have niket in here who would tell us.
- 2 T pardon?
- 3 S we don't have niket in here, so our russian (XXX) ((laughter))

Extract 5.37 is treated as an indirect signal of non-understanding on the meaning rather than the acoustic level, at least the student seems to take it like that and provides extra contextual information. But this is an exception: normally a straightforward repetition is given as in 5.36. What happens extremely rarely is teachers saying openly that they do not understand what a student means. In everyday conversation such a problem is normally resolved by the speaker of the original utterance but in the CLIL data only one in three of such instances lead to conversation-like resolution of the misunderstanding on the part of the student rather than the teacher who required clarification.

Extract 5.38 Teacher clarification request. History, grade 13

- | | | |
|---|---|--|
| 1 | S | it was a war about information a(x) technology... i would say |
| 2 | T | mhm (is writing something on the blackboard) what do you mean by information technology? |
| 3 | S | info no information <u>and</u> technology |
| 4 | T | information <u>and</u> |

The same teacher as in extract 5.38 also regularly uses *confirmation checks*, in order to ensure that he has understood correctly, something that none of the other participating teachers do. These confirmation checks tend to occur during the discussion after extended student presentations on historical topics.

Extract 5.39 Confirmation check History, grade 13

- | | | |
|---|---|--|
| 1 | T | mhm ...ja ja ah do i understand mister bauer that you you find it most important talking to people who really experienced it all? talking to eye-witnesses, people who really can tell you what they've gone through? |
| 2 | S | i find this very important for me because ah...ah it's a strange feeling if you see your grandmother sitting before you and she starts crying talking about the war. and i can't forget this ever so~ |

The regular occurrence of teacher confirmation checks reflects the less pre-determined and more open character of the 13th grade history lessons in which they appear. It is interesting to note that also other descriptive chapters provide evidence of elements (formulation of requests, occurrence of student questions) that contribute to the impression that these lessons with very advanced upper-secondary students are more distant from the core of school-type interaction and show features of interaction between equal adults.

It was said above that students never signal non-understanding, but there are exceptions, if only a handful. One student makes a confirmation check (5.40), one teacher is made to explicate her meaning by a factual student question (5.41), and one student even says "I don't understand" (5.42).

Extract 5.40 Student confirmation check

- | | | |
|---|---|---|
| 1 | T | in the fields, they paid by the day,.. aaand... they had to pay taxes but they didn't have any rights.... they ah.. |
| 2 | S | you mean... |
| 3 | T | were.... yeah |
| 4 | S | to go through the countries? |
| 5 | T | they had the right to travel... yes? they could move around freely, from one polis to another |

Extract 5.41 Student clarification request

- | | | |
|---|---|---|
| 1 | T | ah they supervising the slaves,.. and women where not allowed to leave this room... unless.. well, their husband allowed it to them and |
| 2 | S | and |
| 3 | S | to go to the toilet? |
| 4 | T | so on, yeah |
| 5 | S | what's in the (XXX) |
| 6 | T | na, i mean not the room , they could they were wa- they were not allowed to wa- to leave the house |

Extract 5.42 Student clarification request

- | | | |
|---|---|---|
| 1 | S | no i don't understand it because why do they keep the poor dogs for the image not f (xx)= |
| 2 | T | =just to make sure that you want to know the certain groups of persons who were not er who could not afford something |
| 3 | S | but if you make a loss that's not if er |
| 4 | T | you have maybe you have three products of the same product group hat also drei jeans |

Even though it is problematic to identify 'trends' in only a handful of examples, it is noticeable that open signals of non-understanding from both teachers and students occur only in those lessons which are generally characterized by high student initiative and that students will signal non-understanding only when a high degree of involvement has already been established. But it appears as if teachers, too, depend on a certain level of student activation in order to treat students more like 'normal conversation partners.'

Unlike Musumeci's study, where "No one, neither teacher or student ever said 'I don't understand'" (Musumeci 1996, 307) the present data do contain some explicit verbal signals of non-understanding, if only a few. Of course, the classroom offers other levels of meaning making than language alone, but in reading transcript after transcript one gets the distinct impression that there is a tacit contract

among participants that they will consider classroom interaction as 'unproblematic' in all but the most extreme cases. For the teacher it is more satisfactory and less taxing to believe that s/he has 'delivered the goods' smoothly, for the student it is less trouble to be satisfied with superficial or even pretended understanding. For both sides this makes life 'easier' in the short run. This attitude is reminiscent of the let-it-pass principle which has been observed in English as a lingua franca interaction (Firth 1996), though the underlying motives are possibly somewhat different. Whereas in ELF interaction the let-it-pass principle seems to operate especially for the linguistic form of an utterance, I am inclined to think that in our educational context conceptual content is affected just as much. In this sense one would anticipate also encountering the same interactive strategies in L1 classrooms. Waring (2002) has noted about a US graduate seminar that there is "noticeable orientation toward the delay of admission", ascribing this to issues of academic status and expertise. With the present data similar issues appear to be involved. Those instances of explicit signals of non-understanding which do occur are in upper-grade lessons showing high degrees of student involvement. This points towards issues of hierarchy, social distance and expertise: the more 'equal' the participants, the more explicit they are about non-understanding.

5.6 Discussion of findings

The major function of classroom questions is undeniably as structuring devices to drive the talk forward, introduce new topics and generally direct the focus of the interactants. Because of the clear participant roles in educational settings, this task rests with the teacher, and in this sense the CLIL classrooms investigated are unlikely to be different from (Austrian) classrooms in general. Accordingly, the results in this chapter show that an individual student is rather unlikely to ask a question during a lesson.

The typical instrument for structuring content-oriented classroom talk is the pedagogical or 'display' question, and it was long assumed that not asking these but posing referential questions was the key to getting extended student responses (e.g. Long & Sato 1983). In this sense the slight preponderance of referential questions in the data seemed to be an encouraging result (whether these are indicators of 'content learning' is consciously left out of consideration here). However, the connection between referential questions and the quality of student responses turned out to be considerably less direct than anticipated and the implications will be discussed further below.

The display-referential distinction turned out to be a reliable indicator, however, with regard to a very different phenomenon, namely the existence of class-

room registers. That is to say, the distribution of display and referential questions maps convincingly onto the distinction between instructional and regulative register (Christie 2000). The majority of the teachers' referential questions occur during regulative phases. The same is true of student questions in general because they are by definition referential. This, I speculate, is true of classrooms in general. Considering the special language situation in CLIL classrooms, code choice (L1 vs. L2) turns out to be a relevant issue with regard to register since the role of L1 (German) is quite strong in the regulative register: very many questions and even more responses are actually carried out in the L1. The more strongly an exchange is tied to the instructional register, on the other hand, the more likely it is to be carried out exclusively in English L2. Some implications which this distribution may have for the structure of CLIL classroom discourse as a language learning environment will be discussed in chapter 9.

Despite the strong ties between referential questions and the regulative register teachers do ask referential questions in the instructional register. They typically occur at points where the teacher asks for knowledge gained outside the whole-group environment: that is, results of group work or homework, during or after student presentations, work experience, or general life experience. The mere fact that the questions are referential, however, is not sufficient to trigger extended student responses or discussions. It is only if the questions are also 'open' that such effects can be observed. It is therefore important to point out that, at least in my data, referential questions do not show any tendency towards being 'open' more often than 'closed'. If anything they tend in the other direction. This may be an important finding: in studies dealing with learning of language and content it has been claimed that referential ('authentic') questions are somehow 'better' than their counterparts (cf. Brock 1986) in that they produce more complex student responses. The fact that these 'positive' tendencies do not really emerge in the present data should prevent us from developing an over-simple understanding of classroom language as being divided between 'natural, authentic and open-ended' referential questions on the one hand, and 'unnatural, artificial and closed' display questions on the other.

The more relevant distinction with regard to the qualitative and quantitative characteristics of student responses does seem to be the one into open and closed questions. Whether a question is open or closed is a better predictor for the extent of student responses than whether it is display or referential. This means that open questions tend to stimulate longer and more complex responses than closed questions (note that the majority referential questions are closed). Similar findings are reported by Musumeci (1996). However, what makes a question open or closed is not exhaustively described by purely formal criteria like syntactic structure or type of question word (cf. Long and Sato 1983, 269). Contextual factors have turned out

to be a strong determinant in this respect, pointing to the advantage of combining quantitative and qualitative analytical methods when studying the evidence.

In trying to pin down correlations between type of question and type of response the categorization according to intention turned out to be most fruitful. Facts, explanations, opinions, reasons, and meta-cognitive questions were established as possible targets for interrogatives. In some instances typical signal words (e.g. *explain*) were identified. It is evident that factual questions are typically answered by supplying labels (mostly nouns, a few verbs) while the other types require the encoding of full, sometimes complex propositions. In quantitative terms, then, a clear and probably important finding of the present analysis is that all parties involved in the CLIL classrooms mostly ask for facts but rarely for reasons or explanations. The typical 'short, one-word student answer' is thus a response to the typical factual question. In contrast to this, all non-facts question formats have in common that they open up the floor to a wider range of responses. The challenge is not always taken up by the students, but if it is, the teacher has to risk the talk going off into unplanned directions. If this happens in a CLIL classroom, the L2 linguistic resources of the teacher may be stretched beyond what he or she had planned for the lesson and/or feels confident about. Therefore, the teacher's overall language competence is likely to be an important factor in determining how far and how much a teacher is actually inclined to create such open spaces during CLIL lessons. The present data support the assumption that this may indeed be the case. As a consequence, it is not unlikely that CLIL lessons taught by teachers who are not highly confident in the L2 mitigate against more loosely structured discourse patterns compared to content lessons taught in the mother tongue.¹¹ Some researchers have indeed argued that this is the case (cf. Zuengler and Brinton 1997) but it would be necessary to examine this in the context of a comparison between Austrian L1 and L2 subject matter teaching.

If one generalizes about students and teachers, it is evident and quite striking that neither group asks for explanations, reasons, and opinions with any frequency. The bread and butter of Austrian CLIL classrooms is obviously facts, facts, and facts. This may also be an additional factor in the observation that signals of non-comprehension do not occur very often. Maybe the participants rarely signal to each other that communication has failed because facts just *are* and there is nothing to comprehend, really. Of course considerations of face are also to be taken into account in this context and may explain further why uttering something like I don't understand or What do you mean? seems to meet with resistance from all participants.

On the level of pedagogical consequences that might be drawn from the present results, I would suggest that if CLIL teachers want to enhance their students' speaking skills while remaining within the confines of ordinary content-classroom talk, they can do so through giving students more opportunities for

extended responses through asking non-facts questions. The time pressure involved in covering content is often cited in explanation of the tendency towards the factual. This pressure is strongly felt in L1 teaching as well as in CLIL, and it has been pointed out that there seems to be a direct connection between low demands on students' productive skills (minimal responses) and 'skeletonizing' the conceptual content of a lesson (cf. Hajer 2000, Ehrlich *et al.* 1989). In this sense, the numerous factual questions with their minimal responses are a sign that the interaction is cognitively relatively undemanding. This leads directly into crucial questions about learning in general which I can point out here but cannot discuss. Above all, the point at issue here is whether complex thinking processes happen at all independently of how they are linguistically manifested in talk (or writing): concepts of 'dialogic teaching' which have been developed by educational theorists since the mid-nineties (e.g. Nystrand 1997, Cazden and Beck 2003), for instance, place great emphasis on making thinking processes linguistically explicit. The experience of the teachers participating in this study as voiced in the teacher interviews tells us that CLIL motivates and pressurizes teachers into expressing and 'linguaging' subject specific concepts in a variety of ways and the teachers feel that this does lead to deeper and richer concept learning (cf. e.g. Vollmer *et al.* 2006).

In sum, I have argued that, like any other context-embedded oral event, CLIL lessons have their limiting conditions, but that within these limits there is room for furthering learners' speaking skills by asking some types of questions more frequently than seems currently the case.

What I also want to point out, however, is the fact that the very limitations of the context may have an enabling effect on speaking skills on a very global affective level. It may well be that the predetermined and stencil-like format of typical student responses in typical classroom talk offers L2 speakers a chance to 'say something in the foreign language' under circumstances of reduced complexity. Not only is didactic discourse ritualistic and predictable, it is also highly familiar to the students in the sense that they are experts in their particular culture-bound version of it, which CLIL classes are normally part of. It is plausible to assume that the familiarity with the overall discourse rules frees resources that can be used to attend to semantic and syntactic processing. This in turn may contribute to the build-up of linguistic confidence, commonly observed to be an outcome of CLIL programmes. In this sense, then, the limitations of the CLIL classroom may also be advantageous.

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CHAPTER 6

Academic language functions

6.1 Introduction

In chapters 4 and 5 on knowledge construction and questions I discussed ways in which language is used for learning subject content. In these two chapters my focus was on how linguistic phenomena of a very general nature, namely meaning negotiation, repair, and questions, are put to use for the purpose of instruction and learning. In this chapter, by contrast, I want to deal with language functions which characterize academic work in more specific ways. I will examine aspects of language characteristic of professional and academic uses that are infrequent or totally absent from everyday informal interaction so that the CLIL classroom would be the primary environment where learners can experience and acquire competences in this respect. This, then, will be a chapter about English for Academic Purposes as it is realized in the CLIL classrooms investigated.

On the surface of it, raising the issue regarding the potential of CLIL classrooms to be learning environments for the acquisition of academic language functions in English seems a redundant question. After all, CLIL classrooms are academic environments, and academic language will, perforce, be used. It will be available in the input and required as output. On a very general level this is inevitably the case, but academic language has many facets and what is most relevant to the present study is to find out which aspects of it are a) represented in the classrooms investigated and b) actively dwelt on as learning goals. Naturally this chapter cannot provide full coverage of this broad and complex area, which is still awaiting full-scale treatment in applied linguistics.

A field that is directly relevant to my present concerns is the study of languages (mostly English) for Academic Purposes (EAP). In this area, research attention has tended to arise as a *consequence* of pedagogical activity at English-speaking tertiary institutions necessitated by their prominent international role. And it is probably fair to say that research into the written mode is more advanced than research into spoken academic language, but there is a good deal of current activity in that respect too.¹

Especially with regard to the cognitive and rhetorical functions of speaking in educational contexts, the following pages can only represent a tentative look. I will

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give a broad outline of what can be understood by ‘academic language functions’ and will then focus on a small selection for the purposes of data analysis.

Academic language functions can best be understood as a special case of the general communicative functions of language. Communicative functions are commonly seen as a) being tied to certain social and interactive situations and b) performing an important part in the functioning of language as a social tool. An important source for this strand of thinking is Hymes’s writings on the ethnography of communication (e.g. Hymes 1972, cf. chapter 2), especially his argument that communicative practices are co-constituted by as well as giving rise to linguistic conventions. In their origin, then, communicative functions are the answer to recurrent situative demands that speakers have to deal with. A certain spectrum of realizations becomes established, providing linguistic and structural patterns for coping with standard situations. In their totality these patterns and routines make up much of the web of day-to-day face-to-face interaction. It has, therefore, become generally accepted that gaining control over such categories of communicative functions is crucial to the development of communicative competence in any language, no matter whether first, second or third. In foreign language pedagogy this basic idea was taken up in the functional-notional approach with its emphasis on everyday communicative functions like greeting, expressing dis/agreement, accepting an offer/invitation, apologizing and many others (see Finocchiaro and Brumfit 1983). Such everyday functions are, of course, also present in educational contexts to a certain degree but the existence of the overall purpose “learning new knowledge and skills” fosters a particular set of language functions specifically geared to that purpose. These probably do not exclude everyday communicative functions and vice versa, but they are likely to occur with different frequency in academic contexts.

In educational studies there has been a considerable amount of discussion about *thinking skills* and *higher cognitive functions* and about how educational institutions should and could foster them so that students receive transferable *skills* rather than merely *content coverage* (e.g. Wilson 2000, Nisbet 1990). What is intriguing in the present context is that there exists a strong affinity between these thinking skills and academic language functions as they are discussed in applied linguistics and the teaching of English for Academic Purposes. It would be a promising but huge area of research situated at the crossroads of linguistics, cognition and pedagogy to establish what exactly characterizes thinking skills as actions and/or linguistic manifestations of actions, to determine in how far the skills can be identified independently of their linguistic manifestations at all, as well as to find out in how far an explicit focus in the classroom on linguistic manifestations might actually foster ‘thinking skills’. This study, however, is not the place where this can be achieved or even attempted. For the time being, then, I would simply

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like to take the relationship between thinking and linguistic utterances as given and point to the potentially crucial role of the linguistic level in the description (and development) of cognitive functioning. Additionally, the potential implications of this for the interactional and linguistic organization of teaching situations are enormous.

Exactly what these thinking skills and academic language functions are and how many of them exist is rather difficult to determine as this area has not been subjected to a great deal of systematic study, certainly not from a linguistic point of view.² The following list is an amalgam of various similar listings in the literature on academic language functions in English (Suhor 1984, Snow, Met and Genesee 1989, Chamot 1996, Kidd 1996, Krechel 1999):

Table 6.1 Some major academic language functions

Analyzing
Classifying
Comparing
Defining
Describing
Drawing conclusions
Evaluating & assessing
Explaining
Hypothesizing
Informing
Narrating
Persuading
Predicting
Requesting/giving information

It should perhaps be pointed out that the distribution of these functions is by no means categorical. Some of them can also be found in non-academic contexts. 'Narrating' and 'Informing' would be examples here. Likewise, one can also find typical everyday communicative functions like apologies or greetings in educational encounters. But depending on frequency, distribution and centrality to the purpose of the encounter, they will be regarded as typical or even constitutive of a particular situation of language use or not. It is thus fair to say that the speech functions listed in Table 6.1 occur with a higher degree of frequency and in combination with each other only in academic and educational contexts.

In this chapter, then, I want to focus on a selection of the above academic language functions and will describe and evaluate their role in CLIL classroom dis-

course. The overarching question is: how rich a habitat for the acquisition and practice of academic language functions in English is the CLIL classroom?

Looking at the list of academic language functions in 6.1 it becomes clear very quickly that they do not all operate on the same level: some are tied fairly closely to specific syntactic and lexical patterns, bordering on the formulaic (cf. Wray 2002), whereas others are not. Essentially because of this, Kidd (1996) proposes a distinction between micro-functions and macro-functions. Micro-functions represent language tasks with comparatively narrow purposes, which cover limited stretches of discourse (a couple of sentences) and are recognizable by distinctive sentence patterns and/or discourse markers. Examples of such microfunctions would be *classifying* “x is a y”, *comparing* “whereas, while, similar to, xer than” *expressing relationships* “as a function of, if x then y”. Macrofunctions, on the other hand, cover longer stretches of discourse and are therefore not unequivocally relatable to specific lexico-grammatical features. Consequently they are “amenable to linguistic analysis and description mainly on the rhetorical rather than on the syntactic level” (Kidd 1996, 291). It would, for instance be difficult to say through which linguistic forms the function of *persuading* is realized. Other such macro-functions would be: justifying, solving problems, evaluating, reporting, describing, or narrating.

Especially for the macrofunctions it is therefore necessary to combine rhetorical, cognitive and grammatical levels of analysis. For *narration*, for instance, this involves the cognitive schema of scene-complication-solution as well as time adverbials and past tense verbs (cf. Quasthoff and Becker 2005). In my view the multi-level quality of these functions indicates that the notion of genre or rather, microgenre, is a likely conceptual frame under which the study of academic language functions can be profitably conducted (cf. Bhatia 2004). In the following I will present my own working models for the three academic speech functions which are the focus of this chapter: *defining*, *explaining* and *hypothesizing*. There are three parts, one for each speech function. Each section therefore presents a working definition and operationalization of the speech function in question and then describes and evaluates the findings from the lesson transcripts. The chapter is concluded by a general discussion of the role of these academic speech functions in the CLIL classrooms.

Data, method and research questions

For the purposes of this chapter, all 40 lesson transcripts were coded for occurrences of *defining*, *explaining* and *hypothesizing*. The decision as to what constitutes an instance of these speech functions was taken on the basis of semantic and contextual criteria, and the initial data analysis is therefore qualitative. Formal criteria, such as the occurrence of certain lexical items, were later used in the analysis

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of the extracts already identified as exemplars of the functions but were only of secondary importance for the purpose of identification and categorization of the academic speech functions investigated.

The overarching interest of this part of my study is to examine how far CLIL lessons can be considered rich environments for the learning of academic speech functions. The following research questions are applied to each of the academic speech functions selected.

- How much evidence of the speech functions investigated is there in the data?
- What do the realizations look like linguistically and interactionally?
- Is there any meta-talk concerning them?

6.2 Definition

6.2.1 Defining definitions

Definitions are perhaps the best-described academic mini-genre or macrofunction, presumably for several reasons. Firstly, they have played a significant role as tools in the study of cognitive development where close analysis of the function was necessary for test construction and evaluation (e.g. Snow 1987). Secondly, they have been recognized as highly relevant for professional academic writing in English, which itself has given rise to a rich strand of empirical research as well as didactic material (e.g. Swales 1987, Swales and Feak 1994, 33–55).

The two strands of research concur in ascribing to definitions the following typical features: there is a definiendum (X) which is linked to a superordinate term (T) by means of a copula construction ('X is a T') and this is then followed by a number of elements specifying this particular member X of the class T. Formally, the specifying features are realized through relative clauses, adjectives or reduced relatives. Thus there are two levels: cognitive content and linguistic form. Schematically this could be represented as follows:

Illustration 6.2 Definition Schema

Content	D = superordinate term + specifying features)
Form	X is a T that is/has/does/did....

X is a T having characteristics c1, c2, c3

- a. *A brake is a device that is capable of slowing the motion of a mechanism.*
- b. *A piccolo is a small flute that is pitched an octave higher than a standard flute.*
- c. *A moon is a natural satellite orbiting around a planet.*

(examples from Swales and Feak 1994, 40–41)

The schema thus has two parts: content and form. On the content level we have some kind of superordinate term denoting a category, plus a number of specifying features which can be descriptive, comparative, functional, historical, or any combination of these. On the linguistic level there is the copula construction plus adjectives and relative constructions.

Knowing how to make a definition thus involves two kinds of knowledge: formal-linguistic and extralinguistic. On a functional-pragmatic level the definition therefore consists of a decision on category membership plus giving information in the shape of the specifying features. Only if the two are combined is the schema fully realized. Research has shown that young children can do both, they can categorize and they can give information, but they find it difficult to combine the two in formally and communicatively adequate definitions. Snow (1987) found that at about age nine children become capable of making the combination and producing full definitions. The students in the CLIL classes, who are eleven plus, can therefore be expected to be at a stage in their cognitive development where they have mastered definition as such. In terms of linguistic form, definitions can hardly be regarded as highly demanding: copula constructions and noun modification are both basic structures which are learned early. It must be conceded that illustration 6.2 actually reflects a written or formal spoken style using hypotaxis, rather than the relatively informal spoken style usually found in school classrooms. It is therefore not unlikely that one may find more strongly oral, paratactic structures in the classroom language.

6.2.2 Classroom practices

Turning first to quantitative aspects and considering the fact that teaching subject-specific concepts and their respective meaning extension is a central aspect of content teaching, definitions are a surprisingly infrequent phenomenon in the data. In seventeen of the lessons (42%) no instances of defining could be identified at all. In view of this low frequency of the activity it is perhaps less surprising that the word *definition* itself does not occur at all in the data and there is only one instance of the verb *define* in the corpus. Since the micro-genre is not even named, it is clear that there is no meta-talk about it. As no writing tasks are set in these lessons, written definitions can also be discounted. I consider this quantitative aspect significant particularly because most of the lessons are dominated by triadic dialogue covering new or revising old content, which seems to me a type of classroom activity which should favor the explication of concepts and therefore foster the occurrence of oral definitions.

With regard to the form of the definitions that do occur, it can be said that only a handful are exemplars of the full form of this mini-genre as sketched in Illustration

tion 6.2. Basically, these are all uttered by teachers, only one exemplar is provided by a student (see extract 6.6).

Extracts 6.1–6.6 Formally canonical definitions in the CLIL corpus

- 6.1 T: **a kidney isah an internal organ..(S: mhm) ah.. that purifies the liquids inside you,.. a dog is a dog**
- 6.2 1 T what are witnesses?
2 Sm1 witwe, oder? //widow, innit?//
3 T **witnesses are people** who can say aahm... **who can say i've [seen it, i can swear that [this is the truth**
4 Sm1 [aaah
5 Sm2 [zeugen //witnesses//
- 6.3 T: what is **a tomb**. (Ss...) it is **a temple to the dead** its a very big grabmal its a its **not just a tiny little bit of earth** where theres the dead body in there, its its a big one okay a tomb is a big grabstätte grabmal whatever you translate it
- 6.4 T: i got no idea. i know what **a straw** is aha that is **something you use for drinking from a glass or a bottle but ...**
- 6.5 T: yes that's right a **high involvement decision is a decision where a lot of money or a lot of time is necessary to just say yes or no**
- 6.6 S: **a structured question is a (xx) question and er there is a limited number of possibilities to end**

It may be noted that 6.6, the one student-authored definition that contains all canonical elements is paratactic in structure. Other than 6.6 there are only a handful of student-generated definitions and it is interesting to consider their interactional context. All were produced in situations where answers to written exam questions were being revised during class time:

Extracts 6.7–6.9 Student-authored definitions

- 6.7 Sf: er **a high involvement decision is for example** if you buy a car you will look for a lot of different different offering offers and you wont buy the very first one
T: yes that's right a **high involvement decision is a decision where a lot of money or a lot of time is necessary to just say yes or no**

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- 6.8 T: what is an unstructured question
 Cynthia: erm **there is an unlimited (number) of possibilities to answer**
- 6.9 T: martin what is a consumer market
 Martin: yeah the consumer market is where the consumer or the market makes the price and there are many many places where you can buy the special products so they there is a big konkurrenz

In these examples the wording chosen by students seems to work on the assumption that the superordinate term is available to the listeners from the context or co-text so that they need to provide only the specifying features or information. The retrievability of the definiendum is usually given, but note that in Extract 6.7 the teacher does reformulate the definition according to the requirements of the canonical form. We notice a progression from the elliptic form sanctioned by the situated meanings derivable from the ongoing discourse to the full form offered by the teacher as a kind of exemplar of a stand-alone professional definition. This, however, happens very rarely.

Definitions which are co-constructed by several speakers are a slightly more frequent phenomenon. This is not surprising given that triadic dialogue is the most common form of interaction in these classrooms. Here is an extract which contains two negotiated definitions. The first definition runs from line 1–6, the second from 15–19.

Extract 6.10 Co-constructed definitions – Physics, grade 6

- 1 T **what is a hydraulic jack?** ...none of you looked up the keywords ...before ...or learned them.
 ((10 turns concerned with whether the word was on a word-list or not))...
- 2 T no ...okay if you look at the picture ...**what can this thing be for?**
- 3 S1 **a machine**
- 4 T **ja it's a small machine** ... i don't want to have the translation. there-sa?
- 5 S2 **to lift heavy things.**
- 6 T **to lift heavy things** ...so what would you call it?
- 7 S2 to lift the car
- 8 T to lift the car for example
- 9 S2 ein wagenheber //a carjack//
- 10 T ein wagenheber yes for example ...ja
- 11 T1 (?) a jack ja!
- 12 S hey kann man das probieren //hey, can one try this out//

- 13 T aha yes if you have (XXX) you can try it out ...okay a hydraulic jack can be used to lift a heavy vehicle. ah what does the jack do? anabell, could you read it please?
- 14 S3 a hydraulic jack can be used to lift a heavy vehicle. the jack changes a small force into a much bigger one. it is therefore called a force multiplier.
- 15 T **what's the multiplier?** ...anja!
- 16 S4 ein vermehrer!
- 17 T yes, how could you explain it in english?
- 18 S4 ahm **a thing that ahm make something stronger oder or more.**
- 19 T or bigger. **so this thing is used ah if you only have small force if you exert a small force to change that force into a much bigger one.** ja?

The teacher provides the trigger for the copula phrase in turn 1, which is answered by a student in turn 3 and this is then confirmed by the teacher in turn 4 ja it's a small machine. Already in turn 2, however, the teacher had directed the students towards a functional specification of the definiendum what can this thing be for?, which also receives an appropriate student response: to lift heavy things. But now the teacher does not apply the same strategy as in turn 4, namely give a full official version of the whole definition. Instead she asks for a translation, something which she had quasi postponed earlier by saying i don't want to have the translation. Exemplification is a brief episode in lines 7–8 but once the translation has been provided the sequence is considered complete by the interactants and they move on. The definition sequence thus contains all the canonical elements (the copula with the superordinate term plus a specification) but they are nowhere brought together in a coherent form which could be something like *it's a small machine which is used to lift heavy things*. This is remarkable because it is quite customary for teachers to reformulate the outcome of short stretches of triadic dialogue (cf. recasts, e.g. Lyster 1998, Long 1996). The second definition in this sequence also contains both, canonical elements and a translation, but in different sequential order. Note that the dummy superordinate *thing* (turn 18) is not replaced by the teacher with a more specific word like *device*.

What is noticeable in this extract is the close relationship between the activities of defining and providing information on unknown lexical items. In the above extract translation has to be postponed in order to create a space for defining (turn 4: i don't want to have the translation), or an "explanation" in English is explicitly demanded after a translation has already been provided (turn 17 yes, how could you explain it in english?).

The overlap between the activities of defining, paraphrasing and translating is also demonstrated by teachers' responses to student requests for clarification on

unknown vocabulary items (cf. repair trajectory T6 in chapter 8). One of the standard reactions of teachers to the question what is X? is to provide a synonym and on numerous occasions this is actually a superordinate of X, the term sought. One might thus say that such turns are incomplete definitions. Note that four out of the five full definitions given in Extracts 6.1–6.5 arise from that sort of situation but remain a minority event whereas the examples in 6.11 show more typical teacher responses.

Extracts 6.11 a.-e. Teacher reactions to 'what is X'?

- a. a deity is a god
- b. an ape is a monkey
- c. empties is a second word for returnable containers
- d. a proconsul is a governor in the provinces
- e. a French galley which is a ship

This is slightly more frequent than the full-fledged definitions exemplified in 6.1–6.5 and it would be interesting to investigate whether an unknown word or term has better chances of being treated to a full definition if it is an important curricular concept or not, but the relatively small number of cases featured in the present data does not allow speculation on this.

When teachers are asked for information on unknown words then, they regularly provide a synonym, definition or explanation while an immediate translation into German seems to be dispreferred by them but does occasionally occur. The opposite is the case when students are asked the meaning of an unknown word, no matter whether by a teacher or a peer. Students nearly always react with a translation of the term in question.

Extracts 6.12.- 6.16 Student definition-translations

6.12 T: what is a libretto
S: ja d drehbuch oder so (xx) so nehm ich an

6.13 T: what is a sniper?
S1: scharfschütze
S2: scharfschütze
T: scharfschütze
S3: a sniper? (XXX) snipers eh, ha
T: so, very dangerous, the snipers.

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- 6.14 T: what is a civil war?
S1: mhm
S2: ja,.. bürgerkrieg
- 6.15 T: what is a peace treaty?
S1: ein friedensvertrag
S2: friedensvertrag
T: friedensvertrag.
- 6.16 S1: was heißt commemorate
T: er to er=
S2: =erinnerung rufen= //to call into one's memory//
T: =to remember something a celebration to remember something

Extract 6.16 shows the preferred strategies of teachers and students in immediate sequence (ll.3–4): the student translates, the teacher paraphrases. Since teachers also provide translations, in sum, translation is a strategy frequently employed in CLIL classrooms to clarify the meaning of unknown terms. In this connection I would like to raise the question as to whether this resource may not be overestimated in its capacity to create full understanding. Offering an L1 label almost certainly creates a recognition effect but how is one to tell whether the students have a rich cognitive-semantic representation of the relevant word in their L1? In his study of CLIL science teaching Bonnet (2004) shows that such situations arise regularly in his groupwork data, and that lexical gaps in the L2 frequently ‘mask’ conceptual gaps irrespective of language used. In reading transcripts of whole-class interaction one repeatedly gets the feeling that labels are being used only *as if* everybody knew exactly what they mean while it is nowhere visible that everybody does in fact know what is being talked about, or what distinguishes one label from another. The design of the present study does not allow principled treatment of this issue, a longitudinal study of one class in one subject would be necessary for that. But the scarcity in the present data of rich definitions of concepts presented in a coherent form leaves room for doubt that translation equivalents create understanding, and doubt too about the kind of understanding created in many L1 subject classrooms.

6.2.3 Discussion of findings on definitions

I have shown that definitions are by no means a frequent occurrence in the oral discourse of Austrian CLIL classrooms, and that quasi-canonical professional or academic definitions are very scarce indeed. Of course definitions can be commu-

nicatively perfectly adequate without being formally canonical. Most likely the kind and structuring of the specifying features provided is more crucial to the effectiveness of a definition than the presence or absence of the copula expression. Snow (1987), for instance, cites examples of definitions from young children which show none of the formal characteristics of fully developed definitions but are still communicatively adequate. Nevertheless, it is remarkable just how few exemplars of such an important academic and professional micro-genre are present in the CLIL data. The question is, of course, would we find more if we investigated L1 classrooms?³

With regard to the transfer of cognitive skills from one language to another there is wide agreement that these, once acquired, are easily transferred from a first language to a second or third; or from a second language to the first, for that matter (e.g. Hamers and Blanc 1989, 75–76). The students participating in this study are of an age where experimental studies have shown defining to have been mastered, so that defining as such cannot really be the problem and cannot, therefore, serve as an explanation for the low number of definitions in the data. Another obvious reason might of course be that the scarcity of CLIL definitions is a product of gaps in L2 competence. Given that the actual linguistic structures involved are very basic to moderately so (see Schema 6.3) this is hard to believe (cf. also Konishi and Tarone 2004). Rather, it seems to me that students are not familiar with the mini-genre itself and I submit that formulating coherent definitions is a skill which leads a low-key existence in average Austrian content classrooms no matter which language they are conducted in. It seems that the general degree of explicit awareness of the form among the interactants is low. The teachers show that they can *perform* them, since they are the only ones who exhibit full command of the genre schema and thus possess procedural knowledge of it. The students, on the other hand, do not show any signs of being experienced definers at all. Occasionally a teacher implicitly corrects a non-canonical student definition by reformulating it – actually only one instance of this was found in the data – but no explicit comment is ever made as to what an effective and expert definition could or should look like. As noted above, except on one occasion the words *define* or *definition* do not occur in the data, nor is the activity of defining talked about in any other meta-level manner. I think this is deplorable, since definitions in particular are a text-type which is short and relatively easy to grasp and I submit that explicit presentation and practice would improve the students' command of an important academic language function. In addition, I claim, thinking explicitly about definitions would deepen students' understanding and enrich the semantic representation of central concepts of the subjects they are studying, thus making an important contribution to subject matter learning.

6.3 Explanation

Despite the variations observed, definitions are a fairly easy category to grasp, identify and describe. Explanations, by contrast, are considerably more elusive. In the not too extensive literature on explanations the most successful attempts at structuring the area have categorized explanations by their objects and have dealt with classroom procedures, grammar, vocabulary, and concepts.⁴ In the following I will deal only with explanations pertaining to the instructional register that seek to clarify aspects of the content subject.

6.3.1 Operationalizing explanations

If one draws on the main descriptors of the terms definition and explanation as provided by the *Oxford English Dictionary (OED)*, the differences between the two activities seem quite obvious. In the overview of the dictionary entries given in Illustration 6.3 these differences are in bold.

On closer inspection, however, the differences become blurred, because a definition is also framed as something which “explains the exact nature of a thing” and this is an activity which presumably includes “giving details of it, making clear its causes, origins or reasons etc”. This second phrase, however, stems from the entry on explanation. Whatever the exact relationship between the two, the terms clearly overlap and cannot be treated as completely different speech functions. For the time being, I submit that *explanation* is the more general term so that definitions can be said to be an important element in explanations.

Illustration 6.3 Dictionary entries on define/definition and explain/explanation

<i>definition/define</i>	<i>explanation/explain</i>
To state exactly what a thing is	To give details of; to make clear the cause, origin or reason of...
To explain the essential nature of ... *	To make one's meaning clear and intelligible #
The action of defining or stating exactly what a thing is, or what a word means [°]	A mutual declaration of the sense of spoken words, motives of actions etc. with a view to adjust misunderstandings and reconcile differences [^]

* OED s.v. *define*, # OED s.v. *explain*, ° OED s.v. *definition*, ^ OED s.v. *explanation*

Actually, the main difference between the two functions seems to lie in their respective communicative intention. Definitions can be said to be oriented towards the definiendum, that is, so to say, inwards. Explanations, on the other hand, are

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oriented outward, towards an interlocutor who has expressed a comprehension problem or who is assumed by the speaker to have such a problem.

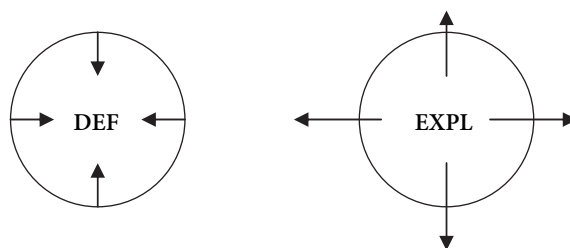


Figure 6.4 Schematic representation of definition vs. explanation

Explanations thus always have a strong orientation towards an interactant in the talk. This is made obvious in the schema of explanations developed by Gaulmyn (1986) the cornerstones of which are: the object to be explained (O, explanandum), the explicator (S1) and the addressee (S2). For an explanation to be successful S1 and S2 need to share an amount of linguistic, discursive and encyclopaedic knowledge and the aim is to come to a shared understanding also of O.

The basic orientation of explanations, then, is from S1 to S2 with reference to O. Gaulmyn calls this “dire ce que toi, tu ne sais pas” (“telling you what you don’t know”) (1986, 125). This is to be distinguished, Gaulmyn claims, from “dire ce que je sais moi” (“telling you what I know”, or informing). Central to the concept of explanation then, is the existence of a knowledge gap or a comprehension problem which is openly sanctioned *qua* the explanation. Explanations are thus seen as intimately related to learning, and Gaulmyn identifies different foci which may be present in a specific explanation process: *apprendre a expliquer, expliquer pour apprendre, expliquer pour enseigner* (learning to explain, explaining in order to learn, explaining in order to teach), all of which are directly relevant in the CLIL context.

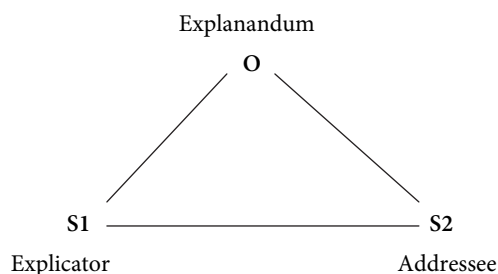


Figure 6.5 Explanation schema by Gaulmyn (1986)

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Gaulmyn's is an experimental study in developmental psychology which is embedded in a framework of cognitive development, but two aspects from it are directly relevant to my present concerns. The first one is that explanation is a process with recursive elements whose full form consists of three phases:

- a. proper identification of the object (explanandum) and distribution of roles S1 and S2. The identification stage is reminiscent of definition in its orientation towards the explanandum/definiendum.
- b. a recursive explaining text which orients towards S2,
- c. sanctioning the explanation⁵

The second aspect concerns how explanations are acquired. According to Gaulmyn (1986) full command of the format ("niveau englobant") seems to be reached at about 11 years of age. Children younger than this frequently leave out one element, do not use recursion, and/or ignore the difference between informing (telling you what I know), explaining (telling you what you don't know), and justifying (give reasons, defending my position). The reasons for this lie in their age-specific stage of cognitive and communicative development. Regarding the students included in the present study, however, this means that they should be at a stage where they can be expected to possess the faculty of explaining as such.⁶

There is no room here to set out all the implications in detail, but it seems to me that the specific conditions which prevail in classrooms – in terms of primary and secondary knowers above all – give a very particular slant to the explanations which occur. If one foregrounds the "telling you what you don't know" function of explanations, then a good deal of what teachers say would actually fall into this category. Note that statements about teachers often include phrases like "s/he explains things really well" or "s/he doesn't explain things properly" both of which imply that the teacher's job is explaining.

For the other participant in the educational dialogue, the student, matters are more confused in terms of the communicative orientation of explanations they (have to) give: teachers frequently demand explanations of things they actually know very well, so that in this sense the student's communicative intent must be informative rather than explanatory, since the student basically tells the teacher whether he or she knows what the teacher knows already. If students show situational awareness and orient towards the knowledge state of S2 in realistic terms (S2=Teacher=primary knower), then it is sufficient to use triggers like specialist terms that will activate the right schemata or concepts in the teacher. From the point of view of addressee orientation and in terms of knowledge distribution, then, minimalist student explanations make perfect sense and are communicatively effective. Usually however, when teachers demand explanations from students, the intention is a different one. Teachers want students to demonstrate their

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understanding and this basically means setting out details of the explanandum (O) and putting them into overt relation with one another by giving them linguistic expression. In other words, students are required to suspend part of their contextual and situational knowledge in such tasks and to operate linguistically as if they were in a different role. Clearly this is an instance of what is meant by 'decontextualized language' in accounts of language use in academic and educational contexts (e.g. Snow 1987; Snow, Met and Genesee 1989). On the level of linguistic realization of explanations, the de-contextualization means that under these circumstances it is not enough to provide triggers in the shape of labels or individual terms: an explanation which can stand detached from the immediate interactive context also has to put these labels into an explicit relationship. The repertoire of the relationships involved includes sequential, causal, relational, temporal, oppositional and others (see below). The intention of requiring such explicitness in the classroom is that students should learn to understand the inner structure, connections and relationships of subject-specific concepts by having to make them explicit (explaining in order to learn) and/or express their understanding of them so that it becomes accessible to others in the classroom community or available for evaluation through the teacher.

Given these conditions it follows quite naturally that one can anticipate a tension between the highly contextualized nature of oral classroom discourse and the decontextualized aims of fully explicit explanations. The degree of tension will depend on the activity structure into which the explanations are embedded, but this matter has already been addressed in chapter 4.⁷

6.3.2 Structural and functional characteristics of explanations

The problem with analysing explanations is the lack of a generally recognized descriptive framework. In other areas of CLIL classroom discourse the situation has been more advantageous: frameworks for the analysis of requests, questions, and correction were available and had been tried and tested in other research contexts. If a need for adaptation arose during actual application to the present data, this is a normal part of the research process. With regard to academic speech functions, and particularly explanations, the present study has to enter fairly uncharted territory. The following pages will show that some outlines of more general structural characteristics of explanations have definitely emerged in the process and would be worth pursuing further within educational linguistics. This section on explanations also furnishes a neat illustration of how the research process consists of a dialogue between abstract concepts and concrete instantiations (the lesson transcripts) leading to increasingly more refined analytical categories and, ideally, to a proper theoretical model (of explanations).

Let me, therefore, first introduce some data extracts which were identified at the outset as instances of explaining on an essentially encyclopaedic, pre-theoretical understanding of *explanation*. Extracts 6.17–6.23 give some examples of teacher and student explanations occurring in the 40 CLIL lessons investigated.

Extracts 6.17 –6.23 Examples of teachers' and students' explanations in CLIL

6.17 Diarrhoea

1 T a diar-diarrhea this is..if you if you empty the.. your bowels.. very rapidly... you can throw up like that if you're very thick-sick but it could also go the other way. so it's durchfall, and dysentery is an extreme case of durchfall, of diarrhea it's very extreme and many people die from that because they.. ja they become dehydrated... sind zu sehr entwässert in the book you find a translation for that ah.. f- ruhr, ja? the word would be ruhr.

6.18 Early Adopters

1 S early adopters they tend to buy new products quite early, then only few people have it and so they can buy the new things and that they have enough money and i think my aunt is an early adopter and for example she really like to watch videos and when the dvd players er went er were put on the market she was er she first waited some time and then she said i really want to have such a dvd player and also only few people have one and the dvd players are very expensive she she said she wanted to try it and so she bought the dvd player er but it was still more expensive than nowadays but she was really satisfied with it and she always told her family and all her friends that she has a dvd player and that its really super and that everybody must have one

6.19 Mobile Parenting

S erm mobile parenting is when erm the parents can control their kids even if they are not with them so when parents are in wor in work they phone them and they know what children are doing and

6.20 Comecon

T ja ja comecon was some kind of ah ah an economic cooperation between the soviet union and the other ah so-called east block countries ...so while the the western countries ah formed the the european union or the forerunners of the european union which was the so-called ah ah european community ah the east block countries together with the soviet union formed the so-called comecon.

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6.21 Relative Market Share

- 1 T and what is a relative market share,.. the same compared others how many percent of the whole market compared to competitor a b c is my product we are going to calculate it an example and then you are going to see the difference maybe.... for example we have three brand names brand a has forty eight thousand sales... sells products (xx) forty eight thousand euro brand b sells sixty two thousand and brand c sells ninety thousand.. the whole market is how many sales
- 2 S °two°=
- 3 T two hundred thousand.. so if we are brand a what is our market share forty eight thou two hundred thousand are one hundred percent forty eight thousand are how many percent wieviele prozent sind das

6.22 Cold War

- 1 S1 it was not really a war where people fight against each other with weapons but they wanted to do it with the whole development of the country
- 2 T Mhm
- 3 S2 it was a war about information ah technology... i would say

6.23 Market Growth

- 1 T what is market growth we always think about market growth but did not yet explain it (xx) do you know what is market growth
- 2 S1 erm how fast a market erm grows
- 3 T Yeah
- 4 S1 Erm
- 5 T that is how fast. use different words
- 6 S1 erm it ex extend na (x)... extend
- 7 T yeah, how fast consumers are buying it, how quickly more buyers are come coming and so on. so market growth is not the only measure.. why (etc.)

