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Optimising EMI in higher education through CLIL. Case study at Vienna University of Technology.

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List of abbreviations:

CLT – Communicative Language Teaching

CLIL – Content and Language Integrated Learning

EMI – English as Medium of Instruction

TU – Vienna University of Technology

1. Introduction

> Education in a language which is not the first language of the learner is as old as education itself. As individuals from different language groups have lived together, some have been educated in an additional language. This is as true of Ancient Rome as it is of the increasingly multilingual societies being created through mobility and globalization in the 21st century.
>
> (Coyle, Hood & Marsh 2010: 2)

Using foreign languages for teaching has always been a part of education. The most obvious example is Latin, which for centuries served as the language of academia (Mehisto, Marsh & Frigols 2008: 9). To this day disciplines such as Medicine, Law or Philosophy carry traces of Latin in their terminologies. Another, much older, example is Sumerian. It was the native language of Sumerians, which was used to teach Akkadian conquerors subjects such as theology, botany and zoology around 5000 years ago (ibid.: 9).

Nowadays, although neither Latin nor Sumerian are widely anymore, foreign languages are still adopted as medium of instruction across educational settings worldwide. In Canada, for instance, English-speaking children are taught subjects such as History or Geography in French (Day 1996), in Mozambique Portuguese is widely used as the language of education (Coyle Hood & Marsh 2010: 6). In Europe the language that established itself as the most widely used is English (Eurydice 2005).

The reasons for using foreign languages as medium of instruction vary across countries and educational settings. They stretch from pedagogical (e.g. language teaching) through practical (e.g. common language for education in multilingual societies) to ideological (e.g. integration). In the case of English, the reasons for its increased use as medium of instruction are closely related to the processes of globalization and the establishment of English as an International Language (Coleman 2006). The fact that English has become a global Lingua Franca did not go unnoticed by European higher education institutions. In response to the demands of today's globalized world,

European universities introduce new English-medium courses every year (ibid.).

The present paper seeks to investigate the rationale behind the use of English as a medium of instruction (EMI) at the Vienna University of Technology (TU). In particular, it focuses on the language-teaching dimension, which in the context of higher education is not always explicitly addressed (Unterberger & Wilhelmer forthcoming). Often "it is assumed that English skills will be honed incidentally" (ibid.: 9) as the students are exposed to English and that there is no need for additional language focus. However, as some studies show (e.g. Hellekjaer 2007), the lack of explicit language learning goals may prevent unlocking full potential of the English-medium courses.

The second goal of this paper is to describe a teaching method, which not only facilitates content learning but also helps the students to develop their language skills. In order to address the issue of language learning in English-medium courses I have decided to draw on the theories underlying the Content and Language Integrated Learning (CLIL) approach. The analyses of CLIL principles will highlight the issues, which should be taken into account in order to fully optimize English-medium courses at the TU.

My thesis on EMI in higher education is divided into two parts. The first part provides a theoretical background for the case study presented in the second part. In the first part I investigate the rationale behind English-medium courses at the tertiary level in Europe and analyse the principles of CLIL methodology. Chapter 2, which opens the first part of this thesis, explores different reasons for EMI in detail. Although most of the rationales behind English-medium courses are not explicitly concerned with language teaching, the language-learning dimension is often embedded implicitly.

The third chapter provides a conceptual framework for the description of CLIL. In accordance with this framework language teaching methodologies can be described at three different levels: the ones of approach, design, and

procedure. Since this paper aims at identifying the issues that need to be addressed in order to optimize English-medium courses, understanding the concept of designing a method is essential.

Based on the conceptual framework established in chapter 3, the major developments in language teaching are explored in chapter 4. The main focus is on the emergence of the Communicative Approach to language teaching and the Canadian Immersion method, which both contribute greatly to the theoretical basis for CLIL.

In chapter 5 the CLIL method is described. The chapter focuses mainly on the design level of CLIL. Since English-medium courses at the tertiary level often involve content teachers who have to take on the responsibility of language teaching, considerable attention is given to roles and competences of teachers. The final section of the chapter, which ends the first part of the paper, provides a summary of the most important concepts and presents some conclusion which serve as the basis for the case study described in the second part of this paper.

The second part of this thesis is the empirical study conducted at the Vienna University of Technology. The empirical study deals with the rationales for EMI at the TU and with the elements of EMI design discussed in the first part. The study is based on data obtained from interviews conducted with lecturers, who teach some of their courses through the medium of English. In chapter 6 the research methodology is described. Chapter 7 presents the findings of the study. It focuses on four main themes: rationales behind EMI courses at the TU, teachers' backgrounds, teaching through English, lecturers' personal views on EMI.

Finally, drawing on the first two parts of the thesis, chapters 8 and 9 provide a discussion of the findings and the main conclusions of the study.

PART I – Theoretical background

2. Why English in European Higher Education?

In recent decades English rose to the status of an International Language . It is now spoken around the world either as a first, a second or a foreign language or as a lingua franca. It is the language of politics, business, science, entertainment and tourism (Crystal 2003; Gnutzmann & Intemann 2005; Jenkins 2009; Hoffmann 2000). Parallel to the rise of English, other developments such as the advancement in information and communication technologies, political alliances and the emergence of a common international market led to the globalisation of today's society.

The globalisation and the rise of English are perhaps the most significant developments of the second half of the 20th and the beginning of the 21st century. Globalisation fuels the advancement of English and vice versa. For example English is now well recognized as a language of international business. Ruiz-Garrido and Palmor-Silveira (2008: 159) point out that "it is hard to think of any businessperson who is not ready to exchange information in English".

Other obvious examples of the strong relationship between English and globalisation can be found in the world of politics. The European Commission is just one evident instance of an extensive use of English within a supra-national political organization. According to Truchot (2002: 16) in the period between 1986 and 1999 the number of primary documents produced by the European Commission in English rose from 26% to 52%. Although the documents are always translated into the other 23 official languages of the EU, the increase in the production of primary documents in English indicates that the 'in-house communication' of the EU tends to be in English. English is also

the language of science and academia. Referring to Ammon (2003) Ferguson (2006: 112) writes that "by 1995 English accounted for 87.2 per cent of publications in the natural sciences (biology, chemistry, physics, medicine, mathematics) and for 82.5 per cent of publications in the social sciences (sociology, history, philosophy)". At the time when research has an increasingly international dimension English has managed to establish itself as the global language of science.

The above examples show the importance of English in various areas of today's globalized world. The European higher education sector, which is undergoing a process of rapid internationalisation (Knight 2008), is also affected by the dominance of English. An increasing number of higher education institutions in Europe recognize the importance of English and, in order to meet the challenges of the English-dominated globalized world, introduces content courses taught in this language (Coleman 2006).

The specific reasons for adopting EMI at individual institutions are of a diverse nature, and stretch from pedagogical, through economical, to cultural. Coleman (2006: 4) allocates these reasons across seven categories: CLIL, internationalization, student exchanges, teaching and research materials, staff mobility, graduate employability and the market in international students. This part of the paper explores these various rationales and tries to identify the language-learning objective embedded in them.

2.1 CLIL

Mehisto, Marsh and Frigols (2008: 9) define CLIL as "a dual approach in which an additional language is used for the learning and teaching of both content and language". The implementation of CLIL programs depends heavily on the circumstances in which they are to operate. Methodologies differ at different educational levels and depend on factors such as for example language

proficiency of teachers and students or the level of administrative support. Institutions which decide to adopt CLIL need to be aware of the resources that it requires. Good language proficiency and various other teacher competences as well as the support from the administrative staff are essential for an effective CLIL design.[1]

CLIL has already had an impressive record of success at lower levels of education but has not yet been broadly adopted at the tertiary level (Masih 1999; Coleman 2006: 5). Coyle, Hood and Marsh (2010: 24) argue that the reluctance to explicitly designed CLIL programs in higher education may be due to the assumption that students studying through the medium of English do not require an approach in which both objectives of content and language learning are included. In other words, it is assumed that the students have enough mastery of the language to be focusing exclusively on the content. However, institutions which recognize the need for extra language support move towards the adoption of CLIL (Coyle, Hood & Marsh 2010: 26). One area where CLIL programs with English as medium of instruction are often implemented is Business Studies. Many lecturers in this field believe that teaching content in English "help(s) their students to better comprehend all the nuances implied in international business" and CLIL is one of the methods used for improving this comprehension (Ruiz-Garrido & Palmor-Silveira 2008: 149). Adopting the CLIL approach can be beneficial in other areas of higher education as well because it can act as "a professional development catalyst within faculties of higher education institution" (Coyle, Hood & Marsh 2010: 24). The CLIL approach is believed to have an impact not only on the development of language skills but also on the development of socio-cultural competence and communication skills.

From all the reasons for English-medium courses CLIL is the only one that explicitly addresses language learning. However, it is not a frequent reason for adopting EMI (Coleman 2006). According to Coleman, the most common rationale is the need for internationalization of the institutions.

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[1] For more detailed discussion of CLIL methodologies see chapter 5

2.2 Internationalization

Wächter (1999: 12) describes internationalization of higher education as "the process of integrating an international dimension into the teaching and research function of a higher education institution" and emphasises the teaching function in this process. He argues that research by its nature contains an international dimension, as it "requires taking into account the stock of existing knowledge on a global scale" (1999: 15). Teaching, on the other hand, needs to be internationalized in order to give the students a competitive advantage when they enter the labour market:

> The rapid acceleration of cooperation and competition around the globe impacts on all aspects of society but particularly on the economy and the employment system. In turn, this has repercussions on the qualifications to be imparted to future generations, and certainly on the qualifications required of those from whose ranks future leadership will be recruited. If globalisation already is, and will increase to be, a dominant feature of future societies and economies, considerations of competitiveness virtually dictate that higher education turns international. This applies to the "clients" of the institutions, i.e. the students, who have an acute interest in their future employability, on foreign labour markets, but also on their home countries' markets which become internationalised increasingly.

(Wächter 1999: 16)

Institutions which recognize the importance of internationalization have a better chance of successfully preparing their students for future careers and this is a reason enough for making an effort to introduce an international dimension.

There are various types of activities which foster internationalization. Cross-cultural trainings, exchange programs, international research agreements, development of international curricula, foreign-language teaching or the recognition of the international dimension in the institutional mission statement are only some of the many examples of strategies for internationalization (Knight 2008: 34). In relation to EMI the strategies aimed

at the development of international curricula and language teaching are especially relevant. Developing an international curriculum involves the introduction of elements with an international dimension into the curriculum. In other words, an international curriculum will include features such as foreign culture, foreign legal frameworks or foreign languages.

Offering EMI courses is very often a substantial part of the international curriculum development (Wächter 1999: 33). In terms of internationalization of teaching, this strategy has many advantages. First of all it attracts and facilitates foreign students thus promoting cultural exchange. Secondly it enables the students to use English sources and become familiar with foreign scholarly traditions. Finally, through the increased exposure to English, the students can improve their language skills.

Developing an international curriculum with EMI courses often involves just a change in the language of instruction. However, as improved language skills are expected from the participants of such courses, it can be concluded that language skills development is one of the aims of internationalization. The students enrolled in internationalized curricula are expected to reach a high level of language proficiency thus increasing their chances for employment (see section 2.4).

Curriculum development is perhaps the most effective way of introducing an international dimension into teaching. The benefits of this strategy are considered to be long-term because through the curriculum all students can be reached (Wächter 1999: 32). Other strategies, such as for example mobility programs, affect far fewer students.

2.3 Student exchanges and staff mobility

Despite being limited to a relatively small group of students and scholars, mobility is a very important aspect of today's higher education. The exchange of ideas, knowledge, and culture and the improvement of linguistic skills are crucial elements of intellectual development and add an international dimension to the learning experience. In the European context and especially within the European Union, which promotes freedom of movement of people, goods, services and capital, the stress on mobility within higher education is very apparent. The European Union has set up and coordinates various exchange programs and cooperation's between universities catering for increased mobility.