Concerning the internal structure of explanations it can be said that if explaining is making explicit the relationships between concepts or terms, then a stretch of discourse which has been identified as explanation should contain such identifiable relationships. But which kind of relationships are these? What is needed is a way to describe "how the meanings of two words or phrases are related when they are used together in talking about a particular topic" (Lemke 1990, 221). Basically, then, we are talking about meaning relations as they are realized in text. Lemke (1990) presents a practicable inventory of such relations for the purposes of making explicit which thematic relations hold between subject specific concepts in

episodes of science teaching. Table 6.6 summarizes these “Semantic Relations for Thematic Analysis”.

Table 6.6 Semantic Relations Summary (cf. Lemke 1990, Appendix C)

NOMINAL RELATIONS	CLASSIFIER, QUANTIFIER, ATTRIBUTIVE/MODIFICATION
TAXONOMIC RELATIONS	TOKEN, HYPONYM, MERONYM, SYNONYM, ANTONYM
TRANSITIVITY RELATIONS	AGENT, TARGET, MEDIUM, BENEFICIARY, RANGE, IDENTIFICATION, POSSESSION
CIRCUMSTANTIAL RELATIONS	LOCATION, TIME, MATERIAL, MANNER, REASON
LOGICAL RELATIONS	
- ELABORATION	EXPOSITION (A, i.e. B), EXEMPLIFICATION (A, e.g. B) CLARIFICATION (A, viz. B)
- ADDITION	“A AND B” (CONJUNCTIVE), “A, BUT B” (ADVERSATIVE)
- VARIATION	e.g. “NOT A, BUT B”; “A OR B”
- CONNECTION	e.g. CAUSE/CONSEQUENCE, EVIDENCE/CONCLUSION, PROBLEM/SOLUTION, ACTION/MOTIVATION

The names of the semantic relations appearing in this table are familiar from various grammatical and semantic theories (the most direct source, however, being Halliday (1994 [1985])); the potential ramifications of the topic into semantics and cognition are considerable. For the time being, however, I will use the collection of relations as it stands, even though I am aware that

- they do not all necessarily operate on the same level (Logical Relations at least seem to me to operate on a level super-ordinate to the others),
- it is unclear whether the subcategories of “Logical Relations” are to be considered as mutually exclusive or not.
- the category “Logical Relations: Connection” is a mixed bag which would really need further consideration.

As pointed out above, however, resolving all these questions is not the task of the present chapter, nor can it be. Despite its imperfections, this inventory is considerably richer and more systematic than anything else that seems to be available. Kidd (1996), for instance, derived an inventory of relations from selected examples of textbook explanations, and mentions *comparison*, *contrast*, *classifying*, *generalizing*, *cause and effect*, *exemplifying*, and *time relations* (1996, 302–307). It is not difficult to see that the functions identified by Kidd show a good fit with the grid of table 6.6, but that the latter is more comprehensive.

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Using table 6.6 as an analytic toolbox, then, I will now consider Extract 6.17 (here reproduced as 6.24) in more detail. A teacher is explaining the term *diarrhoea*; the context is a history lesson about trench warfare during World War I. Applying the level of logical relations in a first step, we arrive at a kind of macro-structure. The explanandum *diarrhoea* is dealt with first by Exposition (box 1) and then by Exemplification (box 2), both of which are subcategories of Elaboration.

Extract 6.24 Internal structure of explanations 1

1	EXPOSITION a diar-diarrhea this is..if you if you empty the.. your bowels.. very rapidly...you can throw up like that if you're very thick-sick but it could also go the other way. so it's durchfall,
2	EXEMPLIFICATION and dysentery is an extreme case of durchfall, of diarrhea. it's very extreme and many people die from that because they.. ja they become dehydrated.. sind zu sehr entwässert. in the book you find a translation for that ah f- ruhr, ja? the word would be ruhr

Let me now turn to look inside the stretches labelled EXPOSITION and EXEMPLIFICATION (i.e. extract 6.25). The EXPOSITION part of this explanation appears to be conducted on the level of TRANSITIVITY and CIRCUMSTANTIAL RELATIONS: there is a participant subject (AGENT/PATIENT/EXPERIENCER) who is pragmatically equated with the addressee by the use of personal deixis; a PROCESS (*to empty, throw up*) is shown to take place in a certain MANNER (*rapidly*) in which the AGENT/PATIENT is cast as a potential participant. The episode is concluded by a TOKEN relation in the shape of the German translation equivalent *Durchfall*.

Extract 6.25 Structure of explanations 2

	EXPOSITION:	AGENT	PROCESS0	POSS. MEDIUM	MANNER
1	a diar-diarrhea this is..if you if you empty the.. your bowels.. very rapidly...				
	PROCESS1	AGENT	ATTRIBUTE		PROCESS2
2	you can throw up like that if you're very thick-sick but it could also go the other way.				
	IDENTITY IN L1				
3	so it's durchfall,				
	EXEMPLIFICATION	IDENTITY		ATTRIBUTE	
4	and dysentery is an extreme case of durchfall, of diarrhea. it's very extreme				
	CONSEQUENCE		REASON		
5	and many people die from that because they.. ja they become dehydrated....				
	IDENTITY IN L1				

- 6 sind zu sehr entwässert. in the book you find a translation for that
 IDENTITY IN L1 IDENTITY IN L1
- 7 ah f- ruhr, ja? the word would be ruhr

The second episode, Exemplification (ll.4–7 in 6.25), is introduced by an IDENTITY relation (l.4: is an extreme case of). Dying is mentioned as the CONSEQUENCE of an extreme form of diarrhoea (l.5) and the immediate REASON of death is given (dehydration). An analysis of the Exemplification episode on the transitivity level shows that the addressees are no longer in the role of “Agent/Patient” but have been supplanted by a third person subject *people*. Interspersed in this episode are four IDENTITY RELATIONS realized by translation equivalents (IDENTITY IN L1). We noted above, that it is common in CLIL classrooms for explanations to consist only of this one kind of Identity relation, i.e. translation equivalents, which are frequently taken to be sufficiently explicit by themselves. But the episode analysed here shows a mix of Identity and other semantic relations to make explicit the term “diarrhoea”. It would be highly interesting to study the ways in which such cases are handled in monolingual L1 classrooms.

If one examines the rest of the examples 6.17–6.23, one finds that the relationship between the explanandum and the explanans can generally be captured in terms of Logical Relations and that in these examples the relation realized is always ELABORATION except for example 6.22, where it is VARIATION. I speculate that the prototypical relation between an explanandum and the explanans may be ELABORATION and that this really is the essence of explaining. But of course this would need empirical verification and a more in-depth treatment than can be carried out in this chapter. On the next level of specificity we find that three out of six cases which feature the ELABORATION relation, show a sequence of EXPOSITION followed by EXEMPLIFICATION (6.17, 6.18, 6.21). The others are EXPOSITION only (6.19, 6.23), and VARIATION only (6.20). One can perhaps gain a better overview by putting these schematic analyses of the seven episodes in list form:

On the next level of specificity it would be necessary to examine the internal thematic structure of the individual episodes. In the example analysed in detail (6.17 ‘Diarrhoea’), transitivity and circumstantial relations were shown to be present but in the other Exposition episodes taxonomic relations seem to be more prominent. These are mostly realized by lexical means, i.e. synonyms, hyponyms, meronyms. In (6.23 ‘Market Growth’), for example, we find the synonyms *grow/extend, fast/quickly, consumers/buyers* the latter also as co-meronyms of *market*. Exemplification episodes are equally based on Transitivity and Circumstantial Relations but may contain elements of narrative in addition (cf. example ‘Early Adopters’). An in-depth analysis of classroom talk and classroom texts in this respect

would give an interesting perspective on how subject-specific concepts get written into the minds of learners.

Table 6.7 Macro-Structure of Explanations 6.17–6.23

Extract	Explanandum	Logical Relations
6.17	Diarrhoea	ELABORATION: EXPOSITION + EXEMPLIFICATION
6.18	Early Adopters	ELABORATION: EXPOSITION + EXEMPLIFICATION
6.19	Mobile Parenting	ELABORATION: EXPOSITION
6.20	Comecon	ELABORATION: EXPOSITION (DEFINITION) + VARIATION
6.21	Relative Market Share	ELABORATION: EXPOSITION + EXEMPLIFICATION
6.22	Cold War	VARIATION
6.23	Market Growth	EXPOSITION

Addressee orientation

Besides the complexities of the internal semantic relations holding within explanations, one crucial difference between definitions and explanations is the latter's orientation towards an addressee who has signalled a comprehension problem or knowledge gap. This, one assumes, will find expression on the linguistic level and indeed it does if one compares student and teacher realizations. Given that teachers' and students' different institutional roles are likely to have a decisive influence on the realization of their respective explanations, I consider the teacher-authored and student-authored explanations separately here. For a teacher setting out to explain something, addressee orientation means aiming at reducing the distance between specialist curricular knowledge ('object' O in Gaulmyn's schema, Illustration 6.5) and the student (S2). The main linguistic strategy in this respect seems to be immediate contextualization in the here-and-now through the use of personal deixis (*I/you/we*). This is illustrated in extracts (6.26–6.27), whereas extract 6.28 shows a mix between first person (*I*) and indefinite third person deixis (*people, they*)

Extract 6.26 Marketing, grade 11

- 1 T and what is a relative market share,.. the same compared others how many percent of the whole market compared to competitor a b c is **my** product

Extract 6.27 Tourism Management, grade 10

- 1 T okay, the ratio is two hundred. and what does this mean in words?
who could in words what this ratio of two hundred means, Daniel
- 2 S1 this means that one employee serves two hundred meals.
- 3 T yeah, on the average
- 4 S1 yes
- 5 T that on the average one of **my** employees serves two hundred meals.
and therefore **we** can, as **you** said already yesterday..
- 6 S (xxx)
- 7 T y-you can compare.. ah..

Extract 6.28 Business Studies, grade 10

- 1 T and this is exactly what **people** have to think about who have money
and want to invest
- 2 S mhm
- 3 T **they** have to think is it better.. to put it o- to put the money on the
bank,.. how much... how much money of interests will I get on the
bank, or is it better to invest the money into a business, into a compa-
ny. and maybe I get more for my money, and now there is- there are....
and now there are these ratios which practically express more or less
the interests you get when when investing the the capital inn... in a
business rather than.. putting it on the bank. it-is that clear. was it clear
or not clear.

Something which becomes visible at the end of extract 6.28 is that teachers may include in their explanations checks to see if what they are saying is actually arriving at the other end. In terms of Gaulmyn's model of explanations one might say that they are seeking a sanctioning of their explanation by monitoring the comprehension problem which triggered the explanation in the first place. In the study of foreign language discourse this kind of conversational move has been labelled "Comprehension Check" (e.g. Long and Sato 1983) and is considered crucial in establishing the kind of modified input which facilitates learning. The data show that in naturalistic classroom discourse such moves may happen frequently and at short intervals, and in such cases it becomes pointless to distinguish an 'explanation with checks for sanctioning' from triadic dialogue with its series of elicitation questions that are infinitely more frequent than monologic teacher talk. The widespread absence of extended teacher turns in the data means that extended coherent teacher explanations are not a regular feature of classroom talk. Even if one concedes that explanations may also be co-constructed or 'distributed' between teacher and students, the consequence remains that students do not actually find

many *coherent explanations* in their oral classroom input. While I would argue that such coherent explanations would be an important element in a linguistically rich and conceptually transparent input, I am not arguing that such monologic explanations are actually what students are actively seeking out. If anything, indications are to the contrary: in the data students regularly try to cut short teacher explanations by offering translation equivalents of the concept which is being explained. In the particular case exemplified below, however, the teacher decides to go through with the explanation.

Extract 6.29 History, grade 12

- | | | |
|----|----|---|
| 1 | T | because you sai- ah I mean.. it is – do you know what diarrhea(/i:/) is? |
| 2 | S1 | ja (XXX) |
| 3 | S2 | tagebuch //diary// |
| 4 | S3 | tagebuch |
| 5 | T | no, this i a diary. a diar-diarrhea this is.. |
| 6 | S4 | durchfall //diarrhea// |
| 7 | T | if you if you empty the.. your bowels [.. very rapidly... |
| 8 | S3 | [was? //what?// |
| 9 | S4 | durchfall? |
| 10 | T | you can throw up like that if you're very thick-sick but it could also go the other way |
| 11 | S4 | durchfall, oder? |
| 12 | T | so it's durchfall, and dysétery [is an extreme case of durchfall, of diarrhea |
| 13 | S5 | [woos? //whaaaat?// |
| 14 | S6 | Dünnschiss //the shits// |
| 15 | T | it's very extreme and many people die from that because they.. ja they become dehydrated... sind zu sehr entwässert |
| 16 | S6 | wasser-wasser(XX) //water-water// |
| 17 | T | in the book you find a translation for that ah.. f- ruhr, ja? the word would be ruhr. |
| 18 | S | ° da gibt's (?) ein Ruhrgebiet° //there's a Ruhr-area// |

Let me now turn to student-authored explanations. If the explainer is a student, a situation like the one in 6.29, where an explainer perseveres with an explanation despite cut-off attempts, is unthinkable. I would argue that this is not only because of the inequality of speaking rights which accords teachers a default right to the floor. Another, perhaps important reason why students can hardly ever be found uttering explanations worth being called explanations lies in the convention that explicitness is unnecessary for explanations addressed to the teacher since the un-

derlying presupposition is that the teacher already knows the explanandum perfectly well. Hence it is only logical that comprehension checks like the one concluding extract 6.28 are absent from student explanations.

The fact that student explanations are often minimalist and inexplicit is therefore an effect of the assumptions about the distribution of knowledge inscribed into the institutional context. Since the teacher is assumed to be in possession of the explanandum anyway, a cornerstone of explanations according to Gaulmy's model is actually missing. In this sense student-authored explanations consisting of only one word or at most a phrase simply are not explanations and neither are they interactionally meant as such. The utterance is not really meant to explain, but to serve as a trigger in order to activate the right kind of conceptual pattern in the teacher's mind. Usually it is then the teacher who takes it upon her/himself to spell out explicitly the relationships involved (cf. 6.30):

Extract 6.30 Physics, grade 6

- | | | |
|---|----|---|
| 1 | T | ...in which way can it withstand the pressure |
| 2 | S1 | a round shape (x) |
| 3 | T | it has a round shape yes and |
| 4 | S2 | the material |
| 5 | T | its made of a special material and what else what's the main thing do you think it's possible to have a big submarine going down that far.. |

Note that the actual linguistic forms that realize the teacher's expansions of the student's responses "A has B" and "A is made of B" are rather simple and it would be unrealistic to assume that formal linguistic difficulty was the student's problem. Rather, it is the case that in terms of the situated interpersonal face-to-face situation prevailing in the classroom, it would be ineffective from the point of view of the students (and run counter basic conversational maxims) to be more explicit than the knowledge state of their interlocutor makes necessary. This indicates that the students seem to regard the teacher as their sole addressee, ignoring their peers. The minimalist oral explanations which students tend to deliver, then, are natural in terms of the conversational maxim of quantity and the kind of addressee orientation that also holds in non-educational contexts. The next section will consider more closely how the participants in the classroom deal with these circumstances.

6.3.3 Classroom practices

How much explanation is there?

For various reasons this is a very difficult question to answer in a global way. Despite the structural and functional outline of *explanation* presented above, a

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straightforward operational definition of *explanation* which would allow one to identify unmistakable and well-bounded instances of *explanation* in the transcripts has not emerged. As I said above, in the sense that explanation is about “telling you what you don’t know” the whole texture of classroom interaction is based on this notion, since classrooms are about generating knowledge in minds which were without it before. While this is a strong idea, it is also a vague one, since in this way explanation is pervasive rather than identifiable at particular points in the interaction.

In a less generalized sense, explanations are something that orients to a comprehension problem and may therefore be directly sought by one of the interlocutors. This perspective might afford us a take on the phenomenon since one can look for instances where explanations are sought for by a participant. For this we can turn to the analysis of classroom questions carried out in chapter five where I employed the categories “questions for” “facts”, “explanations”, “reasons” and “opinions”. There, it was shown that all parties involved mainly ask for facts (88% of questions) but rarely for other types of responses (12% explanations, reasons, opinions). If we take into account these figures, it is clear that explanations as responses to an explicit request (and thus as events which are bounded by a clear beginning) cannot be a high-frequency phenomenon in the CLIL data.

It is a phenomenon well known in practice but quite remarkable in principle that students rarely ask teachers for explanations. In the present data there are only a handful of instances of this happening, and most of these actually occur in the same lesson (one of the History lessons in grade 11). Interestingly, in requesting their teacher to explain something, students never use the actual word *explain*. Possibly this is a sign that there is indeed a strong link between *explanation* and *comprehension problem* – a show of which students presumably want to avoid.

Student requests for explanation

and why were they called colonies?

can you think of something why it was like this?

Since students request few explanations, most of the bounded explanations that teachers give are either prompted by themselves (cf.6.33) or are follow-ups on their own initiations which fail to elicit the intended student responses (cf.6.32 and 6.34).

Extract 6.33 Teacher explanation

- | | | |
|---|----|--|
| 1 | T1 | to explain because i think it's a new term |
| 2 | T2 | banquet facilities.... |
| 3 | T1 | listen to John (=T2) |

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- 4 T2 what are... what is meant by banquet facilities is.. in a the big banquet room, the big hall, where you can accommodate a lot of guests as well it's also meant by having.. catering service in the hotel for a large banquet, having the equipment such as likeaahm... microphones and speakers and things like that if you're going to have a band there or if you're going to have a conference.... is this clear now?

Extract 6.34 Teacher explanation on the rebound

- 1 T erm to overcome the pressure hhe they constructed a special submarine in which way can it withstand the pressure
- 2 Sf1 a round shape (x)
- 3 T it has a round shape yes and
- 4 Sm2 the material
- 5 T its made of a special material and what else what's the main thing. do you think it's possible to have a big submarine going down that far..

When a request for an explanation comes from a student, teachers usually comply with it, even though on occasion they purposefully return the question to the class as is done in the following extract.

Extract 6.31 History, grade 11

- 1 S1 can you think of something why it was like this
- 2 T .. a reason why it was like that?
- 3 S1 yes [... and.. you (?) can think of it
- 4 T [aah
- 5 S2 in the New Stoneage.. it began
- 6 Ss ((laughs))
- 7 T began (?)... it began in the New Stoneage, yes. ah... ya, i thinkahm.. i thinkah men.. i don't know, what do you think?

Requests by teachers to students to explain something are, of course, more frequent but it would be far from the truth to say that they occur with any regularity. Only in about half of the forty lessons in the data do teachers request student explanations at all (and then only once), but as always variation is great. Individual teaching style seems to be an influential factor, as is subject area. One of the History teachers, for instance, has a high incidence of *explain* in her classroom language, while other history teachers do not. The Accounting teacher in the sample also requires a considerable number of explanations and the compliance rate is high. In this particular case it impossible to separate out possible influences of individual teaching style because there are no other Accounting teachers to com-

pare, but it is reasonable to assume that the way in which accounting is taught also has a decisive influence: it is a skill which students have to demonstrate by solving problems on the blackboard and talking the rest of the class through the process, which is also a kind of explanation.

In the reverse situation – teacher asks student for an explanation – the rate of compliance is low and the responses are short, mostly one-word answers. A speciality of CLIL classrooms with their two languages is that such requests can be met providing a translation of individual lexical items into the students' L1 (cf. the 'sniper'-extract in chapter 5). Just as typical as 'explaining by translation' is the sequence in extract 6.32 where a teacher request for explanation is followed by a minimal student response which is in turn followed by the teacher giving the explicit explanation herself (cf. also extract 6.30 above).

Extract 6.32 Physics, grade 6

- 1 T so what's the reason for a higher pressure at the bottom
(3 turns)
- 2 T wait a second before you finish your sentence. Lukas how can you picture water do you remember now
- 3 Sm eh erm
- 4 T water
- 5 Sm layers
- 6 T **you** can picture water as consisting of different layers. and if there are many layers on the top the pressure is high. What presses down which force...
- ((11 turns))
- 7 T the force of gravity so the force of gravity pulls on those layers of water
aha so erm pressure increases with the depth yeah the deeper you come the higher the pressure and which experiment did we do?

Note that in turn 4 the teacher employs the 'trigger strategy' herself, presumably to remind the student of an explanation which had already been worked out on a previous occasion, but all she gets back is another trigger which she now seems to accept and consequently sets about making explicit the relationship between water, layers and pressure. There are, then, two dominant patterns of events when teachers ask students for an *explanation* in the CLIL classroom: either students provide a translation, or they play the ball back to the teachers who eventually provide the actual explanation themselves.⁸

Is explanation topicalized in the CLIL classroom?

Interestingly, and this is a difference to definitions, *explanation* and *explaining* are mentioned in classroom discourse with a certain regularity. One reason may be that the words *explanation* and *explain* have less technical connotations than *definition* and *define*, so that they are more flexible in their contexts of use. What, then, do people mean when they say “explain”? There seem to be two slightly different uses of the word, one more general, the other more specific. On the one hand *explain* seems to mean, “give details on X and make explicit the relations between them”, in short it is an invitation to be fully explicit. In the following extract the American teaching assistant provides an example of the kind of rich explanation which teachers would like to get from their students but rarely do. (And as shown in chapter 4, teachers also do it more rarely than one might think)

Extract 6.35 Business Studies, grade 11

- | | | |
|---|----|--|
| 1 | T1 | (XX) to explain because i think it's a new term |
| 2 | T2 | banquet facilities.... |
| 3 | Ss | (XXX) |
| 4 | T1 | listen to T2 |
| 5 | T2 | what are... what is meant by banquet facilities is.. in a the big banquet room, the big hall, where you can accommodate a lot of guests as well it's also meant by having.. catering service in the hotel for a large banquet, having the equipment such as like aahm... microphones and speakers and things like that if you're going to have a band there or if you're going to have a conference.... is this clear now? |

In this sense, explaining has to do with demonstrating understanding and being explicit, as is indicated by requests to use “complete sentences” or “other words” or “your own words”. The well-known teacher request that a student should “speak in complete sentences” is thus in reality not so much an invitation to demonstrate linguistic competence but an invitation to be explicit. A special alternative available in the CLIL classroom is for the “other words” to be from the other language. For various kinds of prompts regarding explicitness, see extracts (6.36–6.40).

Extracts 6.36–40 Prompts for explanations and being explicit

- | | | |
|------|---|--|
| 6.36 | T | what was that good for? can you explain it? in a complete sentence , Sascha. |
| 6.37 | 1 | T what is market growth we always think about market growth but did not yet explain it (xx) do you know what is market growth |
| | 2 | Sf1 erm how fast a market erm grows |
| | 3 | T yeah |

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- 4 Sf1 erm
- 5 T that is how fast. **use different words**
- Sf1 erm it ex extend na
- T yeah, how fast (xx) are buying it how quickly more buyers are come coming and so on. so market growth is not the only measure ...
- 6.38 T and you **do not learn it by heart** you should be able to **explain** what is the boston matrix you should be able to explain what is a star what is the cash cow what is the dog what is the question mark
- 6.39 T could anybody **try to explain** what I have just tried to say **in german** Armin.
- 6.40 1 Sf1 ein vermehrer! //a multiplier//
- 2 T yes, how could you **explain it in english?**
- 3 Sf1 ahm a thing that ahm make something stronger oder or more

The second meaning of *explain* is more narrow, as it refers to one specific aspect of explanations, namely the giving of reasons. In this use it often collocates with *why*. Among the uses of *explain* in the data this is quite frequent.

Extract 6.41 History, grade 12

- 1 T which **explains why** they left their country...because they were religiously persecuted

Extract 6.42 History, grade 6

- 1 T you think this is a mistake? you raise your hand, you think this is a mistake? who else thinks it is a mistake? it could be, sometimes there're mistakes in the book! ...Marlene thinks it's not a mistake. then if you think it's **not** a mistake **you have to be able to explain it to me!** Marlene (XXX) rescue (?)
- 2 Sf1 **because** it's not only one ghost aber es sind mehr und wenn's mehr sind dann ghört das apostroph danach.
- 3 T okay you started to tell me in english even that was good. ...

Extract 6.43 History, grade 12

- 1 Sm1 because die Inder nennt ma ja auch Indians, oder?
//because the Indians you also call Indians, don't you//
- 2 T yes, that's right. **can you explain this fact?**
- 3 Sm2 i know. because ah Colu(/u)/mbus actually wanted..
- 4 Sm1 **because** Columbus thought he was in India

Notwithstanding individual exceptions, one can generalize that if a teacher's initiation includes the wording *explain*, it is more likely that the response will actually be a coherent explanation than in cases where the initiation is worded without it and merely marked by question particles. A question phrased like B below therefore has a much a better chance of receiving a student explanation as a response than one worded like A.

- A. why do you think this was so important
- B. can I please ask people from these three groups to explain your reasons why you put it on first place.

But the reluctance of students to take longer turns is probably not the only reason for the low incidence of student explanations (cf. chapter 5 on questions). Teachers also have a tendency to interrupt fairly quickly when a student explanation shows signs of dysfluency. Their aim may be to help the student save face by avoiding silence or the exposure of a knowledge gap (in terms of content or language), or it may be that ever-present time pressure prompts them to speed up proceedings. Despite the commonality of the behaviors just sketched, there are classrooms among those studied where unwritten rules seem to ensure that coherent explanations are a default with and without explicit prompts (see 6.44).

Extract 6.44 Marketing, grade 11

- 1 T that's right you have to find something new to bring new age groups to bring other countries or whatever to buy this thing and er what is mobile parenting Kerstin
- 2 Sf1 erm mobile parenting is when erm the parents can control their kids even if they are not with them so when parents are in wor in work they phone them and they know what children are doing and
- 3 T mhm
- 4 Sf1 yes (xx)

It would be a worthwhile exercise to investigate how such practices come about and if they can be brought about deliberately.

6.3.4 Discussion of findings on explanations

Given the dearth of research literature on the topic (Gaulmyn 1986, Kidd 1996, Lemke 1990), this analysis of the CLIL data has been something of an experiment but I think that some interesting findings have emerged. A finding that is remarkable, in my opinion, is the fact that explanations as instances of monologic exposition are quite hard to find in the classroom data. The seven examples presented in

section 6.3.2 (extracts 6.17 – 6.23) were not a small selection from a large number of occurrences all across the data but had to be sought quite intensively; whereby student-generated explanations in particular were hard to find. Somewhat more frequent are examples which contain elements of co-construction or ‘distributed’ explanation (as exemplified by 6.22, 6.23), and in these instances we find the division of labour typical of the data as a whole: the student supplies individual elements which can be used for an explanation, but the teacher puts them ‘in relation’, producing a coherent whole out of the individual items contributed to the floor by the student/s. It is the teacher who demonstrates her/his competence at constructing a coherent text from individual elements presented by the students. But as one studies the transcripts, it is remarkable how often the part where the teacher creates a coherent whole is actually missing. Thus it would seem that the dominance of triadic dialogue noticed in other contexts in this book (chapter 4 and *passim*) also has repercussions on this level. Explanations frequently get distributed over several participants, often more than one student is involved and it is quite usual for such explaining activities to be left unsanctioned, as it were, by a coherent statement which brings together all the actualized semantic relations in one place. This is all the more remarkable as these activities are conducted orally and have no permanence. They do not ‘stand’ but are fleeting and transient. Here the question arises what kind of reality they have in the minds of the student participants. The students do not possess a coherent thematic structure of the subject to start out with (which the teacher presumably does have) into which individual thematic elements could be ‘pigeonholed’. Lemke (1990) convincingly argues that being successful as a science student depends precisely on how well an individual can produce their own thematic structures from a fleeting and often incomplete input and how well these thematic structures correspond with the thematic structures sanctioned by the members of the ‘field’ or subject area.

The analysis carried out in this chapter has shown that explanations potentially embody a large number of semantic relations, which can be expressed by an even larger number of grammatical and/or lexical relationships. The fact that we so rarely find them being expressed explicitly, especially by students, might therefore be explained by pointing out that the linguistic competence required to do this exceeds the students’ resources in the L2. However, this argument does not hold across the board, and at least some of these expressions are very basic in terms of linguistic structure. The *TOKEN* relation for instance, is realized by “A is a B” (cf. section on definitions), and hardly anything can be more basic than that. The transitivity relations can be found embodied in the patterns of basic syntax as subjects, predicates and objects, and circumstantial relations are not much further beyond. Of course, some relations are tied to more complex grammatical structures, and there are also complex stylistic variants for many of the simple patterns,

but on the whole even students at lower-secondary level do possess a linguistic repertoire in their L2 which – in principle – enables them to express all these relations. They may not be able to express them with a great deal of stylistic variation or even appropriacy but express them they can. What is so intriguing, therefore, is why they do not do this more often. The answer, in my view, lies in the special discourse conditions of the classroom, the roles of teachers and students and above all in the assumptions about the distribution of knowledge tied to them. The answer also lies in the tension inherent in having to produce a fairly decontextualized text (the explanation) in a highly contextualized situation (face-to-face interaction in the here and now). Apart from these factors, however, I think, a further cause is a lack of awareness of levels of linguistic organization beyond the sentence level and of the fact that grammar primarily encodes semantic relations. In other words: many speakers would also need to be made aware of how to build explanations before they can be expected to build them.

6.4 Hypothesizing and predicting

In discussions of thinking skills and academic language functions hypothesizing and predicting consistently appear among the core. This alone should be reason enough to include them in an exploration of such functions in the CLIL classroom data. But there is a second reason which makes hypothesizing a particularly interesting focus of study in a context where the learning of a second language is an issue. This is the fact that the activities of hypothesizing and predicting require the use of relatively complex verb phrases for their verbalization so that this is an interesting testing ground for the occurrence of ‘more difficult grammar’ in the classroom language.

6.4.1 Operationalizing hypothesizing and predicting

It is perhaps necessary to state as a proviso that in this context I am not concerned with notions of *hypotheses* vs. *predictions* made on the basis of a specific *scientific theory* as part of research processes, but with a more general, semi-expert notion of this activity. What exactly is involved in the activity of *hypothesizing* is less well understood than is the case with *defining*, and as with explanations it is therefore practicable to consult dictionary definitions of the term. The following definition is taken from the Merriam-Webster on-line dictionary.⁹

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hypothesis

- 1a. an assumption or concession made for the sake of argument
- 1b. an interpretation of a practical situation or condition taken as the ground for action
2. a tentative assumption made in order to draw out and test its logical or empirical consequences

In the current chapter we are therefore dealing with an understanding of hypothesis located within the scope of 1a and 1b of the dictionary definition. In non-technical terms, then, a hypothesis is an assumption or prediction about what something will or would be like if certain conditions are met. It is an activity which incorporates facts but does not look at them as they are manifest (in the here and now or in the past) but rather sets them against a projection into the space of possibility, effect, or simply future time in general. *Hypothesizing* therefore amounts to talking about that which is not the case now, talking about that which could be in the future, or could have been in the past, but with a link to perceived factual reality. Hypothesizing thus is a prime example of ‘talking about that which is not in the here and now’.

Since the grammars of natural languages have developed various ways of doing just that, ‘hypothesizing’ can be operationalized by checking for grammaticalized or lexicalized expressions designed to ‘talk about that which is not in the here and now’. In terms of linguistic structure and expression, hypothesizing is indeed an activity of much richer linguistic potential and greater linguistic complexity than defining. It exploits the field of modality for its purposes. The lexico-grammar of modality in English is rather complex, operating on the morphological, lexical and phrasal level, including modal verbs (*can, will, may* etc.), adverbs (*probably, perhaps, possibly, possibility*), conditional conjunctions (*if*) and lexical phrases (e.g. Palmer 1993, Quirk *et al.* 1985). In addition, on the lexical level, there are a number of near-synonymous lexical verbs which all characterize a situation as non-factual:

Table 6.8 Lexical verbs introducing hypothesizing episodes (open list)

assume
 guess
 hypothesize
 imagine
 predict
 propose
 speculate
 suggest
 suppose

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An important aspect of these verbs in use is that they tend to appear in typical syntactic frames which they partly share. For examples of such phrases see Table 6.9.

Table 6.9 Phrases introducing hypothesizing episodes

let's think/say/assume/imagine
(so) what would happen (if)
what will happen if
what happens if
can you predict
what would your prediction be?
what would you propose
what would you do if
anyone wanna take a guess?

Because of this formulaic character, other, less specific verbs like *think*, *say* or *happen* can also acquire the pragmatic meaning of 'talking about that which could be' if they are used in the appropriate frame (*let's think about this for a moment*). Since the above inventories are largely based on introspection, they were checked against the *Michigan Corpus of Academic Spoken English (MICASE)*; currently 1,8 million words; January 2007). A brief quantitative survey showed that there seems to be a small number of items which, due to their high frequency of occurrence, might indeed be regarded as a kind of marker signalling to participants in the interaction that what follows is an instance of 'talking about what is not/what might be or might have been' or 'hypothesizing'. In the *MICASE* corpus these 'markers' are *assume that*, *assuming that* and *let's say*. The verb *hypothesize*, on the other hand, is of minor importance, occurring only six times in 1,8 million words of university level spoken interaction.

6.4.2 Classroom practices

An important question in view of the linguistic complexity of this activity is how well established hypothesizing is as a distinct speech event, and how recognizable concrete sequences are to participants as instances of 'hypothesizing'. Other than explaining, hypothesizing is *never* explicitly talked about in terms of being a desirable or useful behavior in the classroom. In view of the low frequency of the lexeme in the *MICASE* corpus the non-occurrence of *hypothesize* in a much smaller corpus of L2 secondary education data is not unexpected. In combination the two observations tell us that the verb *hypothesize* does not seem to be a popular stylistic choice in spoken genres among native speakers of American English, and that the non-native CLIL teachers in this study share this intuition

There are, on the other hand, a number of phrases or lexical markers which teachers use to introduce instances of hypothesizing. In the CLIL data the most frequent ones are the verb *imagine* (let's imagine, try to imagine) and the phrase let's say, the latter however, is used only by two teachers (7 occurrences), while *imagine* can be found across the board (eleven occurrences). With *imagine* we might be observing cross-linguistic influence from German *vorstellen* (*stellen wir uns vor*). Interestingly, the equally usual German *annehmen* (*nehmen wir an*) does not seem to have this wash-over effect, even though this would result in the idiomatic *assume* (*let's assume*; see *MICASE* and Table 6.8). I think that stylistic reasons are responsible for that, as teachers seem to prefer concrete expressions over abstract ones in interactive classroom talk. Factors like classroom genre (triadic dialogue or lecture) and level of students (lower- vs. upper-secondary in the CLIL data vs. tertiary in *MICASE*) may also play a role. The two expressions mentioned cover about half of the instances of hypothesizing in the CLIL data. The remainder are mostly introduced by some variation of what would you do if.

The next question is what happens after such 'signal phrases'. Consider the following example where the teacher attempts to personalize the dilemma of a female film character in order to encourage the student (female) to engage in 'hypothesizing'.

Extract 6.45 Grade 11

- | | | |
|---|----|--|
| 1 | T | I mean, try to imagine that: your boyfriend says "I love you so much but I can't come out tonight. I don't want to enter such a stable relationship because I have a son". But just pretending he has a son because he doesn't want to be too close to you – how would you feel about that? What would you think about him? Annie, would you love him, still the same, if he did that to you? |
| 2 | Sf | Um, um, I don't know. I think, um that he, um look for change his life. He think that, um... |
| 3 | T | He has no satisfied life, he is not satisfied with his life. |

It is evident that the student wants to avoid giving a personalized answer but immediately steers the talk back to what she thinks about the main character of the film. In this particular instance one might speculate that the student simply does not want to disclose any personal thoughts or feelings, but the structure of events is analogous also in those cases where no breach of privacy is conceivable. Consider extract 6.46 where the teacher also uses personalization in order to encourage hypothesizing: in line 3 she encourages students to put themselves into the place of a recently hatched baby crocodile.

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Extract 6.46 Biology, grade 6

- 1 T and what do you think they want immediately after hatching?
 2 S1 aso ...the mother aso
 3 T the mother isn't there ...what do you think they do? max ...mh? ...
what would you do if you just came out of the egg?
 4 S2 schreien ...cry
 5 S3 hungry
 6 T **you would probably be hungry** and that's the same for young reptiles
 so they run around and?

Note that the modal conditional is in the teacher's language but that the student's responses are as minimal as is usual in triadic dialogue. Opportunities to use complex language are not taken up by the students; their strategies are minimalization (6.46) or avoidance (6.45). Two complementary explanations come to mind: it may be that the hypothesizing is not required of them with sufficient clarity, i.e. there is a problem of recognition, and they would react appropriately if they recognized the situation. This ties in with the question raised above how well established hypothesizing is as a speech function in these classrooms as compared to fact-finding triadic dialogue. A second motive for these minimal responses might be that in this way students avoid having to use complex linguistic forms such as the conditional, possibly opting for accuracy and safety rather than risk-taking and complexity (cf. Skehan 1998). Here is an extract where the second explanation seems most likely, as there is no complete avoidance of hypothesizing on part of the students:

Extract 6.47 Business Studies, grade 11

- 1 T **if you had..** two million of euro... you could either put it on the bank...
 2 S1 dann wär ich scho lang (nimmer xxx)
 //I would have left long ago//
 3 T **could you** do anything else with your money?
 4 S2 yes, i can buy shares.
 5 S3 in[w]est it
 6 T you ccan invest it, you could buy shares, ya
 7 S4 you can buy a new house and a (xxx)
 8 S1 immobilien (xxx) //real estate//
 9 S2 or.. i i can became a silent partner.
 10 T i can become
 11 S2 become, yes, i'm terribly sorry
 12 T you could become a silent partner. okay.

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Once again the invitation to hypothesize is personalized: „if **you** had?”. One of the students actually decides to take this at conversational face value and says that with 2 million Euros in her pocket she would certainly not be sitting in this classroom anymore, thereby producing the appropriate grammatical form, but in German (line 2). The subject-oriented hypothesizing is less forthcoming and use of the conditional *could* is avoided in the various students responses. Note that the teacher in her correction in line 10 decides to correct the form of the infinitive *become* but not the *can/could* opposition.

In the 40 CLIL lessons examined, there is only a handful of instances where students make longer contributions once the hypothesizing space has been opened by the teacher, 6.48–6.50 shall serve as examples.

Extract 6.48 Business Studies, grade 11

- 1 T so he can't he can't he can't serve food on these lovely plates **and let's say** he has to serve it on.. plastic dishes.... so h-
- 2 Ss ((laughs))
- 3 S1 and so he (XX) hotel (??)
- 4 S2 and it doesn't look good because it's a very famous hotel **and so äh he will lose** some guests and.. some customers.. no, some guests.. and so **and so he does äh he does have** äh... schaden ((laughs))
- 5 S1 damage
- 6 S2 damage... and loss.

Extract 6.49 Marketing, grade 11.

- 1 T and what do you think ina is the level of profit wieviel wird man in der einführungsphase da verdienen
- 2 S right **if** it's a new product and there is the low price policy (xx) dann spricht man die mehrheit an a big share market and then **you will make** high price (xx) **and if** its a high price **then** the (innovators) and the early majori early adopters **will buy** it

Extract 6.50 Business Studies, grade 11

- 1 T aahm.. how did how did the other people watching the presentation **how would you.. describe that phone call?... especially**
((3 turns on other business))
- 5 S2 **i would maybe..** i would maybe not tell them the possible consequences äähm ...**i'd probably not** tell them the possible consequences at the first call.

Note that these are all examples from social science classes and not from physics or biology. Even if one has to take into account factors like student age (the natural science classes in the data are all from the lower-secondary level), I think this is a potentially interesting observation which ought to be pursued in depth: is there something in natural science teaching that particularly discourages ‘talking about that which is not’ even though hypothesis formation and hypothesis testing are mainstays of the disciplinary self-image? In the social sciences, on the other hand, it seems to me to be the concept of ‘the case’ which takes pressure off students to get their hypothesizing right and reduces the danger of face loss. Even if a student’s version of a “case” is rejected because his premises not acceptable, this does not show up the student’s ignorance of some ‘universal law’: human behavior always allows for variation. Even so, as we have seen, students are generally reluctant to enter into this kind of intellectual game.

Part of the game, however, also lies with the teacher and how s/he establishes, encourages or discourages ‘talking about that which is not’ in her/his conduct of the interaction. In other words, how much hypothesizing happens in a lesson also depends on the style of the teacher – and, I will argue, possibly on the educational culture s/he belongs to. In the CLIL corpus, the most frequent and the longest sequences of hypothesizing come from those sequences during several business studies lessons which were led by an American teaching assistant (T2). Extract 6.51 represents the longest hypothesizing sequence in the entire dataset.

Extract 6.51 Business Studies, grade 11

- | | | |
|----|----|--|
| 1 | T2 | okay. lelet’s assume everything’s all right though. i mean you know we have another example.. after that but.. why wha- a- assuming he hasn’t even inspected the goods, he hasn’t even opened the boxes, why would the buyer refuse to accept delivery? |
| 2 | S | ... zu spät? |
| 3 | T2 | he may think it’s too late, he may think it was aa.. a fixed delivery date.. when |
| 4 | S | he saw a more beautiful.. |
| 5 | T2 | he what? |
| 6 | S | dishes.... he saw more beautiful dishes in another.. (XX) |
| 7 | T2 | aha there’s a good point. |
| 8 | T1 | mhm |
| 9 | T2 | he might have seen some dishes that he liked better, and now he just.. he doesn’t want to have to buy these dishes... (XX) |
| 10 | S | ahm because he thinks ahm the goods have äh didn’t... were not delivered according to the contract. |

- 11 T2 okay. this is the basic point. he thinks the contract has not been fulfilled. this is usually what's going to happen. yes?
- 12 S the goods are wrong or damaged.
- 13 T2 okay. he might-
- 14 he didn't order the goods.
- 15 T2 **he may think** that the goods are wrong or damaged, **he may say** he didn't order the goods at all.
- 16 S hm (drawing in breath) a liar!
- 17 T2 a liar exactly... horrible people. so... in this case then what what can Augarten do with the goods or do to the buyer
- 18 S ahmm.. put it on storage?
- 19 T2 okay, store the goods, cause.. these goods have already come all the way from Austria, all the way over to America.. to send them back is going to cost a lot of money. so he can find.. a warehouse somewhere in Chicago and put the goods there. and who has to pay for this?
- 20 S ahmm... the buyer
- 21 T2 right. he can make the buyer pay for this storage... and then.. **assuming**.. yes?
- 22 S the seller sends a reminder to the buyer for.. delaying accepting goods.
- 23 T2 okay, so he sends him a reminder in what what does he do? what what does he have to state in this reminder?... what what would.. **what would most people do?**
- 24 S nothing
- 25 S °pay it back °
- 26 T2 nothing... okay. **you would do nothing**
- 27 S depends on the amount
- 28 T2 depends on the amount, that's one good point. **if it's**.. you know a few groschen, **you're not gonna.. worry** about it
- 29 S5 and on the relationship
- 30 T2 ... the relationship. can you expand on that a little bit? what what do mean by by/the relationship
- 31 S5 aah the relation between the buyer and the seller.
- 32 T2 okay?
- 33 S5 **if it's good hee w- he would say him that it's the false.. price**
- 34 T2 okay. **so if he wants** to have a good relationship with the seller **he'll probably** tell him that.. well, that the price is.. incorrect..... it's a good point... it's very important... keeping a good relationship with your.. business partners..... okay... any questions on that?

Apart from featuring one of the few student-uttered conditional clauses in the whole corpus (1.34) and its overall length, the example also contains many of the

phenomena which I have mentioned as typical of hypothesizing in the CLIL classrooms throughout the discussion: there is a marker phrase (let's assume; l.1), there are minimal student responses (e.g. l.25) and avoidance of complex grammar (e.g. ll.4–6), both of which are expanded by the teacher (ll.27; 9).

How much hypothesizing is there in CLIL lessons?

It has already become evident from the discussion on how hypothesizing is carried out in classroom interaction that not only is the word *hypothesize* absent from the data, but also the activity of hypothesizing in general has a very low incidence. Arithmetically, there is less than one instance of hypothesizing per lesson. In real terms this means that there are numerous lessons where possibilities, probabilities, predictions or consequences are not talked about at all, while facts (past and present) remain the main focus of the proceedings. In those lessons where 'talking about what is not/what might be or might have been' does occur, most of the hypothesizing sequences are very short, not least since students are highly reluctant to engage in this activity verbally and teachers are not particularly insistent.

There is one instance where the teacher 'demonstrates' hypothesizing, but significantly, I believe, it does not concern subject matter as such, but an exam situation which may arise in the future.

Extract 6.52 History, Grade 11

- | | | |
|---|---|--|
| 1 | T | there is something ah which i would like to shshow you especially th- those people who ah who are going to.. ah to do the final examination, the oral examination. so it- this is especially for you. |
| 2 | S | (XXX) |
| 3 | | what we did now – i ask(ed?) you what your impression of this picture is.. and you told me and you interpreted it, but if you try to imagine the situation at the Matura , if you do the same thing, this might be quite ah quite stressful and quite difficult for you to do that. |
| 4 | S | can i go to the toilet? |
| 5 | T | yes, of course. so the simpler version would be if you ffollow ah the guidelines below: simply starting out with.. describing the picture, using these.. phrases, and once you have described the picture and you t- you have talked about the obvious,.. then you could start interpreting it |

In order to prepare her students for an important exam the teacher explicitly plays through a *possible* chain of events. There is no similar interactive effort to set up a situation where 'talking about what is not/what might be or might have been' is a desired and valued outcome anywhere else in the data.

6.4.3 Conclusions on hypothesizing

Given that the array of subjects represented in the CLIL corpus includes chemistry, physics, biology, geography, business studies, marketing and history, it seemed reasonable to expect positive evidence with regard to the academic speech function of hypothesizing. However, the number of hypothesizing sequences identified in the data makes for an average of only one instance of hypothesizing per lesson. In other words, there are quite a few lessons where no hypothesizing takes place at all.