Perhaps the most well known program within the European Union is the Erasmus exchange program. Erasmus is "the EU's flagship education and training program enabling 200,000 students to study and work abroad each year" (http://ec.europa.eu/education/lifelong-learning-programme/doc80_en.htm, 13 May 2011). It involves over 4,000 higher education institutions from 33 countries and engages activities aimed at the development of students and teaching staff in Europe. Erasmus is a part of Socrates, which is one of the two large framework programs of the European Union. Other schemes included in the Socrates program are Comenius and Grundtvig, which are aimed at secondary and adult education respectively. Parallel to Socrates, Leonardo da Vinci is the second umbrella program for several initiatives aimed at improving vocational training systems and the development of language skills (Wächter 1999).

Next to Socrates and Leonardo da Vinci, various other initiatives are helping to increase mobility in the European higher education. These initiatives involve bilateral agreements between universities, joint-projects and other co-operations. They are very often supported by the EU programs such as for example Tempus - supporting exchanges with non-EU partners or Alfa for co-

operations with higher education institutions from Latin America (http://ec.europa.eu/education/external-relation-programmes/doc1172 en.htm 13 May 2011).

Despite the great variety of projects, mobility in Europe is still quite low (Wächter 1999). In 2006 only "2.3% of students with the citizenship in the EU were studying abroad in Europe" (Eurostat - European Commission 2009: 97). The main reasons for the low mobility are: financial insecurities, lack of individual motivation, insufficient support of mobility in home country, insufficient support of mobility in host country, and lack of language competency (ibid.: 108). The issue of language competency can be addressed by introducing EMI courses.

Exchange of students and staff is sometimes possible only if the courses are delivered through an international language, most frequently English. This is especially true in the countries whose national language is little taught elsewhere (Coleman 2006: 5). Norway provides an example of a dramatic rise in English medium courses motivated by the focus on student exchange. The University of Oslo, for instance, increased the number of courses and programs taught in English from between 30 and 40 in 2003 to around 800 in 2007. This was due to the reform of higher education, which focused on internationalisation and student exchange (Hellekjaer 2007: 68). Universities and other higher education institution can effectively increase the number of incoming students if they offer more courses in English.

Another important aspect of mobility in the area of higher education is the mobility of academic staff. Wächter (1999) points out, that mobility at tertiary level is very often related to research. However, scholars who take part in international research programs sometimes also teach at the host institutions. Of course, teaching staff can also become mobile. Higher education institutions often invite guest lecturers who are experts in their respective fields in order to enhance the quality of teaching. In both cases, staff mobility may result in EMI courses. English may be used due to the

guest lecturer's poor knowledge of the local language or due to the desire of adding an additional language dimension to the course design. This may be especially tempting if the guest lecturer is an English-native speaker.

The demand for English provision is constantly rising. In France, for example, students enrolled in engineering degrees are advised to spend part of their studies abroad because "an acceptable level in English is required [from them in order] to graduate" (Eurostat - European Commission 2009: 99). This suggests that exchange programs are often seen as an opportunity to improve English proficiency. EMI courses taught by local or visiting lecturers can provide a platform for language skills development and appeal to the students who choose to participate in an exchange program in order to improve their English.

2.4 Graduate employability

> Demographic shifts, the knowledge economy, the mobility of labour force, and increased trade in services are driving nations to place more importance on developing and recruiting highly qualified people/brain power through international initiatives.

> (Knight 2008)

One of the missions of every higher education institution is to prepare their students for the competitive labour market. The task of an educational institution is to provide the students with high qualifications in their respective areas of study and to train other skills such as for example organisational and planning skills, ability to work in a team, analytical skills or proficiency in foreign languages just to name few. The institutions which manage to equip the students with all these skills are likely to achieve a high employability rate of their graduates.

Europe's job market is very competitive. In the European Union, where the article 39 of the 1957 Treaty guarantees free movement of workers, people have to compete for jobs not only with their compatriots, but also with other EU citizens (http://www.eurofound.europa.eu/areas/industrialrelations/dictionary/definitions/freemovementofworkers.htm 17 May 2011). Knowledge of foreign languages and especially world languages such as English significantly increases graduates' chances on the European labour market. Graduates with good language skills can become job-mobile thus improving their career prospects (Coleman 2006).

Universities and other higher education institutions recognize the growing demand for professionals with good command of English (Ruiz-Garrido & Palmor-Silveira 2008). The number of courses taught in English at the tertiary level in Europe is growing. Referring to the Ammon & McConnell study (2002) Coleman (2006: 7) lists a number of countries in Europe, in which higher education institutions offered programs in English in 1999/2000. In 10 out of 16 countries, "increasing graduate employability" featured as one of the rationales for EMI. Obviously, the expectation that the students enrolled in EMI programs will become highly qualified is embedded in this rationale. That can be traced back to the assumption that EMI courses facilitate the development of language and communication skills, which are some of the skills desired by employers (Archer & Davison 2008).

2.5 Market in international students

Knight (2008: 28) argues that higher education institutions have always competed in trying to achieve a high academic standard but lately this competitiveness is becoming commercially motivated. Universities and other educational institutions are now "competing for a market share of international fee-paying students, or for-profit education and training

programs, or for education services like language testing and accreditation services" (ibid.). The higher education market can be a very lucrative business. According to Altbach (2004: 2) foreign students contribute more than $12 billion in tuition fees and other expenditures to the U.S. economy each year. The market share of the U.S. compared to its competitors is largest but an increase in international students is visible in other parts of the world and especially in Australia, Britain, New Zealand and the European Union (ibid.: 5-6).

European higher education institutions very often charge moderate or no tuition fees from the EU citizens. However, incoming students from countries outside the EU sometimes have to pay considerable tuition fees thus providing additional income to European universities. Table 2 provides general information on tuition fees in some European countries.

Table 2 Tuition fees schemes in Europe (http://www.studyineurope.eu/tuition-fees 18 May 2011)

Country	EU students	Non-EU students
Austria	Degree-seeking EU students and exchange students don't have to pay tuition fees	Non-EU students and non-degree seeking students have to pay a tuition fee of 363,36 EUR per semester
Czech Republik	If the language of instruction is Czech, there are no tuition fees. For courses taught in a foreign language, tuition fees usually start at ca. 1,000 EUR per semester	
Denmark	EU and exchange students don't have to pay tuition fees	Tuition fees vary depending on the study program. However, tuition fees for non-EU students usually amount to ca. 10,000 EUR per year
Finland	EU and exchange students don't have to pay tuition fees	If the language of instruction is not Finnish or Swedish, non-EU students may be charged tuition fees
France	Students are charged tuition fees at public universities from 169 EUR/year for bachelors' degrees (licence), to 226 EUR/year (master's programs) and 342 EUR/year (PhD degrees – Doctorat)	
Germany	Students are usually charged a tuition fee of approximately 500 EUR per semester depending on the federal state where the school is located	Non-EU students may be charged slightly higher fees compared to EU students
Greece	Students don't have to pay tuition fees	Tuition fees vary depending on the school and study program. Usually, non-EU students have to pay a tuition fee of approximately 1,000 EUR per year
Hungary	Students under the "State-	Tuition fees vary depending on the

	funded" scheme don't have to pay tuition fees	school and study program. Usually, non-EU students have to pay a tuition fee of approximately 1,000 EUR per semester
Ireland	First cycle students who qualify under the Free Fee Scheme don't have to pay tuition fees. Postgraduate EU students have to pay tuition fees as specified by the university or college	Non-EU students have to pay full tuition fees
The Netherlands	EU students have to pay tuition fees that range from ca. 1,200 EUR to ca. 2,200 EUR per year	Non-EU students have to pay full tuition (no data) and registration fees (50-100 EUR)
Portugal	Full time students enrolled in Bachelor's and Master's programs are charged an average tuition fee of approximately 950 – 1,250 EUR per academic year. For third cycle programs (PhD degrees), the average tuition fee amounts to approximately 2,500 – 3,000 EUR per academic year	
Slovenia	Full-time EU students as well as students from countries with a reciprocal agreement with Slovenia don't have to pay tuition fees at public universities and colleges in Slovenia	
Sweden	EU students as well as exchange students don't have to pay tuition fees	Non-EU students have to pay full tuition fees, starting at approximately 9,700 EUR per year
Switzerland	Foreign students must pay tuition fees and registration fees, which vary depending on the school. In general, tuition fees amount from approximately 750 EUR to 3,000 EUR per semester	

As can be seen from the table, in some countries tuition fees from non-EU students can be a substantial source of income. Especially in Denmark and Sweden foreign students have to pay large sums in tuition fees. But also other European countries differentiate between the EU and non-EU students charging the latter more than the former.

At the institutional level strategies aimed at elevating the institution's attractiveness help in luring more tuition fee-paying students. In multilingual Europe introducing English programs can sometimes be the only way to accommodate students from other regions. Graddol (2006: 45) points out that "the growth of English-medium education [...] permit(s) a rapid internationalization of education and allows [...] countries to reposition themselves as exporters of educational services". The demand for English-medium education is on a rise, especially in Asia (ibid.). If the European higher education institutions want to have a share in this emerging market of international students, they need to offer more English-medium programs.

2.6 Teaching and research materials

According to Labochev (2008), in the late 1990's English titles comprised 21.84 per cent of the publications worldwide (Table 3). With the advancement of the communication technology the English dominance grew even more. As reported by Lobachev (2008: 5), English web pages comprised 82.3 per cent of the World Wide Web in 1997, and although the percentage of English web pages declined to 56.4 by 2002, English remains the most dominant language of the Internet (Table 4).

Table 3 Book publishing by language (Lobachev 2008: 2-3)

Country:	Percentage:
English	21.84
Chinese	10.99
German	9.78
Spanish	8.88
Japanese	6.12
Russian	5.29
French	4.81
Korean	3.90
Italian	3.78
Dutch	3.71
Portuguese	3.64

Table 4 Distribution of language on the Internet (ibid.)

Language	Web pages (millions)	Percentage of total
English	1142,5	56.43%
German	156,2	7.71%
French	113,1	5.59%
Japanese	98,3	4.86%
Spanish	59,9	2.96%
Chinese (Mandarin)	48,2	2.38%
Italian	41,1	2.03%
Dutch	38,8	1.92%
Russian	33,7	1.66%
Korean	30,8	1.52%
Portuguese	29,4	1.45%

Taking into account media such as books, newspapers and magazines, scholarly journals, visual media and the Internet, Lobachev (ibid.: 7) calculated the overall information production for 14 languages. The dominance of English is striking, as it constitutes 44.29 per cent of printed and electronic materials ahead of German and Spanish with 7.60 per cent and 5.91 per cent respectively.

The overwhelming dominance of English publications can be attributed to the growth of the US dominance after the two World Wars and the reduced role of German, which dominated science before the wars (Graddol 2000: 9). Since the end of World War II many national scientific journals shifted to publishing in English in order to reach broader audiences, thus additionally contributing to the emergence of English as the global language of science. Regarding the non-scientific genres English is also at the forefront. Graddol points out that Britain publishes more titles annually than any other country, contributing in this manner to the dominance of the English "intellectual property" (ibid.). Finally, the origin of the Internet in the US meant that also this medium was dominated by English texts from the start.

The supremacy of English in information production has an effect on the increasingly internationalized higher education. The fact that the majority of research and teaching materials is published in English often forces lecturers to draw on English sources and provide students with English teaching materials regardless of the language of instruction. For instance, in Norway English texts are used both in EMI courses and in courses held in Norwegian (Hellekjaer 2007: 73).