On the part of the students it may be argued that their reluctance to engage in hypothesizing might be a product of gaps in L2 competence. The expression of probability is an intricate linguistic task, and we saw that student turns during hypothesizing episodes consistently avoid the use of the conditional even in the higher grades. Much more regularly than with definitions, teachers offer recasts of hypothesizing turns, the recasts usually focussing on a modal conditional that is missing from the student's turn. This is interesting in two respects. Since recasts are a feedback type typical of grammatical errors, this suggests that teachers might indeed be construing students' reluctance to hypothesize as a grammar problem. On the other hand, correction of grammar is a strongly dispreferred activity in the data as a whole (cf. chapter 8), and the fact that it *does* occur in explanations might be taken as an indication that teachers do, in fact, on some level regard it as important that their learners should be able to talk about that which is not.

A further factor disfavoring hypothesizing episodes might be the dominance of information-seeking and information-giving moves in long stretches of classroom talk. I have shown in chapter 5 (also Dalton-Puffer 2006) that among these moves the ones seeking and/or giving facts by far outnumber those seeking/giving reasons, beliefs and opinions. Since even the exchange of beliefs or opinions is rare in the data, it is only logical that hypothesizing should not turn out to be a preferred activity. Additionally I have noted an unexpected distribution of hypothesizing in favor of social science subjects. These essentially quantitative observations may well be related to teaching styles, both of an individual but probably also of a cultural nature. It cannot be overlooked that the longest coherent hypothesizing episode is conducted by the North American assistant teacher in one of the Business Studies lessons.

6.5 Conclusions on academic speech functions

The purpose of this chapter has been to examine three typical academic language functions in the context of Austrian CLIL classrooms in order to determine how

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they are embodied in the classroom discourse. This can serve as a basis for discussing possible implications of these findings for pedagogical practice.

The main findings are as follows:

- Definitions and hypothesizing are rare events in Austrian CLIL classrooms
- Quasi-canonical professional or academic definitions are extremely scarce.
- Arithmetically there is less than one hypothesizing episode per lesson, which means that in real terms there are numerous CLIL lessons (40%) where no hypothesizing or predicting is engaged in at all.
- The frequency of explanations is somewhat higher; however they tend to be distributed over several participants. Neither teachers nor students produce a significant number of coherent monologic explanations.

It must be conceded that definitions can be communicatively adequate without being formally canonical. Snow (1987) cites examples of definitions from young children which show none of the formal characteristics of fully developed definitions but are still communicatively adequate. Most likely the kind and structuring of the specifying features provided is more crucial to the effectiveness of a definition than the presence or absence of the copula expression. Nevertheless, it is remarkable just how few exemplars of such an important academic micro-genre are present in the CLIL data.

With regard to hypothesizing it was found that hypothesizing episodes have a less clearly circumscribed structural format than definitions but can be identified instead by lexical phrases which seem to serve as discourse signals signifying the start of a hypothesizing episode. The preferred structures are *let's say* and the verb *imagine* (try to imagine, let's imagine). The much higher lexico-grammatical complexity of hypothesizing might be drawn upon as an explanation for why students mostly respond to hypothesizing prompts with avoidance or minimization. I submit, however, that this may not be the only or even not the main reason since hypothesizing may quite simply not be a well-established practice in Austrian classrooms (also in the L1). But this needs empirical substantiation.

Analogous arguments can be brought forward in the case of explaining, which was also found to occur relatively infrequently in the data investigated, especially authored by students. Even more so than in the case of hypothesizing, the number of cognitive-semantic relations that need to be expressed in explanations is rather large, so that the size of the students' linguistic repertoire certainly becomes an issue. Equally important, however, seem to be the discourse conditions in the classroom where highly contextualized face-to-face interaction might discourage the production of fully explicit explanations typical of more decontextualized academic and professional communication.

In sum, at least where these three academic language functions are concerned, the CLIL classrooms studied cannot be said to represent an environment that is conducive to the learning of academic language skills of this kind.

What might be brought forward to explain this situation? It might be the case that the students' cognitive development has not reached the stage where they can be expected to master such relatively complex tasks. As mentioned above, experimental studies (Snow 1987) have, however, shown that defining is mastered at about age nine while all participating students are at least eleven years old (age range 11–18). No comparable research results were available regarding hypothesizing, but even if one assumes that this activity requires higher cognitive development than defining, it is highly unlikely that this stage might not have been reached by the late teens. Also, the hypothesizing episodes that do occur in the data are equally distributed over the lower- and upper-secondary levels. Nevertheless, it must be conceded that transferring cognitive skills which have been mastered in principle to an actual classroom situation might not be as self-evident and automatic as is commonly assumed (cf. Hüttner and Rieder 2003).

Another obvious reason might be that the scarcity of defining, explaining and hypothesizing episodes in the CLIL data is a product of gaps in L2 competence. In the case of definitions this is hard to argue since the actual linguistic structures involved are rather basic, but even the semantic relations necessary for formulating explanations *can* be expressed by linguistic forms of low complexity. However, none of the speech functions examined is ever talked about in terms of their purpose, structure or linguistic realization, in fact only 'explaining' is ever referred to as an identifiable activity.

A further, and possibly decisive, factor which discourages the more extensive use of the micro-genres under investigation is the structure of the talk in the CLIL lessons analysed. With few exceptions, the dominant mode of interaction is triadic dialogue with its chains of Initiation-Response-Feedback sequences, consisting largely of information-seeking and information-giving moves, the aim ostensibly being to co-construct the curricular knowledge items which have to be covered. This alone, however, is not enough to explain the scarcity of explaining and hypothesizing: the information sought could also be reasons, and predictions (as illustrated by extract 6.52) but this is the case only very rarely. The staple of the IRF cycle in the data corpus are facts (cf. chapter 5). In addition to this, one has to acknowledge the power of the underlying assumptions regarding the distribution of knowledge among the participants. The teacher is the primary knower and, in so far as student utterances are typically directed at him/her, the contextualized nature of classroom talk makes it unnecessary, in the eyes of the students, to be fully explicit and 'explain'. They simply follow basic conversational maxims (Grice 1975). This situation is reinforced by the fact that few tasks are set where detach-

ment from the context of triadic dialogue (written tasks, other types of roles in oral tasks) is required.

All this leaves an open question with regard to the teachers' degree of awareness in this respect. Clearly, the teachers' own language use reflects the fact that they have mastered these micro-genres: they produce expert definitions and hypotheses (even if not many). I assume, though, that few of them are consciously aware of the existence of these as identifiable and describable academic language skills and functions. There is no evidence in the data of their having declarative knowledge about them. As a consequence, they do not take any steps to raise the student's awareness with regard to the realization of defining and hypothesizing. The implications of this are clear: only if teachers' awareness can be raised, can they include in their planning tasks which actively develop these language and thinking skills in their students.

The findings of this study have implications not only for CLIL as a language-oriented enterprise but also for content-subject teaching. It is widely accepted that cognitive skills, once acquired, transfer from one language to another (e.g. Hamers and Blanc 1989, but cf. Hüttner and Rieder 2003). The low incidence of defining and 'talking about what is not/what might be or might have been' in the students' contributions to classroom talk, then, raises doubts as to their familiarity with these functions and it would be a worthwhile endeavour to research L1 classrooms in this respect.¹⁰ But these are questions which need to be discussed in the context of the specific subject pedagogies as well as in the context of the local pedagogical and didactic culture, and they are therefore not the subject of this study. I do think, however, that starting at the language level would enable educationalists to address the level of subject specific and general academic thinking skills embodied in activities like hypothesizing.

Of course, this chapter has not been concerned with discussing how science is, can or should be taught and in how far school teaching can or should transport the ideologies of scientific disciplines. Nevertheless, the researcher into language teaching and learning does need to be interested in these matters. It is the case that certain ways of teaching entail certain ways of language use and not others. This in turn means that certain ways of language use can be experienced, practised, and learned in the classroom and others cannot.

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CHAPTER 7

Passages of politeness*

Classroom directives

7.1 Introduction

Perhaps the most difficult task for second and especially foreign language learners is achieving a level of competence in the target language which allows them to function smoothly in different environments where the language is used either natively or non-natively. Perhaps from the lower-intermediate level upwards the challenge to the learner usually lies less in conveying propositional content as such but rather in conveying it in socially acceptable and productive ways that allow the learners to achieve their interactive aims through building or maintaining satisfactory social relationships. In a non-technical sense this is often referred to as the ability to be 'polite' in the foreign language.

This aspect of language knowledge is captured in the notions of pragmatic and sociolinguistic competence (cf. chapter 9) and builds on the understanding that for the user language cannot be detached from actual contexts of use. As situational factors exercise a decisive influence on the occurrence of linguistic forms, it follows that situational factors prevailing in a specific situation like the CLIL classroom will mediate the language input and output of participants. Generally, then, the kind(s) of situation a language user experiences will largely determine the kind(s) of language he or she has occasion to use. On an abstract level this insight has served as a basic rationale and argument for CLIL-type teaching, and it is routinely implied that the subject content context per se will offer learners an advantage over foreign language classrooms in this respect because of its naturalistic, authentically content-oriented character. However, and this is the central argument of this chapter, the topic of the lesson (its curricular content) is not the only factor which determines what will be talked about and how. As they interact during the lesson, the participants in the classroom discourse convey their understanding of their mutual relationship to a large degree through their language behavior, that is, through the linguistic choices they make. Their understanding of the social situation is informed

* My thanks to Ardith J. Meier for allowing me to re-use her phrasing in this chapter title (Meier 1995).

by various influential factors: the boundaries of their cultural values (which in this case can be assumed to be shared), the remembered events of a shared history of interaction since teachers and students often meet regularly for several years, and, of course, the present interaction as it unfolds in the here and now. Beyond the lesson topic and teacher-student role relationships, several other factors such as classroom register and activity type have an important impact, but it is important to note that most of them are tied to the conditions of educational discourse in general rather than the special case of CLIL.

This and the following chapter on repair and correction aim at taking a closer empirical look at the CLIL classrooms from this perspective in order to scrutinize what language is found to be socially appropriate ('polite'; Meier 2004) in the CLIL classrooms. In order to throw light on the theme of interpersonal relations and socially appropriate language use the present chapter focuses on a particular class of Speech Acts, namely directives (discussed further below).¹ The phenomenon in itself could also be studied by example of other well-defined speech functions such as complaints, apologies, thanks, compliments and invitations and has been done so extensively in Cross-cultural and Interlanguage Pragmatics (cf. House and Kasper 1981, Blum-Kulka, House and Kasper 1989, Kasper and Blum-Kulka 1993, House 1996, Kasper 2001). The reason why directives (or requests as they are commonly referred to) are being focused on in this chapter is simply that in classrooms directives occur much more frequently than the other speech acts mentioned (e.g. Falsgraf and Majors 1995, Iedema 1996, He 2000). Directives therefore seemed a natural choice in a study based on naturalistic data.

The purpose of this chapter, then, is to study the CLIL classrooms from a discourse-pragmatic point of view, with particular reference to directive speech acts. Kasper notes that pragmatics has figured prominently as a research *tool* in classroom discourse research and formulates the wish that it should also be an *object* of study more often (2001, 33). This chapter is a step in that direction. After outlining a pragmatics-oriented analytical framework, the chapter will discuss quantitative aspects of the data as well as contextual features affecting speakers' strategy choice. The chapter will also discuss how teachers' and learners' ways of performing directives not only reflect the social reality in classrooms but also shape the language experience of CLIL students as language learners.

7.2 Conceptual background of the analysis

7.2.1 Previous studies of classroom politeness and directives

Previous studies on the pragmatics of naturalistic classroom discourse have looked at various phenomena, ranging from discourse organization in general (Lörscher 1986) to the use of specific particles (Ohta 1999).² Among these (reviewed in Kasper 2001) there are only very few which focus on issues of ‘politeness’ and/or directive speech acts. Two strands of interest can be discerned in the literature: either one can look at speech act realizations as indices of the student-teacher relationship (e.g. Iedema 1996, He 2000), or one can look at them as evidence of a language acquisition process (e.g. Lörscher and Schulze 1988, Ellis 1992).

In an early study which combines the personal relationship and language acquisition perspectives, Lörscher & Schulze (1988) look at ‘politeness’ in the discourse of English as a Foreign Language (EFL) classrooms in Germany. Their analysis is based on Brown and Levinson’s (1987) theory of politeness, the implication being that realizations of speech acts which are indirect and off-record are more ‘polite’ than those which are direct and bald on record. Lörscher and Schulze find direct realizations to be heavily dominant in the EFL classrooms they investigate (though how many classrooms they look at is never mentioned) and they conclude from this that there is a general lack of politeness. This, they claim, is a direct consequence of the social structure of the classroom with its asymmetric distribution of power, as well as the curricular requirements of the subject “English as a foreign language”, where metadiscourse on phonology, syntax and the lexicon is normal, but metadiscourse on pragmatics basically never occurs. Lörscher and Schulze’s conclusion that

in foreign language classroom discourse the topical and the didactic aspects clearly dominate, the interpersonal aspect, however, is excluded to a large extent. (Lörscher and Schulze 1988, 193)

is somewhat ambiguous. I read it to mean that what is excluded is *explicit attention* to the interpersonal aspects: as classroom discourse is face-to-face interaction, it would be logically impossible for the interpersonal aspect to be absent as such. Implicitly of course, the authors’ contention seems to be that since overt politeness markers are not used, they cannot be acquired, but these issues are not addressed directly in the article. Since this 1988 study is also concerned with the language pair English and German, the absence of indirectness makers in Lörscher and Schulze’s data appears particularly suggestive for the English-German data examined in this study. It must be noted, however, that the socio-pragmatic parameters governing the use of Standard Austrian German cannot a priori be assumed to be

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identical with those pertaining to Standard German on which the Lörcher and Schulze study is based.³

An explicitly acquisitional view is taken by R. Ellis (1992) in his study of two learners' requests. In this longitudinal developmental study of naturalistic classroom discourse, Ellis looks at over 400 requests produced by two child learners of English as a second language over a period of 15 and 21 months respectively. Ellis considers it crucial that "the opportunity to communicate a varied set of illocutionary acts may be important for successful L2 acquisition." (1992, 20). This, it turns out, is also the limiting condition on the acquisition process reported in Ellis's study: while both learners progressed in their acquisition of English requests, neither of them developed the full range of request types nor a broad linguistic repertoire for their realization. Ellis attributes this to the kinds of communicative needs which arose in the course of handling educational tasks, and to the fact that the classroom offers little opportunity to perform requests that place a heavy imposition on a socially distant addressee.

A further important parameter in the context of school discourse is revealed by Iedema's study (1996) which investigates the realization of classroom directives from a Hallidayan perspective. (Hence his use of the term 'Command' for directive, see below). In Iedema's words, "different Command realizations involve different interpersonal positionings" (1996, 84) and he demonstrates on this basis that the expressions of the Command function become progressively more abstract, varied and indirect as schooling progresses, i.e. with the increasing age of the student. This is clearly a highly relevant insight for the present data, spanning school grades 6 to 13. Iedema focuses his analysis on directives in the regulative register only (as is done by He 2000), a strategy which is not pursued in the present chapter and will be argued below.

One study which looks specifically at teachers' directives in foreign language classrooms is reported by Falsgraf and Majors (1995). The authors examine directives as indices of student-teacher status relationships, finding significant differences between Japanese (both as a foreign and as a native language) and English as a medium of instruction. Teacher directives in those elementary classrooms where Japanese was the medium of instruction were significantly more direct than those in the English-medium ones. They conclude that the high level of directness reflects the status differential between students and teachers but also characterizes the relationship between teacher and young students as close and informal. Falsgraf and Majors' results highlight the issue of cultural difference and cross-cultural influences in classrooms which involve more than one language.

A situational context which closely resembles the one investigated in the present study is examined by Nikula (2002). Her study looks for indicators of pragmatic awareness in EFL and CLIL mathematics lessons in Finland. In other

words, this is also a study of CLIL classroom language in a European context. Although Nikula's analysis does not focus specifically on requests or directives, these speech acts figure prominently in the study since here, as in other classrooms, teachers simply tend to ask students "to do things in class". With regard to the use of discourse modifiers Nikula's main findings are that the repertoire in the L1 (Finnish) is wider than in the L2 (English), presumably reflecting the teachers' differential competence in their L1 vs. their L2, but that neither of these repertoires is in fact used very much. Most of the directives (and other teacher utterances) in her data are direct so that Nikula's results seem to concur with the ones obtained by Lörscher and Schulze. Both studies find discourse modification to be scarce in classroom language.

With regard to the topic of the influence of L1 culture on interactive behavior in a second language, Bardovi-Harlig and Hartford's (1993) study of academic advising sessions is of great interest. The authors examine consultations involving native English-speaking academic advisors and their native and non-native students. The findings show that the two groups of students tended to choose different strategies in order to maintain some control over their future study programme during negotiations with their advisors: English native speakers mostly used suggestions, while non-native speakers preferred rejections, resulting in different emotional reactions on part of the advisors. Interactions where rejections had occurred were felt to have been less successful and harmonious by advisors. What these findings indicate is that the choice of speech act (over and above its linguistic realization) is culturally bound in decisive ways and depends on how participants perceive their roles in a given situation. A similar point was made by Tannen (1981) who said that conversational style acquired through the L1 may and frequently does survive the move into an L2. For the CLIL classrooms this underlines the importance of keeping in mind that the default reference culture in our case is that of Austrian German school interaction and not a putative English native-speaking classroom culture.

The main findings of research on second language classroom requests can be summarized by saying that the modes of linguistic request realization are limited by the socio-pragmatic conditions of the teacher-student role relationship, mediated, among other things, by student age, and the L1 cultural context in which the classroom is embedded. The latter includes the activity types which are considered appropriate in that culture, as well as the second language competence of the participants. But there are also many open questions. Firstly there is the complex issue of what the empirical findings on the pragmatics of classroom interaction actually mean for the acquisition and learning of target language pragmatic competence. In interlanguage pragmatics the answer has increasingly been that explicit instruction is advantageous (e.g. Cohen 1996, Bardovi-Harlig 2001) but this is not uncon-

tended, as is the desirability of acquiring native-like (pragmatic) competence. The latter, for instance, has come under scrutiny as a matter of principle in the English as a Lingua Franca discussion (cf. Jenkins 2000, Seidlhofer 2002). Intimately connected to this is a second issue, namely the influence of L1 discourse culture on the production and acquisition of target language speech acts. For instance, in how far the Finnish teachers' non-use of modifying elements should be interpreted as a lack of pragmatic awareness, depends very much on how much one wishes to buy into a conventional understanding of politeness. It is possible that pragmatic awareness in a concrete situation rests in the non-use of modifying elements rather than vice versa (cf. Nikula 2002).

7.2.2 A framework for analysis

Directives are considered to be speech acts which impose some kind of action on the hearer. Instances of such speech acts are commands, orders, questions, advice, requests, and warnings (Searle 1969; Mey 2001, 119–124). This is a broad view of directives and, consequently, unlike some other researchers (e.g. He 2000) I will also take into consideration questions, regarding them as requests for information. I consider questions to be directives because they require the addressee to give a response, which means they are subsumed by a definition of directives as “attempts on the part of the speaker to get the hearer to perform some kind of action or cessation of action” (Ellis 1992, 5). It is difficult to determine what exactly differentiates ‘commands’ from ‘orders’ from ‘requests’ from ‘advice’ in a fashion which goes beyond the general lexical meanings of *command*, *order*, *advice*. Sometimes it is said that what makes a request a request and a command a command are the general ‘conditions of the interaction’ (i.e., presumably, contextual factors) whereas their specific realization is then a matter of choice, for instance in terms of directness. In reality, however, the conditions and the realization are near-impossible to tease apart. This may explain why, in the pragmatics literature, the term request is frequently used as an umbrella term and a quasi-synonym of directive (e.g. Ellis 1992; Faerch and Kasper 1989). In the present text this practice is also observed, not least for stylistic reasons.

The analytical approach adopted here makes reference to both the pragmalinguistic and sociopragmatic level (Leech 1983, Thomas 1983) since sociopragmatics refers to speakers' knowledge of situational meanings in terms of social roles and relationships as they are understood in a particular speech community. This entails knowledge about the specific rights and obligations connected with a particular role, such as the teacher's right to allocate the floor to individual students, and the students' obligation to take the floor once it has been allocated to them. The roles, and the rights and obligations connected with them, entail constraints

on the use of linguistic resources in interaction, and speakers thus need to know (and to learn) what the significance of certain linguistic choices is. In this connection the absence of a formal linguistic choice may be as significant as its presence.

A considerable amount of empirical work concerning a variety of speech acts in different languages has been based on the theoretical notions developed by Brown and Levinson (1978; 1987). Rooted in Goffman's notion of Face, Brown-Levinson develop a view of social interaction in which attention to speaker's and hearer's face and consequently 'facework' hold a central position. The conception of human interaction which is transported here is one of a continuous struggle for balance between the conflicting needs to save face of the participating individuals. It is thus that the notion of the face-threatening act (FTA) has received a good deal of attention in studies of linguistic interaction which follow the model of Brown and Levinson.

Since directives may threaten a hearer's sense of self, or face, the choice of directive form (whether with redressive action or without) is largely determined by the need for politeness or appropriateness in social encounters. Three parameters have been identified as being especially important in determining speakers' language choices: the distribution of social power, the degree of distance or familiarity, and the degree of imposition a particular pragmatic act is thought to have on the recipient (cf. Brown and Levinson 1987). That is, it is thought that these factors co-determine the kind of linguistic choices a speaker will make in a given situation. The three parameters are well established as analytical tools in pragmatic studies even though they cannot easily be quantified independent of the situations in which they appear relevant.

Concerning the degree of imposition, for instance, it is necessary to be specific with regard to what a request is about, since specific goals may be evaluated differently in different situations. It has therefore been suggested that several types of request goals should be distinguished. Blum-Kulka, House and Kasper (1989, 4) establish four types of request goals, namely *actions*, *goods*, *permission*, and *information*. These are thought to represent different degrees of imposition and therefore require different amounts of redressive action. Blum-Kulka *et al.* also mention research results indicating that requests for action are the most direct. The results of the present analysis will show that this has to be relativized, at least for classroom interaction. More directly compatible with the situation reflected in the present data is Halliday's categorization of four primary speech functions in interpersonal communication: Give, Demand, Information, Goods/Services (cf. Halliday 1994, 354). A cross-tabulation of the four key distinctions yields the following possibilities:

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Table 7.1 Primary speech functions in interpersonal communication and their default realizations (Halliday 1994, 354)

	Goods & Services	Information
Giving	Offer <i>Would you like me to close my eyes?</i>	Statement <i>I'm closing my eyes</i>
Demanding	Command <i>Close your eyes!</i>	Question <i>What are you doing?</i>

Our present concern is row two of the table 'demanding' and the empirical question is, who uses these speech functions how often and in what form. This is a non-trivial concern because each function can be realized in a variety of ways above and beyond the canonical forms represented in the table.

Table 7.2 Indirectness strategies in English requests

syntactic downgraders	
past tense	<i>Could you hand me the paper</i>
negation	<i>Couldn't you...</i>
conditional clause	<i>I'd like to borrow x if you don't mind.</i>
embedding <i>I wonder if...; I hope/appreciate/be grateful; I thought/believe/imagine; I'm afraid you'll have to leave now...</i>	
<i>I was wondering if / thinking that</i>	
lexical/phrasal downgraders	
politeness markers	<i>please; would you be so kind as to...</i>
downtoners	<i>just, perhaps, possibly, maybe</i>
minimizers	<i>a spot of; a little, a minute, wait a second</i>
hedges	<i>kind of, sort of, somehow...</i>
external modifiers	
disarmer	<i>I hate bothering you, I really don't want to disturb you...I hope I'm not intruding., I'm sorry to trouble you</i>
promise reward	<i>I'll make it worth your while, there'll be something in it for you later...</i>
give supportive reasons	<i>Could you take in the washing? It looks as if it's going to rain (if request seems justified to H, then H is probably more willing to comply)</i>

For describing the formal realizations of requests on the pragmalinguistic level, research has identified a number of linguistic choices as particularly significant carriers of interpersonal pragmatic meaning. These forms are interpreted as either adding to or subtracting from the impact of a speaker's message, thus opening a window on how the interactants view themselves and their relationship. The sets of forms themselves are very general and somewhat vague but nonetheless well established in pragmatics: modal verbs, tense and mood choices, pronouns, lexical phrases. Especially the lexical phrases have been variously called hedges, modal markers, modality markers, pragmatic particles, intensifiers/softeners (cf. Coates 1987; Holmes 1990; House & Kasper 1981; Biber & Finegan 1989, Nikula 1996). Table 7.2 illustrates some of them.

Different choices (and combinations of these) are thought to signal different degrees of indirectness and thus to allow different amounts of redress in face-threatening acts like directives. In order to operationalize this scale of (in)directness I follow the scheme developed by Blum-Kulka, House and Kasper (1989, 17–19), later adapted by Trosborg (1995). Request strategies are ordered on a scale, from most indirect to most direct. The imperative represents the unmistakable linguistic indicator that a directive is being uttered (see the cell for 'Command' in Table 7.1 above). Thus, as one moves down the scale towards the imperative in table 7.3, the number of inferences necessary to identify an utterance as a request becomes less and less. As mentioned above, Iedema (1996) has pointed out that socialization in the education system goes hand in hand with progressively more abstract and indirect realizations of directives/demands.

Basing their decision on the situationally relevant values of the parameters Power, Distance, and Imposition, speakers are thought to decide on the appropriate level of directness in a specific situation and to construct their utterances by combining choices from the indirectness strategy repertoire (or by not using any modification at all, as the case may be). What remains problematic is that these factors enter into complex interdependencies and that their values cannot always be determined independently of linguistic realizations supposedly conditioned by them. But this is a theoretical-methodological concern which cannot be resolved in the present context.

The belief in the relevance of discourse modification as an indicator of interpersonal meanings, then, rests in the conviction that directness and indirectness are significant categories in communication. Demands for action, for example, can be phrased directly in social situations where the speaker's right to anticipate compliance on part of the hearer is well-established and the speaker sees no problem in being held accountable for his or her intention. The weaker the speaker's anticipation of compliance the more indirect the phrasing of such demands for action will be. It is assumed, then, that speakers resort to redressive action and discourse mod-

ification in their utterances according to how they perceive their standing with regard to the Power-Distance-Imposition parameters in a given situation. Investigating classroom directives and their level of directness is thus one way of getting access to how teachers and students construe the overall social situation in their classrooms and their mutual relationship during moments of directive language use.

Table 7.3 English request strategies (Trosborg 1995, 205) The examples refer to a hypothetical situation where Speaker requests to borrow Hearer's car

	Strategies	example
I	Indirect Request	
	1 Hints (mild) (strong)	<i>I have to be at the airport in half an hour. My car has broken down.</i>
II	Conventionally indirect (Hearer based conditions)	
	2 Ability Willingness Permission	<i>Could you lend me your car? Would you lend me your car? May I borrow your car?</i>
	3 Suggestory formulae	<i>How about lending me your car?</i>
III	Conventionally indirect (Speaker based conditions)	
	4 Wishes 5 Desires/Needs	<i>I would like to borrow your car. I want/need to borrow your car.</i>
IV	Direct requests	
	6 Obligation 7 Performatives (hedged) (unhedged)	<i>You must/have to lend me your car. I would like to ask you to lend me your car. I ask/require you to lend me your car.</i>
	8 Imperatives Elliptical phrases	<i>Lend me your car Your car (please)</i>

More central to the concerns of this study, however, are the *linguistic* consequences of the participants' perceptions. What do the characteristics of the speech event mean for this specific aspect of interpersonal discourse management, the realization of directives? While earlier research on classroom directives has tended to center upon teachers, I consider both sides of relevance: teachers certainly utter many directives which are then part of the students' language input, but students

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also produce directives themselves, and both aspects are important factors in their language learning experience. The research questions pursued in this chapter are thus as follows:

- How is the speech function of *demanding* distributed among the participants?
- What levels of directness can be observed in the performance of directives for goods/services and information, in the instructional and regulative registers, especially with reference to the use of discourse modification?
- What are the most important factors which seem to inform speakers' choices in the realization of directives?
- What does this mean for CLIL classroom as language learning environment?

7.3 Quantitative overview of the findings

In order to verify the impressionistic view of frequencies of CLIL classroom directives gained during qualitative analysis of the whole dataset, six transcripts representing 277 minutes of classroom talk were submitted to a quantitative treatment. Three lessons from the lower-secondary dataset and three from the upper-secondary dataset were chosen, since student age was anticipated to be an important parameter informing request realization. The six lessons were taught by six different teachers, following the practice in the other empirical chapters of spreading data analysis over several cases.

In practical terms, the quantitative analysis involved identification of directive speech acts according to a grid consisting of the contextual variables goal of directive (information vs. goods/services), classroom register (regulatory vs. instructional), and participant role (teacher vs. student).

The six lessons feature 597 directives (2 per minute on average), but it can be seen that their number varies considerably (from 60 to 148 per 50-minute lesson). This means that classroom activity is often but not necessarily always organized around directive speech acts requiring participants to perform particular actions or provide particular pieces of information.

Comparing columns two and four reveals that the great majority (82% overall) of the directives are realized by the teachers and that the number of student directives in a lesson can be as low as four. The G6 physics lesson is an exception in the distribution of directives as there is an almost equal number of student and teacher requests.

Table 7.4 Overall frequency of directives in six CLIL lessons

Lesson	Teachers	Students	Total
G6 Physics	33	27	60
G6 Biology	136	12	148
G7 Geography	78	4	82
G11 History	53	32	85
G11 Accounting	107	11	118
G11 Business	83	31	114
ALL	490	107	597

Breaking up the figures further, Tables 7.5 and 7.6 below suggest that almost 60% of the teacher demands are directed towards getting information from the students (what kinds of information are sought is discussed in chapter 6 on classroom questions). The exceptional nature of G6 physics is underlined by the fact that almost all teacher requests are in the regulative register (as are the student ones). This is due to the circumstance that the lesson consists almost entirely of activities requiring the organization of groups and handling of materials. The overall distribution of directives, however, reflects the predominant activity type in the dataset as a whole – that is, the dominance of whole-class interaction based on triadic dialogue. There are, of course, phases or even whole lessons (such as G6 physics) consisting of pair work, group work and student presentations, but none of these can be said to characterize the data in the same way as triadic dialogue.

Table 7.5 Distribution of teacher directives in six CLIL lessons

Lesson	ALL	Instruct	Info	Action	Regulate	Info	Action
G6 Physics	33	3	3	–	30	3	27
G6 Biology	136	93	87	6	43	12	31
G7 Geog	78	58	54	4	20	3	17
G11 Hist	53	34	32	2	19	2	17
G11 Acc	107	60	58	2	47	12	35
G11 Business	83	38	26	12	45	12	33
	490	286	260	26	204	44	160

Table 7.6 Distribution of student directives in six CLIL lessons

Lesson	ALL	Instruct	Info	Action	Regulate	Info	Action
G6 Physics	27	5	5/5		22	8/8	14/12
G6 Biology	12	7	7/4*		5	2/2	3/3
G7 Geog	4	1	1/1		3	2/2	1/1
G11 Hist	32	27	27/8		5	2/2	3
G11 Acc	11	5	5/3		6	2/2	4/3
G11 Busin	31	6	5/5	1	25	12/8	13/10
	117	51	50/27	1	66	28/24	38/29

* for 7/4 read: seven directives four of which were uttered in German

Table 7.6 shows that, generally, the students utter more demands in the regulative register, where, during group and pair work, directives are also addressed to peers, even though the teacher predominant is the recipient of student requests. In the instructional register, student requests are few, and the figures are actually boosted by the G11 History lesson which is a noteworthy exception: many information demands are put to the teacher, presumably because the topic of women's social position in Ancient Athens found great resonance in this all female group.

Choice of language is another critical feature of the data which has to be addressed. On the part of the teachers, the number of demands uttered in German is negligible, constrained to the regulative register and has therefore not been quantified, but matters are entirely different with the students. Especially in the regulative register, where students are more active, the share of German is very high overall (80%), even though a certain difference in individual classroom cultures can be detected. The students' age and hence language competence could be a factor in this, since one would expect the younger and less competent students to use more German, but no trends can be read from the present data in this respect.

In sum it can be said that directives are indeed a frequent occurrence in these classrooms, and that a large majority of the requests is authored by the teachers. Students make more demands in the regulative register, particularly during phases where administrative matters are dealt with and during hands-on activities, of which there are, however, not too many. Furthermore, the number of student code switches to German in the regulative register is considerable.

7.4 Classroom practices

This section is based on the entire dataset and examines the ways in which teachers and students realize directive speech acts during different phases of the CLIL

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lessons. These realizations mean two things simultaneously: they give evidence of how participants see the relationships holding between them and they co-create the specific linguistic environment that CLIL classrooms are. The quantitative analysis has shown that register represents a significant category in the realization of directives. The instructional register is dominated by demands for information, while demands for goods/services dominate the regulative register. It therefore seemed natural to organize the discussion along these lines.

Teacher directives in the instructional register

As the overwhelming majority of teacher requests in the instructional register concern information, I will discuss these first. It was explained in chapter 2 that the instructional register is that part of educational discourse which is immediately concerned with transforming facts and concepts pertaining to specific fields of knowledge, in order to appropriate them for the purposes of a school subject. What needs to be clear, then, is that in the context of examining classroom discourse, *information* is not just any content of mind or any kind of knowledge but first and foremost that knowledge which has been approved as relevant by the school curriculum for a particular subject. If the core purpose of school is the passing on of this kind of knowledge, it follows that 'trading' this good must have a low imposition value within the institution. From the point of view of the teacher, then, the two acts of interpersonal communication which are completely sanctioned by the purpose of the institution are giving information on the one hand and demanding information about the student's knowledge state on the other. Within the analytical framework I am using, the contention would then be that a goal which is sanctioned as being central to the institution should carry a low imposition value, represent a low face threat and should therefore require little to no interpersonal negotiation. Demands for curricular content information should therefore be *direct*.

And this is indeed the default format which these requests for information have throughout the data. Such teacher moves are usually bald on record and direct. Here is a handful of illustrative examples:

Extract 7.1 a.-e.

- a. what is input and what is output?
- b. what is this in German?
- c. is it natural that men always want power over women?
- d. what does that mean?
- e. why was this amount taken out?

The following extract conveys the contextual flavour of such stretches of classroom interaction.

Extract 7.2 Biology, grade 6

- 1 T the cytoplasm and in bacterial cells there is something special?
 2 Lf1 (XXX)
 3 T and **how is it arranged inside the cell?**
 4 Lf2 it's not in a nucleus!
 5 T it's not inside a nucleus. it's inside the cytoplasm but without a membrane. it's not enclosed in a membrane. ...**what do you call that type of cell? which organisms do have that type of cell?**
 6 Lf2 bacteria
 7 T bacteria ...sorry?
 8 Lf2 (XXX)
 9 T no **what do you call them.** philip!
 10 Lm prokaryotes
 11 T prokaryotes right ah **the other kind of organisms we talked about were what?**

Some exceptions to this general principle exist. For instance, on a few occasions teachers opt for a certain amount of indirectness, conveying the sense of an invitation to the students to piece things together themselves from bits they already know, rather than an expectation that they respond outright with a ready-made answer. One strategy for reducing the face threat of difficult questions is to embed them into contexts of ability (who can tell me the name of this city) or construe them as a kind of guessing game (can you guess what's this). However, passages such as these are infrequent in the data and are restricted to the lower grades. Equally rare but linguistically very interesting are passages where the teachers exploit the grammatical meaning of modals in order to differentiate between those aspects which they expect the students to know straight away, from those instances which they consider of higher complexity or simply as 'new' so that they invite the students to make suggestions or to guess.

Extract 7.3 History, grade 11

- 1 T yeah, don't worry... ah.. forms of government.. in the course of history, from eight hundred to five hundred, they changed the government all the time. first they had a (?) monarchy. **what does monarchy mean?**
 2 (...)

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- 3 Sf when you have a king
 4 T yes
 5 S a queen
 6 T *monos* 'one' ruler, you have a king... *oligarchy*.. is... more interesting... *oli* means 'a few'... **what could that be then?**
 7 S you have a few kings.. no, ha
 8 S das is die adler- also die adligen beherrschen die...
 //that's rule of the nob – ah the nobles rule the...//
 9 T the aristocrats
 10 - 27 (longish sequence re. some Ss understanding "Aristocats")
 28 T aristocrats... rule the country... or the city-state... ahm.. from their social position, **who** will a-arist- **would be the aristocrats?.. who are they? are they the farmers?**

Extract 7.4 Music, grade 10

- T these kinds of (xxx) were popular with eastern urban audiences. **what would that mean.** we are talking about america. now. eastern.. urban.. audiences. eastern. urban. **what does urban mean?**

Extract 7.5 Physics, grade 6

- T ... if you picture water as consisting of different layers like a pile of files or magazines ja? ...so **where would the pressure be? where will it be large where will it be much less,** claudia?

The extracts show that the alternation between indicative and conditional is systematically exploited by the teachers to signal what is considered complex and what is considered to have been broken down into manageable and previously known chunks. These strategies are employed only by the teachers with the highest degree of L2 proficiency.

In one set of lessons one can find rare examples of the teacher actually waiving the typical 'teacher mode of interaction': extract 7.6 shows the teacher asking for *permission* to ask a question and this recurs several times during this lesson.

Extract 7.6 History, grade 13

- T **may i ask a question in between?** ah you mentioned this one ah aeroplane type... ah **did you know** which kind of aircraft that was?

It is telling to consider the specific situational context: this kind of request occurs exclusively in a series of grade 13 history lessons with a strong component of student presentations. These grade 13 students (age 19) attend a college of software

engineering and will be entering the job market or university within a matter of months. The teacher has only known them for about six months and the phrasing of these information questions clearly indicates that the teacher is addressing them more like distant but equal adults rather than pupils.

Although teacher directives in instructional register most often are requests for information in question form, directives for action are used at times to get students to display their knowledge of the subject matter. What differentiates these from directives for action in regulative register is that they usually are invitations for students for mental action, for example to *say, tell, mention* or *explain* certain aspects from the content matter (cf. the can you tell me-questions mentioned above) whereas in regulative phases of classroom discourse, directives for action involve more concrete actions (e.g. read from page 17, fill in this grid).

The data show clearly that 'pure' instructional register in general, and therefore also teachers' requests for information, are more common in those classrooms where teacher-fronted activities dominate. In these cases (by far the majority), the teacher is in control of the talk and the flow of interaction typically goes from the teacher to the whole class.

Student directives in the instructional register

Students' questions for information are just as direct as the teachers', which is interesting in view of their asymmetrical social position and supports the previously formulated assumption that asking for curricular information has a low imposition value in the classroom. The following extract (7.7) is a good illustration of what typical student demands for information look like in formal terms.

Extract 7.7 History, grade 11: social and political structure in Ancient Athens

- | | | |
|---|------|--|
| 1 | T | they had elections all the time, ah not all the time.. ah... e-every.. year... so the government was in power only for one.. year, and then they had to change. you're not sure that that was so democratic ((reacting to non-verbal signals from Ss)) |
| 2 | Sf11 | yes...the women ((laughs from other Ss)) |
| 3 | T | what about the women? |
| 4 | Sf11 | weren't allowed to vote at that time |
| 5 | T | no, the women weren't allowed to vote. no. |
| 6 | Sf11 | yes, it's not equal. |
| 7 | | ((10 turns left out)) |
| 8 | T | women weren't citizens and if they... you are not a citizen, you can't vote, so you can't complain. |
| 9 | Sf11 | they didn't exist |

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- 10 T women didn't exist. (pause) women DID exist., of course women existed ((Ss laugh))
- 11 Sf1 **but what was she. what was a woman in this time?**
- 12 T3 a woman in this time?
- 13 Sf1 a thing
- 14 T3 she was ahm either the mistress of a household and she managed the household if she was rich
- 15 Sf5 **[and if she was poor?**
- 16 if she:: [was rich and wealthy she was the household manager. and if she was poor, she had to work. a farmer's wife had to work,.. had to work in the field, and work going to the market place and selling the products.
- 17 Sf12 **but could she manipulate her man to vote?**

Where the extract is, however, less typical is the frequency with which the student information questions occur. A succession of student questions like this is a rare occurrence in the data despite their being (at least in principle) highly valued contributions to the lesson as they are taken to demonstrate interest and participation, which in this case they definitely do. Because of the positive value of student questions they can also be exploited to camouflage other intentions which are perhaps considered more problematic. Consider extract 7.8.

Extract 7.8 Music, grade 10: history of the American musical

- 1 Sm **ich wollte was fragen**
//I wanted to ask something//
- 2 TG ja bitte
//yes please//
- 3 Sm **da is ein widerspruch**, dass er zuerst sagt ah das is eben nich also das is- für gutheissen kann, dass die rockmusik in den 60er jahren in das musikalische theater einbricht und dann meint er, dass man nicht herumexperimentiert. ich mein ich denke wenn die rockmusik neu ist, ist das schon irgendwie rumexperimentieren.
//there is a contradiction, that he first says that err it is not well it is- he does not welcome the influx of rockmusic into musical in the sixites and then he thinks that noone is experimenting. I mean I think if rockmusic is something new, that is experimenting somehow//

The student announces a question but what he really wants to do is point out what he sees as a contradiction in the text that is being talked about. Presumably this format is chosen by the student because posing questions is *the* officially sanctioned speech act for students during the instructional part of the lesson and the student may consider it less risky to announce a question rather than a contradiction.

Teacher directives in the regulative register

The core of the teacher's role as manager of activities in the classroom is realized in the regulative register. In contrast to the instructional discourse, directives in regulative discourse are less frequently about information (have you got a question?) and much more often about physical things such as wanting people to perform certain concrete actions (read, draw, clean...) or indeed wanting them to stop. Somewhat more rarely, classroom directives are about material objects or goods. These are usually teaching materials, typically some kind of paper with text or images but also objects like bottles or chalk. In part, of course, the kind of object involved depends on the subject, and it is obvious that chemistry or crafts lessons may (but not always do) differ substantially from history or business management lessons in the amount of manipulation of physical objects which they require.

Directives in the regulative register display a much wider range of realizations than their counterparts in the instructional register, which were shown above to be direct questions for information. The information questions present in the regulative register show a noticeably higher incidence of indirect realizations than those in the instructional register (e.g. Marion, could you tell me the catalog number?). In regulative discourse, however, the majority are requests for action. If there was an unmarked realization analogous to the direct instructional information requests, one would expect it to be commands (sit down, go on). However, this is not the case. Such direct commands do occur, as is shown by the following extract, but they are surprisingly rare.

Extract 7.9 Accounting, grade 11

- | | | |
|---|---|---|
| 1 | T | very well done. and now look to these accounts. look to the closing entry in the food inventory account. which amount is this (pause) which amount is this. |
| 2 | S | Eerrm |
| 3 | T | Nadja please think . |

Few as they are, quantifying individual instances of direct commands would still misrepresent the situation somewhat, since such commands are often found to be embedded in contexts of indirectness when considered in their co-text.

Extract 7.10 History, grade 11

- | | | |
|---|-----|--|
| 1 | T | ((pointing at OHT projection)) yeah, that's Athens ah what it looks like today the Acropolis (.) |
| 2 | T | andah you are going to get the same picture as a photocopy |
| 3 | SF1 | thanks I need two |

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- 4 T yeah okay (.) **maybe Simone could pass it around**
- 5 SF1 Thanks
- 6 SF2 naaa, ich brauch zwei //no I need two//
- 7 T **can you pass them round for us**
 ((several Ss turns concerning who gets how many photocopies))
- 8 T **yes, pass them round.**
- 9 S was heißt das c da drauf? (.) zirka? //what does the C mean there? Circa?//
- 10 T what does this c mean. circa. **okay, could you just start reading reading**

In extract 7.10 the direct 'pass them round' realization in line 8 is actually part of a series of the same directive (*pass it round*) which goes through a reduction of redress features with every repetition (line 4, line 7). Once this series is finished and the next instruction is issued, the teacher returns to the same level of indirectness as in line four.

Table 7.8 CLIL data mapped onto a scale of request (in)directness

have you got a piece of chalk somewhere
 can you pass them round for us
 can we get started now
 so can you do that please
 can you please turn to your neighbour
 thomas, could you please be silent
 would you like to continue
 would you please continue, christina
 can i go to the toilet
 may i ask a question in between
 may i interrupt you
 okay then well let's have one of the other reports
 let's look at the social structure
 what i would like you to do later is...
 i want you to write a little heading
 i need two
 you must return it according to your catalog number
 sit down, you will continue next lesson
 think about that question
 look at your example
 Daniel, Andreas [be quiet]

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Overall, then, the realization of teachers' requests for action in the regulative register is characterized by a great deal of variation, ranging across the entire spectrum from most direct to most indirect. The list in Table 7.8 is ordered along the lines of Trosborg's categorization (1995, 205) without reproducing the entire apparatus of four strategy categories with their subcategories. The list starts with the most indirect realizations.

Note the absence of performatives (*I would like to ask you to ...*). This may very well not be an idiosyncrasy of the present data. Ellis (1992, 19), too, found no performatives (hedged or otherwise) in his naturalistic classroom data. He surmises that they may be rare in naturalistic settings and the present data support his view. Similar results are reported by Koester (2002) who finds that performatives are strongly dispreferred in her corpus of workplace communication. In unequal encounters such direct strategies were used only in critical situations when dominant speakers wished to assert their authority. A feature idiosyncratic of many unequal-power situations (parent-child, nurse-patient, teacher-student) is the use of inclusive *we* and exhortative *let's* and there are many such instances all across the corpus. As students' age increases one can observe a certain tendency towards 'equal-but-distanced-adult-type indirectness' which becomes most pronounced in the lessons with the 19 year- old software engineers.