Given that a great number of publications are available only in English some universities may face a dilemma whether to use English texts in a non-English course (e.g. Norway), translate the materials, drop the subject or introduce an EMI course. In some cases the latter solution may be preferred. Through EMI courses universities are able to cover topics for which materials in the native language do not exist thus expanding their teaching offer.

The richness of English publications may also be seen as an opportunity to introduce course designs with an explicit language-teaching objective. The New Bulgarian University, for example, designed a whole course on English in media around the materials available on the World Wide Web (Tarasheva 2008). The course in question concentrated on the analysis of the online versions of newspapers such as *The Times, Independent, Guardian, Telegraph, Express*, *Sun* and *Mirror*. The objectives were twofold, to improve language skills and to make students understand media issues (e.g. the use of visuals, political correctness). The course proved to be a major success in terms of language and analytical skills development (ibid.).

EMI courses may also be initiated due to the desire to participate in the international scientific debates. Gnutzmann and Bruns (2008: 9) point out that "in a global academic community, research findings can be transmitted to a much wider audience via English". Through EMI, universities can prepare future researchers to participate in the international scientific debates.

2.7 Summary and some conclusions

In this chapter I have looked at the different rationales behind EMI at the tertiary level. Globalization and the position of English as an international lingua franca seem to be the main reasons for EMI. However, the specific motivations for EMI at different institutions can vary and have different aims.

From all the reasons discussed in this chapter only CLIL addresses the language-teaching objective explicitly. However, Coleman points out that CLIL has not yet been widely adopted (2006: 5). Most of the time the reasons for introducing EMI courses do not explicitly include language learning.

Internationalization is very often the main drive for introducing EMI courses. It manifests itself through strategies such as the development of international

curricula or the mobility programs for students and staff. EMI courses are often seen as the way to accommodate international students or staff. They are also perceived as a good strategy for introducing an international dimension for local students.

Reaching a high employability rate of graduates is another reason why universities decide to introduce EMI. Students who take part in English-medium programs are expected to have better chances on the increasingly internationalized labour market. Students are also expected to become job-mobile through additional language skills acquired in the EMI courses.

Another reason why higher education institutions use English for teaching is the desire to benefit from the market in international fee-paying students. In some European countries non-EU students can provide a substantial income to universities and other higher education institutions. Through EMI, universities can attract students from abroad and become competitive exporters of educational services (Graddol 2006: 45).

Finally, the introduction of EMI courses can be motivated by the availability of research and teaching materials in English. Sometimes EMI may be seen as a necessity when research and teaching materials are only available in English. It can also be seen as an opportunity to explore new teaching designs due to the great variety of English texts available.

Despite the lack of clear language teaching objectives in most EMI courses, it is often expected that the students' English proficiency will improve. In other words, higher education institutions often aim at the improvement of students' language skills without explicitly addressing the language objectives in the design of EMI courses. Such EMI designs often involve nothing more than the change in the language of instruction. However, as Unterberger and Wilhelmer (forthcoming) rightly point out:

> A smooth and successful implementation of English-medium education at the tertiary level is a challenging task that requires more than just changing the language of instruction.

In order to avoid potential pitfalls, and more importantly to realize the full language-learning potential offered by EMI, it is necessary to understand all the pedagogical and organizational implications of teaching through a foreign language.

3 Describing a method

In the literature dealing with language teaching in general and phenomena such as CLIL in particular, the terms *approach* and *method* are used very frequently. In the literature on CLIL, for example, some authors write about the CLIL *approach* (Perez-Vidal 2008: 3), whereas others about the CLIL *method* (Ruiz-Garrido & Palmor-Silveira 2008: 148). At first glance the words *approach* and *method* may seem almost synonymous but in the field of applied linguistics they denote two related but different concepts.

The definitions of the two terms seem to be fairly consistent throughout the literature. Bell, for example, defines *approach* as "an orientation to the problem of language learning, which derives from an amalgam of linguistic and psychological insights into the nature of the learning process" (1981: 75). The linguistic and psychological "insights" are the theories about the language and language learning. Referring to Anthony (1963), Richards and Rodgers propose a similar definition of an approach. According to them the "theories about the nature of language and language learning that serve as the source of practices and principles in language teaching" constitute an approach (Richards & Rodgers 2002: 20).

Similarly to an *approach* there seems to be a general consensus on a definition of a *method* (Bell 1981; Richards & Rodgers 2002). Simply put, a *method* is the application of the theories included in the *approach* at an operational level, "at which choices are made about the particular skills to be taught, the content to be taught, and the order in which the content will be presented" (Richards & Rodgers 2002: 20).

The main difference between the notions of *approach* and *method* is the level at which they operate. The *approach* is a theoretical concept and the *method* is the actual realization of the ideas constituting the *approach*. The division into *approaches* and *methods* provides a useful framework for describing various phenomena concerned with language teaching. However, Richards

and Rodgers (2002) point out that the notion of *method* is a rather complex one and propose an extended model for description of methods in language teaching. This extended model introduces two additional dimensions of a *method*: *design* and *procedure*.

Design refers to the level at which "objectives, syllabus, and content are determined, and in which the roles of teachers, learners and instructional materials are specified" (ibid.: 20). At the level of *design* decisions about the skills (e.g. academic writing, pronunciation) and the elements of the language (e.g. specific vocabulary, grammar rules) which a particular *method* seeks to teach are made. Another consideration at the *design* level is the way learners are perceived. *Designs* may differ according to how learners are believed to contribute to the learning process. For example a belief that learners influence the learning of others may result in specific grouping patterns, or if the learners are perceived as problem solvers they may be asked to perform specific tasks rather than be passive recipients of teaching. Also the role of the teacher is considered at the *design* level. In some methods teachers may provide the primary source of knowledge, in others their role may be limited to a consultant or a guide who leads learners through a prescribed textbook. Finally, at the level of *design* teaching materials are specified. The instructional materials will reflect all other elements of the *design*. They will take into account the goals and the content of teaching as well as the relationship between teachers and learners and their respective roles in the teaching process. The level of *design,* with all its components, provides a bridge between the theory constituting an *approach* and the actual activities performed in a language classroom. Richards and Rodgers refer to these activities as *procedures* (2002: 31).

At the level of *procedure* the theories of an *approach* and the choices made at a *design* level are realized. It can be said that whereas *design* defines 'what' activities, materials and roles are suitable for a particular *method*, *procedure* concentrates on 'how' these elements are integrated into an actual lesson. More specifically, "*procedure* focuses on the way a *method* handles the presentation, practice, and feedback phases of teaching" (ibid.: 31). *Procedure*

may include activities such as oral presentations, asking and answering questions, reading activities, teacher's feedback on errors, or any other techniques, practices and behaviours in a language classroom.

The model proposed by Richards and Rodgers provides a useful framework for the analysis of different methods and approaches in language teaching. Figure 1 represents a summary of this model. It also illustrates how *approach*, *design* and *procedure* constitute a teaching *method*.

The model described in this section serves as a theoretical framework for the description of CLIL. A detailed exploration of the design level is especially relevant for EMI practitioners at the tertiary level. However, before analysing CLIL at the design level, it is important to understand the theories behind the CLIL approach.

Figure 1 Summary of elements that constitute a method (Richards & Rodgers 2002: 33).

Method

Approach

a. A theory of the nature of language

b. A theory of the nature of language learning

Design

a. The general and specific objectives of the method

b. A syllabus model

c. Types of learning and teaching activities

d. Learner roles

e. Teacher roles

f. The role of instructional materials

Procedure

a. Classroom techniques, practices, and behaviours observed when the method is ued

4 Pre-CLIL developments

Changes in the language teaching theory in the last century had a major impact on the birth of CLIL. The emergence of the communicative approach and the introduction of innovative teaching programs such as the Canadian immersion provided a theoretical and empirical foundation for CLIL. This chapter outlines these developments concentrating on the main ideas constituting modern language teaching.

4.1 From *form* to *meaning* – developments in foreign language teaching in the 20th century

At the beginning of the twentieth century language teaching was still very much concentrated on form rather than meaning and methods such as the *grammar-translation method* dominated the classroom. The grammar-translation method focused on the analysis of the grammar rules of the language and the application of these rules in the "task(s) of translating sentences and texts into and out of the target language" (Richards & Rodgers 2002: 5). The grammar-translation method dealt primarily with the written language. Towards the end of the nineteenth century this traditional method was contested by the emergence of new approaches towards language teaching. New developments in the field of phonetics and the establishment of the International Phonetic Association marked a shift from the text based teaching towards approaches which focused not only on writing and reading skills but also on speaking and listening. Richards and Rodgers call these late 19th and early 20th century developments The Reform Movement. The doctrine of the Reform Movement (Richards & Rodgers 2002: 10) gives attention to the meaning and the use of language in a 'meaningful context'. The principles of the Reform Movement laid the foundations for the

emergence of applied linguistics, which seeks to apply language theories in language teaching.

In the 1920's and 1930's British applied linguists started developing the basic scientific foundation for new language teaching methods. The work of Michael West, A.S. Hornby, Harold Palmer and other linguists and language-teaching specialists led to the establishment of the Situational Language Teaching approach (ibid.). The selection of an appropriate vocabulary based on frequency counts and the attention to grammar rules served as the basis for Situational Language Teaching. In this approach, which developed from the 1930's to 1960's, learners are expected to "deduce the meaning of a particular structure or vocabulary item from the situation in which it is presented" (ibid: 41). The theoretical basis for this approach lies in the belief of its practitioners that children's first language acquisition occurs in a similar way. Although in contrast to the Grammar-Translation Method, Situational Language Teaching acknowledges the importance of meaning, it is still very much based on teaching the language structures. It is only in the mid 1960's when British applied linguists recognize that language teaching should focus more on communicative proficiency and explore the functional and communicative potential of the language (ibid.: 153).

4.2 Communicative language teaching

> A communicative approach opens up a wider perspective on language. In particular, it makes us consider language not only in terms of its structures (grammar and vocabulary), but also in terms of communicative functions that it performs. In other words, we begin to look not only at language forms, but also at what people *do* with these forms when they want to communicate with each other.
>
> (Littlewood 1981: x)

As the quote suggests CLT, although still concerned with language structures, gives a great deal of attention to the communicative functions of language.

The learners are expected not only to learn the structure and the lexical items of the target language but also to develop an ability to use the linguistic resources accurately, appropriately, and flexibly. These three abilities constitute the *communicative competence* (Hymes 1970; Yule 1996: 197). In other words, speakers who know how to use the grammar of the language (e.g. correct tenses, correct word order), how to use the language appropriately (e.g. politeness, relating certain forms with the social context: formal *vs.* informal), and how to manipulate the language to achieve communication (e.g. explaining a concept when they don't know the exact term) are communicatively competent. Hymes's concept of communicative competence is one of the two most influential theories of the nature of language constituting the basis of CLT. The second linguistic theory at the roots of the Communicative Approach is Halliday's (1973) theory of language functions.

Halliday approaches the study of language from a perspective of a child, who uses language as means of achieving things. According to Haliday, children's experience of language is that of its use and the functions it serves. Language may serve different purposes, for example it may be used to control others, to get things, or to learn. Halliday identifies seven basic functions of language: instrumental, regulatory, interactional, personal, heuristic, imaginative, and representational (1973: 11-17). Table 5 provides descriptions of these functions.