External modification of requests in the shape of disarmers ('I hate bothering you but...') or giving supportive reasons (cf. Trosborg 1995, 215–219) are rare. The extract chosen for illustration below is from a lesson where textbooks were handed out for the whole school year. The books belong to the school and are to be returned at the end of the year. In this context it is perhaps important to know that the practice of giving each student ownership of new copies of their respective textbooks every school year has been eroded over the last years, but presumably is still present in students' mind as a system where they were not, as a rule, held accountable for the whereabouts and state of their textbooks.

Extract 7.11 History, grade 13

((handing out textbooks at beginning of term; it is the start of the lesson))

- 1 T11 Marion **i have special challenge for you**, could you start from number fourteen please **because i think i have.....**

The announcement on part of the teacher that she was going to hand out the books created some commotion among the students (grade 13; age 18/19) some of whom apparently had previously experienced problems when returning them. It seems that the teacher anticipated this and consequently decided to put in extra linguistic 'work' towards getting the students to co-operate in the administrative procedure

by using a preparator and giving a supportive reason. But this is a special situation and as an explanation for the rarity of external modifiers in the classrooms I suggest looking at their function in interaction. External modification as such serves the purpose of opening up the discourse space in order to enter into an interaction with someone with whom one has not been interacting immediately before. From this it follows that the classroom rarely requires this strategy because essentially once the lesson has started, the discourse is considered opened.

Student directives in the regulative register

It was shown above that students are not completely confined to a passive role even during teacher-fronted phases of instructional discourse. They also make initiatives and perform requests for information. In the regulative register their interactional space is somewhat wider in that they may utter requests for both information and action, even though the number of such requests is limited. It was also noted earlier that a high percentage of student utterances in the regulative register are in German, and the following extracts will reflect this.

Information requests are made in the regulative register in order to clarify classroom procedures and tasks. As suggested by the extracts below, these are typically addressed to the teacher and tend to be quite direct, occasionally even challenging, as in extract 7.14 below.

Extract 7.12 History, grade 11

- | | | |
|---|-----|--|
| 1 | Sf1 | (reading aloud)
sorry.. h.. ah for example, pe-penalties were imposed on men who stayed single for too long. the state encouraged people to have sons to provide future citizens and soldiers... wo geht des jetzt weiter? / where does this continue/ |
| 2 | T | ah on the right-hand side |
| 3 | Sf2 | parents |
| 4 | Sf1 | parents. parents also benefited |

Extract 7.13 Physics, grade 6

- | | | |
|---|----|---|
| 1 | T | okay a last thing has anybody thought about the report? |
| 2 | Sm | welches report? //which report// |

Extract 7.14 Tourism management, grade 11

- | | | |
|---|---|--|
| 1 | T | so, okay, everybody's got a handout? Christoph?
(Sm1 has raised his hand) |
|---|---|--|

- 2 Sm1 **frage. warum hamma das gestern g'schrieben?**
//question. why did we write all this yesterday//
- 3 Sm2 yes (laughing loudly)
- 4 T weil ich das einfach gestern noch nicht hatte..
//because yesterday I quite simply didn't have this yet //

Alongside such direct questions students also turn to their teacher to hear what they 'can', 'have to' or 'should' do (can I open the window, can I go to the toilet)

Extract 7.15 Geography, grade 7

- 1 Sm1 °herr professor, soll'n wir dafür, **soll'n wir diese sachen aufzeichnen**
oder nur ein kreuzerl machen?°
//should we draw these things or just tick them off//
- 2 T yes, read the instruction... who wants to read the instruction for all?
the instruction, sophia?
- 3 Sf1 make up pictures to [(.)represent these features on the pirate map
- 4 T [represent

Extract 7.16 History, history grade 13

- 1 S **can we** have a seign of you?
T seign=is it a signature?
S a signature!

On the whole, however, directness seems well in accordance with the pragmatic principles of CLIL classrooms. This interpretation is further supported by the non-reaction to student directness: it is never commented on or corrected by teachers in the same way as they, for example, instruct students about classroom norms relating to speaking turns (e.g. not you again daniel as a reaction by a teacher to a student who is giving his reply 'too quickly'). It is fair to say that the way in which students phrase their directives conveys a sense of institutional familiarity which allows for directness.

However, the data also show that directness only applies to institutionally sanctioned activities and that less prototypical directives require more modification.

Extract 7.17 Tourism, grade 11

- 1 T so i just took the interest, and usually you only have.. ahm examples
with interest.
- 2 Sm1 okay.... no problem
- 3 Sf3 was gehört in den zweiten da rein?

- // what should go in the second one?//
- 4 T o- pardon?
- 5 Sf3 ähm könnten sie noch vorm läuten sagen was da rein g'hört? //err
could you before the bell goes say what should go in here?//

In this extract the student openly flags an infringement of the social fiction that teachers know best how to time and organize proceedings, by asking the teacher to act differently, namely to speed up. Requests for repetition are also performed in this way.

During both teacher-led classroom activities and pair- and group work activities, there are extremely few cases of directives where students would require some kind of action or physical things from teachers while such requests are a common speech function realized by teachers, as shown in the previous section. Such asymmetrical distribution of speech acts between teachers and students, in itself, reveals a lot about their respective 'rights and obligations' in classroom discourse.

Besides whole-group interaction, pair and group work activities are particularly interesting in that they also provide an opportunity to explore how students perform directives among peers. In the present data such situations lead to an immediate switch to German almost without exception so that little can be said about how these functions are expressed in English but it is certainly the case that where students' directives to teachers mainly consist of questions, directives to peers during pair or group work usually appear as commands and orders, which are often expressed very directly as the following example illustrates:

Extract 7.18 Tourism, grade 11

- 1 T ((T is talking over an increasing noise level))
just imagine you're any hotel (...) and you have proceeds or revenue or whatever
- 2 Sf **seid's amal ruhig** ((shouting))
//be quiet for once//

A comparison with CLIL data from Finland has shown that the Finnish students do not automatically switch to the L1 and mostly perform peer directives in English, but that the latter are also predominantly realized as commands (Dalton-Puffer and Nikula 2006). There are two ways to interpret such student-student directness. As long as one operates with utterances in the target language, one might assume that students' directness reflects their underdeveloped pragmatic skills in the second language. After all, language learners' tendency towards excessive directness has been a finding supported by many studies in interlanguage pragmatics (e.g. Blum-Kulka 1982, Bardovi-Harlig & Hartford 1996, LoCastro 1997). On the other hand, it is possible that directness is a strategy that students use to em-

phasize an equal relationship with one another. Seen this way, directness is a solidarity marker between peers rather than an indicator of pragmatic deficiency. Given that most of the direct directives in the present data are uttered in German, only the second interpretation is possible, unless one wants to assume pragmatic deficiency in the participants' first language competence. Thus one may say that students are operating according to their L1-based 'general pragmatic knowledge base' (Blum-Kulka 1991).

7.5 Discussion of findings

The overarching question in the present chapter has been to describe the 'linguistic world' of CLIL participants with regard to the speech function of demanding or directive speech acts. In the understanding that the lesson is a linguistic environment which students both encounter *and* co-construct, the empirical findings can be summarized as follows:

- Directives as such are a frequent occurrence in CLIL classrooms – as they presumably are in classrooms generally.
- The discourse goals in classroom interaction are relatively fixed through the existence of pre-formulated curricular goals. This a) diminishes the need for ongoing negotiation of interpersonal positionings and b) highlights the special status of 'curricular information' within the situative context.
- Since the distribution of roles is relatively fixed, students gain ample experience as addressees of requests to which they have to react adequately, but they have much less opportunity to make requests themselves. What active experience they have with addressing requests to a more powerful participant, is almost invariably with requests for information.
- The special status of 'curricular information' leads to a clear differentiation in the degree of face threat depending on the goal of a directive: directives concerning information are direct while directives concerning goods/services tend to require more redress irrespective of who utters them. This is not necessarily the case in other social situations.
- Despite the 'normalcy' of directness in classroom interaction, these Austrian students actually receive a good deal of indirect and modified requests and thus can be said to encounter a considerable number of models for making 'polite requests' in English.
- The students' scope for active practice of redress in English requests is curtailed not only by the power asymmetry and the classroom-specific status of 'information' but also by their tendency to utter the requests they do make in German.

Several issues which are embedded in these overall findings are worth a more detailed discussion. The first issue I want to address is the somewhat paradoxical situation that in classrooms the face threat of directives seems suspended over long stretches of the interaction and directness is normal, but that the CLIL data still contain a considerable number of directives (uttered by the more powerful participant!) which show a good deal of redressive action. Generally, relative directness seems well in accordance with the pragmatic principles of CLIL classrooms, a situation which has led some researchers to the interpretation that classrooms are not 'polite' places (cf. the conclusions of Lörcher and Schulze 1988). Politeness, however, is probably not the issue here, since nobody will deny that the directness of the participants is entirely appropriate (Meier 2004). This interpretation is further supported by the non-reaction to student directness: it is never commented on or corrected.

However, in the same data there is also ample evidence of considerable amounts of indirectness. What is more, it occurs mainly in the utterances of the more powerful interlocutors, something that is not really warranted by the logic of the distance-power-imposition model. But perhaps the situation looks more paradoxical than it really is because of some fundamental precepts about discourse upon which the distance-power-imposition model is based. This framework views discourse as competition. The underlying metaphor is that of an economic transaction between two parties where individual wants compete for limited resources. Thus, face wants compete with each other for recognition and satisfaction according to a complex interplay in a marketplace of parameters (power, distance, imposition...). A complementary view of discourse is also available, however, and it brings into view another aspect in human interaction, namely that attention to emotional states may not only be a by-product in the exchange of information but an important goal in itself. In other words, interlocutors do not only aim at converging their knowledge states, they also aim at feeling comfortable with each other. In Aston's terms such convergence of emotional states is called 'comity' (1988, 1993). To the extent that classroom interaction is orchestrated by the teacher (i.e. very much), the comity strategies (indirectness) are also largely in the hands of this participant. Additionally, for social-psychological reasons, the teacher as the 'one' in a 'one-vs.-many' situation may also have a stronger interest in feeling comfortable than the students. Therefore the indirect teacher requests, the use of inclusive *we* can be construed as expressions of teachers' attempts at attaining comity.

It is important to point out that introducing comity as a legitimate discourse goal does not deny the potentially conflictual nature of interaction. Specifically with classroom interaction this would be a difficult position to uphold as there are plenty of subtle (and not so subtle) ways in which students challenge their being cast in the co-operative role. But on the whole the classrooms recorded for this

project were co-operative environments where the students collaborated (with varying degrees of enthusiasm) in working towards the curricular goals.

There are instances where the comity aspect moves to the foreground, if only few. I suspect that the presence of a microphone might have put a limit to the amount of comity-oriented talk that took place: the teachers naturally want to be seen to conduct an effective lesson, the students do not want outsiders to hear their 'private talk' about troubles with exams, grades, other teachers, other students and similar matters. In the following example it is the students who initiate a sequence of comity oriented talk. The topic of this phase of the lesson is the goals of non-profit-oriented organizations as opposed to the goals of businesses. The teacher has asked 'what is the aim of the school?' and the students have offered answers like *bildung*, education, not earning money. Then one student mentions the so-called "laptopklasse". In this project new to the school each student in a class is provided with his or her own notebook computers in order to create the 'paperless classroom' and exploit the possibilities of electronic communication in school education. The bilingual stream where the data for the present research project were recorded was therefore in direct competition with the "laptopklasse" for the position of most prestigious school project.

Extract 7.19 Business studies, grade 11

- T what is the aim of the school?
((...))
- Sm1 and.. ssupporting the... laptop klasse
- Sm2 making pressekonferenzen
- Sm1 yes
- T is the aim of of our school (smiling)
- Sm3 whereas 3HTA ((engl.pronunciation; the student's own class)) is cooking...
and serving ((the „serving“ would have taken place in the context of their
"hotel and restaurant service"-lesson))
- T ((to researcher)) we had a... visit yesterday from mrs gehrer ((minister of
education))...
- Sm1 yes
- T aand they.. ah the laptop klasse was observed and this class had to serve.
and therefore...
- Sm1 therefore we hate them
((several Ss laugh and applaud)
- T no, therefore we continue our.. sheets now.

I submit that this is a rare instance of "troubles-telling" (Aston 1988, Jefferson and Lee 1981) in official classroom discourse, and it is not unlikely that without the

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presence of the microphone the teacher would have taken this student need more into account.

When selecting a subset of the data for quantitative analysis it was presupposed that student age might be a significant factor influencing the realization of classroom requests. The underlying expectation was that the younger students might be addressed in more direct ways than the older ones because of their even less powerful social position. This is born out by the data to a certain degree in that the few unmodified teacher commands for action which do occur are indeed concentrated in (but are not exclusive to) the grade 6 and 7 data. On the level of information requests, however, it is the lower-level students who receive the more indirect requests: they are invited to 'guess' or are asked by means of the phrase *can you tell me...*, and thus to construe triadic dialogue as a 'guessing game'. That is to say the teachers seem prepared to protect younger students' face wants with regard to knowledge and older students' face wants with regard to performing concrete actions. On the part of the students, age of course correlates with language competence, and one might have expected older students to use less German in their requests or to be more linguistically active generally. However, factors other than language competence (peer pressure, resistance against school rules for language use etc.) seem to be more powerful here.

Alongside students' language competence the language competence of the teachers is also an issue when interpreting the findings from the CLIL classroom data. In Table 7.3 I presented an overview over the main indirectness strategies available for formulating requests in English. Contrasting this with the patterns actually used repeatedly in the CLIL classrooms (Table 7.9 below) the array of choices which are actually realized comes across as limited. We find a prevalence of modal verbs, especially those expressing ability and possibility, often in the interrogative and frequently combined with the strategy of shifting the deictic center away from the speaker (mostly the teacher) towards the hearer (*you*) or towards an inclusive *we*.

Table 7.9 Indirectness strategies recurring in the CLIL data

Strategy	Example from CLIL data
Question instead of statement	can you pass this round?
Past tense/conditional	could/would you pass this round?
Politeness marker	please
Downtoners, minimizers	just, quite, quickly, little
Hedges	kind of, sort of

It is tempting to conclude that this relatively limited repertoire is a consequence of the teachers' limited competence in the second language. It must be pointed out, however, that full taxonomies like the one presented in Table 7.3 are based on a much larger number of social situations where requests were uttered and not just classroom interaction, as well as on dozens or even hundreds of speakers (as opposed to ten in the present study). Also, a quantification, which would highlight the strategies that are used most frequently, might well make Table 7.3 look a good deal more like Table 7.9. Moreover, whether one should apply a native-speaker yardstick to the language behavior of these CLIL teachers is debatable in itself, not least in the light of the ongoing discussion regarding the use of English as an International Lingua Franca (Firth 1996, Seidlhofer 2002 among others). Yet it would still be interesting to make the comparison if only to find, as I suspect, that most of these highly competent teachers are close to the classroom language of some of their native speaker colleagues. There is room for further research in this direction.

There is no denying that the differences in second language competence among the teachers involved do show in the realization of classroom requests. The size of individual repertoires differs: it is largest in the one native English speaking teacher and smallest among those teachers whose personal profile contains no 'formal EFL qualification' and no 'extended stays in English-speaking countries'. The latter use fewer modal verbs, presumably because they do not feel at home in using them spontaneously in interaction. Instead they use 'imperative + *please*' (stop it please; continue please) more often, and the modal elements in their requests appear highly formulaic '*would you like to V*' (would you like to read, would you like to do it please, would you like to continue). This is not to say that the other teachers' repertoires are not also in a sense limited (see Table 7.9). After all it stands to reason that language users (native and non-native) in general have certain idiolectal preferences in their modes of expression (e.g. Pawley and Syder 1983), and the fact that each teacher uses a 'personal' subset of preferred request realization strategies ties in with that. These idiolectal constraints (cf. Rintell and Mitchell 1989, 255) interact in subtle ways with the dynamics of any specific teacher-learner constellation and how it is interpreted by the participants.

A rough quantitative check of the transcripts of the upper-level lessons (seven different teachers) showed that it is indeed possible to discern typical clusters of linguistic choices favored by individual teachers, which may actually indicate individual interactional styles. In other words: different teachers have their favorite linguistic patterns, maybe because they interpret the social constellation within the classroom in subtly different ways. In order to follow up this particular question in any depth, it would of course be necessary to make systematic comparisons with lessons conducted by these same teachers in German, in order to begin to untangle the web of interference between the several factors which might be in-

volved: 'personal style', 'L1 cultural style', 'L2 persona' and 'degree of language proficiency'. The following observations will illustrate this.

The one teacher who is also a native speaker of American English consistently uses less heavily modified requests than her native Austrian colleagues. Rather than jumping to the conclusion that this person is 'less polite' or 'more direct', it might be more to the point to conclude that this difference reflects a different cultural pattern with regard to how the teacher constructs her relationship with the students. It has been pointed out to me that the North American cultural script of the student-teacher relationship is one of collegiality, which would entail a less distanced relationship than that written into the Austrian cultural script and would thus require less discourse modification.⁴

Conversely, the Austrian teachers appear impelled to use a considerable amount of request modification and indirectness in their requests for action. In a comparison with CLIL classroom data from Finland this also turned out to be clearly different from the practices of Finnish CLIL teachers. This inclination towards relatively strong indirectness (by classroom standards) may point to two things which are somewhat contradictory but not mutually exclusive. On the one hand, the degree of indirectness may be due to the fact that the Austrian teachers see themselves as relatively distant from their (upper-secondary) students and construct this distance through linguistic strategies. On the other hand, it might be the case that these teachers use linguistic behavior reflecting distance to a greater degree when they are speaking English rather than German, because this is the kind of L2 behavior they are accustomed to. In other words I am speculating that the teachers who are second-language speakers of English may have developed an L2-persona which reflects their contexts of acquisition (stays abroad among socially distant non-familiars: the reference culture being predominantly UK) rather than their present context of use (in the CLIL classroom). These too would be questions that are worth following up in further research.

There have been several points in the presentation of the findings and in the discussion which indicate that CLIL classrooms cannot be seen as 'L2-islands' but are deeply embedded in the Austrian educational context. CLIL lessons are part of the L1 matrix culture; and Austrian educational culture, its pedagogic traditions and pragmatic conventions, underlies rather than only influences how interpersonal aspects of communication are handled. General aspects and implications of this will be discussed in chapter 9. Here I would like to briefly consider the ways in which pedagogical preferences deeply ingrained in Austrian content-subject teaching inform the ways in which requests are handled in the classrooms and contribute to the language environment in which Austrian CLIL students move. In more concrete terms, when I mention pedagogical preferences, I mean the preference for specific activity types over others. For reasons discussed elsewhere (chapters 2 and 3) the lessons recorded for this data corpus are dominated by teacher-

led, whole class interaction of the Initiation-Response-Feedback type (triadic dialogue). The next most common activity type is student monologue in the shape of student presentations. Pair work and group work also happen but are usually text-based rather than hands-on. This has significant, not least quantitative, consequences on the directive behavior of the students. In co-operation with Tarja Nikula I have been able to show that no matter what the circumstances, the Finnish students are much more active in making requests in both the instructional and regulative registers. The Finnish science lessons which were contrasted with the Austrian lessons are almost exclusively based on students doing practical work with only one talk-and-chalk lesson in the sample. The ratio is exactly the opposite in the science lessons which are part of the Austrian sample. We concluded (Dalton-Puffer and Nikula 2006) that pair and group work situations obviously require students to perform a more varied set of linguistic actions than whole-class interaction. This replicates the results of – in the meantime – numerous studies in second language learning showing that task-based instruction leads to more and more varied linguistic student activity (e.g. Nunan 1991). With regard to directives this means, for instance, that peer directives (some even in the instructional register) are a regular feature of the interaction in Finnish classrooms whereas they are rare in the Austrian data.

Another feature in which the Finnish classrooms were clearly different from the present data is the readiness of the Finnish students to conduct pair and groupwork in the target language whereas the Austrian students invariably switched to the L1 in such situations and even used it for many directives uttered in whole-class situations. A more extended discussion of these issues including the different role of English in the two respective societies is found in Dalton-Puffer and Nikula (2006).

An important result of the questions examined in this chapter is the clarity in which directive behavior in the CLIL classrooms points towards the relevance of the distinction between classroom registers, namely instructional and regulative as introduced in chapter 2. With regard to directives in particular, the regulative register provides a much richer environment than the instructional one, and one which is possibly nearer to the conditions of non-educational contexts than the instructional register. In the interest of foreign language development it can therefore be said without reservation that the regulative register should be conducted in the target language.

With regard to the characterization of the classroom registers themselves, the findings on directives suggest that an inner differentiation of the regulative register might be in order. I would like to suggest that the regulative register has two aspects: firstly, there are those utterances which have to do immediately with the pedagogical activity connected to the topic of the lesson. In other words, these would be teacher requests which are directed to the core goals of the lesson and which, in effect, orchestrate the instructional discourse as such, like instructions

for tasks, or requests for starting or stopping a certain activity. Secondly, there are those utterances which refer to the more general personal or physical working conditions, personal needs and well-being of the participants as well as the administrative requirements of the institution. Here the issue of the embeddedness of CLIL teaching in an L1 matrix culture arises once more, since a clear indicator for the relevance of the differentiation of 'regulative 1' and 'regulative 2' is the occurrence of switches to L1: their incidence is highest where the school as an institution rather than the lesson as an educational event represents the focus of the interaction. When the talk is about disciplinary matters or administrative affairs (handing out textbooks for the year) even teachers who are otherwise highly consistent and highly proficient in their use of the target language start switching to German. For most learners the rate of L1 use in such situations is 100%. If one is convinced of the fact that language is a context-embedded event, there is little to argue with here other than that the perception of what it feels 'natural' to talk about in English seems to vary for different participants.

In summary it can be said that the experience of directives that CLIL lessons provide the students with is predominantly passive. What little active experience they have with making requests is almost invariably with requests for information, and this is a type of request object which, as I have argued, has an arguably different status in educational contexts than in other social situations. With regard to directives in the students' input I have shown them to be quite varied in form, even though direct requests for information dominate. In other words, one could perhaps imagine a lesson with *only* information questions coming from the teacher but one could certainly not imagine one entirely without. The extent of teacher requests for things other than information is thus clearly dependent on what kinds of activity were chosen for a particular lesson and in how far this necessitates directing the mental and physical actions of the students.

That the performance of classroom directives appears to be guided by pragmatic principles different from those applying to non-institutional everyday encounters has interesting implications for students' learning of pragmatic competence. There is little doubt that all participants are fully aware of the social role they play in this speech event and that they make and interpret utterances appropriately and according to their cultural knowledge (cf. Cook 2001, 84). For instance, whereas some of the teachers' directives in the instructional register took the form of directives for action, this never happens in student directives in instructional phases. This shows quite strikingly that even in those classrooms where students are very talkative and where there is a relaxed atmosphere, students signal great awareness of the limits of their role. What needs to be investigated in further research is the degree to which the CLIL experience enables CLIL students to exercise their pragmatic skills in other situations.

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CHAPTER 8

Conversationalists in the classroom?

Repair, feedback and correction

8.1 Introduction

One of the most powerful arguments for CLIL instruction is that it provides learners with an opportunity to use the foreign language free of the pressure for linguistic correctness which is commonly assumed to be present in foreign language classrooms. This lack of pressure is taken to foster a motivating, low-anxiety communicative atmosphere, thus emulating a non-instructional learning environment. It should be noted that this position stands in an interesting tension with the underlying assumption in education – founded in learning theories of several persuasions – that feedback, which subsumes correction, will enable learners to alter their knowledge structures in constructive and lasting ways. Since CLIL classrooms are institutional educational contexts, we may expect the two positions to interact in interesting ways and the present chapter aims at finding out how issues of feedback, repair, error and correction are actually dealt with in the CLIL classrooms under investigation.

In principle, the effects of feedback and correction in the learning process can be studied from an inter-personal as well as an intra-personal perspective. The latter, that is gauging the role of error in an individual's language development, has been dominant in the study of error treatment in language acquisition, a field which has produced a large amount of research literature. For full-scale reviews of the field see, for instance, Allwright and Bailey 1991, Chaudron 1988, James 1998.

In the SLA field the study of error has mostly been theoretically anchored in Long's interaction hypothesis (Long 1983ab, 1996; cf. chapter 9). Over the years, a number of strategies for negotiating understanding in interaction and hence obtaining comprehensible input have been proposed (e.g. Long and Porter 1985). Furthermore, their frequency and occurrence in different types of interactions (among non-natives, between natives and non-natives) and activity types have been investigated. Being highly eclectic in terms of which research results to report, I would like to mention Gass and Varonis (1984), who showed that familiar-

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ity between interlocutors increases the amount of conversational restructuring, while total unfamiliarity reduces it. Results pointing in the same direction were obtained by Foster (1998) who showed that conversational dyads do more restructuring than small groups. This tendency is presumably grounded in the fact that the social risk (facethreat) perceived by the interlocutors is lower in small units and among familiars.

Among the strategies through which interlocutors are said to achieve conversational restructuring and consequently more comprehensible input are the following: *comprehension checks, clarification requests, confirmation checks, verifications of meaning, definition requests, expressions of lexical uncertainty*. From the outset, studies using these categories have encountered problems categorizing turns at talk according to these strategies, and critics have remarked that it is actually empirically impossible to differentiate between these categories (Aston 1986, Markee 2000, Foster and Ohta 2002).

This latter problem is less acute with a theoretically-related approach which has developed more recently in connection with a renewed interest in ‘focus on form’ in second language learning (e.g. Williams 1995, 1999, Lyster and Ranta 1997, Lyster, Lightbown and Spada 1999, Ellis and Laporte 1997, Doughty and Williams 1998, Ellis 2001). These more recent studies tend to concentrate on the role of the linguistically competent interlocutor (i.e. the teacher) rather than the learner and thus operate with a different subset of interactive categories, all subsumed under ‘corrective feedback’. The following categories, for instance, are used by Lyster and Ranta (1997, 189):

- *explicit correction*: teacher supplies correct form and clearly indicates that what the student has said was incorrect
- *recasts*: teacher reformulates all or part of what the student has said; it remains open whether something was wrong or not
- *elicitation*: teacher directly elicits a reformulation
- *metalinguistic clues*: teacher provides information related to well-formedness of the student utterance
- *clarification requests*: teacher uses phrases such as *pardon?*
- *repetition*: teacher repeats the ill-formed utterance using intonation to highlight the error

The results of Lyster and Ranta’s research on the relationship among error types, feedback types and immediate learner repair in French immersion indicate that while recasts represent the most frequent type of corrective feedback (55% of all cases), other types of feedback are more effective in evoking student activation and uptake of the repaired item (see also Lyster 1998). As there are not many studies

on repair in naturalistic classroom discourse, Lyster and Ranta's studies will be drawn on later in this chapter for comparisons with the Austrian CLIL data.

Despite the many useful insights generated by the research anchored in input-based theories of language acquisition, there are also certain blind spots. The major one, in my view, is that these studies tend to look at instances of repair in learning situations as something out of the ordinary. Errors or instances of repair are regarded as 'trouble spots' that intervene in an interaction which would otherwise be trouble-free. This view is made very clear by Gass and Varonis (1985) through the image of the "horizontal flow" of interaction into which trouble spots intervene 'vertically' as a kind of "push down sequence". From such a perspective it is only logical that examples of such trouble spots should be lifted from their context and inspected at leisure, an approach which ties in with the quantitative methodology normally employed by these studies. It has to be taken into account, however, that such exclusively quantitative procedures may lead to representations of reality which diverge considerably from the reality experienced by participants or even observers.

There may be an advantage to considering error and feedback in the larger interactive context while remaining agnostic as to which categories interlocutors orient to in their actions. This was already noted in the early 1980s, when Schwartz (1980) and Gaskill (1980) first used analytical instruments offered by Conversational Analysis to trace the behavior of native speakers and non-native speakers in interaction. These earliest studies on learner language showed that the interaction between language learners and native speakers largely follows the principles of 'ordinary conversation', namely a strong preference for self-repair, as is typical of an equal-power speech exchange system (Schwartz 1980, Gaskill 1980). Subsequently, the analysis was extended to learner language in classrooms (which are instances of an un-equal-power speech exchange system) and was considerably refined by Kasper (1986b), van Lier (1988) and McHoul (1990) and Markee (1994, 1995, 2000). Studying L1 classrooms, McHoul (1990) found that, as in informal conversation, self-repair is the preferred option (though not necessarily in combination with self-initiation). Kasper (1986b) examined feedback and repair in language centred and content centred phases of an EFL lesson and found that the structure of repair work is influenced by activity type: content centred phases are closer to informal conversation than language-centered phases, the main difference being that the latter show more other-repair. Moreover, Kasper identified "delegated repair" as typical of the language centred phases. Delegated repair is repair initiated by the teacher but completed by a learner other than the originator of the trouble source, a strategy type that is completely absent from everyday conversation. One of Van Lier's (1988) contributions was to show that the specific turn taking conditions prevailing in classrooms make it possible that certain types of

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other-repair are not taken to interrupt a speaker's turn (see section 8.2.1 for details). Recently, there has been a renewed interest in exploiting the possibilities of Conversation Analysis for the study of learner language and language learning and both Seedhouse (1997, 1999, 2004) and Markee (2000) have argued that the interaction observed in second language classrooms is actually conditioned by the need to fulfill contradictory requirements: firstly to serve learners as language learners and secondly to serve learners as conversationalists. In the one instance teachers have to provide feedback and focus on language points while, in the other instance, they should respect students' rights as conversationalists, including the fact that repair (especially other-repair) is an essentially dispreferred conversational activity. Markee summarizes the situation with a useful image:

[W]hereas repair (rather like cod-liver oil) may be acquisitionally good for you, it is nonetheless potentially face-threatening. (Markee 2000, 113)

The existence of this double-bind leads Markee to the conclusion that talk-in-interaction alone cannot be a sufficient condition for naturalistic L2 learning. I am inclined to agree with Markee's position and refer readers to the discussion in chapter nine. The present chapter will provide more groundwork for this discussion by examining how much and which kind of repair work is actually happening in the classrooms studied (for more specific research questions see section 8.2.3).

8.2 Conceptual framework

As indicated above, I believe the analysis of 'talk-in-interaction' as developed by Conversation Analysis with its sequential and context-embedded orientation to be well-suited to the study of CLIL classrooms. If CLIL is a good way to learn foreign languages because it focuses on subject-as-content rather than language-as-content and is therefore more similar to interactions which are not EFL classrooms, then one needs an approach which makes it possible to take this into account. That is to say, the analytical approach should preferably not be tailored to the study of second language learning. Among other things this also allows us a smooth integration of language and content repair, something which is indispensable if one is studying content-and-language-integrated learning. Furthermore, the sequential view of repair with its emergent character is preferable to the "student makes mistake, teacher corrects" stereotype because it expresses much better the fact that participants do have choices about how and whether they enact their interactional roles. It is for these reasons that concepts from Conversation Analysis have been given prominence in my analysis of feedback and correction in CLIL classrooms. This is not to say, however, that other approaches have not left their traces, espe-

cially those originating from the research on negotiation of meaning and error treatment in second language acquisition. This will be particularly evident in the discussion on repairables (section 8.2.2).

8.2.1 A sequential view of repair

Ultimately, all work on repair in Conversation Analysis makes reference to an article by Schegloff, Jefferson and Sacks (1977) in which they delineate the “systems of rules, which operate on particular sequential environments” (1977, 362, note 5) in order to deal with trouble in conversational interaction. What is to be understood by “trouble” will be discussed in the next section (8.2.2); here I only intend to sketch the basic ‘mechanics’ of the system. In principle there are three points in time when “trouble” can be dealt with: the same turn in which it occurs (T1), the turn after (T2) or the turn after that (T3). Apart from *when*, it is highly relevant *who* does the repairing: either the speaker of the trouble source herself (Self) or one of the interlocutors (Other). Furthermore, dealing with trouble consists of two elements or action steps: initiating the repair and carrying out the repair. From these three sets of variables Schegloff, Jefferson and Sacks construct their repair format for ordinary conversation. It is presented below in the schematic version provided by Van Lier (1988, 193).

Schema 8.1 Schema of full repair format

turn 1: trouble source – (initiation) – (repair)	SELF
turn 2: (initiation) – (repair)	OTHER
turn 3: (initiation) – (repair)	SELF

Despite the many possibilities of the schema, self-correction is strongly preferred by conversationalists (it can be arrived at by the alternative routes of self-initiation or other-initiation; Schegloff, Jefferson and Sacks 1977, 377). One of the few contexts where other-correction can be found with some frequency are interactions between adult and child, or adult and “the not-yet competent in some domain without respect to age” and Schegloff, Jefferson and Sacks point out in this connection that other-correction seems to be “one vehicle for socialization” (1977, 381).

After an initial emphasis on informal conversation, CA also turned to domains of institutional talk in medical, educational and administrative contexts (e.g. Drew and Heritage 1992). More recently, language learning contexts have also moved within the CA horizon (e.g. Firth 1996, Firth and Wagner 1997, Liddicoat 1997, Markee 1995 and 2000, Seedhouse 2004). An important distinguishing factor between different domains is whether the distribution of power between the

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interlocutors is considered to be equal or not. Institutional domains are prototypically non-equal speech exchange systems and, consequently, so are classrooms.

As pointed out above, I consider it an important advantage of using the CA repair schema as an analytic tool in that it expresses the participants' space for variation in their behavior, leaving them an element of choice. Working through all the possibilities of the schema, van Lier (1988, 194) established a list of six repair trajectories (T1-T6). Two of these are subdivided so that there are in fact eight. For reasons which I will argue below, I have added a category for cases where obvious errors are not repaired at all (T0). Cases of delayed repair, which are found in classrooms, also have to be accounted for, so that a further type, called Trajectory 7, has been introduced for the purposes of this study. This makes for a total of ten different sequential repair trajectories according to which trouble can be dealt with in classroom interaction. The ten types are listed in Table 8.2 and are subsequently illustrated with extracts from the CLIL data.

Table 8.2 Repair trajectories used for data analysis

T0	non-repair
T1	same-turn self-repair
T2	transition space self-repair
T3	third-turn self-repair
T4a	other-initiation & self repair in turn 1
T4b	other-initiation in turn 2/self-repair in turn 3
T5a	other-repair in turn 1
T5b	other-repair in turn 2 after trouble
T6	self-initiation other-repair
T7	meta-talk about mistakes

T0 – non-repair

T0 was added as a trajectory type in order to be able to capture those instances where obvious repairables, especially errors, are passed over by the participants. Once one has a working definition of how to recognize a 'repairable' which does not get repaired (see next section), then using such a zero category is perfectly within the logic of CA because of its strong interest in what interlocutors prefer to refuse *explicit treatment* in interaction (preference organisation).

Extract 8.1 Business Studies, grade 11 (student presentation)

- 1 S Okay ((clears throat))... good morning, ladies and gentlemen, today we would like to present our.. ah business administration... **pro**([əu])**ject**. ahm at first i would like to introduce.. **myself** aand my **colléagues**: this is Babsi and Theresa and my name is Denise. ahm we **div**(/w/)**ided** our topic into four parts.... ahm.. our first iis.. a (dissertation) at the beginning,.. ahm.. then **the secondly** is.. ahm the legal possibilities, then we deal w-with (**wis**) the meas(**f**)ures we would.. take, and finally the guidi- ah the guideline for a.. business letter. okay, well, let's start...

Extract 8.2 Biology, grade 6

- 1 T so you associate dirt with bacteria or\ what else. another negative aspect.
 2 Sf ahm without **bacterias** we couldn't exist because in our **intestines** [**intestain**] there are lot
 3 T but that's useful ...negative aspects.

T1 – same-turn self-repair

Same-turn self-repair refers to those instances where speakers immediately self-correct in the course of an ongoing utterance. These turns are typically marked by hesitations, pauses, word replacement, rephrasing, rising intonation (cf. Schegloff *et al.* 1977). I find, however, that it is not really possible to distinguish this repair type from the phenomena caused by the on-line processing conditions under which spontaneous speech is produced. The question is even whether they are not one and the same thing, although this is an issue which to my knowledge has not been raised in the conversation-analytic literature. Here the 'ideal type' of spoken utterances seems to orient along the norms of written text production rather than more psycholinguistic models of speaking (e.g. Levelt 1989) despite affirmations about the normality and ubiquitousness of repair. In this connection further questions will arise in section 8.3.4 below where the cross-tabulation of sequence types and error types is discussed.

Extracts 8.3 a-d Immediate self-repair

- a. T it was a wise.. **desh-** **decision** and they need the food in the evening, so... ((phonological))
 b. S they last **seventy seventeen** days. ((lexical))
 c. S ah was it so that.. that that the women ahm... **didn't ah nein ah couldn't** aah be aah actress?... so.. ((syntactic))
 d. T so i do need your attention okay, you may open up the windows ... open up the windows but i do need **your you** to be quiet for a minute okay! ((syntactic))

T2 – transition-space self-repair

T2 or transition-space self-repair happens when conversation participants let the turn transition moment pass in order to allow the current speaker to continue if he or she is just uttering a turn with a trouble source in it, to give the speaker a chance to self-repair (Sacks *et al.* 1974, van Lier 1988, 196). In contrast to casual conversation, turn transition in the classroom is not really negotiable but defined by classroom conventions and orchestrated by the teacher. Therefore, intra-turn pauses and hesitations do not pose the same threat to floor maintenance as in casual conversation. It actually seems that the transition relevance point is suspended, and even intra-turn other-repair is possible (see type T5a below). Van Lier's (1988) observation that transition-space self-repair does not seem to occur in classrooms has been corroborated by the present data. No examples for T2 have been found and the sequence type T2 will therefore not be considered any further.

T3 – third-turn self-repair

T3 or third-turn self-repair is said to occur when the speaker returns to his or her previous turn in order to repair it, because the intervening turn by another participant has implicitly highlighted some trouble in that previous turn. Both van Lier (1988) and McHoul (1990) make the observation that this type also appears to be absent from classroom data, "for essentially the similar reasons to those proposed for the absence of trajectory 2" (1988, 196). These reasons are the special turn taking conditions which prevail in classrooms: since the teacher normally gives immediate feedback on whether an utterance was appropriate or not, and since the floor does not automatically return to the same student speaker, there is little opportunity for the student to self-repair in the third turn. The absence of T3, however, is not complete and, significantly, it is teachers, as the participants with greater turn taking rights, who realize them. This usually happens as a reaction to non-verbal signals by the students and the teacher self-repairs by repeating or clarifying a previous statement or explanation. However, this trajectory is frequently terminated at the stage of initiation because the students signal that all is clear anyway. Whether this is factually true cannot be determined but there is room for doubt in some cases.

Extract 8.4 Tourism management, grade 11

- | | | |
|---|----|---|
| 1 | T | for one euro i have to pay for personnel.. i earn two.. euro. |
| 2 | S | hm |
| 3 | T | is that clear? |
| 4 | Ss | Yees. mhm |

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T4 – other-initiation self-repair

Trajectory 4, other-initiated self-repair, is the most common kind of interactive repair in casual conversation. In the classroom, it is typically embodied in those occasions where the teacher gets the students to self-repair rather than doing the repair for them. Because of the special turn taking conditions prevailing in the classroom, it is possible that the initiation is considered *not* to break the turn of the speaker, which it would in casual conversation, so that we can distinguish two subtypes of this trajectory: type 4a, where the student's turn is nominally not interrupted, and type 4b where it is.

T4a – other-initiation and self-repair in turn 1

The examples illustrate the common phenomenon of “cluing” (van Lier 1988), where the teacher tries to help the student to complete his or her turn successfully. On closer inspection this repair trajectory has direct connections to the process of knowledge construction as discussed in chapter 4.¹

Extract 8.5

- | | | |
|---|----|--|
| 1 | Sf | the dead plants and ('xxs) into minerals |
| 2 | T | into minerals and the minerals are then? |
| 3 | Sf | they ah ...the |
| 4 | T | why are they useful |
| 5 | Sf | the plants need them for photosynthesis |

Extract 8.6

- | | | |
|---|----|--|
| 1 | T | mhm/ what's that kind of nutrition that way of nutrition called? |
| 2 | Sf | ahm |
| 3 | T | if they get something in exchange it's to the advantage of both organisms
...you just wanted to say it.. before |
| 4 | Sf | (XXX) |
| 5 | T | ja ... they are symbionts. okay |

T4b – other-initiation in turn 2 – self-repair in turn 3

In trajectory 4b, on the other hand, the repair initiation indicating that some trouble has occurred is taken to 'break' the first speaker's turn. This may concern problems of hearing (extract 8.7) or of understanding (extract 8.8) and basically consists in a request for a rerun or clarification.

Extract 8.7

- | | | |
|---|----|--|
| 1 | Sf | °ah we need them for medicine.° |
| 2 | T | Sorry? |
| 3 | Sf | for medicine |
| 4 | T | they can be useful for medicine. in which way. |

Extract 8.8

- | | | |
|---|----|--|
| 1 | Sm | cleaned rooms divided by... cleaning woman is equal to- |
| 2 | T | by by what? |
| 3 | Sf | cha(/æ/)mbermaid |
| 4 | Sm | cha(/æ/)mbermaid |
| 5 | T | cha(/æ/)mb- yeah |
| 6 | Sm | i'm terribly sorry for my.. bad vocab.. cha(/æ/)mbermaid |
| 7 | T | cha (/ei/) mbermaid, cleaned rooms divided by chambermaid, okay? |

This kind of repair sequence is very common also in casual conversation, but the didactic character of these sequences emerges in the teacher's final recast of the student answer in a complete phrase.

T5 – other-repair

We now move to those cases where 'other', characteristically the teacher, does the repair instead of the originator of the trouble source. This trajectory type is dispreferred in casual conversation because of its face-threatening character and is conventionally connected with educational contexts, where face threat seems to be suspended to a certain degree. As with trajectory 4, there are two subtypes, depending on whether the speaker's turn is considered to be interrupted by the repair or not.

T5a – other-repair in turn 1

Trajectory 5a is informally called "helping" by van Lier (1988, 199). The speaker of the trouble utterance is not nominally interrupted, but "other" supplies a correct version of a part of his or her utterance while it is being completed.

Extract 8.9

- | | | |
|---|----|---|
| 1 | Sf | there are bacteria which digest indigestator material |
| 2 | T | indigestible materials/ ja/ |
| 3 | Sf | and in exchange with (XXX) |

Extract 8.10

- | | | |
|---|----|--|
| 1 | S1 | daughters could not do this because they were not permitted to inh[ɜ:]. inh[ɜ:]rit |
| 2 | T | inh[e]rit |
| 3 | S1 | property or money |

As can be seen in these examples, the repaired item may not even be taken up and repeated by the student in order to use it in her utterance, but it is as if the teacher is taken to speak 'with the student's voice' upon which the student simply carries on with the next element in order to complete the utterance.

T5b – other-repair in turn 2 after trouble

With subtype 5b the completion of the repair also occurs in next-turn position but the speaker is considered to have lost the floor and the correction is made by 'other' in the ensuing turn, which is turn 2 after the trouble source. When this sequence is mapped onto the classroom-specific Triadic Dialogue structure, it can be observed that the repair occurs in the feedback/evaluation slot of this 3-step structure, so that in classroom interaction "repairing is woven into the texture of exchange structuring" (van Lier 1988, 200).

Extract 8.11

- | | | |
|---|---|---|
| 1 | S | the most bacteria ah live in cabbage and ahm decompose it |
| 2 | T | garbage |
| 3 | S | °garbage° |

Extract 8.12

- | | | |
|---|----|---|
| I | T | ... and what happened to them? |
| R | Sm | they were dissolusched |
| F | T | dissolved. they were dissolved... so no monasteries anymore. monasteries. |

T6 – self-initiation of other-repair

Trajectory 6 refers to cases where a speaker initiates repair by inviting another participant or participants to complete it. In casual conversation this can be exemplified by cases of "whaddayacallit", frequently indicating lexical or memory gaps. The conversation analytic literature has relatively little to say about this type, but the second language classroom with speakers who are not fully competent in the language is an environment where this trajectory can be expected to occur quite

often (cf. van Lier 1988, 201), as learners appeal for help while assembling their contributions to the classroom discourse. Often these appeals are phrased in the L1 (extract 8.13 and 8.14; cf. Kasper 1986b) or the doubtful item is offered with a rising intonation to signal that this is only a try (called “try-marking” by van Lier 1988; extract 8.15)

Extracts 8.13

- 1 Sf und was is "a galley"?
//and what is a galley"?//
2 T (xxx) ah, ah, Galeere.

Extract 8.14

- 1 Sf frau professor heißt das kingdom oder king dom
//frau professor do you say 'kingdom or 'king 'dom//
2 T 'kingdom
3 S 'kingdom

Extract 8.15

- 1 S his Mum's name is Fiona and she is a hippie, she's vegetarian and she wanted to suicide?
2 T she wanted to commit suicide? to kill herself.
3 S yeah, she tried... um.

T7 – delayed repair and meta-talk

Trajectory 7, my second addition to Van Lier's inventory, is intended for cases where trouble source and repair are not temporally adjacent. Strictly speaking T7 is therefore not a trajectory. However, in classrooms a category is needed to provide for instances where the interaction returns to previous stretches of talk after their completion. The content of these deferred episodes may be delayed repair and/or metalinguistic talk. Without this category a prominent feature of many (language) classrooms would remain outside the scope of the analysis, and it is now an empirical question how significant a role it plays in CLIL classrooms. Typically such metalinguistic talk is carried out as feedback on student presentations (extract 8.16) hence the lack of temporal adjacency of error and repair.

Extract 8.16 Business studies, grade 10. Teacher's comment on a student presentation

- 1 T might have been.. a little over the top. but.. it's still it's still good, it was a good example. but ahm.. beyond that your presentation.. was good, theahm... i appreciated that you said.. "explained to you".. everybody likes to say things like "i'd like to explain you" or "i'd like present you" etcetera (??)... explain something to someone". aahm good vocabulary, using words like *insist* and *demand* instead of just *ask*.... (clears throat) aaahm.... is there anything else?