Table 5 Functions of language (Halliday 1973: 11-17, Richards & Rodgers 2002: 160)

Instrumental	Using language for satisfaction of material needs, to get things
Regulatory	Using language to control (influence) the behaviour of others
Interactional	Using language to interact with others, mediating relationships
Personal	Using language for expressing individuality, personal feelings and attitudes

Heuristic	Using language to explore, investigate and learn
Imaginative	Using language to create stories, to pretend, to create a world of the imagination
Representational	Using language to communicate information and messages

Halliday points out that some functions are more important for children than for adults, for example the heuristic function plays an important role in a child's development and may be less important for an adult who already possesses basic knowledge of the world. This varying degree of importance shows how children use language differently than adults (1973: 11-17). This insight into a child's perception of language functions and their importance can be applied to second and foreign language teaching. Similarly to children acquiring their first language, second language learners need the language for different purposes too. The heuristic function may be important for people who plan to study abroad, instrumental for travellers who want to be able to book a hotel, buy a train ticket or order food in a restaurants and regulatory for managers of international corporations. In CLT the knowledge of an individual's linguistic needs helps in designing appropriate teaching techniques.

The ideas of Hymes and Halliday complemented by ideas of theorists such as Widdowson, Canale, Swain and others (Richards & Rodgers 2002: 160) constitute the linguistic theory for the Communicative Approach. Referring to the Richards and Rodgers's model introduced in the last chapter, linguistic theories are only one aspect of an approach. The second part is based on the theories of language learning.

The Communicative Approach adopts a "pragmatic and commonsensical attitude towards language learning" (Howatt & Widdowson 2005: 333). Teaching practices are very often based on intuition or previous teaching experiences. That may be a reason why Richards and Rodgers find it difficult to present the 'learning' theories of the CLT. However, they point out that,

"the elements of an underlying learning theory can be discerned in some CLT practices" (2002: 161). They identify three elements or principles associated with creating conditions for effective language learning: *communication principle, task principle*, and *meaningfulness principle.*

The *communication principle* promotes the view that real communication aids learning processes. Littlewood (1981: 16-75), for example, stresses the importance of real communication and calls for using communicative activities in a classroom. In his view communicative activities can contribute greatly to language teaching. Such activities boost motivation for learning, allow natural learning, provide a context which supports learning and finally allow learners to use their 'part-skills' (their linguistic repertoire) to perform whole tasks. Communicative activities can involve functional communication (e.g. describing a picture), social interaction (e.g. role-playing), and listening activities (e.g. listening to dialogues and matching them with pictures).

The second element underlying learning theories of CLT is the *task principle.* It is concerned with activities in which language is used for carrying out meaningful tasks, as they are believed to promote learning (Richards & Rodgers 2002: 161). Johnson advocates task-oriented teaching by stating that:

> fluency in communicative process can only develop with a "task-oriented teaching" – one which provides "actual meaning" by focusing on tasks to be mediated through language, and where success or failure is seen to be judged in terms of whether or not these tasks are performed.

(1983: 150)

Related to the notion of meaningful tasks is the third element of the CLT learning theory - the *meaningfulness principle.* The *meaningfulness principle* denotes that using language that is meaningful to the learner supports learning processes. If learners can relate to the language they are using in a classroom they will learn it more easily. At the heart of the meaningfulness principle lays the idea that "the 'meaning focused activity' [...] activates the cognitive processes responsible for language acquisition" (Howart &

28

Widdowson 2005: 347). In other words, the learner's mind is better stimulated by meaningful language.

The three learning principles outlined above are by no means the only ideas constituting the theoretical basis of the nature of learning. The CLT also draws on other research in second language acquisition, psycholinguistics and other disciplines (e.g. Krashen 1984; Skehan 1998). For the purpose of this paper, the idea of 'meaningful' communication is the most important, as it is exactly this kind of communication that is taking place in English-medium classes.

In order to summarise the main theories underlying the CLT approach it can be said that the core idea on which CLT is based is that language is a tool for performing different functions. For learners the construction of this tool is less important than its practical use. In CLT language is meaningfully used while learned, thus giving the learners an opportunity to practice communication before they acquire all the forms. Methods derived from the CLT approach seek to enhance the learning experience by confronting the learner with 'authentic' and 'meaningful' language. One of the ways of providing such a meaningful learning experience is to use the target language to teach other subjects (Coyle, Hood & Marsh 2010).

 4.3 Immersion

One of the most successful and well-documented methods using the target language as medium of instruction is the Canadian Immersion. Immersion developed in Canada in 1960's as a result of the growing importance of bilingualism. English-speaking parents concerned with the low level of French competence achieved by their children through traditional teaching methods called for alternative teaching strategies. This led to the development of immersion education (Day 1996; Johnson & Swain 1997, Lyster 2007). Immersion education assumes the CLT stand, that languages

are best learned when given a meaningful and purposeful context (Johnson & Swain 1997: 6).

In a prototypical immersion program students are taught subjects such as science, geography or history in the community's second language (L2). Immersion courses can be introduced at different levels of education (*early, mid,* and *late* immersion) and can take up different portions of the curriculum (*partial* and *total*). Immersion teachers are usually bilingual speakers of L1 and L2 (Day 1996).

The immersion curriculum parallels the L1 local curriculum and covers the same subjects. As far as the quantity of content is concerned there are no differences to the L1 curriculum. However, at the beginnings of the Canadian immersion education some people expressed a concern about the quality of teaching. The main considerations had to do with the children's English language development and their academic achievements (Day 1996: 5). In order to address these concerns a large number of evaluative studies were carried out. The results showed that immersion did not prevent the students from achieving the same competence in English as their peers who were enrolled in a traditional L1 curriculum. Similarly there was "no harm" to their progress in academic subjects (ibid.: 7). The results of the evaluative study also confirmed that the French language skills of the students improved considerably in comparison to the students who studied French as a regular subject (ibid.: 7, Lyster 2007: 14). This enhanced development of language skills can be attributed to the increased exposure to meaningful and purposeful language, which is the major factor in the success of immersion education.

Canadian Immersion is a very good example of a successful application of the communicative approach. It proves that an authentic content contributes to language learning. Its success did not stay unnoticed in the rest of the world. Immersion and many similar approaches such as for example Content-Based teaching or bilingual education are increasingly used around the globe.