After elaborating the conversation analytic repair schema into a number of specific trajectories, the term "trouble source" (cf. Schema 8.1) also requires some elaboration.

8.2.2 Categories of repairables

In their initial paper Schegloff, Jefferson and Sacks already pointed out that the relationship between errors and correction is not straightforward in two respects: the occurrence of error is not an inevitable precondition to the occurrence of subsequent repair, nor is repair a necessary consequence of hearable error (1977, 363). Within the strictly emic logic of core Conversation Analysis this non-correspondence does not constitute a problem: given CA's premise about the sequential and emergent character of interaction, trouble sources become trouble sources only through the occurrence of actual repair work. If something is repaired, then it was a repairable, and it is the participants who co-decide what is going to be treated as such. But classrooms as non-symmetrical interaction systems are different from prototypical casual conversation in this respect: not all participants have equal rights in deciding what counts as repairable and what does not. Furthermore, the interactants in the classroom are unequal with regard to knowledge about what is legitimate common knowledge and subject content, and consequently the power of deciding on what counts as repairable in a given stretch of the interaction is unequally distributed. Therefore, if most of the repair is carried out by the teacher, this is not only because of his/her prior right to the floor but also because of teachers' prerogative to decide where intersubjectivity needs to be saved and where it does not. The consequence for our analysis is to treat as an error what is treated as such by the teacher. In point of fact this policy is actually adhered to in many studies of classroom correction (cf. Chaudron 1988, 149; but cf. Edmondson 1986). However, it does not solve the problem for the analyst entirely. As participants in the interaction, teachers may (consciously and subconsciously) decide to ignore some repairables and repair others, leaving the analyst with the question of what to do about those instances which remain unrepaired but still are instances of

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“hearable error” or “apparent trouble” (Schegloff *et al.* 1977, 363). In principle this is also of interest to CA proper because of its concern with contrasting that which is treated explicitly in conversation with that which is avoided (preference organisation, cf. Drew 1997), but the built-in circularity of the definition is unhelpful both theoretically and methodologically.

Therefore what counts as a repairable in the data analysis has to be based on concepts drawn from other research contexts with a focus on error and correction, especially research into language learning.² In the following I will outline the rational basis of my decisions during data analysis. A coherent conception of the kinds of errors found in language classrooms is developed by van Lier, who distinguishes three main kinds of errors (van Lier 1988, 182–3):

- error of fact (stating that which is not the case)
- error of logic (defects of logic, argumentation, appraisals of cause and effect)
- error of language (syntactic, phonological, stylistic, discursal)

Including factual or content errors goes beyond what is usually studied as error in language learning studies (though they are often tacitly included into SLA studies, cf. Kasper 1986a). Why such errors should indeed be included in an analysis of content-and-language-integrated classrooms hardly needs an elaborate justification. Interestingly, the “error of logic” category does not occur in the present data.³ Language errors are the most frequent type in classrooms of L2 speakers, while being the least frequent in interactions between competent L1 speakers.

As far as specifically linguistic errors are concerned, we find that the SLA literature on errors is fairly consistent in the kinds of categories it employs for categorizing phenomena in learner language that deviate from a native speaker norm (cf. Allwright and Bailey 1991, 86). The categories phonological, lexical, and syntactic error form the core in this respect (e.g. van Lier 1988; Lyster 1998, Lyster and Ranta 1997). In some studies, subcategories of these are employed (cf. Lyster 1998, Lyster and Ranta 1997), but the present data analysis did not aim at further subdivisions of the phonological, lexical and morphosyntactic categories. Processing errors were introduced as a further category in order to capture the irregularities and imperfections typical of spoken language produced under on-line conditions. Processing errors are independent of a participant’s status as L1 or L2 speaker. Van Lier also points out that errors in learner language differ from errors found in the interaction of competent speakers not in kind but in distribution and frequency.

In some error taxonomies discourse errors are also mentioned. However, it often remains unclear what kind of phenomenon is actually meant to be covered by this category (e.g. Allwright and Bailey 1991, van Lier 1988). Nystrom Johnson (1983) gives an explicit definition of “discourse errors” as incomplete sentences or overly complex sentences (p. 174) but this is an understanding which appears

somewhat idiosyncratic to me. In discussions with colleagues some other interpretations of this category have been suggested: some would subsume here instances of language use which are not appropriate to the discourse of the subject (Widdowson, personal communication). This would essentially refer to language use which is not appropriate on the formal-informal continuum or in terms of register. Such instances have also been classed as “stylistic” errors, this being a separate category suggested by van Lier (1988). The category “stylistic error”, however, was not included in the analysis because it did not appear prominent on initial inspection of the data. Close analysis did not alter this impression and the few instances which may be classed as stylistic could also be accommodated under the umbrella of “lexical error”. Returning to discourse errors, these could be defined as errors that affect the coherence or cohesion of the unfolding discourse, for example follow-on turns which elaborate a topic that was never properly introduced. This latter definition is the one which has been adopted for the purposes of this study (see below).

Another type of error, which is not linguistic in the same sense as morphosyntactic or lexical errors are, is what Lyster (1998), in his study of Canadian early immersion classrooms, calls “unsolicited use of L1”. Unlike all other categories, this one has the advantage of possessing a fairly straightforward criterion without complex implications regarding norms and standards: either something is L1 or L2. In contexts where exclusive use of the L2 is regarded as the norm, such instances can be classed as errors proper (Lyster 1998). However, instances of L1 use may also be regarded as code switching, a natural language behavior in bilingual contexts. This is the line I have followed in the present study so that instances of L1 use may appear under other rubrics (cf. example 8.17 where it has been classed in the category ‘vocabulary’) but are not regarded as errors *qua* being L1 use.

Extract 8.17 Code switching – lexical error

- | | | |
|---|-----|--|
| 1 | Sf1 | ahm there were many ... ah krankheiten ah |
| 2 | T | mhm disease |
| 3 | Sf1 | disease which ah bacterias ahm ...übertragen? |
| 4 | T | cause |
| 5 | Sf1 | cause |
| 6 | T | ya/ bacteria cause a number of diseases ...can you tell me a few. just examples. |

In sum my working definition of ‘error’ basically follows Allwright and Bailey’s (1991) and is thus loosely conceived as anything which is a deviation from a (native speaker) norm as well as any other behavior signaled by the teacher as needing improvement. The terms *repairable* and *error* are basically used interchangeably in

the present chapter. Occasionally, the CA term *trouble source* is also used. Generally in studies on error correction one notices avoidance of these emotionally loaded terms, especially in combination, and researchers prefer to talk about error treatment, feedback on error, corrective feedback, the latter two at least suggesting a more inter-active two-way and 'equal' relationship between teacher and student (cf. Lyster, Lightbown and Spada 1999).

Table 8.3 presents a summary and brief characterization of the categories of repairables which have been used in the analysis of the present data.

Table 8.3 Categories of repairables in the analysis

Category name	Code	Description
Grammar	gra	morphosyntax: morphological and syntactic errors
Vocabulary	voc	lexical errors: wrong denotation, idioms, technical terms (the latter often difficult to distinguish from factual errors) wrong stylistic choice
Pronunciation	pron	phonological errors: wrong word stress and major phonemic substitutions; mispronunciations which could impede understanding; allophonic substitutions stemming from "Austrian accent" were not considered
Discourse	dis	discourse errors: instances which impede the smooth flow of the unfolding discourse (e.g. unwarranted topic shift); also included: some instances of turn taking problems.
Factual	fac	factual errors: e.g. wrong date or figures; in other cases not always easy to distinguish from lexical errors
Channel	cha	channel trouble: conditions of hearing and speaking (too noisy, too soft)
Processing	proc	processing errors: incomplete sentences, construction changes, reformulations as characteristic of spontaneous spoken language

8.2.3 Data, methods, research questions

The present chapter is concerned with examining how conversational trouble (some of which is error in the narrow sense) is dealt with in the CLIL classrooms. This is a somewhat wider perspective than focusing on the "elimination of undesired behavior" or "uptake" (cf. Lyster and Ranta 1997; Chaudron 1988) because the chapter deals with trouble that is attended to by the participants, but also trouble or "hearable error" which is not. Errors made by students are considered, but so are those made by teachers. Importantly, the chapter goes beyond looking only

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at linguistic errors and also considers factual or content errors. More specifically the following research questions are pursued in the analysis:

- How much repair is there?
- What is repaired?
- How is the repair carried out and by whom?

A number of further questions follow from these three basic ones:

- Are some error types given preferred treatment, or preferably treated in a certain way?
- Are there preferences for repairing one kind of linguistic error over another?
- How are repair initiations realized linguistically?
- What considerations of face seem to play a role in carrying out repair on the part of the students and on the part of the teachers?

The research questions are pursued using a combination of quantitative and qualitative analytic strategies. Obtaining quantitative findings was considered particularly important in order to obtain some comparability with recent quantitatively oriented studies on error treatment in immersion education (e.g. Lyster 1998). For this purpose a sub-set of the data, one lesson per participating teacher, was coded for trajectory and repairable types. It was not possible to obtain multiple ratings from different raters, but cases perceived as problematic by the researcher were discussed with colleagues. Intra-rater consistency was sought through repeated checks of codes against transcripts. The school subjects represented are: history, tourism management, business studies, biology, and geography. One EFL lesson about a feature film taught by a participating teacher to a non-CLIL class was also coded in order to obtain some indications as to differences and/or parallels between EFL and CLIL lessons. As there were two double sessions, the 11 lessons amount to 9 hrs 20 minutes of transcribed talk.

8.3 Classroom practices

8.3.1 How frequent is repair in CLIL classrooms?

It is one of the merits of Conversation Analysis to have contributed to the understanding that repair is an integral part of normal, everyday speech activity, something which has always been expected from classrooms. Accepting the normalcy of repair and correction as such, however, does not automatically imply that the phenomenon should be frequent, since it can also be normal for something to occur rarely, although the implication clearly is that repair is by no means a rare event, certainly not in classrooms. In order to get an impression of the temporal

distribution of repair events in the data sample, a summary count of repairables (also unrepaired ones) was made. The dataset contains 483 items that were identified as repairables. Given a total of 9 hrs and 20 mins teaching time represented by these 11 lessons, this means that a repair opportunity arises about every 70 seconds (or 1.16 minutes). Of these 483 opportunity slots, 271 are dealt with interactively (that is, excluding non-repair and self-repair). Statistically, then, an instance of correction occurs about every two minutes, or 24 times per lesson. The question arises whether this is actually much, or little, or something in between. By way of comparison one can refer to Lyster (1998) who counted 34 'repairs' (corrections in the present terminology) per lesson in early French immersion. This is considerably more than in the classrooms under study here, especially if one considers that Lyster's figures are based on linguistic errors only, whereas my figures include corrections of factual and discourse errors. One may speculate that the difference may lie in the different age range and/or competence level of the students investigated, but it is equally likely that a good deal of the difference may be due to more or less strict definition of what counts as an error on part of the researchers.

Additionally, such summary statements on the frequency of correction are quickly relativized when one considers the variation which exists across different lessons. This is an element which remains invisible in Lyster's strictly quantitative approach as it works with aggregate numbers. Detailed figures for the present dataset are shown in Table 8.4.

Table 8.4 Unrepaired (T0) and immediately self-repaired (T1) items as share of total repairables

<i>Lesson ID.</i>	<i>Repairables</i>	<i>Unrepaired (t0) & Self-repair (t1)</i>	<i>Percentage non-correction</i>
2	28	9	32%
3	31	10	32%
8	60	25	42%
21	43	39	91%
31	58	33	57%
34	29	13	45%
35	82	29	35%
37	12	1	8%
43	73	23	32%
47	39	13	33%
50	28	17	61%
ALL	483	212	44%

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The second column of the table shows that the number of repairables per lesson ranges from 12 to 82, or one every 4 minutes to one every 28 seconds. Note that the lesson with the highest number of corrections (82) was a 50-minute (single) lesson. It stands to reason to assume that the same kind of variation can also be observed in the remaining thirty lessons included in this study.

Considering the fact that correction is perceived as 'typical of classroom discourse' it is also interesting to consider the empirical basis of this perception: how many of the repairables get reacted upon interactively and how many do not? For this purpose, one may turn to columns three and four in Table 8.4. The instances of non-repair and self-repair (212 instances, or 44 %) have been extracted from the total number of repairables (483). That is to say, 44 % of all repairables are not subjected to any kind of interactive treatment, either because they are repaired by Speaker him- or herself (T1) or because they are ignored (T0). Conversely, somewhat less than 60% of repairables receive overt treatment. The figure as such looks rather similar to Lyster's (1998), who says about his classroom data that approximately 60 % of error turns were followed by a corrective feedback turn. Since Lyster's data is based on a narrower array of repair cases, it follows that the repair/correction rate would be higher, if the criteria applied to the present data were used. Interestingly, Doughty's (1994) study of one teacher's classroom language also finds that about six out of ten errors are acted upon in that classroom.

It must not be overlooked, however, that, as with the absolute frequency of repair opportunities discussed initially, the average of 43.9 % non-repair generalizes over a considerable degree of variation. The following diagram shows how the actual rate of non-repair in each of the eleven lessons scrutinized is positioned vis á vis the statistical average, represented by the thicker vertical line

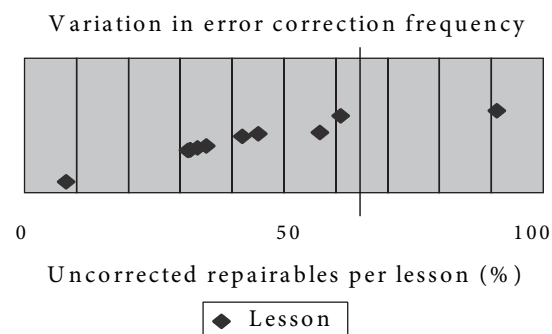


Figure 8.5 Variation in correction rate

There are two extreme cases: one where 92% of repairables are dealt with interactively (corrected), and the reverse case where 91% of repairables are not (i.e. they are repaired either by the speakers themselves or ignored). Other than that one can see a certain congregation of values in the lower 30% bracket, another one around the statistical average and yet another around the 60% line.

Similar degrees of variation in correction frequency are suggested by Nystrom Johnson's findings (1983). Nystrom Johnson's study involved four teachers and shows that the rate of errors corrected may range from almost zero to 74% of all errors contained in student's utterances (Nystrom 1983, 183). Incidentally, two of Nystrom's four teachers also showed repair rates in the lower thirties, both of them being language teachers. Nystrom argues further that individual teaching styles and frequency of error correction are closely linked. Making this link may evoke stereotypes of laissez-faire teachers, who do not care about errors, on the one hand, versus over-regulative, 'prissy' teachers, who correct each and every little mistake, on the other. Without denying the possible relevance of teacher personality in this connection, I would, however, like to suggest that there are further parameters involved which can be discussed within the disciplinary borders of this study. One of these parameters is the type of activity which is being pursued in the classroom. Long stretches of student-generated talk such as presentations create different repair patterns than phases where material previously covered is revised in tight lock-step interaction. While student errors contained in presentations practically never lead to direct teacher intervention, the much more tightly structured lock-step phases are characterized by immediate feedback reactions, also to minor contributions and minor errors. This behavioral difference is, of course, directly linked to turn taking rules and the distribution of speaking rights. To the extent that individual lessons are dominated by either one or the other type of activity this leads to a strikingly different climate regarding repair: lesson 21, for instance (the extreme case in Figure 8.5, which shows 91% non-correction of repairables), consists almost entirely of student presentations. At the end of each presentation the subject teacher and the native English-speaking assistant teacher offer follow-up comments concerning content, structure, manner of presentation, voice, use of visuals, pronunciation etc. These are instances of delayed repair involving metalinguistic talk (T7). The following extract illustrates this kind of feedback on part of the American teaching assistant:

Extract 8.18 Teacher comment after student presentation Business Studies, grade 11

- 1 Tm okay... yeah aahm... i mean it was good and it's it's pretty good English,.. but.. you went a liittle over the top on that... you know.. you you had so many troubles,.. th-there's provable damage, andah.. i'll cancel the can- contract and order my stuff subs- from Subway, don't let this happen again... very different approaches to business. some people wanna you know they think well you gotta.. you know people will take advantage of you, so you've gotta be stern at them, but.. he's already.. said i'm sorry about five times, then given you ten percent off the price and you still say.. well if this ever happens again
- 2 Ss ((laugh))
- 3 Tm (xxx) might have been.. a little over the top. but.. it's still it's still good, it was a good example. but ahm.. beyond that your presentation.. was good, the ahm... i appreciated that you said.. "explained to you".. everybody likes to say things like "i'd like to explain you" or "i'd like present you" etcetera (??)... explain something to someone". aahm good vocabulary, using words like *insist* and *demand* instead of just *ask*.... ((clears throat)) aaahm.... is there anything else?
- 4 Sf auf deutsch is alles einfacher
//in german everything is easier//

In this particular case, it is also possible that not only activity type but also the team-teaching situation causes the low frequency of repair. The subject teacher does not have an EFL qualification and seems happy to delegate language matters to the native-speaking teaching assistant. The assistant on the other hand, due to his lower hierarchical position, does not hold the same speaking rights as the class teacher and therefore cannot intervene spontaneously at any point in the interaction. In fact, the floor is regularly handed over to him explicitly by the main teacher.

The lesson in extract 8.19, in contrast, consists entirely of highly interactive lock-step revision and development of new material. There are mostly short, collaborative turns and the floor always quickly returns to the teacher who can react immediately to errors as they occur. Consequently, the number of unrepaired repairables is very small. Other lessons which show a similar structure of classroom activity show similar levels of intervention in case of error. Because a longer stretch of talk is needed to illustrate this, one extract will have to suffice:

Extract 8.19 Biology, grade 6

- 1 Dani enzymes /en'tsüms/
2 T enzymes °daniel° okay. medicine. any other useful aspects? ...claudia!
3 Claudia in our intestines /intestain/ they are
4 T there are/

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- 5 Claudia there are bacteria which digest indigestator material
 6 T indigestible materials/. ja/
 7 Claudia and in exchange with
 8 T mhm/ what's that kind of nutrition that way of nutrition called?
 9 Claudia ahm
 10 T if they get something in exchange it's to the advantage of both or-
 ganisms ...you just wanted to say it.. before
 11 Claudia (xxx)
 12 T mhm/ what's that kind of nutrition that way of nutrition called?
 13 Claudia (xxx)
 14 T ja ... they are symbionts. okay/ any other useful aspects\ ... mhm
 hanna do you know some even if you weren't here last lesson? ...
 15 Hanna ahm (5.0)
 16 T this is not fair now i know ...what do bacteria usually do. karina said
 it right at the beginning. ah what's the big heading for fungi and
 bacteria
 17 H they are décomposers
 18 T they are decompóser and what do they do when they decompose
 ... materials?
 19 David they break it down
 20 T pshhht david please!
 21 David ich hab's aber richtig g'sagt!
 22 H they ahm zersetzen
 23 T they break down
 24 Hanna the dead plants and ('xxs) into minerals
 25 T into minerals and the minerals are then?
 26 Hanna they ah ...they
 27 why are they useful
 28 Hanna the plants need them for photosynthesis
 29 T ya, exactly they are needed by plants and taken in by plants for pho-
 tosynthesis ...okay\ ...margit any other useful aspects

Note how in line 20 the teacher rejects the student's contribution because it is offered without having been given the floor, while the student who has the floor does not know the English words so that the teacher has to supply the item in line 23.

A further factor likely to be involved is student age. For instance, the lesson in 8.18 involves upper secondary students (age 17), while the students in extract 8.19 are lower secondary (age 12). It would certainly seem that the younger the students, the higher the degree of intervention on part of the teachers, and I am assuming that this expectation would be corroborated by further research. A comparison with Lyster's (1998) figures points in the same direction: his Early French

Immersion data (= elementary school level) contained considerably more repairs than the secondary level data of the present study. Notwithstanding the probable validity of this generalization as a trend, a look at individual instances of entire interactive events (lessons) may create a very different impression. Recording 37, for instance, is a grade 6 lower-secondary lesson but it does not conform to the generalization that the lower the age of the students, the more correction will take place. In this particular lesson there is very little repair. It is a history lesson on Ancient Egypt, including a number of activities which allow non-verbal responses. The activities were designed by the teacher to allow her students to deal with complex material in the foreign language without requiring them to produce complex linguistic responses so that little need for linguistic repair actually arose. Another case which lies outside the generalization of 'the younger the students the more repair' is recording 35 involving grade 11 students (aged 16–17): this lesson actually holds the top position among the present data in terms of frequency of repairables and repairs. The teacher, who is new to the profession, holds an MBA and an EFL degree; she has a very good command of English and in the interview expressed a high degree of integrative motivation as a second language speaker. This may account for the fact that she intervenes relatively often in matters of pronunciation. The class is an experienced CLIL class who have little to no inhibitions in using English spontaneously. In combination with the teacher's fluency, this makes for a quick-paced interaction where speakers seem to take errors and correction in their stride without letting these deflect them from their talk.

In this connection it is of great interest to explore teachers' attitudes to correction as expressed in the teacher interviews. Everyone seems to agree that the great advantage of CLIL is that students do not need to fear being sanctioned for language errors (they are understood to expect this during EFL lessons) and that this reduces anxiety and makes them freer to apply their linguistic knowledge.

Extract 8.20 Teacher interview 1

ich glaub dass es einfach zu einem bei manchen schülern zu einem größeren selbstvertrauen und selbstbewußtsein beiträgt was die verwendung der sprache anbelangt. und was sicherlich ah auch für die schüler ein wesentlicher aspekt ist ist die tatsache dass ich also in dem sinne nicht ihr eng=also ich bin ja nicht wir=wirklich nicht der englischlehrer dieser klasse und dass ich also vor allem in diesem gegenstand nicht der englischlehrer bin sondern der geschichtelehrer. das heißt also ihre ff kommunikationsfähigkeit ah ff von mir nicht abgeprüft wird in richtung grammatikalischer oder sonst welcher richtigkeit. das ist glaub ich ein ah wesentlicher punkt dass da irgendeine hemmschwelle natürlich einfach wegfällt

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//I think that it contributes to with some students to a greater self-confidence in using the language. Something that is certainly an important aspect for the students is the fact that I am not not actually their eng=well I'm not real=really their english teacher of this class and that especially in this subject I'm not the english teacher but the history teacher. this means that their communicative competence is not tested by me with regard to grammatical or any other kind of correctness. this is a crucial point I believe that some sort of inhibitory threshold just isn't there//

Some teachers, however, point out that while this is probably true, students do care about the linguistic correctness of their utterances. And they contend that the learners are actually much stricter with themselves than the outside world would grant them to be, stricter even than their teachers.⁴

Extract 8.21 Teacher interview 2

und i muss immer wieder muss ich ihnen sagen ich hab jetzt ah heute glaub ich hab ich erst wieder darüber gesprochen „kann ich das jetzt auf Deutsch sagen?“ ((geflüstert)) und zum Beispiel mittendrin und da denk ich mir da werden sie sicher auch überlegen wenn sie's auf Englisch sagen „ist das jetzt richtig?“ es ist eigentlich egal. ich müsst ma so a Plakat schreiben „ es ist egal“ ((laut)) aber das dringt halt relativ schwer ein.

// and I have to again and again I have to tell them I think I just talked about it again today. "can I say it in German?" ((whispered)) just like that in the middle of their turn and on such occasions I think that they'll be thinking about it if they say it in English "is this going to be correct?". basically it doesn't matter. I'd have to write a poster "it does not matter" ((loud)) but it doesn't really sink in//

Extract 8.22 Teacher interview 3

jaa dass man wenn man spricht oder eben kommuniziert ah nicht nur an den inhalt denkt sondern auch mitreflektiert ist das jetzt richtig ist das jetzt falsch was ich da was ich da sag. ah unndd ahh.. °wie soll i sagn° (3 secs) ja und ich seh das auch in der schule wo also in den fächern mit arbeitssprache englisch wo die schüler dann doch sehr wohl sich ausbessern lassen oder irgendwie sich bemühen um sprachliche richtigkeit, obwohl sie wissen dass es nicht unbedingt relevant is. aber wenn ich sie ausbesser, nehmen sie's zur kenntnis

//well that when one talks or communicates err one doesn't only think of the content but also reflects on is this correct now or is it wrong what I what I'm saying here err aaand ahh °how should I say° ((3 secs)) yes and I see it also at school wheere in the subjects with english as medium of instruction where the students do let themselves be corrected or somehow strive for linguistic correctness even though they know that it is not that relevant. but when I correct them they take that on board//

Extract 8.23 Teacher interview 4

die schüler sind da viel mehr viel strenger mit sich selbst und mit ihrem englisch als die lehrer und jaaa ((wiggles)) auch auch strenger als ich es bin.

//the students are much more much stricter with themselves and their english than the teachers and yeees ((wiggles)) also stricter than I am//

What is very noticeable in the interviews is that the teachers who have *not* studied EFL find it easier to talk about concrete language errors (their own and their students') than their EFL teacher counterparts. Two non-language experts are the only ones who actually name errors they 'always' correct: third person singular *-s* and adverbs and they indicate that they do not hesitate to point these out to the students.

Extract 8.24 Teacher interview 5

wobei ich sie drauf aufmerksam mach aber das war mir absolut egal dann. wichtig war mir der inhalt

//whereby I do point it out to them but I absolutely didn't care then. It was the content that was important to me//

What these two teachers then actually do during their lessons is another matter, because they are definitely among the ones who correct few language errors. They really do not seem to care (das war mir absolut egal dann). The EFL teachers, on the other hand, say that they do not care (es ist eigentlich egal – note the qualifier *eigentlich* 'basically') and are reluctant to talk openly about correcting linguistic errors. On the other hand, several of them can be observed doing corrections and very direct ones at that. The teacher quoted in Extract 8.22 is the only EFL teacher who explicitly says that she does correct (ausbessern) language points. Interestingly, in her classroom language she often uses indirectness strategies to introduce these repairs and differs in this from her other EFL teacher colleagues. It is rather fascinating to observe the phenomenon (known from other contexts) that what people do and what people say they do are often two different things altogether.

8.3.2 Frequency of repairable types

Section 8.2.2 introduced the categories of repairables according to which the data analysis was conducted: processing, grammar, vocabulary, pronunciation, discourse, factual, channel (cf. Table 8.3). The present section describes how these categories are distributed in the data and makes a comparison with some studies on French Immersion in Canada.

Table 8.6 summarizes the number of errors per category. The reader may notice that the grand total of 508 is different from the one given in Table 8.3 where

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N=483. The difference is created by those cases which combine two kinds or errors in one token and were therefore double-coded (e.g. grammar/pronunciation). In the count of 'repair opportunities' in Table 8.3 these were counted only once because they represent only one time slot for repair. In the tabulation of repairable types, however, each was counted separately, hence the higher total in Table 8.6.

Table 8.6 Number and Percentage of repairables by repairable type (N=508)

<i>Repairable Type</i>	<i>Absolute</i>	<i>Percentage</i>
Vocabulary	133	26%
Pronunciation	107	21%
Grammar	91	18%
Factual	87	17%
Processing	55	11%
Channel	29	6%
Discourse	6	1.2%
<i>Total Repairables</i>	<i>508</i>	<i>100%</i>

Overall, the most frequent type of repairable in these eleven lessons is vocabulary or lexical errors. The least frequent one is discourse errors. Individual lessons, however, may diverge from this distribution, and the overall dominance of vocabulary errors arises because 'error activity' concentrates on different categories in different lessons. I will briefly discuss two examples here. The first example is lessons which contain longer phases of prepared student talk, normally presentations but also self-scripted role plays. These have a lower share of vocabulary errors while pronunciation errors tend to be the main error type. The other example is lessons which are conducted in lock-step fashion for purposes of revision or the development of new content material. In these cases factual errors are a strong category, but it has to be noted that in individual cases the difference between vocabulary and factual error may not be very clear-cut. (The fuzziness of this border has also been an issue in chapter 4.) Of the two extracts which follow, for instance, the first was classed as 'vocabulary' and the second as 'factual'. The reason was that in the first case the error is based on phonological similarity between *cabbage* and *garbage* whereas in the second case the error has semantic causes since the two terms *parasite* and *symbiont* are co-hyponyms (together with *decomposer*) of 'ways of bacterial nutrition'. However, an uncooperative teacher might also have interpreted the first example as factual error.

Extract 8.25 Biology, grade 6

- 1 Sf the most bacteria ah live in cabbage and ahm decompose it
- 2 T garbage
- 3 Sf °garbage°
- 4 T so you associate dirt with bacteria or\ what else. another negative aspect.

Extract 8.26 Biology, grade 6

- 1 T so which way is it.
- 2 Sf ...decompo naja decomposers
- 3 T no/ they live together with plants!
- 4 Sf Astrid: oh parasites ...symbionts
- 5 T yes ((smiles)) they are symbionts ...okay.

Pronunciation errors are the second most frequent error category. As mentioned in section 8.2.2 they were counted only if sound substitutions went beyond the general allophonic substitutions characteristic of Austrian-accented English and could be classed as genuine mispronunciations. Frequently, these were caused by wrong stress placement.

Extract 8.27 Geography, grade 6 (Tw = Australian English native speaker)

- 1 Tm eine hütte //a cottage//, so, ok and number two, what's a [swemp]?
- 2 Tw a [swomp]!
- 3 Tm sorry, a [swomp].
- 4 Tw a swamp

Extract 8.28 History, grade 11

- 1 S1 the archaic period was a time of progréss and expansion
- 2 S2 democracy is when äh citizens [,saitisns]
- 3 T [,sitizns]
- 4 S2 äh citizens [sitisns] ahm.. vote

With regard to grammatical errors, there are two lessons where these are the dominant category and it is intriguing to consider their content. Lesson 31 is a double session the last 30 minutes of which were dedicated to EFL activities based on the EFL course book: the bulk of grammar mistakes occur in that part.

Lesson 50 has a content-oriented design but was time-tabled as an EFL lesson. Student contributions revolve around a recount of the storyline of a film which the class, but not the teacher, have seen. Much of the vocabulary necessary to do this

is general, even basic, and the challenge for the students is therefore more on the morphosyntactic level. While in lesson 31 the language centred activity during the EFL phase might be said to stretch the learners' morphosyntactic resources, this argument does not hold with lesson 50. It is as content-oriented as any CLIL lesson. Unless we assume that the timetable slot 'English lesson' per se creates different conditions, another explanatory factor must be involved. This influencing factor seems to be degree of linguistic experience, first and foremost experience with CLIL itself. Those classes which use English very little outside their EFL lessons because they have little or no CLIL, show a higher share of low-level morphosyntactic mistakes than those classes which have several CLIL subjects. Several CLIL subjects means in practice that the students may receive 12 or more hours of instruction through the medium of English. An observation which is valid for both students and teachers is that for speakers who have not yet reached the kind of automated processing which transcends problems with irregular plurals, past tenses or third person singular *-s*, the amount of continuous CLIL experience is mirrored in the kind and amount of such low-level morphosyntactic mistakes observable in their speech. The following examples have been anonymized as to their provenance from teacher or student speech:

Examples 8.29 a.-d. Morphosyntactic errors in student and teacher turns

- a. she married to Francis the Second of France, and later, ah, to Lord Darnley, but, ah, both mans, ah, died and so she became, ah, widow..... yes
- b. the picture where Will sit on the sofa with the baby in his arms
- c. he, um look for change his life. He think that, um...
- d. the longtitude and latitude of this countries...

The conclusion suggested by this is that a certain amount of CLIL enhances entrenchment and automatization of low-level morphosyntactic rules. The data clearly show that young but experienced CLIL students have no problems with such grammatical rules while they are still unstable in much older non-CLIL students. Further research would be necessary to find out what are the minimal or ideal levels of CLIL exposure to achieve this degree of automated language processing.

8.3.3 Sequential organization of repair – trajectory types

Choosing a conversation-analytic framework for analysis of these classroom data means that we are looking at classroom discourse with the same tools that are also used in studying other kinds of talk-in-interaction. This has the advantage of making more directly visible the differences and the similarities between different

kinds of interaction (institutional vs. non-institutional, symmetrical vs. non-symmetrical) and allows the researcher to highlight the ways in which classrooms mirror non-educational contexts and in which ways they do not. I will first present a quantitative summary of the trajectory types in the data. (Table 8.7)

Table 8.7 Ranking of trajectory types in eleven CLIL lessons (A)

Trajectory Type	Number (N=492)	Percentage
T5 other-repair	118	24%
T1 same-turn self-repair	113	23%
T0 non-repair	99	21%
T4 other-initiation & self repair	96	18.5%
T6 self-initiation other-repair	51	10%
T7 meta-talk about mistakes	8	1.6%
T3 third-turn self-repair	7	1.4%

Table 8.7 presents summary figures for the major trajectory types, differentiated by who initiates and who repairs ('self' or 'other'). Other-repair (T5, the prototype of corrective feedback) is in top position, confirming expectations about what is typical of classrooms: teacher corrects student errors. Note, however, that T1 is a close second to T5. Immediate self-repair is closely followed by non-repair, which is itself closely followed by self-repair that is other-initiated (T4). Note also, that the first four ranks (T5, T1, T0 T4) lie within 5% of each other, near the 20% mark. Appeals for help (T6) represent every tenth instance of repair, while meta-talk (delayed repair) and third-turn self-repair occur very rarely. However, the results look somewhat different when the subcategories of trajectories 4 and 5 are considered separately. The justification for this lies in the special turn taking conditions which hold in the classrooms. As discussed in section 8.2.1, trajectories T4a and T5a represent those cases where an intervention by 'other' is considered to leave the speaking rights of 'self' unfringed. In other words, these interventions can be seen as supporting 'self' in turn construction rather than taking the floor from 'self', and it stands to reason to assume that they have lower face-threat values because of that.

Table 8.8 Ranking of trajectory types in eleven CLIL lessons (B)

Trajectory Type	number (N=492)	%
T1 same-turn self-repair	113	23%
T0 non-repair	99	20%
T4b other-initiation in turn 2/self-repair in turn 3	71	14.4%
T5b other-repair in turn 2 after trouble	72	14.6%
T6 self-initiation other-repair	51	10%
T5a other-repair in turn 1	46	9%
T4a other-initiation & self repair in turn 1	25	5%
T7 meta-talk about mistakes	8	1.6%
T3 third-turn self-repair	7	1.4%

Considering these less invasive forms of correction separately reveals the number of invasive corrective behaviors (T4b and T5b) to be at a level which puts them *behind* T1 and T0 into third place. In other words, only 3 out of 10 repairs in these classrooms proceed in such a form that the teacher interrupts the student's turn either by asking them to correct themselves or by explicitly correcting them her- or himself.

It also needs to be mentioned that the summary quantification done so far generalizes a good deal of variation across individual lessons and that the interaction in individual lessons is never completely dominated by only one type of repair strategy; most if not all trajectory types are present in each lesson. The only trajectory type which is idiosyncratic to one lesson is T3, representing clarification questions of the kind 'have you all got that?' or 'is that clear?' Even though this is a type of question which seems very familiar from didactic contexts, only lesson 35 in the present dataset contains tokens of this category.

In sum one can say with some confidence that the repair strategies used in these classrooms do not differ from everyday conversation as radically as one might think. As in everyday conversation, T1 and T0 are very frequent, and self-repair is preferred over other-repair. Thus, 55% of all repairables are treated by 'self' in one way or another, and if one excludes all cases of non-repair (T0), actually 67% of all active repair involves 'self'. This is not to deny that, of course, the share of other-repair is higher than in informal conversational contexts. Although without the kind of quantification carried out here, conversation-analytic studies of L2 and classroom interaction have arrived at similar results. Kasper's (1985) comparison of language-centred and content-centred phases of an EFL lesson revealed that, particularly during the latter, self-initiated and self-completed repair

was preferred by teachers and learners. Commenting on student-student interaction during L2 lessons Markee says that “when they can, learners accomplish repairs by orienting to a preference for self-initiation and completion” (2000, 108). The study which seems to be methodologically most similar to the present one is McHoul (1990) and I will therefore compare results in more detail, even though McHoul’s study is based on L1 classrooms, a factor which is not to be underestimated. McHoul reports that in his corpus same-turn self-correction (T1) and other-initiated other-corrections (T5) have roughly the same frequency (1990, 354). The same can be said about the present corpus, where T1=113 and T5=118. Like McHoul, I have also noted that other-initiated other-repair occurs more readily than in everyday conversation. However, McHoul follows this up with the observation that these instances (of T5) are “greatly outnumbered” by T4, where the teacher performs the initiation but withholds correction. In my data, however, T5 is more frequent than T4 (T5=118 and T4=96). It is very likely that this has to do with the fact that McHoul’s data comes from L1 classrooms where language errors would be less numerous. In other words, in the L1 classroom a higher percentage of repairables will be factual errors, which are particularly susceptible to be treated by T4. It will be shown in the following section that there are certain non-random links between the kind of repairable that is being treated and the sequential repair type used, which makes such an explanation more than feasible.

8.3.4 Links between repairable types and repair types

I will now turn to the question of whether one can discern any patterns in the interactive treatment of different kinds of repairables. This section therefore looks firstly at what types of repairables receive repair and what types, if any, do not. Secondly, the section will examine whether a non-random connection exists between certain kinds of repairables and certain types of repair. Are grammar mistakes, for instance, repaired differently from factual mistakes? For both questions the ‘null hypothesis’ would be that the connection between repairable and repair type is completely random.

First I will consider the question of how many of the repairables in each category are actually treated interactively in the data. The alternatives to interactive treatment, non-treatment and self-correction, are consequently excluded from consideration for the moment, as is delayed meta-linguistic repair. Interactive Repair Trajectories (IRTs) thus comprise all trajectories except T0, T1 and T7 (see Table 8.2). Trajectories T3-T6 add up to a total of 265, i.e. 55% of the total repair trajectories in the data are IRTs.

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Table 8.9 Number and percentage of Interactive Repair per repairable type (N = 265) ⁵

Repairable Type	Total repairables	Receiving feedback moves	Percent of repairable type	Percent of all IRTs
vocabulary*	133	91	69%	34%
pronunciation*	107	55	51%	21%
grammar*	91	18	20%	8%
factual*	87	78	90%	29%
processing	55	2	4%	0.75%
channel *	29	28	97%	11%
discourse	6	5	83%	2%

Table 8.9 shows that different types of repairables clearly have different chances of being reacted upon interactively. For processing errors the likelihood that other interlocutors are involved in the repair as initiators or executors of the repair is extremely low (4%). Interestingly, the second lowest probability of interactive repair lies with grammar errors (20%): only one in five grammatical errors are dealt with interactively. On the other side of the spectrum the greatest likelihood for interactive treatment is shown by channel errors (97%), followed by factual errors (90%).

If one puts the interactive repair values of the individual error types in relation to the overall occurrence of interactive repair, other interesting details emerge (column 5 of table 8.9). The results show that approximately one third of all interactive repair trajectories which occur actually deal with lexical problems. If one includes the sometimes closely related 'factual' category, this makes for 63 per cent. In other words, six out of ten interactive repairs in these classrooms have to do with either facts, or concepts, or how to name them. Another two of the ten deal with pronunciation, which leaves only two more for the remaining four categories of repairables. Only 8% of all interactive repair trajectories in the data deal with morphosyntactic trouble spots.

Table 8.10 Cross-tabulation of repairable types with repair trajectories⁶

	<i>t0</i>	<i>t1</i>	<i>t3</i>	<i>t4a</i>	<i>t4b</i>	<i>t5a</i>	<i>t5b</i>	<i>t6</i>
voc	12	23		10	10	16	22	33
pron	37	10		1	8	14	26	5
gra	50	19			2	6	9	1
fac	2	9	7	21	22	9	16	10
proc	4	49		1			1	
cha	1			2	26			
dis	1				3		1	1

An even closer look at the trajectory types and how they match up with types of repairables reveals further interesting tendencies (Table 8.10).

One of the most straightforward results which can be read from Table 8.10 is the fact that processing errors are almost exclusively self-repaired (T1=89%). Further, channel trouble is treated through other-initiation and self-repair, specifically by way of trajectory T4b. It can therefore be said that channel trouble in these classrooms is treated very much in the same way as it would be in everyday conversation:

Extract 8.31 History, grade 13

- 1 T so is it okay if we'll start it then?
- 2 Sm1 pardon?
- 3 T can we start it?
- 4 Sm1 yes.
- 5 Sm2 Jo
- 6 T ja we have one group they are gonna start it because they talk about the situation right after the second world war and then we ah have a look at some of ah of ah the more detailed aspects like hungary for example ...and yours would be the end.

The table shows that vocabulary errors are rarely ignored (less than 10% of the time) and that they are treated in many different ways. Perhaps most characteristic of vocabulary errors is that speakers use T6 with vocabulary errors twice as often than with all other repairable types put together. The most typical way of dealing with vocabulary trouble is illustrated by extract 8.30, but direct other-correction is by no means rare (cf. 8.31). Incidentally, example 8.30 also contains an instance of dealing with channel trouble.

Extract 8.30 Appeal for help with vocabulary (T6)

- 1 Sf5 **proceeds that's for revenues, [or?**
- 2 T [pardon?
- 3 Sf5 procédés stands for revenues.. in this case
- 4 T yeah... it's a word for revenues

Extract 8.31 Example of T5 vocabulary repair

- 1 Nina so i do this and.. if it's better too.. give it **on a... sale account**
- 2 T savings account
- 3 S (xxx)
- 4 Nina savings account ahm.. i do this

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Perhaps the most striking result readable from Table 8.10 is the rarity with which grammar mistakes are repaired (but compare Canadian Immersion classrooms below). *If* grammar errors are treated interactively, this is practically always done by way of other-correction (Extracts 8.32–8.34).

Extract 8.32 Other-repair of grammar

- 1 Ss euu, die titanic gluckert.
- 2 T crashed
- 3 Sm crashed to the iceberg
- 4 T yes into an iceberg, okay

Extract 8.33 Other-repair of grammar

- 1 Sm1 or.. i i can became a silent partner.
- 2 T i can become
- 3 Sm1 become, yes, i'm terribly sorry
- 4 T you could become a silent partner. okay. and this is exactly what people have to think about who have money and want to invest

Extract 8.34 Other-repair of grammar

- 1 T i am sure they used this.. to put pressure on the women.... it's not a nice situation
- 2 Sf35 (XX) it.. wasn't
- 3 T hm?
- 4 Sf35 yes. i don't think that was so easy for them **to... left them by (their/her) husband.**
- 5 T to leave their husband
- 6 Sf35 no, the children
- 7 Sf8 to to
- 8 T no, it wasn't. ((bell rings)) it wasn't.

Extract 8.34 is a good illustration of how several repair strands are often interwoven in actual talk-in-interaction, something that is lost in a purely quantitative analysis. In turn five the teacher responds to the garbled syntax of turn 4 by offering one version of putting it right, a version which semantically fits the overall context of 'divorce in ancient Athens'. This, however, is not what student Sf35 has in mind: she is talking about the children whom mothers that got a divorce had to leave behind and she makes this clear in turn 6. Another student, in turn 7, tries to support this purpose by supplying the preposition *to*, presumably to help with constructing something like *leave the children to her husband*. But now the teacher

reacts on the level of meaning by agreeing with the student's opinion "no it wasn't" (turn 8) without supplying a recast of the student's problem utterance in turn 4 which would also have been a possibility e.g. *no it wasn't easy to leave them with their former husband*.

In sum, it seems that where grammatical errors are concerned 'other' somehow 'needs' to be involved. This is suggested by the fact that 72% of the grammatical errors which are not treated interactively are actually ignored rather than self-repaired (T0=50: T1=19). That is, 'self' uses the opportunity to self-repair grammar only in 18% of all cases. A similar proportion (T0=37: T1=10) holds for pronunciation errors. The question is, however, why 'other' does not choose to motivate 'self' to self-repair more often in the case of grammatical errors. In fact this happens only twice in the data, while it has been found to occur regularly (also as delegated repair) in EFL classrooms (Kasper 1986b). One explanation might be that other-repair is considered to be less costly in terms of time and/or salience and therefore to deflect less attention from content towards language. However, the low 'cost' of other-repair is possible only if special conditions are taken to hold with regard to the face threat inherent in explicit correction. Under the conditions of everyday informal conversation the face threat of direct correction would more than outweigh the extra time taken by other-initiation in turn 2 and self-repair in turn 3, so that T4 would be preferred (cf. section 8.4 below). The situation is similar, I believe, for pronunciation errors as they also have a low consciousness level and are therefore often ignored by the speakers themselves (35% T0). Neither do speakers tend to invite other-repair (T6). Unlike grammar, however, pronunciation errors are reacted to by 'other' 46% of the time and 'other' prefers to correct directly (T5) rather than invite self-repair.

Factual errors, on the other hand, receive a very high share of interactive treatment, which is spread across all categories. What is noticeable is the strong preponderance of other-initiated self-repair (T4=49%). I believe this shows two things: firstly, it shows the existing and yet unclarified relationship between what counts as factual errors and what counts as a legitimate incremental step in the development of knowledge in lock-step interaction, where the ball is passed back and forth between teacher and student. Secondly, it shows that factual errors are preferably treated in the way they would be in everyday conversation, namely through self-repair (59% of all factual errors). Whether this parallel extends to the actual formulation of the repair moves is an empirical question (cf. section 8.3.5). We may expect differences to exist in this respect, but even so it is important to underline at this point that one of the central 'events' of school instruction, namely the correction of factual errors, shows parallels with non-educational discourse in its preference for self-repair. That is to say the difference between educational and non-educational interaction in this respect is one of degree and is not absolute.

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Overall, it can be said that there is a difference in the treatment of language problems on the one hand and of 'normal' conversational problems on the other. The difference is one of tendencies and preferences, of course, rather than absolute. As a tendency, grammar and pronunciation errors are either ignored or treated through other-repair, while 'normal conversational problems' are preferably treated through self-repair. Vocabulary and factual errors may be said to form a group of their own in that they combine characteristics of both language and conversational error treatment. What they have in common with conversational errors is the low share of T0: this means that either the consciousness level with regard to these errors is high or the face threat threshold is low, or both. What they share with language errors is the degree to which they invite interactive repair (T4 and T5). What they share with each other in contradistinction to the rest of repairable types is the degree to which speakers actively invite other-repair (T6).

The findings presented in Lyster's (1998) study allow us to compare the conditions of correction in the Austrian CLIL lessons with Canadian Immersion classrooms. One of the main outcomes of Lyster's 1998 article is the realization that "the proportion of error types receiving teacher corrective feedback reflects the rate with which these error types occur in the database" (p.199). That is to say, if an error type is highly frequent, its repair will also be a highly frequent kind of repair. The above discussion of the Austrian findings indicates that this may not hold for the present data. In order to ensure comparability with Lyster's feedback moves (e.g. explicit correction, recast, clarification request) the Interactive Repair Types were redefined to include only those trajectory types which are initiated by 'other' (i.e. T6 is now excluded). Therefore, the number of cases from my data is now N=204 for the comparison in Table 8.11.

Table 8.11 Percentage of feedback moves per Error Type (N=204)

<i>Error Type</i>	<i>Lyster 1998</i>			<i>Dalton-Puffer 2005</i>		
	% of this type	% of all feedback moves (N=558)	% of errors (N=921)	% of this type	% of all feedback moves (N=204)	% of errors (N=331)
Grammatical	56%	46%	50%	20%	8%	27%
Vocabulary	62%	35%	34%	64%	28%	40%
Phonological	70%	19%	16%	51%	24.5%	32%

The table makes it clear that the results from the Austrian CLIL classrooms do not directly mirror the ones obtained in Canadian French immersion classrooms. Starting off the comparison with repair rate per error type, one can see that the

only feedback/repair rate which is roughly parallel between the two databases, is that of vocabulary. Both grammatical and phonological errors are corrected more often in the Canadian data, but the difference in repair rate is smaller with pronunciation (C:70% vs. A:51%) than with grammar (C: 56% vs. A: 20%). The low repair rate for grammatical errors in the Austrian data also means that Lyster's results regarding the proportionality between share of errors and share of feedback moves cannot be replicated with the Austrian data. Reasons for this marked difference can only be speculated upon: perhaps the difference is caused by the structural characteristics of the target language per se (French in Canada vs. English in Austria), perhaps participants in Canada were at an earlier stage of language learning and generally made more grammar mistakes. Perhaps it is because different kinds of errors have a different face threat value in Canadian and Austrian culture respectively. If this is the case, in Canada a possible taboo would be on pronunciation and in Austria on morpho-syntax (cf. Seedhouse 1997).

8.3.5 Realization of repair initiations by 'other'

Analysing the sequential organization of repair in the CLIL classrooms has shown that classrooms and informal conversation are different in degree rather than in kind. What has not emerged clearly from the analysis so far is the actual linguistic realizations, for instance of repair initiations by 'other'. Put differently, the question is not only how much other-initiation and other-repair there is and in which conversational turn it occurs, but also how speakers choose to word these turns. Are there any typical repair markers, or formulaic ways of making repairs? How much discourse modification is there in CLIL repair? This section, then, is dedicated to describing some main characteristics of repair realization in the CLIL classrooms.

Operationalizing the description of repair realization in CLIL classrooms requires some creativity, since there is little previous empirical work on repair realizations in general. Schegloff *et al.* (1977, 367–369) mention that other-initiations in informal conversation show some typical turn-constructional devices: *huh?*, *what?*; question words (*who where when*), the repetition of part of the trouble source turn, with or without a question word (*all the what? the who?*); *y'mean* plus the speaker's interpretation of the prior turn. For some reason Schegloff *et al.* (1977) do not mention among their "initiator techniques" expressions such as *sorry* or *pardon* (but cf. Seedhouse 1997, 555). Takahashi and Beebe (1993), studying correction among status-unequals in classroom situations within a pragmatic and politeness oriented approach, mention "positive remarks" and "softeners" as important politeness strategies for making correction less face-threatening. Positive remarks are a kind of preface containing praise or a positive evaluation of what was said by the other party. They are used mainly by higher status interlocutors

before pointing out a problem in the lower status interlocutor's utterance. (e.g. that was a good account, but I think you got the date wrong). Softeners are a very open class including basically any linguistic strategy which can be said to downtone the impact of an utterance: the use of questions (*did you say...?*), hedges (*I think, I believe, I mean* (for the latter see Schegloff 1992a)), minimizers⁷ (*just, small, little...one small mistake*) (Takahashi and Beebe 1993). A further aspect of repair realization which is visible at the transcript level is the presence (or, as the case may be, absence) of negative evaluation markers like *no, wrong, that's not right*, such "negative remarks" form a counterpart to Takahashi and Beebe's "positive remarks" (cf. Seedhouse 1997).

The different verbal strategies⁸ just mentioned are used only sparingly in the data. Of the 'initiator techniques' described by Schegloff *et al.*, only few instances can be found. Below I display the only instance in eleven lessons of "repeat part of trouble source with question word" (extract 8.35, line 4)

Extract 8.35 Business studies, grade 10

- | | | |
|---|-----|--------------------------|
| 1 | Sm1 | °the dönerstand° |
| 2 | T | pardon? |
| 3 | Sm1 | °and the dönerstand too° |
| 4 | T | and the what? |
| 5 | Sm2 | dönerstand ((loud)) |
| 6 | T | ah der dönerstand. okay, |

What the example also contains is an instance of the initiator *pardon*. *Pardon* and indeed even more so *sorry* and also *mmmhm* enjoy a certain currency in the present data for the purpose of other-initiating self-repair, a very common realization also in casual conversation. The interesting question is, whether these markers are actually employed for downgrading and reducing face threat. In this case the downgrading would consist in masking 'error correction' as 'difficulty of hearing'. This, however, does not seem to happen in these lessons. Both *mmmhm* and *sorry* (with rising intonation) are used when distorted pronunciations, background noise or a quiet student voice prevents actually prevent the teacher from recognizing a word or from hearing what is being said altogether. That is, *mmmhm*, *sorry* and *pardon* are genuinely directed at channel trouble and are not used to mask corrections of factual errors.

Extract 8.36 History, grade 12

- | | | |
|---|----|--|
| 1 | Sf | Lord Burley lived from 1520 to 1598 and the family of the Cecils profighted, ah... |
|---|----|--|

- | | | |
|---|-----|-------------------------------------|
| 2 | T | Provided |
| 3 | Sf | provided from... |
| 4 | Sm1 | profited [pro'fited] |
| 5 | T | mmmh? |
| 6 | SM1 | profited [pro'fited] |
| 7 | T | profited... aso ((laughs))... sorry |

In line 7 of extract 8.36 the teacher apologizes for her misinterpretation of the attempted word which was caused by the student's erroneous stress pattern. This is one of many instances showing that co-operative listening and 'active' meaning-making is a strong principle in the behavior of many CLIL teachers, and presumably teachers in general.

Extract 8.37 Biology, grade 6

- | | | |
|---|----|------------------------------------|
| 1 | Sf | ah ahm ... (xx sexual) disease |
| 2 | T | ah what ...sorry? |
| 3 | Sf | ah ...geschlechtskrankheiten? |
| 4 | T | veneral ['venərəl] diseases. right |
| 5 | Sf | ah venereal diseases then ah ... |

Example 8.37 is interesting because it shows that the 'function' of *sorry* as marker of channel trouble is not entirely secure. The student actually appears to take the teacher's *sorry* as a signal that she has made a factual error and therefore employs the 'appeal for help' technique to obtain lexical repair from the teacher herself, whereas the teacher seemed genuinely troubled by the quality of the acoustic signal.

On the whole, then, repair in the CLIL classrooms is direct, without overt modification, a finding that immediately brings up the question of the face threat inherent in corrective acts. This issue will be dealt with in the next section.

8.4 The question of face threat and other factors in repair realization

The fact that face threat is inherent in repair and corrective acts is widely agreed upon (e.g. Markee 2000 chapter 6; van Lier 1988, Lörcher and Schulze 1988, Truscott 1999). In 'ordinary conversation' the preferred way of dealing with trouble is therefore for the originator of the problem to self-repair. This also has been shown to be a preferred strategy in much of CLIL classroom interaction (cf. section 8.3.3). If hearers, i.e. 'other', do something about conversational trouble, they usually treat it as a problem of hearing or understanding the talk, even if the 'trouble' is actu-

ally an error on the speaker's part (Schegloff *et al.* 1977). Being explicit about error exposes some degree of incompetence on part of the speaker so that by treating an error as a problem of hearing, the hearer takes the 'blame' and thereby minimizes the danger of face loss for the speaker. Conversely, it has also been suggested that uttering a correction actually signals "negatively sanctioned arrogance" in the 'hearer-other' who makes the repair (Lörscher and Schulze 1988, 191). In short, in 'ordinary conversation' both parties stand to gain if they avoid open correction of errors and this is directly reflected in the preference organization of repair as identified by conversation analysts (e.g. Schegloff *et al.* 1977, Drew 1997).

It is clear that this is at odds with the normality of explicit correction in classrooms. One way of resolving this conflict has been to regard classroom interaction as somehow 'unnatural', and specifically to see correction as a continuous assault on the learners' face undermining their self-confidence and creating negative affect (e.g. Krashen 1985, Truscott 1999). Seen in this way the only conclusion can be that correction should be avoided. An alternative view, however, regards the classroom community as possessing its own rules as to what constitutes a face threat (van Lier 1988) and therefore refrains from directly transferring face threat issues from the prototypical symmetrical, equal-power, social-distance situation of 'ordinary conversation' between non-familiar adults to the non-symmetrical, familiar situation between adult and child (or adolescent) in the classroom.⁹ A closer consideration of the interactive aims in the classroom (as opposed to informal conversation) will also show inherent face threat to be tied to and vary with specific interactive purposes (cf. Seedhouse 1997 and the discussion later in this section). For the moment I would simply like to submit that didactic interaction should not be evaluated by exactly the same parameters as casual conversation between strangers.

A case in point would be the repair trajectories T4a and T5a, respectively called "clueing" and "helping" by van Lier (1988). Both are initiated by 'other', in T5a the repair is also carried out by 'other'. However, in both cases the intervention by 'other' is considered to leave the speaking rights of 'self' uninfringed (cf. section 8.2.1), and I think it is just as reasonable to argue that rather than being a face threat, these interventions are instances of redress of face because 'other' is supporting 'self' in turn construction (cf. Jefferson 1987, Seedhouse 1999). This can easily be demonstrated by instances where teachers decide to withhold this kind of supportive, embedded repair. No example of such a situation occurred in the present data, but everyone who has been to school will be able to supply one from their own memory. In such situations the more competent member, whose role it is to support the less competent member in becoming more competent, holds back support in turn construction and the less competent member falters: in this case it is non-repair which creates "impolite exposure" and loss of face. The same argu-

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ments can be brought forward for trajectory 4b, since the teacher's elicitation of self-repair allows the student to show themselves more competent than they had done in the first version of their utterance.

For trajectory 5b, other-initiated other-repair, this latter argument does, of course, not hold since the correct version is provided by 'other' making T5b the trajectory which involves the highest degree of face risk. It has been classed as 'didactic' and is avoided in informal conversation (Schegloff *et al.* 1977). However, one needs to be careful not to automatically equate 'didactic' with 'negatively evaluative' and thus face-threatening. The data show that direct other-repair is not necessarily evaluative in the sense that the repair initiator calls explicit attention to the fact that something is wrong with the utterance (e.g. "no!" "wrong!"). Such instances are, in fact, rare in the present data (extract 8.38). A more common strategy is for the teacher to accept or positively evaluate a response as such before supplying a fully correct version of it (extract 8.39; cf. Takahashi and Beebe 1993, Musayeva 1998).

Extract 8.38 Biology, grade 6

- | | | |
|---|---|---|
| 1 | S | gaining energy |
| 2 | T | it's not for gaining energy? why do bacteria do that. |
| 3 | S | for fun? |
| 4 | T | sorry? |
| 5 | S | for fun |
| 6 | T | no <u>not</u> for fun.. i mean maybe they enjoy it but we don't know
pshht |

Extract 8.39 Biology, grade 6

- | | | |
|---|----|---|
| 1 | T | what are pickles made of? ...which fruit. Shhhh |
| 2 | Sf | Cucumber |
| 3 | T | yes they are made of cucumbers ... |

I have pointed out above that a further element supporting the use of direct other-repair might be that it is less costly in terms of time and I argued that T5b (most commonly used for repair of linguistic errors) deflects less attention from the focus on content in the CLIL classroom than other trajectories. However, this is possible only if special conditions are taken to hold in these classrooms which limit face threat with regard to explicit correction.

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Repair objects and their influence on repair realization

Over and above classroom-specific value systems regarding the face threat (or not) of correction, the more or less direct realization of repair initiations is also influenced by the object of repair. That is to say, while downtoning of repairs as such is relatively infrequent in these CLIL classrooms, this does not mean that the modifiers which do occur are randomly distributed over the data. Not only the sequential treatment of repairables but also the linguistic realization of initiations is influenced by repairable type. The categories that seem to be relevant here are: factual, linguistic and procedural repair. Factual repairables refer to subject content, to facts, labels, or concepts which are part of the syllabus of a given school subject. Linguistic repairables refer to aspects of linguistic form regarding pronunciation, morpho-syntax, and lexicon. In principle they might also refer to aspects of appropriacy of language use, but this never happens (cf. Nikula 2002, Dalton-Puffer and Nikula 2006). Procedural repairables concern aspects of classroom activity, their sequencing, the location of materials or people, and the like. These categories map onto, but are not identical with the ones used in the quantitative data analysis (cf. Table 8.3 Categories of repairables, section 8.2.2). The category 'linguistic' is self-explanatory, but factual errors are now usefully differentiated into those which concern subject content and those which concern classroom organization. The latter are part of the regulative register and include also channel repairables. That is to say, repairable types interact in interesting ways with the instructional and regulative classroom registers (cf. chapter 2). The following figure (Figure 8.12) should clarify the relationships relevant for the present purpose.

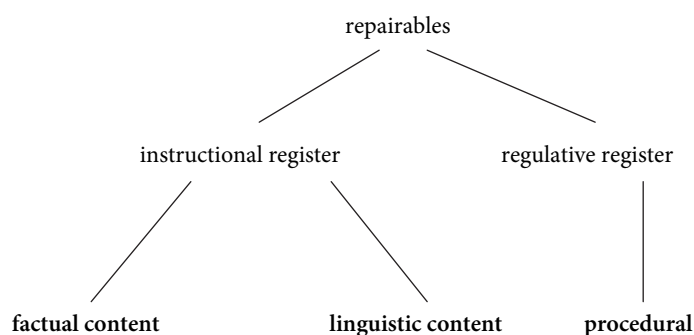


Figure 8.12 Classes of repair objects relevant for repair modification

It is certainly significant that in the CLIL context a distinction between subject content and linguistic information seems to be relevant for repair purposes. In the

following I would like to consider more closely in which ways the three categories seem to impinge on how repairs are worded.

Factual *content repair* is generally unmodified, it sometimes comes with a positive preface but on the whole it is direct. Where the students are young it is even possible to find instances of negative evaluation like 'no' or 'wrong', i.e. cases where the teacher openly indicates that the student has said something wrong, instead of more or less discreetly supplying an uncommented correct version or eliciting self-repair (extracts 8.40–8.41).

Extract 8.40 Biology, grade 6

- | | | |
|---|----|--|
| 1 | T | from/ what's it made from/ cider/ it's made from /... it's made from what fruit. what fruit. |
| 2 | Sf | Zitrone |
| 3 | T | no no it's not lemon ...apples it's made of apples right! |

Extract 8.41 Geography, grade 6

- | | | |
|---|----|--|
| 1 | T | Sailors, yes it's important for sailors, good. and now, this ship this ship.. is not only in the atlantic ocean. we can say it more detailed. we can say it exactly, johannes! |
| 2 | Sm | on the tropic of cancer |
| 3 | T | no, no, no no,..no, no they won't found you. |

Such negative evaluations are generally infrequent in the data and all occurrences are limited to content repair in lower secondary lessons. The fact that negative evaluations never occur with language errors¹⁰ is a strong argument for treating these two classes of errors separately.

The quantitative analysis of the data already has shown that contrary to factual errors, many *language errors* are, in fact, ignored and that there is very little metalinguistic talk.¹¹ The type of language error where repair is least 'risky' or face-threatening are lexical errors. It has been argued above that lexical errors seem to occupy a kind of in-between status between linguistic and factual errors. This seems to make them amenable to direct intervention, also on part of students. With regard to lexical problems one can indeed find student-initiated repair, i.e. students repairing each other's utterances. Occasionally students have also been observed to repair teacher utterances in this way. In addition to lexical trouble, on occasions students also correct each other's pronunciation (Extract 8.42), but student-student repair concerning morpho-syntax simply does not occur.

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Extract 8.42 Biology, grade 6

- 1 Sf1 and the gedärme //the intestine//
- 2 Sf2 'intest[ai]nes
- 3 Sf3 'intest[ai]nes

Whether students do not notice such errors or do not care, or whether there is some tacit rule behind this cannot be ascertained, but it is certainly the case that the teacher is the one person who repairs phonological and morphosyntactic errors, if anyone does. Extract 8.43 is highly characteristic of this kind of repair.

Extract 8.43 Business studies, grade 10

- 1 Sm aand so.. ähmm... the denominator and the nu(/a/)merator...
- 2 T nu(/nju:/)merator
- 3 Sm nu(/nju:/)merator... must be äh...
- 4 T different
- 5 Sm naa, must be in a certain.. relation

In line 2 of extract 8.43 the teacher supplies a recast with corrected pronunciation, upon which the student continues his utterance, taking up the corrected item. After the verb, however, the turn (line 3) trails off because the student is evidently looking for the right word. In line 4 the teacher prompts a lexical item in order to cut short the lexical search process. In this case, however, the prompt is rejected by the student with an evaluative *no* (G colloquial *naa*) and is recast by the student himself in factually more precise terms. Such an interactional move is rather an exception in the dataset and it should be pointed out that there was an atmosphere of free and easy interchange prevailing in the class, and that the utterance was made by a male student who tended to act patronizingly towards colleagues as well as the novice teacher.

One can see that the different realization of content/factual vs. linguistic repair which was visible in the quantitative overview of trajectory types is mirrored in the linguistic choices within the repair moves themselves. The differences are subtle and are not marked by clear criteria such as the use of disjunctive sets of initiation techniques for one and for the other. On the contrary, the dominant type of interactional (i.e. other- or other-initiated) repair for both the content and language categories is realized in non-evaluative, non-modified terms through supplying a correct form or starting off a reformulation to be completed by 'self'. CLIL classrooms are typical classrooms after all. This does not, however, preclude that different kinds of repairables receive linguistically differentiated treatment. The differentiation is one of subtle tendencies as I have tried to describe in the preceding

paragraphs. Also, these tendencies can hardly be said to operate in the same way across the universe of CLIL lessons as a whole but gain their significance within the context of one individual communicative event; in other words the differences are relative. That is to say, whichever way factual error repairs are realised by a particular group of interactants, language error repairs are modulated somewhat more than those. Extract 8.44 should serve as an example of what I mean here: it comes from an 11th grade history lesson with low overall repair activity.

Extract 8.44 History, grade 11

- | | | |
|----|-----|--|
| 1 | Sf1 | conf- consisted of the city and s-surrounding countryside? the larged
– the largest? |
| 2 | T | Mhm |
| 3 | Sf1 | polis was Athens, which hm had about.. |
| 4 | T | two thousand five hundred |
| 5 | Sf1 | two thousand five hundred square kilometres and (?) one thousand
square square miles of (xxx) however, most statsh |
| 6 | T | st- |
| 7 | Sf1 | were much smaller with many less than two.. |
| 8 | T | two hundred and fifty square |
| 9 | Sf1 | ah two hundred fifty square kilometres.. and hundred square miles. |
| 10 | T | yeah okay. so you see the size varies. once more a point. it's kilóme-
tres... when you say it. |
| 11 | Sf1 | Kilóm- okay. |
| 12 | T | kilómetros, yes. and ah... you don't say 'hundred', you say 'one hundred'.
square miles. the size varies,.. they're independent. let's look atah the
description ah... ah of the picture |

Note that in turn 2 the teacher chooses a low key reaction to the Student's appeal for confirmation of form as if not to distract from the content which is being built up. That the teacher is at this point interested in a smooth conveyance of content information is also shown by the readiness with which she supplies the figures in turn 4 and again in turn 8. Only after the student has completed her statement about the size of Greek city states, her statement containing two mispronounced instances of *kilometres*, does the teacher turn to a linguistic point, namely the stress pattern of *kilometre* (turn 10). The teacher starts with a positive evaluation of the content of the student's turns and then prefaces the language repair with the phrase "once more a point".

It thus seems that in these CLIL classrooms language error repair is considered more face-threatening than factual error repair and is therefore either avoided or relatively more strongly modified in order to increase conventional indirect-

ness. Next, I would like to turn to procedural repair where we will see that phenomena comparable on the formal level (the occurrence of discourse modification) do not necessarily have the same motivation in each case.

Procedural repair concerns issues such as which page is being read, how much time something will take, how an activity should be conducted and is, on the whole, more amenable to face-saving strategies than content repair. An indicator of this tendency is that we find modulated repair concerning classroom procedures even with the younger age group and the same teacher who used negatively prefaced content repair.

Extract 8.45 Modulated teacher repair on procedural matter in geography grade 6

you don't have to do anything yet, er the first sheet is er the first sheet is numer forty nine and **i think** the second sheet is numer fifty

The tendentially greater indirectness in procedural repair can be interpreted as an effect of the teachers' self-understanding as content experts who are, however, willing to be put right by the students in matters concerning the procedures and ongoing activity in the classroom. With regard to physical classroom activity, the teacher apparently operates on the premise that the other interlocutors have the same access to 'truth' (factual reality of the ongoing situation) as herself, something which is clearly not the case with regard to access to subject content knowledge. With regard to procedural matters, the interlocutors in the classroom are thus more equal than with regard to content matters.

In a way then, where repair modification is concerned, procedure and language group together and contrast with content repair. One might speculate that the higher degree of indirectness in procedure and language repair is fed from the same motives, namely that the interlocutors are on a more equal footing with regard to these than with regard to content repair. After all, teachers of classes who have several CLIL subjects per week often observe that the students quickly become more fluent than they are, because their exposure to English exceeds that of the teachers who may be teaching only this one class through the medium of English. There is, however, at least one strong argument why procedure and language should not be regarded as 'the same' in this context: and that is repair avoidance. There are no signs whatsoever that a teacher would leave a hearable problem in classroom procedure unrepaired,¹² whereas we have seen that repair avoidance is common with language errors. I therefore submit that avoidance and discourse modification in the repair of language errors are motivated by the significantly higher degree of face threat ascribed to linguistic errors in the CLIL context.

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A further very important factor in repair realization is definitely student age, and the data mirror the changing interactional status of the students as they grow older. In the upper classes more repair markers are used, also with reference to matters of subject content, which seems to indicate that the students' knowledge and decisions vis a vis the subject content are accorded more weight by the teachers at that stage (extracts 8.46–47).

Extract 8.46 Downtoned content repair, grade 11

- 1 T it was a very wise.. desh decision and they need the food in the evening, so it would be very very difficult to find another supplier in such a short time... **so i think** it would be the best.. to try to get delivery from this supplier.. mhm? so **i think** it was a good decision. (L21)

Extract 8.47 Downtoned content repair, grade 11

- 1 S Utilization
 2 T Or occupancy rate. and i..
 3 S Utilization
 4 T **i think** that maybe occupancy rate is even better, but we'll ask her and she will tell us.

This observation ties in with the fact that older students are asked more often to respond not only with facts but also to express beliefs and opinions (compare chapter 5), which in turn increases the incidence of repair markers in students' contributions. All these factors taken together mean that in sum there is a higher frequency of student-initiated repair, as well as modified teacher-initiated repair in the upper classes. The most marked example in this respect is a class of engineering college students (age 19) which most resembles an equal-power exchange system. The following examples illustrate this (8.48–8.50)

Extract 8.48 History, grade 13

- 1 T Ah ah there there was a paper on mister gleidinger's desk about ah was it about marxism? **i think** it was produced by one of you, **wasn't it?**

Extract 8.49 History, grade 13

- 1 T well again i have brought my books with me ah i don't know do we start presenting right away or do you need ah...?
 2 S i need a little time

- 3 T ((laughing)) you're shaking your head. **i think that means does it mean no or**
- 4 S i think it means we need a little time
- 5 T some more time

Extract 8.50 History, grade 13

- 1 S ((end of long student turn; it's a presentation)).... to protect hi his country in the late nineteen thirties stalin tried to form an anti-hitler-alliance [ˈeiliəns] with france and britain
- 2 T may i interrupt. it's an alliance [əˈlaɪəns], isn't it?
- 3 S alliance jo but they attract their defeat and no alliance was formed

The way the teacher phrases his intervention in 8.50 is noteworthy: he asks for permission to interrupt and also tags his correction in order to indicate 'common ground' (isn't it) and minimize face threat. It is important to point out that these examples are characteristic of this particular class and its fairly egalitarian tone and do not occur in the other upper secondary classrooms included in this study. Tendentially, then, younger students are exposed to fewer instances of modified repair than older ones. It may well be that, as students get older, the gap in terms of degree of modulation between content and procedural repair diminishes. It may equally well be that there is a general shift towards more repair modulation with 'more equal' interlocutors so that the difference between the two categories of repairables remains, but on an altogether higher level of indirectness. From the point of view of the students all this is relevant almost exclusively for the *input* they receive. They do not utter many repair initiations, and the ones they do utter are generally without redress.

To conclude the discussion of repair realization in these CLIL classrooms, I will recapitulate which parameters have turned out to be of importance for this aspect of classroom interaction. Table 8.13 provides a summary of the sets of variables which I have identified in my interpretation, but closer scrutiny might well reveal other significant ones.

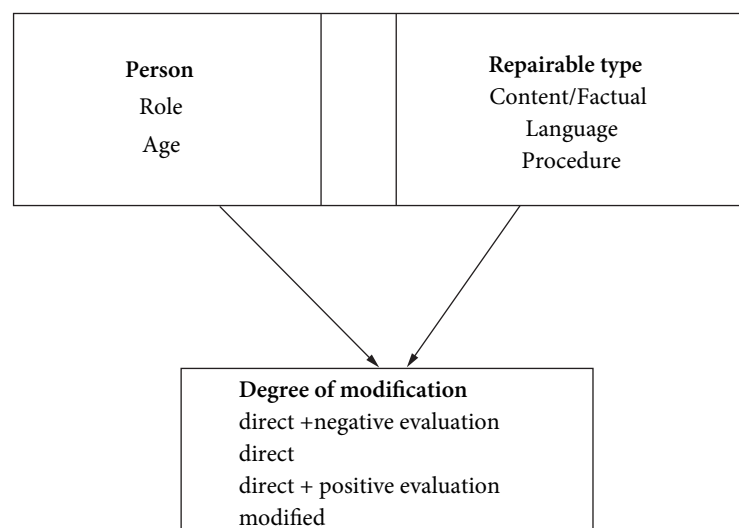


Figure 8.13 Relevant variables in CLIL repair realization

8.5 Conclusions

Analyzing the data corpus has produced a rich web of observations on feedback and correction in the Austrian CLIL classrooms. The following paragraphs will recapitulate some of the main findings.

With regard to repair frequency it was found that the statistical average of two repairs per minute actually generalizes over a great deal of variation between individual lessons. This variation is determined by many factors but activity type (student-centred or teacher-centred) is certainly an important one among them. During teacher-centred phases there is higher overall repair activity, with more emphasis on other-repair, while during student-centred phases the dominant kind of repair is self-repair or zero-repair (cf. Jung-Euen-Hyuk 1999).

Another interesting question regarding repair frequency is, of course, whether an average of two repairables per minute is much, or little, or nothing out of the ordinary at all. When initially presented to specialist audiences, the figures regarding repair frequency regularly led to reactions of “what so much repair? it’s no different from English lessons!”. However, an objective verification of this impression is not easy to come by because it would need to be carried out on the basis of a comparable corpus of EFL lessons, which is not available. I suspect that such a corpus might lead to surprises once it existed. Not reasons of principle but the availability of more research results makes it actually more feasible to compare the

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CLIL learning situation with natural L1 acquisition. This comparison, however, is not based on repair frequency in time but on how many repairables are treated interactively by the more competent interlocutor. It seems that caretakers interacting with young L1-learners repair approximately 40% of repairables (Doughty 1994) while CLIL teachers react in 60% of such cases. I assume that on a scale of repair intensity CLIL classroom interaction occupies a position between L1 acquisitional interaction and EFL classroom interaction but more research into this direction would be most welcome.

The descriptive results repeatedly point to the fact that CLIL classrooms (despite their underlying intention to serve as naturalistic environments for acquisition) are classrooms and not casual conversations in private contexts. It is clear, therefore, that CLIL repair is indeed classroom repair and not the repair typical of casual conversation. However, it is important not to go to the other extreme and to regard classroom interaction as something totally different, maybe even 'unnatural', as can be read between the lines of some texts on classroom interaction. The differences between private and institutional interaction are gradual and not absolute and I have shown that all kinds of repair sequences, also those typical of casual conversation, occur in practically all the lessons investigated. Also, it was found that self-repair, which is preferred in casual conversation, is a particularly strong repair type also in the CLIL classrooms – as it was found to be in the content-oriented phase of the EFL lesson studied by Kasper (1986a). More specifically, 67% of all active repair in the CLIL classrooms involves 'self' in one way or another. At the same time other-initiated (and other-completed) repair is also present in these CLIL classrooms, especially during teacher-led phases (cf. Jung-Euen-Hyuk 1999). Interestingly, these 'didactic', other-initiated repair trajectories (T4b and T5b) considered so typical of educational contexts make up less than 30 % of all instances of repair, even though classroom activities in the lessons are dominated by teacher-led whole-class discussion.

The analysis of repair sequences showed that repair is co-constructed interactively in the CLIL classroom with teachers playing a much more active part in initiating repair than students. Outside self-repair, students initiate repair mostly by means of T6, that is seeking help from the teacher, although direct peer repair in groupwork situations can also be found. Apart from this it was also important to find out how different stages in these trajectories are realized linguistically. More specifically, I was interested in examining how much discourse modification is in use in order to downgrade the face threat inherent in repair activities. Overall, it has to be said that repair in these CLIL classrooms is direct, with little linguistic modification in evidence. It is interesting to note that Day *et al.* (1984) found something similar happened in dyads of native and non-native speaking friends, and I assume that the factors of familiarity and stability of relationship play an important

part in explaining the results of both Day *et al.*'s study and the CLIL classrooms. However, modified repair does occur and I have been able to identify two sets of variables which seem to govern its distribution. These are the 'participant variables' Age (Adolescent, Young Adult) and Role (Teacher, Student, Peer) and the 'repairable type variables' Factual, Linguistic, Procedural. All other things being equal, repair realizations involving teacher and students are more indirect the older the students involved. It thus seems to be the case that in the higher grades the students slowly begin to approximate the status of equal and socially-distant adults where face-saving issues are of increasing importance. Among peers, on the other hand, repair is direct. In addition to that the variables mentioned interact with the following main results: procedural repair, i.e. repair concerning the management of classroom activity is the most strongly modified of all, thus making it resemble non-classroom repair most strongly. Repair of factual or content errors on the other hand is the most direct, making this the kind of repair which is most unlike conversational repair. Language errors occupy a position in-between but, importantly, among language errors there is a clear differentiation between lexical errors on the one hand, and phonological/grammatical errors on the other. The former are clearly considered the least risky kind of language error as they have a higher repair ratio, are more direct, can be found initiated by students and even in the form of student-student repair. Given the last piece of evidence, they seem to be even less risky in the CLIL classroom than content errors as for the latter no student-student repair is in evidence. Williams (1999) found a similar prevalence of attention to lexical errors in her study of learner-generated attention to form.

Phonological and morpho-syntactic errors are clearly another matter. If repair on these is carried out at all, it is more often modified and downtoned, and it is also exclusively initiated and frequently completed by the teacher. Both the ratio of repair avoidance and a comparison with results from Canadian immersion classrooms suggests that grammatical errors in particular are considered 'problematic' by the participants in these Austrian CLIL classrooms, almost as a kind of taboo. In the Canadian classrooms pronunciation seems to occupy that position (Lyster 1998). But there are also indications that some participants (the non-EFL teachers) simply regard grammatical errors as unimportant. This is definitely an area which would deserve closer scrutiny, especially since what is said about the topic in the interviews and what can be observed in the classrooms diverges in many cases.

Even the summary picture of feedback and correction in CLIL classrooms is complex and multi-faceted: it is important to realize that the realities of classroom

talk preclude any simplistic picture of one-directional teacher intervention. I agree with Ellis that

The general picture that emerges is that error treatment is not a manipulative process...rather it is a process of negotiation, one of several ways in which the teacher and the learners collaborate in managing interactional tasks in the classroom. (1990, 74)

This summary statement also throws into relief a highly interesting theoretical question which has arisen several times during the discussion in this chapter: the relationship between the notion of repair on the one hand and the notion of negotiation on the other. The most obvious indicator of this has been the tendency for factual and lexical errors to a) behave very similarly and b) to even be hard to distinguish in many cases. If we work on the assumption that talk-in-interaction is co-constructed by the participants, it turns out that in real situations it is often difficult to draw the line between instances of trouble shooting, i.e. repair, and instances where intersubjectivity is established, i.e. meaning negotiation (cf. Schegloff 1992a,b). This being an educational context, in many cases 'meaning negotiation' is part and parcel of knowledge construction, the central official purpose of the institution, so that on closer scrutiny one starts to wonder whether the two are not actually the same. Seen in this way, repair and correction take on a central role in the institutional talk-in-interaction: from a 'nuisance typical of classrooms', repair actually turns into something constitutive of what is to be achieved through language in the didactic situation. Chapter 4 discusses the issue from a complementary ideational perspective while this chapter has focused on repair from the interpersonal perspective, showing that it is a complex activity co-constructed by all the participants and informed by a variety of contextual factors which give it its specific flavour.

CHAPTER 9

The CLIL classroom as a language learning environment

9.1 Introduction

As stated in chapter 1, one principal aim of this book is to understand how learners and teachers use their second language during CLIL lessons, and the major part of this research report has so far been dedicated to this aim. I do, however, also understand applied linguistics in the sense that the research results it generates should contribute to the solution of real-world problems. In order to pursue this second aim, it is necessary to relate the present findings to the concerns of practitioners in the field of CLIL, such as the questions of CLIL teachers that partly motivated this study. The essence of these questions may be summarized as “how should we teach?”¹

The purpose of this chapter, then, is to point the way towards a formulation of what pedagogical actions might, could or should result from the deepened understanding of the facts and realities of content-and-language-integrated learning which the study of naturalistic classroom discourse has generated. However, feeding results of empirical research directly back into practice is a risky undertaking and in order to forge a truly rational link between empirical enquiry and practice, the mediation of theory is indispensable. Applied linguistic research is therefore situated in a loop between empirical enquiry, theory and practice (see Illustration 9.1):

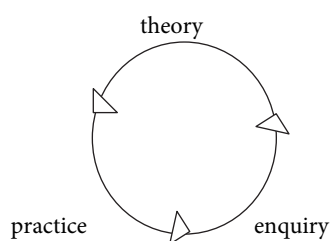


Illustration 9.1 The applied linguistics control cycle

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In this chapter I will, therefore, first discuss the implications of my findings in the light of current theories about language acquisition, learning and teaching, taking into account also the (often implicit) theories held by some of the CLIL stakeholders. Only with a clearly circumscribed theoretical grounding in these issues is it possible to make principled suggestions as to which pedagogical actions are more likely than others to bring about satisfactory matches between the hopes rested in CLIL and the constraints and potentials of CLIL classroom reality.

9.2 Theoretical approaches to second language learning

As my aim in this chapter is to achieve an interpretation of my empirical findings in conversation with second language learning theory and practice, this section discusses very briefly a number of theoretical approaches to second language learning which I consider important to CLIL either because of having served as a conceptual backdrop in the conception of CLIL programmes, of having been used for researching CLIL education (as well as immersion and Content Based Instruction), or because of promising further insights about CLIL and the best ways to implement it.² The fact that the conceptual background of CLIL and CBI is seriously under-articulated is also pointed out by Snow (1998):

While CBI may be widespread in both second/foreign language teaching, it is interesting to note that there still seems to be uncertainty as to where it fits conceptually in the language teaching scene. (Snow 1998, 243)

In the interest of readability my own exposition of the conceptual cornerstones of CLIL as a language learning environment will be grouped into input-output theories and participation-based theories.

Probably the most widely known reception-based theory of language acquisition (certainly outside academic research circles) is Krashen's Monitor Model in which the concept of Comprehensible Input plays a central role (Krashen 1981, 1982, 1985). The basic idea of the model is that if the language learner is exposed to input which is comprehensible either because of the context in which it occurs or through intentional simplification (child-directed speech, foreigner talk), acquisition will occur, especially if the learning situation is characterized by positive emotions (Affective Filter). Comprehensible input will ideally be somewhat beyond the learner's current level of linguistic competence ("i+1"), thus providing a kind of added value in the shape of linguistic forms and functions which are just beyond the learners proficiency level. Krashen stresses that optimal comprehensible input is not grammatically sequenced but first and foremost focused on meaning. Provided there is also sufficient quantity of this kind of input, enough "+1"-elements

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will naturally occur so that as long the input is also perceived as meaningful and relevant by the learner, acquisition will automatically follow. Krashen does not deny the relevance of output, but sees it mainly as a necessary means in which a language learner can stimulate greater quantities of comprehensible input for herself. Given his view of input as a trigger which sets into motion self-organized, possibly innate inner mechanisms that make the learner run through a course of subsequent linguistic stages, Krashen's theory is firmly linked with Chomskyan approaches to SLA with their emphasis on seeing the language learner essentially as a self-contained language processor and grammar builder. However, Krashen's model soon attracted criticism also from generativist SLA quarters for its extreme generality, the vagueness of the psycholinguistic mechanisms underlying it and its consequent lack of empirical testability (cf. Gregg 1984, White 1987, Jordan 2004, 180–183). This has not, however, prevented the Acquisition Hypothesis and the Comprehensible Input Hypothesis to gain wide currency among foreign language professionals who welcomed Krashen's model as an intuitively appealing theoretical underpinning of Communicative Language Teaching, which was leaving its mark on the profession at the time. In reality, of course, the practices of most foreign and second language classrooms continued to feature explicit language instruction and production for practice, both of which would be regarded as inconsequential and therefore unnecessary for language acquisition in strictly Krashenian terms. In this sense the idea of CLIL, with its emphasis on the meanings provided by the content subject, seemed to finally answer the description of a truly *Natural Approach* (Krashen and Terrell 1983) where language acquisition could run its course 'naturally' under meaningful and affectively positive conditions (compare section 9.3 on stakeholder views). Canadian Immersion was initially also inspired by ideas akin to those formulated in Krashen's Monitor Model.

Practically at the same time as Krashen, Long (1981b, 1983ab, 1985) proposed a somewhat different version of an input-based theory. The basic idea of Long's original hypothesis was that learners may actually obtain more and more fine-tuned input if they interact with other speakers, either native or non-native, of the target language, because in this way they can immediately attend to cases of incomplete understanding by requiring *conversational adjustments* from their interlocutors. Examples of such conversational adjustments would be models, recasts, expansions, reformulations or responses. Such adjustments are a natural occurrence in two-way interaction, as meaning is negotiated between the interlocutors and Long's hypothesis was thus termed the Interaction Hypothesis. In later versions the hypothesis was extended by arguing that adjustments by interlocutors not only maximize the opportunities for obtaining fine-tuned input but that the adjustments the learners make themselves are actually also instrumental to the acquisition process (e.g. Gass, Mackey, Pica 1998, 301). A large body of influential

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empirical work has been sparked by the Interaction Hypothesis, and many details of target language interaction by learners (forms of repair, targets of repair) have been examined, usually in experimental set-ups. Several studies which used naturalistic classroom discourse rather than experimental tasks, however, showed that participants are extremely reluctant to engage in much negotiation of meaning at least as long as the talk takes place in the 'public' arena of whole-class interaction (e.g. Musumeci 1996, Foster 1998, Pica 2002).

One consequence of the Interaction Hypothesis was that in its revised version the importance of *negative evidence* for the acquisition process came to be explicitly recognized (Long 1991, 1996) and many researchers began to think that conscious *attention* to such instances of negative evidence are likely to promote learners' acquisition of vocabulary, morphology and syntax. *Focus on form* was rediscovered in SLL research circles as a legitimate strategy towards developing linguistic competence. Revisiting evidence from child language acquisition, it was shown that corrective feedback and negative evidence is also present during first language acquisition and is provided by both peers and expert speakers (e.g. Oliver 1995, Döpke 1992, Doughty 1994). As regards classrooms, a number of recent studies arising from the Canadian Immersion setting have examined which types of teacher feedback and treatment of negative evidence seem to most effectively push learners towards integrating the negative evidence into their developing grammar and consequently also their active language use (e.g. Lyster and Ranta 1997, Lyster 1998, Swain and Lapkin 1998). Negative evidence or 'what to do about mistakes' is, of course, also a highly relevant topic in CLIL and chapter 8 on repair has shown that different targets actually get treated differentially. Lexical errors are nearly always attended to while grammatical errors (less so phonological ones) seem to be almost taboo – if they occur at all given the general syntactic simplicity of student utterances during the CLIL lessons investigated (cf. Lightbown and Spada 1994, 1997). If one sets this finding into relation with the widespread impression (teacher interviews, Ziegelwagner 2004, personal communication) that a higher rate of lexical learning is the most tangible result of CLIL lessons, this seems indeed to point towards there being a positive correlation between errors, correction and degree of learning.³ In the following section, stakeholder views will add a further perspective on the issue.

Swain (1985, 1995) is the prime advocate of the importance of learners producing output in order to develop deeper levels of language processing. Studying immersion classrooms in Canada, Swain had found that the students generally developed native-like comprehension skills but fell short of reaching productive control of many aspects of French syntax and lexis (e.g. Swain and Lapkin 1995). She reasoned that this might be the case because the comprehension of subject content during immersion instruction can be achieved by relying on semantic and prag-

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matic levels of analysis alone while many finer aspects of syntactic structure can be left unattended to. If, however, the learners have to produce new utterances themselves, this forces them to actively process morphosyntactic aspects of the foreign language in order to encode their intended meanings. In completing speaking and writing tasks learners would have to try out their linguistic knowledge by testing new hypotheses while reinforcing the entrenchment of what they already know. Swain's recognition that learners also need opportunities to produce output if they are to become fluent speakers and writers became known as the Comprehensible Output Hypothesis. In terms of pedagogical consequences this position implies that in order to promote their language learning, learners need to be "pushed" from semantic into syntactic processing mode by requiring them to encode comprehensible messages. Swain's findings in Canadian immersion classrooms, however, were that "comprehensible output is, unfortunately, generally missing in typical classroom settings" (Swain 1985, 252). The same can be said about the CLIL classrooms studied in this book, even if the term Comprehensible Output itself is maybe in need of some specification. It is clearly not the case that student utterances in classrooms are as such incomprehensible. Rather, they obey the very specific rules of how classroom interaction tends to proceed as a highly contextualized and distributed activity. More to the point, one might say that CLIL/immersion students are not very often required to encode full propositions, because the structure of teacher-led whole-class interaction is such that it is enough for students to provide individual labels, items, or concepts while the teacher does the job of spelling out the specific semantic relations between them; normally, in the classroom the propositions are co-constructed (cf. chapters 4 and 5). The practical absence of writing (as another form of comprehensible output) in the CLIL classes studied is commented on elsewhere in this book (see 9.3). In later publications Swain added a further dimension to her hypothesis by pointing out that producing output also creates opportunities for learners to engage in explicit meta-talk and thereby develop more accuracy (e.g. Swain 1995, 2000; Swain and Lapkin 1998).

It merits pointing out that the earlier version of Swain's Output Hypothesis was formulated in accord with a cognitive perspective on language learning that centers on the individual mind, and is in this respect similar to Krashen's and Long's models. From this perspective, the cognitive processes as such are considered to be pre-existent and even hard-wired in the individual mind, where receiving input as well as producing output would be seen as a way to enhance the individual's cognitive processing levels, which would lead to improved language learning outcomes.⁴ Under these premises the specific situational context in which the input and output occur remains outside the scope of consideration. Put in everyday terms one might say that as long as the language muscle gets trained, it does not matter whether it is at the fitness center or by chopping firewood. In her

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more recent work Swain has reoriented her theoretical outlook towards a more contextual and socially distributed view of learning, that is sometimes construed as the “opposing camp” (cf. Jordan 2004, 1–3), namely participatory approaches to second language learning, to which I will now turn (Block 2003). Atkinson (2002) uses a powerful image in order to characterize the main differences between cognitivist input-output SLA theories and socio-participatory theories: the first, he says, look at the learner as a “lonely cactus” in the desert waiting for the arrival of rain/language input that will trigger the self-unfolding biological growth processes within the single organism. The second type of approach regards the language learner more as a plant in the dense undergrowth of a tropical rainforest where individual lives can only develop in intense interrelation and interchange with all the other organisms around them (Atkinson 2002, 525–526).

Theorists and researchers who regard language as a social rather than a purely cognitive phenomenon have a natural tendency to conceive of its acquisition as a process which is socially constructed. Under these premises language is learned through interacting with other social beings, who use language as a particularly powerful semiotic means for participating and performing in the activities and encounters of the social world. One crucial difference to lonely-cactus type theories is that social encounters involving specific persons, in specific roles at specific times and places, are thought to be instrumental rather than coincidental in the language acquisition process. So-called action-oriented (*G handlungsorientiert*) approaches to language learning have been developed out of this basic conviction; for instance “handlungsorientierter Spracherwerb” in Germany (e.g. Bausch, Christ and Krumm 1995) or task-based learning as one of the more recent notions in English-language publications in the field (Willis 1996, Ellis 2003).

One of the earlier steps into this direction in second language learning theory, was Givon’s Discourse Hypothesis (Givon 1979), which holds that language learners will acquire only those varieties of language which are found in the discourse types in which they tend to participate. Thus if a learner participates only in informal and unplanned discourse events s/he will learn only that type of language. This observation is frequently made about bilingual children (cf. Romaine 1989) and the L1 competence – undeveloped by schooling – of many immigrant children in European societies bears witness to this. On the other hand, if a learner participates only in formal classroom discourse, this is the kind of language s/he will learn. Tarone and Swain (1995), for instance, found that immersion students in Canada were using their L2 for communication with adults in the school context but spoke English among each other because “they don’t teach us how to speak [French] that way” (1995, 172), that is they felt they did not know how French ‘worked’ among teenagers. This view has, of course, direct implications for language learning under CLIL conditions and has been one of the main premises in-

forming the design of the present research project. It is understood that CLIL classrooms are instances of formal, institutional interaction which are highly complex but can be characterized in ways that clearly distinguish them from other discourse types. Among other things, I argue, this needs to be taken into account when setting the language goals for foreign language learning through CLIL.

In more general terms Givon's Discourse Hypothesis is an example of approaches grounded in the idea of learning-as-participation, or situated cognition, which have gained increasing currency in research on L1 acquisition as well as the theorizing about learning in general (e.g. Gee 1992, 1994, 1995; Lave and Wenger 1991, Mercer 1995, 1996). Under the premises of such an approach, the child and the caregiver in first language acquisition, for instance, have to be reconceptualized as an interactional unit accomplishing a socio-cognitive task which the child could not perform independently. The expert-novice metaphor that is frequently used to circumscribe such situations, emphasizes that learning takes place through active and increasingly knowledgeable participation in a particular 'community of practice'. It should be noted that "this metaphor should not be taken to imply that learners and those they learn from are profoundly separated" (Atkinson 2002, 538), since peers and all the others we have social relations with can also be our teachers, depending on the situation.

More immediate to my concern of reviewing theoretical approaches relevant to the study and further development of CLIL, I now turn to Sociocultural Theory, a set of ideas which is grounded in the writings of the Russian developmental psychologist Lev Vygotsky and which has gained considerable currency among SLL researchers in recent years (for a full account see e.g. Lantolf and Pavlenko 1995, Lantolf 2002). In its origins, then, Sociocultural Theory is a theory of learning in general and not a theory of language acquisition. In the context of CLIL education this actually is a considerable advantage because it not only allows, but presupposes an integrated view of language and subject learning, an issue whose importance is frequently pointed out (e.g. Ziegelwagner 2004) but rarely discussed in any depth.

For Sociocultural Theory, then, the role of language is that of a tool mediating between the plane of social interaction and the plane of higher order mental processes. The theory posits that mental functioning develops as the individual appropriates cultural artefacts, which may be physical like tools or symbolic like language, through interacting with his/her social environment. In the words of Lantolf,

Vygotsky's fundamental theoretical insight is that higher forms of human mental activity are always, and everywhere, *mediated* by symbolic means... Mediation, whether physical or symbolic, is understood to be the introduction of an auxiliary device into an activity that then links humans to the world of objects or the world of mental behavior. Just as physical tools (e.g. hammers, bulldozer, computers etc.) allow humans to organize and alter their physical world, Vygotsky reasoned

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that symbolic tools empower humans to organize and control such mental processes as voluntary attention, logical problem solving, planning and evaluation, voluntary memory, and voluntary learning... (Lantolf 1994, 418)

Very importantly, language as the prime symbolic mediating tool is viewed as something which is in the first place located 'out there' in social interaction, in the dialogue between 'experts' and 'novices', and is internalized and cognitivized only as the development of the individual mind progresses. Once this internalization is under way, language becomes available for the individual also as a tool for thought in private speech and further learning, but this strand of Sociocultural Theory will not be followed up here.

In the context of this study, another aspect of Sociocultural Theory, namely the dialogic nature of language and interaction is more immediately relevant. As pointed out above, in Sociocultural Theory dialogue is seen as instrumental in the creation or joint construction of knowledge of any kind. The metaphor of *scaffolding* has been developed in order to capture the nature of this activity where the more expert interactant regulates the performance of the novice in order to facilitate her or his appropriation of new concepts. In Donato's words,

Scaffolded performance is a dialogically constituted interpsychological mechanism that promotes the novice's internalization of knowledge co-constructed in shared activity (Donato 1994, 41)

In general educational research such constructivist ideas have been widely taken on board (e.g. Mercer 1995, 1996; Wells 1993; Lemke 1990) and the much criticized IRF-sequence, for instance, has been reinterpreted as an instantiation of scaffolding, where the expert/teacher focuses the novice's attention by way of the the initiation move (I), so that the learner can then build on this in their response (R). The follow-up move (F) summarizes the learning step before moving on to the next focus (Jarvis and Robinson 1997). Similarly, in the SLL research inspired by Sociocultural Theory, interlocutor interventions (by teachers or peers) are seen as instrumental in fuelling learners' language and cognitive development (e.g. Swain 2000). A great deal of this research has been on the interaction of learners during group tasks (e.g. Donato 1994) demonstrating among other things how 'the same' communicative task is constructed very differently by different learners so that different things are presumably learned from it (Coughlan and Duff 1994). With regard to the role of the teacher as the more experienced language user during foreign language interactions, sociocultural researchers have so far elaborated a good deal on situations where teachers give oral feedback to students on their written work (e.g. Aljaafreh and Lantolf 1994), and there clearly is ample room for research on how and whether scaffolding in whole-class interaction facilitates not only subject learning but also language learning. Such research requires detailed

analyses of coherent classroom talk, identifying and interpreting individual micro-interventions as instances of scaffolding and determining, if possible, what counts as evidence that learning has taken place. With regard to SLL in classrooms in particular I would like to suggest that it may also be worth thinking of scaffolding on a wider scale, that is not only as being provided by individual expert participants (teachers and peers) at specific points in the interaction but also as a condition of the whole situation. My point would be that the fact that the use of the foreign language in CLIL education takes place in a classroom is scaffolding per se. For the learners in this study everything is familiar apart from the language code: the material surroundings, the people, the distribution of rights and obligations (the discourse conventions), the overall aim of the interaction. And even the topical content, although by definition new to the learners, has a different status than it has in non-educational contexts, since the whole interaction is *designed* to give the learner an understanding of new facts or concepts rather than relying on their previous knowledge or inferencing.⁵ All this, I claim, unburdens learners in significant ways and makes CLIL lessons maximally familiar environments for second language use outside the foreign language classroom. A very significant hurdle for competently using a second language in 'authentic' contexts is that these contexts tend to be unfamiliar to learners in terms of what are the 'rules of use' for the 'rules of grammar', the latter of which they often know quite well (cf. Gee's "grammar two" and "grammar one"; Gee 1999, 29). The burden on second language users is thus double since they have to use an imperfectly known code in an imperfectly known environment. CLIL students' familiarity with the ground rules of classrooms in their education system and L1-matrix culture reduces this cognitive load in significant ways and allows them to concentrate their resources on language production. The increased L2 confidence of CLIL learners unanimously reported by practitioners (Fronaschütz 2003, Ziegelwagner 2004, interview data) may well be derived from this source as well as from the fact that teachers do not fuss about grammar mistakes.

9.3 Stakeholder notions of SLL

It is widely accepted that humans are guided in their actions by underlying beliefs and convictions which inform the ways in which they perceive reality, the ways in which they act and the goals they want to pursue. The term "subjective theories" (in German "subjektive Theorien" or "Alltagstheorien") has been coined to capture such sets of mental schemata or models that guide our day-to-day behavior. What these subjective theories have in common with scholarly and scientific theories is that they contain hypotheses in the shape of expectations about causal connec-

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tions and outcomes and that they can be supported by empirical evidence, i.e. actual experience. Subjective, everyday theories differ from scholarly or expert theories in that they are not explicit. Consequently, everyday theories can be tolerant of ambiguities and it is quite normal for inconsistencies or even contradictions to co-exist without adverse effect on the daily practice of the individual. Contrary experience, therefore, does not necessarily lead to the automatic 'falsification' of the theory but may well be incorporated into another aspect of it. Naturally, our working or professional lives are widely guided by implicit theories, and it is the aim of professionalization to arrive at an explicit articulation of expert and everyday theories in the individual, so that declarative and procedural knowledge become connected and can interact with each other.

In this section, then, I am interested in implicit theories about second language learning and in finding out which notions of second language learning appear to inform the conception of CLIL programs and the actions of the teachers in CLIL classrooms. My motivation in doing this is to obtain an additional perspective on the empirical classroom findings presented earlier: it is an attempt at getting an emic perspective and looking at the observed reality through the eyes of the participants.

Let me first turn to the general conceptual framework into which CLIL classrooms are placed within education systems. It has become standard practice in public and institutional contexts to formulate explicitly the guiding premises of one's actions in the shape of mission statements, project outlines, 'rationales' and the like, so it will be instructive to look at some written documents issued by schools and education authorities, mostly in Austria but also on a European level. It is self-evident that a comprehensive document analysis is outside the scope of this study, but a few characteristic examples of official and semi-official documents will be discussed in the following. Despite their potential richness, unofficial documents will remain entirely outside the scope of my discussion here.

In the following I will look at some exemplars of two types of texts: a) rationale-type texts by Austrian institutions offering CLIL (homepages, school profiles, project descriptions) which have been produced by the actual practitioners or those in close touch with them and b) documents produced for those practitioners with the purpose of providing a conceptual reference frame for their activities (e. g. the publications of the Austrian Center for School Development ZSE cited under Abuja in the bibliography, or the EU-funded CLIL Compendium and CLIL-COM websites). I am interested here in two aspects of the content of such documents, namely which underlying assumptions, beliefs or theories for CLIL they transport and/or, in the absence of the former, which goals they formulate. The underlying assumption on my part in doing this is that, if one has a goal and thinks

one can reach it through CLIL, one must also have some kind of idea of why one thinks so, i.e. a 'theory'.

With regard to the explicit formulation of underlying theoretical assumptions the texts from groups a) and b) can be treated jointly. While it can hardly be expected that public relations materials like school websites or school profiles contain comments on language learning theory, it is remarkable that even statements of basic convictions regarding causation in language learning are absent not only from such publicity materials (group a) but largely also from expert-practitioner-oriented materials (group b). An exception can be found in a web document issued by the Vienna Education board, describing their "Vienna Bilingual Schooling programme (VBS)".⁶ In the introductory paragraphs of the section "Didactic and methodological theory of bilingual education within the VBS programme" the text briefly mentions that learners in the programme acquire the foreign language within the setting of the school where their need for social integration into the learning community is a strong motivation for communicating in the second language. Furthermore, it is stated that each and every lesson in a bilingual class has to be considered a language learning situation. I interpret this as pointing towards a participatory view of second language learning, but there are no further indications of an awareness that, beyond motivation and affect, this implies an influence of the specific conditions of classrooms as communities vis a vis other communities in which language may be learned. In the publications of the Austrian Schools Development Unit (ZSE), and also in the *CLIL Compendium* (www.cilcompendium.com, funded by the Council of Europe and the European Commission) the need for the articulation of and debate over underlying theory is explicitly acknowledged. Abuja and Heindler (1993, 120) for instance, approvingly quote Mühlmann/Otten (1991) who say that theory-lessness has been a serious deficit in the field. By the year 2006 the situations does not seem to have changed significantly even on a pan-European level: the *CLIL Compendium* mentions as one of the key issues for research and development "SLL/SLA vis-à-vis CLIL", which I read as the need to articulate what are the theoretical underpinnings of CLIL and how they are connected to language learning theory in general. Clearly a great deal of work needs to be done yet and I believe this chapter is a step in the right direction.

From the analysis of written documents I now turn to the views expressed by the participating teachers during their interviews (described in the data and methods chapter, chapter 3). Relevant statements emerged during key episodes of the interviews, incidentally providing a significantly richer backdrop of underlying beliefs and motivations than the written texts briefly considered above. For several of the teachers the interview was the first opportunity they had to reflect explicitly on their background considerations, motivations and expectations with regard to their teaching in the respective CLIL programmes. They all valued the opportu-

nity and commented on the fact. The interview guideline contained questions on the participant's own language learning history and also on the ways in which they thought these experiences informed their teaching in the CLIL programme at present. Since there is no room for a full appreciation of the rich web of thoughts and notions emerging from the teacher interviews, my presentation in this section will be guided by the same conceptual grid I used for the presentation of expert theories on second language learning in section 9.2. The material will therefore be grouped along the lines of the input-output vs. participatory distinction.

There is no doubt that the notion of 'input' is very present in the minds of the participating teachers, and it is one of the few technical terms regarding second language learning that were used during the interviews (which were conducted in German). Some relevant expressions that were used are *dieser sprachliche input*; *es war sehr viel input*; *sozusagen das baden in einer fremdsprache*; (this language input, there was a lot of input, bathing in a foreign language so to say). Interestingly and, I think, significantly, the only expert theory mentioned in the ten interviews is that of Krashen.

Extract 9.1 Teacher interview

naja das ist sicherlich ah so eine leitlinie ah von meiner auffassung des fremdsprachenlernens ist in den theorien von krashen gelegen, den ich eben kennengelernt hab, oder seine theorien kennengelernt hab in der zeit nach dem studium wo ich aus dem studienbetrieb heraußen war und noch nicht im schulbetrieb drinnen war. da hab ich mich also ein bissl mehr (lacht leicht) mit solchen sogenannten alternativen fremdsprachenmethoden methoden zum fremdsprachenlernen beschäftigt und ah da ist mir das=also irgendwie war für mich damals ganz was sensationelles und ah ff war aber eigentlich von anfang an überzeugt davon dass da sehr sehr viel an wahren drinnensteckt. und das ist das was sicherlich auch im geschichteunterricht ah der fall is. dieser dieser comprehensible input weil die materialien die die schüler verwenden natürlich fachspezifisch sind, zu einem gewissen teil wahrscheinlich auch strukturen und wortschatz verwenden mit denen die schüler noch nie vorher konfrontiert worden sind. und trotzdem muß ich feststellen dass es also kaum eine verwendung von einem wörterbuch gibt sondern die schüler in den meisten fällen zumindest aus dem kontext heraus draufkommen worum's geht und nur ganz ganz selten was nachschlagen oder mich fragen. und das ist für mich schon ein wieder ein beweis dafür dass eben das ausgesetzt sein der sprache einfach einen auch einen riesigen lerneffekt hat.

//well this is certainly.. ah a guideline of my ideas about foreign language learning certainly rests in the theories of Krashen, who I met, or rather whose theories I met when I had left university during the time when I had stopped being a student and was not yet working as a teacher. then I got interested a bit more ((laughs)) in such so-called alternative foreign language methods, methods for language learning and ah there I=somehow this was really sensational for me and ff was convinced from the outset

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that there is a lot of truth in that. and this is certainly what is the case in the history lessons. this this comprehensible input because the materials which the students use are of course subject-specific, and partly use structures and vocabulary which the students have never been confronted with before. even so, I notice that they hardly use a dictionary, but that the pupils in most cases work it out from the context what a word means and they look up things very rarely or ask me. and this is for me it is proof for me that this being exposed to the language simply has a huge learning effect//⁷

Almost all the participating teachers have experienced extended stays in English speaking countries and they all point out that the amount of language experienced over time was a highly important factor in their progress. In other words, they consider not only quantity but also intensity of input a decisive factor.

Extract 9.2 Teacher interview

es ist die die zeitliche Menge der man der Sprache wo man wo ich der Sprache ausgesetzt war, die ah die das dann bewirkt hat dass es leichter gefallen ist, dass ein Lerneffekt eingetreten ist. denk ich. also ich bin überzeugt, dass beim Sprachenlernen sehr viel die Quantität ausmacht

//it is the temporal amount that one is exposed to the language, which ah which has the effect that it became easier, that a learning effect happened. Well I am convinced that language learning has a lot to do with quantity//

Extract 9.3 Teacher interview

in einer englischsprachigen umgebung ist es eine konstante berieselung mit der sprache, das ist dann einfach völlig logisch (...) wie schnell das geht und und wie schnell man alles aufnimmt und und es ist einfach relativ normal

//in an english-language environment, it's a constant sprinkling with the language, that's perfectly logical then (...) how quickly this goes and how quickly one takes everything in and and it is just quite normal//

By some teachers, this experience is explicitly linked to their present-day concern with teaching CLIL classes.

Extract 9.4 Teacher interview

ja, ich glaube es ist immer dieselbe situation sobald man in einer umgebung ist in der einfach gesprochen wird passiert sehr viel.

//yes, I think it is always the same situation as soon as you are in an environment where people just talk, a lot happens//

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Extract 9.5 Teacher interview

also das ist für mich eigentlich das wichtigste am eaa unterricht dieses ich sag's noch mal, konstante berieseln mit der sprache von sehr vielen seiten
//well, this is actually the most important thing for me in CLIL, this – I'll say it again – constant sprinkling with language from many sides//

One part of the interview inquired about the channel(s) through which the learners should preferably be confronted with this input. Here, *listening* is clearly ranked top by all participants and it is mentioned that having the opportunity to listen to more speakers than only their one EFL teacher is an important advantage for learners who are taught content subjects through the medium of English (sie sollen einfach die möglichkeit haben verschiedene leute reden zu hören und auch zu verstehen *//they should simply have the possibility to listen to different people speak and to understand them//*). Generally, the immersion of the learner in an environment saturated with language is seen as a welcome parallel with the process of first language acquisition which is perceived as effortless and highly successful and therefore worthy of imitation. Nevertheless, the potential inherent in the more advanced cognitive development of most second language learners is appreciated. In this connection, one teacher topicalizes a possible downside of an exclusively input-oriented approach to the learning and teaching of second languages, namely the fact that relying exclusively on implicit learning in natural situations is extremely time-consuming.

Extract 9.6 Teacher interview

ich denk mir wenn ich jetzt also irgendwo ins ausland geschickt werde muss ich wahrscheinlich dort relativ schnell mit der sprache umgehen können und da kann ich nicht drauf warten dass es auf dem natürlichen weg kommt. da hab ich einfach die zeit nicht.
// I think if I get sent abroad I'll probably have to function in the language relatively quickly and I can't wait for it to evolve the natural way. I wouldn't have the time for it//

In other words, making learning steps explicit ('focus on form') may serve as a shortcut and may make the learning process more efficient. Regarding the possible importance of output for the stimulation of language learning processes the picture gained from the interviews is curiously divided. Of the two output modes, speaking is considered a self-evident component of CLIL classrooms by all interviewees, strengthened in its function by the authentic purpose of transmitting information on the school subject. Its role for language learning is seen mostly in terms of the gains in fluency through the additional practice. The quality of CLIL classes as an additional opportunity for use and practice is also repeatedly referred

to, but there is only one explicit reference to the fact that use is also a way of actually expanding competence.

Extract 9.7 Teacher interview

der hauptsächliche hintergrund der zusätzlichen trainingsmöglichkeit. {}[...], die sie nützen können um ihre fremdsprachenkenntnisse ah anzuwenden auch in gewissem sinne sicherlich auch um einiges zu erweitern

//...the main background of it being an additional possibility for practice [...] which they can use to apply their foreign language competence and in a certain sense definitely also to considerably expand it//

What is, I believe, quite striking and also significant is that when reference is made to “practice” and the increased opportunities of foreign language use, the implication is nearly always that one is referring to speaking rather than writing. Among other things this is, of course, a direct reflection of the fact that school lessons are oral events and the CLIL lessons investigated are no exceptions (cf. e.g. Ehlich and Rehbein 1986). Written materials are used to a certain extent so that reading does have its place among classroom activities, but the *production* of written text plays no discernible role at all. Only one of the teachers said that his students also get regular writing tasks (summarizing their oral presentations for their colleagues) which are to be handed in and form part of the evaluation. It must be added that this strong reliance on orality of course reflects the dominant subject teaching traditions in the Austrian school system rather than necessarily the participants’ convictions about foreign language learning as there is little evidence generally of an awareness that writing plays a crucial role in the internalization of abstract concepts and the interrelations between them. It would lead too far to go into the ramifications of this subject, but even where there is explicit reference to *language learning*, writing is given a low profile by the interviewees. Only one mentions the potential of what Swain calls “forced output” (Swain 1995):

Extract 9.8 Teacher interview

wirklich das schreiben hab ich an letzte stelle geordnet deshalb weil ich ah weil ich trotzdem irgendwie der meinung bin sprachen sind da um gesprochen zu werden und ah beim schreiben lernt man natürlich auch viele dinge und man muss dann viel konkreter überlegen mm ah korrekter sein beim sprach=sprechen kann man sich immer ausbessern ((several turns)) da is mir einfach wichtiger dass sie mehr reden als dass sie mir was auf englisch schreiben

//really writing I have put at the bottom of the list because ah because I am still of the opinion that languages are there to be spoken and er in writing you learn many things of course and you have think much more specifically and er be more correct. In talking

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one can always correct oneself ((several turns)) it's simply more important to me that they talk more rather than write something for me in English//

The impact of speaker interaction and the negotiation of meaning on language acquisition as posited by the Interaction Hypothesis has not left a visible mark on the participants' thinking about second language learning. Interestingly, however, the participants, and not only the language professionals among them, profess a high degree of analyticity in their own language learning strategies. I here quote one example from a non-EFL teacher but there are analogous passages in almost every interview.

Extract 9.9 Teacher interview

ich bin eher ein analytisch denkender mensch, ein logisch denkender mensch und ich hab den eindruck gehabt=ich hab das auch auf deutsch auch verstehn wollen, also ich hab mir schwer getan, wenn ich jetzt irgendwas nur gelernt hab, ohne a regel dafür zu wissen. also ich war dieser typische analytische lerner und ich hab das gebraucht. uund ja und war daher auch in der ahs in der unterstufe, wo das eben nicht gemacht wurde ah dann sicher net so gut in englisch, wie ich's vielleicht anders gewesen wäre.

//I am more of an analytic thinker, a logical person and I had the impression=I also wanted to understand it in German, well I found it difficult when I learned something just like that without knowing the rule for it. I was this typical analytic learner and I needed that. Aaand yes and therefore in lower secondary school where this wasn't done I was not as good as I might have been//

As concerns participatory views of language learning the picture afforded by the interviews is quite fascinating. In relating and evaluating their own language learning experience, all the participants lay a great deal of emphasis on events and situations where they felt involved as a whole person, enmeshed in the give-and-take with their social and material environment.

Extracts 9.10 a.-f. Teacher interviews

a.

die begegnung mit den menschen dort, die begegnung mit der kultur ah mit der umwelt.

//the encounter with the people there, the encounter with the culture with the environment//

b.

durch Englandaufenthalte wo sämtliche Dinge, die ich jemals gelernt habe dann eigentlich erst zum leben erweckt wurden

//through stays in England where everything I had ever learned actually were brought to life//

c.

also man hat als schüler das gefühl gehabt die erzählt irgendwas aus ihrem leben die bringt was in den unterricht mit was sie erlebt und was sie nicht nur aus schulbüchern gelernt hat

//well as a students one had the feeling she is telling you something from her life, she brings something into the classroom that she has actually experienced and not only what she has learned from schoolbooks//

d.

weil ich erstens gemerkt habe, das ist eine sprache die wirklich gesprochen wird, [...] und zweitens ich selber das erfolgserlebnis hatte „ja ich kann ja kommunizieren mit denen und ich kann das lesen [sic!] was die sagen und es funktioniert problemlos.

//because I firstly noticed this is a language that is actually spoken, [...] and secondly I myself had this experience of success “yes I can communicate with them and I can read [sic!] what they say and it works without problems”//

e.

das war das erste mal einkaufen gehen und das gefühl zu haben man wird überhaupt nicht verstanden und ich versteh auch nichts und dann funktioniert’s aber plötzlich.

//there was this going shopping for the first time and having the feeling I’m not being understood at all and I don’t understand anything either and then it suddenly works//

f.

dieses gefühl eben so stark, man hat sich eine sprache erarbeitet, man ist in einer anderen kultur drinnen und kann sich in dieser kultur auf einmal frei bewegen eigentlich ohne größere probleme

//This feeling is so strong, one has worked hard at acquiring a language, one is inside another culture and one can suddenly move in that culture freely without major problems//

I interpret these passages as indicating that social experiences and interactively solved problems are an important precondition that enables learners to truly ‘appropriate’ an additional language. With regard to the interaction occurring during school lessons, there is little evidence in the interviews that the teachers perceive themselves as partners in an environment where experiences like the satisfaction of having accomplished a social-interactive task in the second language can be had. Only one teacher said that because CLIL learners experience their daily school life through English, the language acquires a stronger reality than if it is confined to EFL classes. She argued that because English is spread over the curriculum and distributed among several teachers-as-interaction-partners, it is experienced as a language in which knowledge can be conveyed in the same way as in the L1, rather than being a language in which one mostly retells “stories about ghosts and wizards”.

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Extract 9.11 Teacher interview

und ich denke mir wenn die kinder ahm sozusagen das was sie als ihren alltag ansehen das schulische eben auch über englisch kennen lernen, dann bekommt die sprache sprache einen höheren wert. es ist dann nicht nur die sprache in der ich geschichten über zauberer und über geister nacherzähle, obwohl das auch sehr schön ist, sondern es ist auch die sprache in der genauso wie in deutsch wissen vermittelt wird.

//and I think if the children get to know what they regard as their everyday life I mean school as such also through the medium of English, then the language becomes valued more highly. then it is not only the language in which I retell stories about wizards and ghosts, although this is also very nice, but it is also the language in which knowledge is transmitted just like in German//

More commonly, it seems to me, the image of CLIL classrooms arising from the interviews is one of a marketplace where the language wares are spread out for the consumers to pick up without too much interaction with the suppliers. The full implications of this are rich so that this cannot be discussed in full here. One implication certainly seems to be that average school lessons are not categorized as events that involve learners as whole persons, that is emotionally and sensorily on top of intellectually. That this is not the full truth may be read from the repeated observation that after a certain amount of time spent doing CLIL, learners do show signs of appropriating the language, using it with self-assurance and as a matter of course. I also believe that the episodes of language play observable in many lesson transcripts are further evidence in support of these claims.

Another important reason why the interactive dimension of CLIL lessons remains so much outside the focus of the interviewees seems to me to be that clearly defined interactive goals are not really available. CLIL documents talk about “mastery of curricular content”, “intercultural communication skills”, “oral communication skills”, “develop plurilingual interests and attitudes” and similar general goals. Their very generalness, however, makes it hard to develop a sense of when a group of learners has progressed a step or two towards achievement, or when they have actually reached those goals. This is clearly different from a typical everyday situation in a foreign country where my goal may be to get a strawberry-and-vanilla cone rather than a lolly from the ice cream stall without too much embarrassing discussion, and I can draw satisfaction from having achieved this aim by feeling a pleasant absence of embarrassment plus the presence of the strawberry-and-vanilla cone. If one could define similarly concrete situational goals for the classroom, much would be gained in terms of securing a sense of accomplishment for everyone involved. Only in one of the interviews did it become apparent that the teacher concerned had been thinking about her CLIL teaching in these terms.

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Extract 9.12 Teacher interview

beim englisch als arbeitssprache mit sachthemen sicher der sach also der der sozusagen **tatsachenaustausch als sprachliche funktion am wesentlichsten** is. dann wo es sich anbietet kann man auch – also ich schau immer wieder dass ich mit den schülern einheiten einbaue, wo es um **meinungen** geht, also dass man zumindest in der zweiten klasse jetzt einfache meinungsausdrücke schon einbringen kann. ahm dann **fragestellung** natürlich also es bietet sich immer wieder an dass man dass die schüler sich gegenseitig ein quiz stellen oder sonst irgendetwas also die frageform ist ist auch eine sehr praktische, also **etwas anzweifeln oder hinterfragen** hab ich auf dieser altersstufe jetzt noch nicht probiert, das ist also sagen wir gerade dann in der siebenten und in der achten eine wichtige sprachform.

//in CLIL with its subject topics exchange of facts is certainly the most essential language function. Then, where it is appropriate, one can also – well I always try to include units with the pupils where opinions are asked for. Where one can incorporate simple expressions of opinion like in the second year now. Erm then asking questions, naturally. well it often offers itself that the pupils do a quiz together or something. So the question form is also very useful; well expressing doubt or challenging I haven't tried with this age group yet but in the 11th and 12th grade it is a very important language form//

As mentioned above, such fine-grained thinking on language goals and functions in CLIL classrooms and formulating concrete language goals is the exception in the teacher interviews and I would argue that it is actually not primarily, and certainly not exclusively, the task of the teacher-practitioners to do it. But, as we have seen above, the “meta-texts” looked at in the document analysis have little to offer in terms of concrete language aims. (It could be claimed that it is a legitimate task for teachers to find ways of implementing these aims.) As I have shown, in the discourse of policy makers and educationalists the benefits of CLIL are most frequently conceptualized in terms of generally enhanced learning outcomes, in other words as “more of everything”. The *CLIL Compendium*, for instance, mentions “improve overall target language competence” and “develop oral communication skills” as foci in the language dimension. Not surprisingly, then, the interviewees also formulate very general goals and think in terms of ‘improved communicative abilities’ when asked for the aims of CLIL teaching:

Extract 9.13 Teacher interview

sprachkompetenz, die sie einfach erwerben, sprachkompetenz, und hoffentlich auch amal sozusagen das baden in einer fremdsprache

//language competence which they just acquire, language competence and hopefully to – well – bathe in a foreign language for once//

The other term used by the interviewees alongside Sprachkompetenz (language competence) in this connection is Kommunikationsfähigkeit (communicative abil-

ity/competence). The few specifications which are made in the interviews all point into the direction of fluency (Sprachflüssigkeit) and lack of inhibitions in speaking.

Extract 9.14 Teacher interview

ich glaub ganz einfach egal was ich mache und wie gut ich es mache oder wie schlecht ich es mache, dass durch diese Quantität, 2 Stunden mehr in der Woche, wo sie damit konfrontiert sind mit der Fremdsprache, **dass das etwas bringt** und zwar und **die zweite wichtige Zielsetzung ist**, dass ich hoffe, ah **dass diese äh Sprachflüssigkeit und das ungehinderte, ungehemmte Sprechen gefördert wird.**

//I just think that no matter what I do and how good or how badly I do it, that just through the quantity, two more hours per week where they are confronted with the foreign language, that this has an effect, namely and the second important goal is, that I hope, that this err fluency and the unobstructed, uninhibited speaking is fostered//

In sum, the expectations regarding the outcome of CLIL programmes can be rendered in terms of “more of everything produced at lower anxiety levels”. I will argue below that the reasons for this vagueness regarding communicative abilities lie in the dramatic under-articulation of what one believes about communication and how one defines what a ‘communicative event’ is.

The picture arising from the interviews regarding underlying theories of language learning can be summarized as follows. The interviews suggest that the participating teachers possess a multi-faceted experiential approach to SLL encompassing both input-output oriented as well as participatory components. However, the input-oriented view is clearly more amenable to open reflection with regard to their own teaching practices than are participatory concepts. A partial reason for this, I argue, is that the event in which teachers and learners are participating (the CLIL lesson) is never brought into focus as an important ingredient of and condition for the learning process. In other words, the communicative experience of the CLIL lesson itself is largely considered circumstantial rather than crucial. Under these circumstances it is not surprising that the internal structures, functions and goals of talk in lessons remain unspecified so that there is a dearth of language in which to talk about communicative achievements other than in the most general terms (e.g. “overall target language competence”, “improved communicative abilities”). In the following section, then, I will attempt to counteract this tendency by relating an enriched expert model of communicative competence to the findings from CLIL lessons, the communicative event examined in this study.

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9.4 Theory mapped onto practice: communicative competence in the CLIL lesson speech event

In section 9.2 I made the point that exclusively input-output oriented views of second language learning, while touching upon important aspects of this highly complex process, cannot do full justice to it and I argued that these views have to be complemented by participatory approaches. I have also shown that among the participating teachers both types of underlying theory are present but with different degrees of conscious reflection. The question which arises now is how one can connect a general theoretical stance like “Second language learning is participatory learning” with the more palpable level of the empirical findings of this study. It is the purpose of this section to accomplish this.

In order to proceed towards this goal one needs a proper notion of *communicative event* as well as a specific notion of *communicative competence* before one can relate these to each other. This section thus uses the findings which characterize CLIL lessons as a communicative event and maps them onto a concrete pedagogical model of communicative competence. Only then can one start considering the implications of the findings for pedagogical practice and the further development of CLIL.

On the surface, the terms *Sprachkompetenz* and *Kommunikationsfähigkeit*⁸ seem to be perfectly compatible with the notion of communicative competence as introduced by Hymes (e.g. 1974). If one looks at the Hymesian concept of the notion in very general terms, it does indeed offer a good fit with the baseline rationale of CLIL as found in official and semi-official discourse on the matter. Take the formulation chosen by Mey (2001) to characterize communicative competence; he says it rests on the conviction that

a knowledge of language is gained from participation in actual communicative events, implying the simultaneous reliance on a number of semiotic resources and the collaboration of other participants (Mey 2001, 147).

It is easy to see where a rationale of CLIL can latch on to this: CLIL lessons definitely have a number of physical participants who interact with each other and make use of a number of semiotic resources (the location, images, texts and the like). The crucial point, however, is that with regard to CLIL, the *content* or *topic* of the interaction is commonly considered the decisive component. Ironically, content/topic is a component which is not even terribly explicit in Hymes’s original SPEAKING-grid (1974). In Hall’s version (1993, 152; cf Fig 2.1 p.ADD FINAL PAGE NUMBER) it is *one* of six main resources framing a speech event. In CLIL-related discourse it is mainly the fact that CLIL lessons are concerned with the content of subjects like biology or history which earns them the predicate of ‘authenticity’

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and of being 'a true communicative situation' in the eyes of many stakeholders. Subject content counts as 'information' and, since the transfer of information is widely seen as tantamount to communication, CLIL classrooms come to be regarded as more truly communicative events than language lessons and thus as excellent environments for gaining knowledge of language through participation. What I am arguing here is that expectations as to the power of CLIL are often founded on a very specific understanding of communication, the only condition being that 'information' be transferred from one participant to another. This is because of the dominance of the conduit metaphor in folk models and subjective theories of communication (see Menz 1998, Reddy 1979, Fiehler 1990 and section 4.2). As a consequence, a notion of communicative event which is built on such an understanding of communication is highly underspecified. Hopefully the preceding chapters have rounded out the reader's understanding of what kind of event CLIL lessons are.

The second key concept for the present discussion is that of *communicative competence*, which refers to the individual's knowledge governing the competent use of grammar. Similar to the notion of *communicative event*, also the notion of communicative competence has undergone a reinterpretation in CLIL-related discourse. More often than not communicative competence seems to be understood as fluency and/or low anxiety in face-to-face oral interaction (see the discussion in the previous section). A more comprehensive understanding of this important concept is therefore in order.

The main point about communicative competence is that knowledge of grammar cannot be dissociated from knowledge about its use. Hymes (1974) first introduced the concept, arguing that knowledge of linguistic structures and functions is embedded into a larger concept of cultural knowledge, other components of which are pragmatic and sociolinguistic ("rules of use"), but also social and psychological in a more general sense. An important argument for this essential interconnectedness between the partial competencies which make up communicative competence lies in language acquisition: knowledge of language is undeniably gained from participation in actual communicative events where the different partial competencies necessarily co-occur. A multiplicity of factors is involved:

Within the social matrix in which it acquires a system of grammar, a child acquires also a system of use regarding persons, places, purposes, other modes of communication, etc. all the components of communicative events, together with attitudes and beliefs regarding them. (Hymes 1974, 75)

In other words, knowing a language or possessing communicative competence in it means knowing "when to speak, when not,... what to talk about with whom, when where and in what manner" (Hymes 1974, 227)

Even though the concept of communicative competence was not, in the first instance, developed with a view to addressing questions of additional language acquisition or teaching but with a view to developing explanations about meaning and behavior in first-language discourse communities, in the late seventies and early eighties the concept was adopted by scholars concerned with second language teaching and learning. The reason was that the notion fitted a emerging trend which favored use *of* rather than knowledge *about* language as a goal in language teaching. Communicative competence thus provided a welcome integrative theoretical background for Communicative Language Teaching (CLT).

Considering all the factors involved (persons, places, purposes), we may note that the “social matrix” of CLIL classrooms is actually very well known to the learners and, importantly I think, it is almost indistinguishable from that in EFL classrooms: both CLIL and EFL take place within the same institution, in the same rooms and buildings, at the same times, with the same students and teachers. This brings us to the important realization that CLIL and EFL are also the same in many respects, as well as being different. This resemblance means that they will contrast in similar ways with other constellations within the social matrix. That is, they will contrast with other types of communicative event.

However, even this somewhat enriched notion of communicative competence is still far from being operationalizable in research practice (or curriculum development for that matter). Presumably for this very reason several pedagogical models of communicative competence have been developed since the 1980s, mainly within the applied linguistics, and interlanguage and intercultural pragmatics communities (Canale and Swain 1980, Saville-Troike 1982, Bachman 1990, Bachman and Palmer 1996). The models are not radically different from each other and share major components so that I will not discuss the differences in detail here. In this book, I refer to Canale and Swain’s (1980) model because of its explicit links to concerns of second language learning and curriculum design. The model is rendered in Illustration 9.2

Linguistic competence concerns knowledge of all aspects of what is traditionally regarded as ‘the language system’ or ‘grammar’ and it traditionally concerns aspects of linguistic knowledge that do not extend beyond the sentence level. The elements subsumed under Linguistic Competence seem to be considered particularly amenable to declarative knowledge, certainly much more so than the other components, where procedural knowledge tends to be the norm. Maybe because of this, Linguistic Competence is considered the traditional realm of foreign language classes, which are often considered to be less good at providing for the other three components of communicative competence.

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Linguistic/grammatical competence

syntax, inflection, lexicon, phonology, orthography

Sociolinguistic competence

socially and culturally appropriate language use in terms of meaning (sociopragmatic)

and form (pragmalinguistic), e.g. formality, politeness, interpersonal relations

Discourse competence

selection, sequencing, arrangement to create a unified whole with reference to a particular message, context and audience

Strategic competence

how to manage gaps in the knowledge system, activate learning and deal with communication breakdowns

(cf. Canale and Swain 1980)

Illustration 9.2 A Model of Communicative Competence

Sociolinguistic competence is defined as knowledge of socially and culturally appropriate language use in terms of formality, politeness and interpersonal relations (cf. Celce-Murcia and Olshtain 2000, 16). It is thought to encompass two components: on the one hand there is appropriateness of form i.e. knowledge of the available linguistic resources (such as indirectness, routines, intensifiers/softeners etc.); on the other hand there is knowledge of situational meanings in terms of social power, distance, degree of imposition, face wants and the like. These two components have also been captured in the distinction between pragmalinguistics (form) and sociopragmatics (meaning) (e.g. Leech 1983).

Discourse competence is most readily recognized as an issue with regard to the written mode, and explicit instruction on how to sequence and integrate ideas into a unified text is an important part of the curriculum in mother tongue and second-language education. For spoken discourse the awareness that there are specific skills involved in its successful accomplishment is mostly limited to monologues like oral presentations. But the highly complex task of participating in talk-in-interaction actually also falls within this domain.

Strategic competence is concerned with those skills that are necessary to cope with the fact that we do not live in a perfect world of flawless communication. This condition also holds for first language interaction, but the most obvious field of application are, of course, encounters involving participants whose language skills are limited because they are second language speakers (Poullisse 1994). There has been a good deal of research on the “communication strategies” which second language speakers use in order to cope with their limitations and also on which of

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these they could profitably be taught (Faerch and Kasper 1983b, Bialystok 1990, Kasper 1997).

Having introduced this well-established expert notion of communicative competence, I will now relate the findings of this study to the individual components of the notion. Given that we are concerned with an educational goal, achievement of increased communicative competence, our focus will now be mainly on the students. This stands in contrast to the previous parts of this study, where the focus has generally been on the language produced by all the participants in the CLIL classroom. In the present context a shift of perspective is necessary: the language produced by teachers is now cast into the role of 'input' for the students whereas the language production of the students themselves is taken as evidence of their communicative competence.

Linguistic Competence

The present study was not designed to yield a comprehensive evaluation of CLIL students' lexico-grammatical competence. A radically different research design, namely that of an outcome-oriented study would be necessary. I nevertheless believe that a useful perspective on grammatical competence can also be gained from the present study if one focuses specifically on student output. Even though student grammar was not the primary concern in any of the empirical sub-projects, it is possible to draw evidence from three sources:

- the analysis of 'errors' in chapter 8, which employed the categories grammar (= morphosyntax), vocabulary, and pronunciation
- anecdotal evidence and a global picture gained through the observation of numerous CLIL lessons and the repeated study of the forty lesson transcripts
- an analogous global picture provided by the participating teachers in the interviews as well as through informal conversations

I showed in chapter 8 that the most frequent error type is lexical errors, with grammatical errors only in third place behind pronunciation. What can be read from this is that the context of the content subject stretches students' lexical abilities to an extent where they a) exhibit frequent lexical gaps and b) make explicit attempts at filling them. The regularity with which lexical gaps are openly acknowledged and repair is initiated by the student who made the error is noteworthy and constitutes a marked difference to typical EFL classrooms. The respective findings were considered by one experienced CLIL teacher (a discussant during a presentation) as welcome supportive evidence for the impression he had gathered over the years, namely that the increased readiness of CLIL students over EFL students to acknowledge lexical gaps is one of the main qualitative differences between the two. This is, of course, an issue which also feeds directly into Strategic Competence.

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When asked what seem to be the main language gains of students through CLIL teaching, teachers consistently mention vocabulary in first place. An informal paper and pencil survey conducted during a conference presentation for CLIL teachers brought the same results (TEA Conference, October 2003). One of the participating teachers made the following comment:

Extract 9.15 Teacher comment (noted from memory; fieldnotes)

es laufen ihnen einfach wörter wie assume dauernd über den weg und dann verwenden sie sie ganz selbstverständlich in ihren englischaußsätzen
 //they just come across words like assume all the time and then they just go and use them in their english essays//

Note that the teacher's comment quoted above does not refer to a technical term pertaining to any specific field or subject but to a verb which belongs to a general register of academic English. In this respect CLIL teaching could profit tremendously from developing a detailed notion of 'general academic language' and ways of addressing its explicit development across individual subject specializations.

The most relevant thing that can be said about the second most frequent error type, pronunciation errors, is that their frequency of occurrence has a tendency to be complementary to that of vocabulary errors. In phases of classroom discourse where there are numerous lexical errors the incidence of pronunciation errors is relatively low and vice versa. The mediating factor here is clearly activity type: sequences with many pronunciation errors are typically student presentations, which are the only situation where student utterances are non-minimalist. Teacher-directed whole class discussion of the IRF type, which is the dominant mode of interaction in the data, actually offers little opportunity for students to make pronunciation mistakes, the reason being that they do not say very much. The same circumstance is also responsible, in my view, for the rather low incidence of grammatical errors in the data. If the medium of instruction is a language with a rich inflectional system, even minimal responses tend to require marking for case, number, person, inflectional class and agreement. The incidence of grammatical errors is thus likely to be higher if CLIL is conducted in French, for instance (see results for French immersion, Lyster 1998). Because of the typological characteristics of English with its rudimentary case and number marking system, it is actually difficult to make grammar mistakes in minimalist realizations of the R-slot in IRF-discourse. But also on the syntactic level proper, the structure of in-class communication, with its dominance of Triadic Dialogue (IRF) and minimalist student responses, rarely stretches the students' resources to the extent that they are forced to go beyond safe territory. In the student presentations, the fact that they always are scripted speech has the same effect and it is therefore difficult to say where

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strengths and weaknesses of students' syntactic competence actually lie. Additionally, the absence of extended teacher monologues means that the syntactic patterning of the input from the teacher is also relatively uniform and dominated by interrogatives.

Having bluntly stated that English inflection is so non-existent that mistakes are basically impossible, I may be criticized for ignoring the number one 'problem child' in this area, the third person -s. The interesting thing about it in CLIL classes is, that it does not seem to be a problem even with the younger students. I am, therefore, inclined to speculate that in the case of the third person -s the increased exposure does indeed lead to the necessary degree of entrenchment which brings about automatization of this notorious inflectional marker. It would be interesting and highly relevant for educational planning to determine empirically just how much exposure and practice is necessary to bring about this effect.

In sum, the grammar-related findings of this study suggest an interesting conclusion. Given the high incidence of lexical errors on the one hand and the fact that lexical learning is ranked top for language gain through CLIL on the other, one can only conclude that most learning seems to take place where most mistakes are made. Whether there is a causal connection between the two is a matter of theoretical persuasion but the fact as such remains, and I would like to suggest that students should maybe be given more 'chances' to make syntactic errors as well.

Sociolinguistic Competence

The dimension of Sociolinguistic Competence was specifically targeted in this study by examining some interpersonal aspects of communication in CLIL classrooms. As shown in chapters 7 and 8, the concrete dimensions chosen were the performance of directives and repairs.

With regard to repairs it can be said that classrooms are definitely places where repair can be experienced, possibly more so than in many other situational contexts. In terms of the overall repair rate the CLIL classes do not seem to be radically different from child-directed speech in naturalistic L1 acquisition. Even though no direct comparisons with EFL lessons were made, evaluations and comments on part of the participants suggest that this repair rate is lower than in average EFL classes. This circumstance is repeatedly cited as an asset of the CLIL situation and is held to be a major factor in students' motivation to talk freely. It is, however, an unsolved empirical question whether this lower repair frequency is factual, or whether it rests on a different distribution of repairs over different categories (factual repairs vs. language repairs).

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Extract 9.16 Teacher interview

weil da der Englischlehrer ah of also glaub ich schon ah ein echtes hindernis ist wenn's um vor allem um mündliche kommunikation geht.

//because the English teacher err often I think is a err a real obstacle especially if we are talking about oral communication// (teacher interview)

It is undeniable that especially the teachers with EFL qualifications seem to feel liberated from a burden when teaching CLIL classes.

The preference found for involvement of 'self' in conversational repair in the CLIL data, parallels the tendencies in non-educational talk to some extent, but the fact that classroom-type repair (other-repair or other-initiated repair) is also present cannot be argued away, and strange classrooms these would be if it was otherwise. The specific classroom conditions mean that repair is direct, with little linguistic modification in evidence. According to Day *et al.* (1984) something similar happens in dyads of friends (native and non-native) and it is likely that the factors of familiarity and stability of the relationship play an important part in explaining both results. Additionally, in classrooms there are fixed participant roles which are not in need of constant negotiation. Special classroom conditions also hold for the distribution of the redressive moves which are present. For instance, they have to do with an underlying consensus about who has privileged access to which part of reality. Teachers are apparently construed as having privileged access to subject-content information but not necessarily to procedural information: this has an effect on repairs in so far as repairs of utterances in the regulative register require relatively more redressive action than repairs of utterances focusing on instructional content. Repair of actual linguistic errors occupies a space in-between. This is something which is possibly different in EFL classes, where language errors probably count as pertaining to subject content no matter in which register they occur.

In pointing out the special conditions which hold in classrooms I am not arguing that students will necessarily directly transfer the rules of use which they experience in the classroom to other situative contexts. They are too smart for that, I believe. Rather, what I am arguing is that the role distribution limits their room for manoeuvre in the interaction. Students engage in very little active trouble-shooting. They may call for help with their own lexical gaps but there is very little evidence of students demanding clarification from other interlocutors, least of all the teacher. Other social-interactive aims (not to rock the boat or call too much attention to oneself) probably stand in the way of this. In general, classroom discourse is a place where open breakdowns of intersubjectivity are avoided at all cost. There are few contexts where such a high degree of tolerance for building shared understanding is present; others would be dyads of carers and very young children, or

carers and very old people. Teachers and students may be practising tolerance for different reasons (student: “I want my peace and quiet”; teacher: “I don’t want to appear destructive but empowering”) but the effect is that the comprehensibility of interlocutors’ turns is very rarely challenged (on conversational challenges see also the section on Discourse Competence). I consider it unlikely that such a mix of indifference and highly cooperative listening is to be found in many other communicative contexts, with the possible exception of some ELF contexts (e.g. Pözl 2003). On the contrary, students will frequently find themselves in a situation where they do not completely understand utterances of their interlocutors and where they do care about that (cf. Lörcher and Schulze 1988).

With regard to directives, the asymmetrical character of classroom interaction is even more clearly visible. While students are exposed to numerous directives uttered by the teacher, they very rarely make such utterances themselves. In this respect the CLIL classroom does have the character of a language bath: there is plenty of exposure but little active use. It is hard to envisage where a difference between EFL and CLIL classes could lie in this respect, but this is a question which awaits further empirical work. The asymmetry of classroom interaction is relevant also for the question of how much redressive action is necessary when directives are uttered. In a comparison of Austrian and Finnish classroom directives it turned out that the former showed a higher incidence of redressive discourse modifiers (increasing with the age of the students) (Dalton-Puffer and Nikula 2006). It thus seems that characteristics of the surrounding L1 culture (high value on indirectness) provide Austrian CLIL students with input that resembles interaction among equal but distant adults more closely than the input available in Finnish classrooms (with regard to directives). This, however, does not alter the fundamental characterization of classroom directives as direct: directness is normal. In addition it has turned out that there is a further distinction that is highly relevant to the educational setting, namely that between demands for information and demands for action. Curricular content information occupies a central role as the ‘commodity’ which is traded by the institution and there seems to be a consensus in operation which says that demands for it have a low imposition value and can therefore be direct. Demands for action or for information pertaining to the level of classroom management, on the other hand, are not treated in exactly the same way and exhibit a greater likelihood of being redressive. This, in my view, is an aspect in which classrooms differ systematically from other types of interactions (institutional and informal).

Linguistic encounters in general are characterized by a combination of various dimensions: institutional – informal; asymmetrical – symmetrical; familiar – distant; transactional – interactional. Opting for one or the other dimension may entail that specific conditions regarding the privileged status of some component or

other hold in a specific situation. In classrooms this is the privileged status of curricular information or content and one particular implementation of the expert – novice relationship.

In sum this means that, with regard to the sociolinguistic competence which can be experienced and exercised, CLIL classrooms have no discernible advantage over EFL classes. In both cases the participants are acting within a classroom situation, and I would argue that the two can be considered the same in this respect. It may even be that the situation in more skills-oriented and creative CLIL subjects (e.g. arts, crafts, technology) shows more variation on the patterns of social interaction than that between EFL and content-oriented CLIL classes. But since such creative subjects are seldom taught within CLIL programmes and my data contain no specimens, this has to remain a speculation for the time being (but cf. Rottmann 2007).

It is thus necessary to recognize that CLIL classrooms are one specific variant of a more general educational context which cannot be expected to ‘prepare’ learners for other situational contexts in any direct way.

...an individual’s ‘communicative competence’ can only be understood in terms of the practices of which she has been a member, her social identities, the degree and kinds of participation she has assumed (or has been allowed to assume) in them (Hall 1995, 219)

The question to pursue in this connection will, of course, be whether and how well spontaneous transfer to new situations works and whether or not CLIL students have a task-specific advantage in this respect over learners who have only been taught traditional EFL lessons. A further consequence of this is that the question whether direct teaching of interpersonal language functions may play a profitable role needs to be considered very seriously. In recent years interlanguage pragmatics has provided a good deal of evidence that this is indeed the case (Rose and Kasper 2001, Bardovi-Harlig & Mahan-Taylor 2003). CLIL also needs to start considering another question: while EFL classes are naturally the prime locus for such activities, it makes sense to examine whether teaching arrangements in CLIL lessons could perhaps be designed in such a way that they provide for a wider array of (assumed or played) roles (cf. Gassner and Maillat 2006).

Discourse competence

For some commentators discourse competence actually represents the core competency in the Canale and Swain framework since it is “where everything else comes together” and all the other competencies are realized (Celce-Murcia and Olshtain 2000, 16). This is, of course, true in the sense that the other competencies can hardly be observed independently of a specific discourse, except perhaps lin-

guistic competence through language tests (but even these might be construed as a specific discourse type).

With reference to the central skill involved in this competence, i.e. the 'sequencing and arrangement' of elements into coherent texts, one is perhaps inclined to think of the written medium in particular. The reasons for this are to be sought in the fact that pedagogical intervention with regard to writing is well-established also in mother tongue education and has also generated a good deal of research activity (e.g. Swales 1990ab, Unsworth 2000a, Halliday and Martin 1993). Underlying this, there is the fact that writing does pose higher demands on independent sequencing decisions on the part of a language user than does speaking. At this point I feel it is necessary to state explicitly why the students' written discourse competence remains outside the scope in the present discussion. Importantly, this is not merely a matter of 'limiting the focus of this study' in the conventional sense but a fact built into the reality which is being studied. Writing simply plays a very minor role in the CLIL classrooms investigated here: other than some note-taking there is no in-class writing in evidence. I think the importance of this realization concerning the teaching-learning arrangements in content classrooms and their linguistic dimension should not be underestimated.

Naturally discourse-integrative demands also operate on the spoken level. Awareness of these demands on conceptual integration and sequencing is present mostly where the speaking is in the form of a monologue, that is without on-line intervention of other participants. In concrete terms, the findings show that oral presentation skills have actually gained recognition as an important aspect of oral discourse competence and are accorded a place in the instructional practice of many subjects. Apart from such special occasions where they monologize during their presentations, students in CLIL classrooms face the challenge of participating in an extended ongoing interaction and of using the foreign language for doing so. This is one of the foundations of the pro-CLIL argument: language learning through participation in a real communicative event. In the present context I would like to draw attention to the fact that the interaction itself and the speech event it represents are not 'foreign' at all. The classroom is the students' daily workplace with which they are very familiar. Even the youngest participants in the study had been socialized into how school lessons work for more than five years before the onset of the study and I would claim that they also (not only the older ones) can claim to be 'experts' in classroom discourse. A discourse competence which is already well-established is thus re-enacted in the foreign language.

Over and above this familiarity with classroom discourse in a general sense, it should be noted that using English does not transport the event into a different cultural context: these are Austrian classrooms sharing most if not all of their characteristics with other Austrian classrooms conducted in the L1. (What exactly

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characterizes Austrian classrooms as a specific realization of 'classroom discourse in general' would be an interesting empirical question, of course, but pursuing this question is not the task of this study). In her ethnographic study on Hungarian CLIL history lessons Duff noted the absence of a traditional Hungarian recapitulation ritual if the lessons were conducted in English (Duff 1995, 1996). Her interpretation connected this to the then ongoing dramatic changes in Hungarian politics and society after the breakdown of communism (the data were collected in the early 1990s) where doing things in English would stand for doing things in a Western democratic way, which in the case of the lessons meant doing away with the rote recitation of facts (*H felelesz*), replacing it by more self-directed forms of student participation. Under the unique circumstances of Hungary in the early nineties of the 20th century this interpretation was perhaps justified, but the same degree of cultural influence cannot be expected in the situation studied here.

A frame of reference more appropriate to evaluating the cultural issues involved in CLIL is possibly to be found in the English as a Lingua Franca field (cf. Smit 2003, Pözl 2005, Seidlhofer 2007). What can be said with certainty, however, is that CLIL will not enculturate the participant students into "native English speaking classrooms" as was implied by an educational administrator during an informal interview. I have found indications that some kind of 'transcultural flow' takes place where teachers with a multicultural educational experience or a multicultural identity are involved (cf. the relevant examples in the chapter on directives), but these issues cannot be pursued here if the discussion on communicative competence is to stay on track.

Let me now turn to some more specific spoken discourse skills required in classroom talk. (Chapter 2 will serve as the general backdrop for the present discussion.) The oral discourse skills I want to focus on here are turn taking, topic nomination, conversational challenges and repair. I will point out in which shape they are present in the 'language bath' of the CLIL classroom, what particular realizations are typically absent and cannot, therefore, be passively experienced or actively used by the students as part of their classroom life. I want to underline that I am not arguing that classroom interaction is somehow 'strange' or 'wrong' – this would be in direct contradiction of the principle of regarding it as a situated event. One simply should not expect a cow to lay eggs.

The turn-taking mechanism and distribution of speaking rights which are in force in the classroom are a specific form of 'group discussion in institutional interaction': the distribution of turns is in the hands of the teacher much as it is in the hands of the head of a committee. In other words, self-nomination, deciding when to speak, fighting for the floor and ceding speaking rights are not activities which are part of the student's role repertoire in whole-class interaction, which dominates the data investigated. On top of being the discourse manager, the teach-

er is also the main provider of topics and information so that, by the same token, topic nomination and steering the talk in a certain direction are largely outside the scope of student talk, at least as long as officially sanctioned topics are concerned. There are, of course, subtle student strategies in order to lead teachers off topic and subvert their plans but these are hardly part of the officially sanctioned discourse; moreover they are also reactive rather than pro-active.

If we examine more closely the students' reactive role, it also turns out to be quite limited in the number of choices it provides speakers if they want to stay within the bounds of their role. I make reference here to Eggins and Slade's (1997, 200- 213) taxonomy of reacting moves in casual conversation without presenting its details. The main distinction Eggins and Slade make is between sustaining moves and rejoinders, the former being reactions which move an exchange forward towards completion, the latter being moves which "interrupt, postpone, abort, or suspend the initial speech function sequence" (p. 207). It almost goes without saying that sustaining moves and indeed supportive ones (elaborate, extend, comply, answer, agree etc.) are the most typical student utterances in average classrooms, while the teachers' repertoire also comprises supportive rejoinders (check, confirm, clarify, resolve, repair). For both groups of speakers confrontative realizations of moves (no matter whether sustains or rejoinders) are a much less frequent occurrence (e.g. decline, withhold, disagree, contradict; challenge, counter, refute, rechallenge). Even so, it is clear that the teacher role also allows more room for manoeuvre in this area. Whether this space is also occupied by the individual teacher is a different matter. As for the students, with the exception of "withhold" and perhaps "decline" the data contain practically no instances of confrontative realizations by students. There is one incident in the forty lessons where a student formulated a contradiction, which, significantly, was announced as a question:

Extract 9.17 Music, grade 10

- | | | |
|---|----|--|
| 1 | Sm | ich wollte was fragen
//I wanted to ask something// |
| 2 | TG | ja bitte //yes please// |
| 3 | Sm | da is ein widerspruch, dass er zuerst sagt ah das is eben nich also das is- für guteissen kann, dass die rockmusik in den 60er jahren in das musikalische theater einbricht und dann meint er, dass man nicht herumexperimentiert. ich mein ich denke wenn die rockmusik neu ist, ist das schon irgendwie rumexperimentieren.
//there is a contradiction, that he first says er this is not- err this is- he resents that rock music explodes on the music stage in the 1960's and then he says that people aren't experimenting etc. ...// |

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The classrooms investigated, then, are not places where it is customary for speakers to challenge each other's contributions. Closely related to this are the findings concerning repair: whole class discussion does not include a student right to act as 'other' in a repair sequence (to initiate or carry out the repair). In sum, the dominant pattern in CLIL classroom interaction associates active interactional work with the teacher and the passive, responding role with the student. Such a division of labour is also to be found in other institutional interactions, and even in informal conversation, but in the latter the active and passive roles are free to shift within the same interaction.

Even though the active-passive pattern described is certainly the dominant one in the data, the CLIL classrooms do at times offer opportunities for the students to enact somewhat different role patterns. There is now extensive research literature converging on the fact that group tasks do indeed foster alternative interaction strategies on part of the students (e.g. Kinginger and Savignon 1991, Cots *et al.* 1998, Garcia Mayo and Pica 2000). That such an offer is actually taken up at all and even in the foreign language is, however, not a foregone conclusion. The groupwork situations occurring in the lessons recorded all led to an immediate switch to German, so that if different interaction strategies were employed among the students, this was not done in the foreign language. The one strategy which is effective in casting students into acting out an active role *in English* is to make them prepare some sort of student monologue. These monologues may range in length from briefly reporting to the whole class the results of a group activity to an extended presentation on a topic area accompanied by overhead transparencies, handouts and the like. What these monologues all have in common is that they are located in the 'public space' which seems to ensure that they are carried out in the target language. On such occasions students get to perform numerous active 'inform' moves (Sinclair and Coulthard 1975) and also some directives, like telling their classmates to look at a specific diagram, for instance. Interestingly, such switches to the role of 'expert informant' are often accompanied by insecurities as to how the role should be filled. These insecurities surface in the shape of situationally inappropriate openers like "ladies and gentlemen, I have the honour of speaking to you today on". To me such situations indicate that either the students lack linguistic models of how to formally address a group of peers or that they are hesitant to cast themselves in the role of 'expert' among their classmates.

Strategic competence

Even if competence on the other three competence levels is highly developed, there will always be situations where knowledge gaps arise or where the communication between interactants runs into problems, and this holds for both L1 and L2 interactions. The situation of L2 speakers and children learning their L1 is fre-

quently paralleled in the literature (e.g. Poulisse 1994), but for competent adult speakers 'communication problems' are a normal part of their language experience too. The likelihood of breakdowns happening increases when the situational context is new to the participants or where interactants are new to each other. Since the last two conditions do not hold in school lessons, this reduces their problem potential even though an imperfectly known foreign language is in use. Bialystok (1990) comes to the conclusion that

strategies are a normal and fundamental aspect of ordinary language processing... a means by which a system can perform beyond its formal limitations.... What one must teach students of a language is not strategy, but language (p.146-7)

Nevertheless, communication strategies have received a good deal of attention in second language learning research since the early 1980s and a number of detailed taxonomies have been developed (Corder 1983, Faerch and Kasper 1983b, Tarone 1983). I do not intend to undertake a detailed data analysis according to one of these classification systems at this point, but Bialystok (1990, 34) has pointed out that all share a differentiation into strategies that manipulate meaning and strategies that manipulate form. It is on this level that I will consider the CLIL classrooms investigated.

Manipulating the intended meaning basically operates on a continuum from changing the intended message via reducing it to actually abandoning the message or avoiding the topic altogether. Considering the way in which classroom discourse is generally structured, it is not difficult in fact for an individual student to practice total topic avoidance while the discourse as such is being carried on by other members of the group. It is rather easy to remain silent in a classroom, something which is much more difficult when one enacts an individual rather than a collective role. The situation is different once the teacher has nominated a specific student: now she must speak and the pressure to say something is high. Not infrequently student responses are only vaguely related to the teacher initiation (a fact which is sometimes commented on with dismay by teachers), and I assume the students mostly know this but prefer to say anything at all rather than remain silent. In terms of communication strategies the students practise message replacement (Varadi 1980). Of course, students are also self-motivated to say something in class, and a very interesting issue in this connection would be to look at in how far meaning reduction impinges on the contributions to open-ended classroom discussions, this being a frequent concern of content-subject teachers (cf. Wiesemes 2007).

With regard to communication strategies manipulating form, the focus of research has been on the lexicon, that is, how L2 learners cope with lexical gaps. This ties in well with the state of affairs in the present data because, as I have repeatedly observed, learners' resources on the level of syntax do not tend to get stretched to

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the point where they would need to resort to communication strategies to any noticeable extent. With regard to lexical gaps, then, two main strategies have been discerned (Bialystok 1990, 110ff; Kellerman *et al.* 1987): holistic strategies which replace a term by another more general term (*bird* for *sparrow*) and analytic strategies which operate by way of description and circumlocution (*It's small and you can find it in every city park* for *sparrow*). What one can say without a detailed analysis of the data according to these categories is that one finds teachers employing such strategies much more often than the learners. I take this as yet another indication of the role differential between the two kinds of participants in the CLIL classrooms. Given their role as 'primary knowers' the teachers are under 'real-life pressure' to make themselves understood even if they do not have the appropriate word ready at hand, as they have little opportunity to appeal to some 'knowing authority' for help. Given their decision to conduct their lessons in English, the teachers also seem reluctant to resort to L1 switches as a shortcut when lexical gaps arise. The learners, on the other hand, tend to do just that: they often say things they do not know in German or they acknowledge a lexical gap, which is usually filled straight away by the 'primary knower', occasionally also by their peers. Both circumstances, the presence of someone who in all likelihood already expects exactly what one wants to express, and the availability of another shared code, the L1, are conditions which do not hold in this form outside CLIL classrooms and therefore give a very specific slant to the realization of strategic competence.

My main argument in this chapter, then, has been that from a participatory perspective second language learning takes place within a larger sociocognitive whole, that is, a discourse. With regard to CLIL, the central speech event in this discourse is the school lesson, where the learners, like the participants in any other discourse, talk – act – interact – think – believe – value – write – read – listen (cf. Gee 1992). As I have shown in this study, the learners do so under the specific conditions of the classroom with its clear distribution of expert and novice roles entailing a specific turn taking and topic nomination mechanism, idiosyncrasies in the realization of repair and directives, limits on meaning negotiation and conversational challenge, quantitative and structural limits on student output, dominance of a small number of speech functions (statement-representatives, directives) to the virtual exclusion of others (commissives, emotives). In sum, the conditions of classroom talk necessarily impose restrictions on all aspects of communicative competence acquired and practiced through CLIL.

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CHAPTER 10

Conclusions, implications and prospects

The chapters of this book have shown some of the ways in which the talk of CLIL classrooms conditions the language use there and thereby also the communicative competence of the participants. If we bear this in mind it is self-evident that CLIL lessons are not only *different* from EFL lessons by virtue of being based on material that is not grammar or culture of the target language, but that they are also the *same* in many respects, by virtue of taking place in classrooms. With regard to foreign language classes the conclusion that classroom talk restricts student participation and by extension their acquisition of a second language has been drawn by numerous researchers in the field (e.g. Johnson 1995, Trosborg 1995, Markee 2000) and, as I have already pointed out, I suggest that this conclusion needs to be extended to CLIL classrooms. I have therefore argued that it is necessary to recognize that CLIL classrooms are one specific variant of a more general educational context which cannot be expected to ‘prepare’ learners for other situational contexts in any direct way.

What the classroom context can do is to create a community with its own cultural reality, with its own conventions of what is feasible and appropriate;...such a context is bound to set limits on what language learners are explicitly taught, and these cannot of their nature contain “real world communication”. But the crucial point is that this is not language to be learned as such, but language to be learned *from*. (Widdowson 1998, 331; see also Hall 1995, p.219)

Having pointed out the restrictions of CLIL classrooms as an environment for language learning and language use, I would now like to turn to the positive potential of this very situation. As I have said elsewhere in this book, CLIL lessons are part of the learners’ everyday experience of school and they take place within the same local, institutional, personal and cultural context as all the other school lessons which the learners experience. The lessons are thus embedded in the matrix culture of the L1 and therefore familiar to the learners. The learners know the discourse of the classroom, and this deeply entrenched knowledge provides them with a mental schema or “discourse domain” (Douglas 2004) for dealing with particular situations. I consider this familiarity to be a decisive asset in foreign-language CLIL over and beyond the ‘authentic situation’ and the ‘cognitively engaging material’ which

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are frequently brought forward in its favor (Snow 1998). On entering target-language contexts in the 'real world', whether they be with native speakers in the target culture or with other non-natives in lingua franca contexts, second language speakers are often challenged or even overwhelmed by having to attend to several demanding tasks simultaneously: trying to learn the ropes of the situation, get a handle on the discourse, incomplete topic knowledge and operating in an imperfectly known language code. Actually mastering such trying situations produces feelings of deep satisfaction, as several teachers reported in their interviews (cf. 9.3). Clearly, if this bundle of tasks can be simplified, the second language learner and user will be unburdened. Research has shown, for instance, that being a topic expert significantly improves non-native speakers' chances to participate successfully in mixed native speaker-nonnative speaker interactions (Zuengler 1993ab). Learners in CLIL content classrooms are of course by definition not topic experts, rather, they are participating in a didactic discourse whose whole point is to *develop* their topic knowledge rather than presuppose it. (There are exceptions like strong personal interests or during a prepared presentation). This is what I would call 'CLIL-Bonus 1'. 'Bonus 2' consists in the fact that in their CLIL classrooms the students know the ropes and the rules of talk perfectly well. They are experts in being participants in educational talk in their school and this, I claim, unburdens them and releases processing capacities for dealing with other aspects of the CLIL situation, notably the linguistic code. As pointed out in the chapter on correction, students often do care about formal aspects of the L2 to an extent unaccounted for by their teachers. My claim, then, is that over and above the restrictions, CLIL classroom discourse also has important potentials: it provides a space for language learners where they can act in a context that is not geared specifically and exclusively to foreign language learning (i.e. it has a 'real' purpose). At the same time the context is predefined and pre-structured in significant ways by being educational-didactic and taking place within their L1 matrix culture. This, I claim, is a significant source for the self-confident and self-evident use of the foreign language and its ultimate appropriation by many CLIL learners which are regularly observed to be one of the clearest outcomes of CLIL programmes.

On this positive note I would now like to turn my attention to other aspects of CLIL classroom discourse which characterize it as a domain in its own right and which should perhaps be foregrounded more decidedly when talking about the potentials of CLIL classrooms. Given that English today is the language in which the majority of the world's knowledge is created, recorded and published, it is easy to predict that one context in which learners are likely to use English *after* leaving school is in gathering and processing information and in studying specialist subjects. This area could be called 'English for knowledge acquisition' and here CLIL classrooms *can* serve as direct preparation for other real-life contexts. These may

be educational or academic, or they may be located in professional contexts where continuing education is becoming increasingly important. Of course, if the aim of CLIL were to be cast as 'developing English for knowledge acquisition', skills other than oral fluency would also become important and even move into the foreground: scanning and skimming texts, listening for gist, note-taking, processing and condensing new information and transferring such information into the L1 (or L3.), presenting, evaluating, expressing opinions, challenging – thinking.

Implications for pedagogical action in CLIL classrooms

If one formulates an explicit theoretical basis for CLIL, as I have tried to do in chapter 9, then several consequences follow on the level of planning as well as on the level of classroom pedagogy. Embracing a participatory view of language learning makes it possible to state with some clarity what CLIL lessons are likely to accomplish in terms of foreign language learning and what they are not. They are likely to be good training grounds for listening to and reading in the foreign language but less good training grounds for participation in speech events that are oriented towards interaction rather than transaction. There are, of course, likely to be some gains on most levels of language competence, but negotiating over the telephone, for instance, will not be one of them and neither will writing. If one trains for the marathon one is going to be a better runner generally, but one is unlikely to win the gold medal over 200 metres.

It only seems logical that particular emphasis should be laid on those aspects that CLIL lessons would be particularly good at developing and for this purpose it will be necessary to move towards formulating language curricula for CLIL programmes. At present, at least in Austria, a CLIL curriculum is defined entirely through the curricula of the content subjects, with the tacit assumption that there will be incidental language gains. But why should we be doing CLIL at all if there are no language goals present? I want to argue very strongly that language curricula for CLIL should be developed, and language goals in speaking, writing, reading, and listening concretized. This is most urgent in the area of academic language skills necessary for knowledge acquisition. Academic language skills and functions in the oral and written modality must be identified and implemented systematically (describing, defining, explaining, informing, arguing, hypothesizing; plus a progression of narrative, descriptive, informative, argumentative, and persuasive texts) in conjunction with subject specific and general academic vocabulary development. As a side effect this would raise awareness generally of the crucial role of language in school education, a backwash which might, among other things alleviate the tension frequently felt by practitioners between the requirements of the content subject and 'English'. Mohan and Beckett (2003) note that

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content-based instruction (CBI/CLIL) is particularly effective when it combines a focus on content with a focus on linguistic form (see also Echevarria *et al.* 2004). An analogous position is held by Lyster who argues for a “counterbalanced approach” in Canadian immersion education, stating that classroom work should combine content-focused and language-focused elements in well reflected measure (Lyster 2007). As attested by the interview data, individual teachers have embraced this attitude already and note significant improvement in their students’ command of subject-specific concepts. However, there is a long way to go until this becomes common knowledge and common practice.

On the level of concrete pedagogical action a reorientation of CLIL along principles of English for Academic Purposes would suggest paying explicit attention to the development of all four skills and thus a stronger diversification of classroom activities than is in evidence in the lessons studied (though I have acknowledged elsewhere that the heavy dominance of Triadic Dialogue may – just may – be an artefact of the data-gathering situation). This would perhaps result in a more varied realization of the student and teacher roles than is currently in evidence (cf. Hajer 2000), since the present data already demonstrate that different activity types like individual seatwork, pair- and group work do foster more varied speech functions than teacher-led whole-class discussion. On the same note, it may be important to take note of a consistent result of the present study: the differentiation of classroom registers (instructional/regulative) in terms of occurrence and realization of different language functions. In order to fully exploit the spectrum of linguistic possibilities available within the confines of classroom talk it would be advantageous to conduct not only instructional but also regulative phases of the lessons in the target language. The analyses of classroom talk conducted in this study, especially with regard to knowledge construction and the role of classroom questions suggest that Triadic Dialogue does not foster sustained talk either on part of the teachers or on part of the learners. I would recommend reconsidering the value of teacher monologue (in well-considered dosage), both in the interest of presenting coherent conceptual networks of topic content and in the interest of providing sustained, syntactically complex oral input. On the part of the students, output which is more sustained than the endless numbers of minimal responses in the R-slot can be obtained by asking specific types of questions rather than others (open questions; questions for opinions, reasons and explanations rather than questions for facts) and by requiring students to produce writing as well as oral presentations. In answer to the practitioner question which prompted the present study “how should we teach?” I would like to answer with Mohan and Beckett (2003) that content-based instruction is particularly effective when it combines a focus on content with a focus on form, i.e. on language. My above sug-

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gestions for pedagogical action all go into this direction and I am convinced that this is the way forward for CLIL in Austria and elsewhere.

Prospects and directions for further research

Like any piece of thorough research this study has raised at least as many questions as it has answered. Indeed, might say that the broad scope of empirical questions pursued has served to outline a whole research programme for several years to come.

Work on broadening and sharpening the theoretical basis of CLIL needs to continue (cf. Lyster's 2004 call for a reconceptualization in socio-cognitive rather than input terms; see also Lyster (in press)) and one part of this will be to conduct a much larger scale document analysis to find out more about the present theoretical underpinnings of CLIL programmes. The most urgent concern, in my opinion, is to refine the conceptual and to broaden the empirical basis of 'English for knowledge acquisition' within CLIL. The relationship between current work on English for Academic Purposes and CLIL needs to be explored and scanned for synergies and mutual inspiration. The concrete fine-tuned work on identifying and categorizing academic language skills needs to proceed and should also take into account the needs and expertise of content-subject specialists and didacticians. By the same token the relationship between ESP and CLIL has to be explored: the connection was made very clearly at or even before the launching of the CLIL enterprise (Widdowson 1983) but has, to my knowledge, not been systematically pursued since then.

In addition, more detailed investigations are needed in all the areas examined in this study as well as in several others. Looking beyond the process-oriented perspective of the present research design, it would also be highly desirable to obtain outcome-oriented results, for instance with regard to language transfer from the educational context to other contexts of language use. One area where this would be particularly important is pragmatic and sociolinguistic competence.

In sum, I believe that the present study stakes out the field in which research into CLIL classroom interaction and learning should take place. A surge of research activity on CLIL in Europe has been noticeable in the recent past and I am confident that we will see a dynamic development of this area in the near future.

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Notes

Chapter 1

1. The content-english website lists over forty (!) terms that are used to refer to this focal area. (www.content-english.org).
2. A certain exception in this respect was the expressly multilingual Habsburg empire. The studies contained in Rindler-Schjerve (2003) afford unique perspectives on the empire's multilingual education policies during the second half of the 19th century.
3. E.g. Adamson 1993; Brinton, Snow, Wesche 1989; Crandall and Tucker 1990; Grabe and Stoller 1997; *ClilCompendium* (www.clilcompendium.com), Marsh and Marsland 1999 among many others.
4. For a brief discussion of the underlying model of communication and possible alternatives see chapter 4 on knowledge construction.
5. Compare, for instance, www.clilcompendium.com, Abuja and Heindler 1993; Brinton, Snow and Wesche 1989.
6. Even though I have inside knowledge of the Austrian scene only, information I have obtained about other countries indicates that the situation is basically the same elsewhere.
7. European Center for Modern Languages www.ecml.at (accessed September 2004).
8. *EuroClic*, *VocTalk*, *CLIL Compendium*, *Content-English*, *Eurydice*, (www.euroclic.net, <http://www.cec.jyu.fi/voc-talk/over.htm>; www.clilcompendium.com; www.content-english.org; <http://www.eurydice.org/index.shtml>).
9. The situation has started to change in the last two years or so. In 2006 AILA (Association Internationale de Linguistique Appliquée) accepted a research network dedicated to CLIL classrooms. The network coordinator is Ute Smit, University of Vienna (ute.smit@univie.ac.at). See also Dalton-Puffer and Smit 2007).
10. Refer to: <http://www.constructivism123.com/index.htm>.
11. The *CLIL Compendium* website is one of the products of an EU project bringing together experts from several countries in order to formulate underlying principles, guidelines for best practice and directions for future development. www.clilcompendium.com (accessed 30 June 2004).

Chapter 2

1. For a concise overview see Edwards and Mercer 1987, chapter 2.

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2. It would in my opinion be interesting to find out how proponents of this position actually define the 'real world'. I doubt that as participants in educational encounters they would feel 'unreal' themselves. I suspect that behind this attitude lies an ideology which denies all activities which are not part of adult activity the status of 'real' reality. The years of childhood and youth would then be spent outside the 'real world', as would be parts of the lives of all those who are involved with them. Ute Smit convinced me that the decisive factor is not 'economic activity generating monetary income' but the adult/non-adult divide. This is how teachers often seem to end up on the wrong side of the fence.
3. The term 'oral practices' itself is a specialization of the more general concept of 'cultural practices' which has a broad intellectual history in the 20th century (Hymes, Bhaktin, Vygotsky, Wertsch, Ochs and others). Cf. Hall 1993.
4. Some have suggested a further distinction of this latter aspect into 'managerial' and 'disciplinary' (e.g. Schinke-Llano 1983) but this is not relevant for the questions I want to pursue here.
5. More aspects of the structure of whole-class interaction are discussed in section 2.4 and chapter 4.
6. In Finland, on the other hand, class sizes of below 10 seem to be quite normal in CLIL classes, also at lower secondary level. (cf. Tarja Nikula's data, some of which I have had the opportunity to study).
7. For a recent example, see Consolo 2000.
8. Mehan (1979, 186) characterizes the rank scale as an "analyst's construct" which does not consist of units which are necessarily meaningful to the participants. This criticism holds as far as it goes: Mehan is thinking in terms of pedagogical units, while Sinclair and Coulthard operate with discourse units.
9. See Schiffrin 1994, Ten Have 1999, Markee 2000 for overviews of the principles of Conversation Analysis.
10. Unfortunately I know of no empirical study where such a global inventory of speech acts in classroom talk has been established. This would be a worth-while area of research.
11. This conception of the interrelation of context, function and form is reminiscent of that adopted in the Ethnography of Communication but the concept of genre contained in that framework ("textual categories") remains too vague for practical analytical purposes.
12. Recent publications on 'genre in the classroom' within the ESP school of genre-analysis bear witness to this concern with writing: Paltridge 2001, Johns (ed.) 2002, Hüttner 2005.
13. For a structured overview see Hüttner 2005.

Chapter 3

1. Nezbeda 2005 shows that no coherent statistics on the subject are available to (and hence even less from) the Austrian education authorities (2005, 21–38).
2. Cf. Oestreich and Grogger's (1997) questionnaire study among head teachers regarding the implementation of CLIL at their schools. Also Zeller 2000.
3. For a summary see Nezbeda 2005, 67–82.

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4. The relevant passage is § 16/3 of the *Schulunterrichtsgesetz* (School Teaching Act).
5. Workshop: EAA im Geschichts und Geografieunterricht an BHS. PIB Wien, 5.-6. October 2004.
6. <http://www.cilcompendium.com>.
7. See <http://www.wien.gv.at/ssr/allgemeines/vbs.htm>.
8. The situation is somewhat different in Finland (e.g. Dalton-Puffer and Nikula 2006) and Sweden (e.g. Sylvén 2004, 2006).
9. I am greatly indebted to the *Phonogrammarchiv* of the *Austrian Academy of Science* for providing me with professional equipment and technical advice and for their support with the transfer and archiving of the data. Special thanks to Franz Lechleitner, Christian Liebl, Wilfried Schabus, and Nadja Wallaszkovits.
10. This was made possible by a grant from the *Wiener Hochschuljubiläumsfonds* (2001) for which I would here like to express my thanks. Thanks, above all to Susanna Schaefer and Christina Philippi for extending great care to the rendering of all this multi-voice classroom talk.
11. Cf. Dalton-Puffer 2002.
12. This is particularly important in schools where the head has a strong and active interest in CLIL (especially as adding to the school profile). In such a case if the teacher experiences the researcher as self-motivated and not the emissary of the head or education authority, co-operation is much easier. But this ascription of 'spy'-status can change easily as happened to me during a staff meeting with the CLIL team of one school when the head was prevented by urgent business from attending. Apparently some of the teachers had anticipated that I was there to confirm the unequivocal enthusiasm of their head-teacher, but when they noticed that the discussion enabled them to freely voice their doubts they abandoned their previous reservations.

Chapter 4

1. But even in learning a craft like carpentry it is impossible to imagine that anyone should be considered a 'master' if s/he is not able to talk about what s/he is doing (cf. Lave and Wenger 1991). See also Halliday's language-based theory of learning (Halliday 1993).
2. Cf. Vygotsky's distinction between systematic and spontaneous concepts, the former typically occurring in formal education, the latter in everyday, informal interaction (Vygotsky 1978).
3. Some remarks on the felicity (or not) of the term repair in this context can be found in Chapter 8.
4. Ehlich and Rehbein themselves do not really take a positive view of this ("Rätselraten" (guessing games)) but are critical of average classroom discourse which they characterize as "Lehrervortrag mit verteilten Rollen" (dramatic performance of teacher monologue). However, quite recently the potential of drama-theory and game-theory for the study of classroom discourse is being realized (e.g. Appel 2003).
5. Note the direct connection with the information transfer or conduit model of communication.

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6. Introductions into the main ideas of socio-cultural theory can be found, for instance, in Wertsch 1991, 1992; Measures, Quell, Wells 1997; Lantolf, 1994 and 2002.
7. Also referred to as “esoteric knowledge” by, for instance, Marton and Tsui 2004.
8. That this becomes an issue at all is probably caused by the fact that the time-table of these students contains Biology, Chemistry and Physics as separate subjects. They are clearly having some difficulty in transcending this compartmentalization.

Chapter 5

1. Cf. Ehlich und Rehbein (1986) on accelerated knowledge acquisition (akzelerierter Wissenserwerb).
2. The humour of the following frequently told joke depends on the fact that all participants in a lesson are aware of this: Teacher: “How much is three times six?” Pupil: “If you don’t know that, you shouldn’t be my teacher”.
3. With regard to its propagation in applied linguistics Long and Sato’s use of the distinction in their 1983 article has probably been decisive.
4. For a succinct overview see: (http://changingminds.org/techniques/questioning/open_closed_questions.htm accessed 12.11.2003)
5. As the chapter on requests shows, the extralinguistic-pragmatic dimension of the request goal has significant effects on the linguistic realization of speech functions (cf. chapter 7; requests for information vs. requests for action).
6. The specificity of content learning in formal education is thus also expressed in this distribution between content and procedure: if questions are the prime intellectual tool for gaining new knowledge, then it is remarkable that the share of content questions among the learners is considerably lower than among the teachers.
7. Clearly what counts as linguistic complexity, or simplification, is an intricate issue and has been given a good deal of thought in linguistics. The discussion cannot, however, be pursued in this context.
8. Cf. studies on the influence of teacher wait-time on student responding behavior mentioned by Edwards and Westgate (1994).
9. The teacher’s strategy can be interpreted as a kind of scaffolding: T is assisting the student in making an adequate contribution to the co-construction of a conceptual web which the student on his or her own would be unable to accomplish.
10. The following discussion refers exclusively to the linguistic level. Further levels would be non-verbal signals, especially gaze and facial expression.
11. Clearly, L2 competence is not the only factor involved here. But as in other chapters, factors more commonly assumed perhaps to be part of a teacher’s *personality* (e.g. openness, risk-taking behavior, verbal orientation also in the L1 etc.) have to remain outside the focus of my discussion.

Chapter 6

1. A good deal of the literature on English for Academic Purposes consists of textbooks or web-based teaching resources (e.g.) Jordan 1997, Hahn and Dickerson 1999, Swales and Feak (1994, 2000), <http://www.uefap.com/index.htm> © Andy Gillett 2006 (2 March 2006)). The relatively recent research orientation regarding spoken Academic English is reflected in the appearance of *MICASE – Michigan Corpus of Academic Spoken English*. The journal *English for Academic Purposes* (since 2002) does feature articles on speaking, but articles on writing are far more numerous.
2. There is a research tradition in educational linguistics which would be relevant here but its focus has been mostly on writing. Based on the precepts Halliday's systemic functional theory of language, it has dealt with the development of textual genres in education from secondary to tertiary level. (e.g. Halliday and Martin 1993, Flowerdew 2002, Unsworth 2000a, also Bhatia 2002).
3. Based on the limited German-language data available to me I would contend that this will not be the case. Also in German definition-type tasks are preferably dealt with only interactively without providing a full version of the mini-genre to conclude such a sequence. To the extent that canonical definitions are a genre of specialist discourse, this points to classroom discourse as being coloured considerably by characteristics of everyday informal interaction.
4. Cf. Tsui 1995, several articles reported in Chaudron 1988, 86–88; Faerch 1986, 132ff; Brown and Armstrong 1984.
5. This third point is problematic in so far as Gaulmyn (1986) does not indicate what expresses this sanctioning. In the case of student explanations teacher feedback could be such an expression, but vice versa? Do teachers sanction their own explanations? Who else does?
6. Note the consensus in the discussion on bilingual education (building on Cummins' concepts of BICS, CALP; Cummins 1991) about the fact that such skills are transferable from one language to another.
7. There I claimed that some activity types will foster decontextualized language use more than others so that if we want to practise decontextualized language use, we have to use these activity types in the classroom. Written tasks would be one way to achieve decontextualization, but these are absent from the CLIL content classrooms studied.
8. I do not think that matters are crucially different in L1 classrooms, only the translation option would be missing there. Whether this working hypothesis is true, would of course have to be verified empirically.
9. <http://www.m-w.com/cgi-bin/dictionary?book=Dictionary&va=hypothesis> (accessed 22 January 2004).
10. For a profound book-length treatment on science teaching in English speaking countries see Lemke 1990.

Chapter 7

1. Directives are speech acts designed to get a Hearer to act in ways desired by a Speaker and this means that they naturally require the Speaker to do that amount of interactive work which is sufficient to achieve that aim.

2. For an overview of the research situation in Interlanguage Pragmatics see Kasper 2001 (=chapter 3 in Rose and Kasper eds.).
3. It must be noted that pragmatically Standard Austrian German probably has stronger affinities to its Central European neighbouring languages (e.g. Hungarian, Czech) than to Standard German with its orientation towards Northern German communicative practices.
4. Thanks to Ardith J. Meier (University of Northern Iowa) and to Sharon Lapkin, Merrill Swain and the discussants at the MLC Colloquium in the fall term of 2002 at OISE, University of Toronto.

Chapter 8

1. There are also connections to 'scaffolding' as postulated in Sociocultural Theory (e.g. Lantolf 2002).
2. The terms *feedback on error* and *corrective feedback* are now preferred terms in the literature because earlier terms such as "error correction" were considered problematic because of an implicit assumption that errors get corrected when in fact they often do not after receiving feedback.
3. This is possibly a relevant observation on the specific quality of classroom discourse, which does not offer much opportunity to even commit such errors. This discussion would, however, lead us off at a tangent.
4. Compare Musayeva's (1998) finding that 90% of students expressed a strong preference for their errors to be corrected by teachers.
5. A Chi-Square (Cramer's V) for a Rows by Columns Contingency Table was conducted for the categories marked with asterisks since the maximum for this test is a 5 by 5 table. The results show that the distribution of interactive and non-interactive repair vis a vis different categories of repairables is non-random at the 0.1% level (chi-square= 28.39; df=4; P<.0001). (<http://faculty.vassar.edu/lowry/VassarStats.html>).
6. Part of this table (a 5x5 version) was submitted to chi-square testing. The distribution of frequencies in the cells was shown to be significant at the p<.0001 level; df. 16, chi-square.
7. For a more extensive account of minimizers see House and Kasper (1981, 166–170) and partly also chapter 7 on requests.
8. Mitigation on the phonological level, as well as non-linguistic expression (voice-quality, gaze, gesture, posture etc.) would also be of interest, of course. There is ample room for further research.
9. For a recent debate see Truscott 1999 vs. Lyster, Lightbown and Spada 1999.
10. Seedhouse (1997) has noted the general absence of evaluative repair initiation in EFL classrooms, which he calls "the case of missing 'no'". Following the conversation analytic logic that what speakers avoid is just as important as what they do, he argues that the avoidance of evaluations conveys to language learners that linguistic errors are embarrassing and face-threatening. If they really were merely an organic part of the language learning process, as they are often claimed to be, why should one not be able to flag them and talk about them openly?
11. A large number of the instances of metalinguistic talk which do occur belong to the EFL phase of one of the lessons recorded.

12. Students, on the other hand, are sometimes quite happy to leave procedural issues unclarified and then use it as a loophole for not doing the work required.

Chapter 9

1. Frequently the expectation of practitioners in asking such questions is that the applied linguist should come forward with ideas for pedagogical action. It is, however, my conviction that the actual decisions regarding the details of pedagogical action in terms of concrete tasks and behaviors can only be taken by the practitioners themselves. The results produced by research are there for the taking, but the 'making' of the teaching cannot (and should not) be primarily in the hands of the applied linguist. What needs to be constantly negotiated, then, is the point where one expertise should hand over to the other.
2. My discussion here is necessarily selective. General overviews of Second Language Acquisition theories can be found, for instance, in Ellis 1994, Mitchell and Myles 1998, or Lightbown and Spada 2006. A very insightful evaluation of the current state of the art in SLA theory is Atkinson 2002.
3. Cf. Nation's recently formulated positive position regarding explicit vocabulary learning; Nation 2001, Bogaards and Laufer 2004.
4. Whether these processes are supposed to specialize in language learning (LAD) or are general learning strategies is another matter of debate which I will not discuss here.
5. Research has shown that topic-knowledge is a decisive factor determining the amount of non-native speakers' participation in interactions in the second language. If the second language speaker feels she is an expert on the topic, this will partly counterbalance her disadvantage in terms of language competence (cf. Zuengler 1993b).
6. <http://www.lehrerweb.at/europabuero/fremdsp/vbs/primary/framepgee.html>. [8 August 2006].
7. All translations of interview extracts by CDP.
8. The reason why the German term *Kommunikative Kompetenz* does not appear in the interviews may be due to the fact that it was established as a term in educational philosophy by Habermas in the 1960s and has somewhat different implications than the Hymesian *communicative competence*.

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