4.4 Summary

The approaches to language teaching have changed in the course of the last century. New insights into the nature of language and the nature of language learning allowed for new approaches to language teaching. The shift from the traditional form-based teaching towards the CLT approach resulted in the emergence of new methods such as for example Canadian Immersion.

Methods based on the principles of meaningful language use such as The Canadian Immersion proved to be very successful. The linguistic skills of the students enrolled in immersion programs improved significantly without hampering the development of their L1 or the knowledge of the subject content. The example of Canadian Immersion supports the ideas of the Communicative Approach and shows that through the use of a foreign language in content teaching language skills can be improved.

5 Content and Language Integrated Learning (CLIL)

Coined in 1994, the term CLIL encompasses approaches to language teaching in which the target language is used for teaching content. It is an umbrella term for methods such as content-based teaching, immersion or bilingual education (Mehisto, Marsh & Frigols 2008; Dalton-Puffer & Smit 2007). The emergence of the term can be attributed to the political developments in Europe in the second half of the twentieth century. From the beginnings of the European Community in the 1950's the question of languages and their official statuses was one of the central issues addressed by the newly formed community. In 1958 the European Economic Community approved the first regulation concerning official and working languages (Vlaeminck 2003: 33). From that point onwards it became obvious that language policies of the Community will aim at the promotion of multilingualism. In the 1970's institutions at the European level started to look at new approaches to language teaching and called on the member states to promote language teaching. Especially, the European Commission's proposal to the member states from 1978 had an impact on the development of CLIL in Europe. In this proposal the European Commission encouraged using more than one language as medium of instruction (Cole, Hood & Marsh 2010: 8). The early European programs using foreign languages as medium of instruction were often referred to as 'bilingual education'. The term was subsequently replaced by CLIL in the 1990's (Perez-Vidal 2009: 4). Since its emergence CLIL became "increasingly prioritised" and recommended within the European Union (Cole, Hood & Marsh 2010: 8).

As an approach to language teaching CLIL is a combination of linguistic theories derived from CLT and practices of methodologies such as for example the Canadian Immersion. In accordance with CLT, CLIL aims at achieving communicative competence, which is commonly regarded as the "ultimate aim of second/foreign language teaching" (Dalton-Puffer & Smit 2007: 8). In addition to the concept of Communicative Competence, CLIL also

draws on the *communication* and *meaningfulness* principles, which underlie the communicative approach. Similarly to Canadian Immersion, CLIL addresses these theories by providing a range of language in use.

5.1 Designing CLIL at tertiary level

The political developments and the developments in language teaching described in the preceding sections resulted in an increased implementation of CLIL programs across Europe (Eurydice 2006). Especially at the primary and secondary levels different CLIL models have been adopted (Cole, Hood & Marsh 2010). At the tertiary level in Europe CLIL manifests itself mainly through English-medium courses (Coleman 2006). I have discussed some of the benefits these courses bring in the second chapter of this paper. This section looks at the most important issues of the CLIL design at tertiary level.

5.1.1   Objectives

One of the first questions that need to be asked when designing a teaching model is: what are the teaching objectives? According to Dafouz and Nunez the broad objectives of the CLIL method are

> the teaching/learning of specialist knowledge of the discipline and a wide range of language competences that prepare students to become academic experts in their specialist fields of research or work

(2009: 106)

In other words, the students should learn the content, as they would in a traditional first language course. In addition, they should learn aspects of the

target language such as for example specific vocabulary related to their field of study. The language-teaching dimension should also include the teaching of academic skills such as writing reports, presentation skills or conventions associated with academic disciplines.

It is up to individual institutions to decide how much focus there will be on the content and how much on the language. The balance between the two objectives may depend on the specific discipline. For example, the language objective may be stressed more in the design of a course in international business than of a course in accounting (e.g. Ruiz-Garrido & Palmer-Silveira 2008). The formulation of the objectives may also depend on the rationales behind the foreign language medium courses. For instance, seeing foreign language-medium courses only as a tool for facilitating exchange students may lead to the complete omission of the language-teaching objective (e.g. Hellekjaer 2007). Ideally the institutions recognize the potential benefits of addressing both content and language objectives and combine the two. In such cases students have an opportunity to achieve high level of what Bhatia refers to as *genre-based academic literacy* (Bhatia 2004). Genre-based academic literacy is the

> ability to identify, construct, interpret, and successfully exploit a specific repertoire of professional, disciplinary or workplace genres to participate in the activities of a specific disciplinary culture.

> (ibid.: 57)

In terms of language skills, genre-based literacy consists of four competencies: *social, professional, generic* and *textual*. The social competence is the ability to use language critically in relation to the social and institutional context. It involves using analytical, reflective and intercultural skills in analysing and interpreting discourse (Dafouz & Nunez 2009: 106). Professional competence is the linguistic "capacity to be a competent member of professional culture" (Bhatia 2004: 57). In other words, it means knowing the genres relevant to one's profession and being able to participate in the respective professional culture. Finally, the generic and textual

competences represent the knowledge of the language system and the ability to exploit this knowledge to "suit situated context" (ibid.: 58).

An integrated approach to language teaching such as CLIL can aid in achieving the high level of competences outlined above, hence a high level of genre-based academic literacy. The students can improve their overall language skills (reading, writing, speaking and listening) in relation to the content of their discipline. A CLIL design, which gives enough attention to the language objective, can help the students become familiar with the specific professional vocabulary and conventions. It can assist them in acquiring the knowledge and developing the skills needed to be able to "read, understand, produce and write academic texts in (their) own field of research" (Dafouz & Nunez 2009: 106). In other words, the students can become "linguistically prepared for an international labour market" (ibid.: 106).

Setting the language objective is a crucial first step in designing an effective CLIL model. Depending on the contextual factors such as for example students' language proficiency or teachers' availability this objective can be addressed in many different ways. In the next section CLIL designs with an explicitly integrated language objective and language support are discussed.

5.1.2   CLIL models with language support

The elements of the language system such as grammar or phonology are often excluded from the CLIL syllabus at the tertiary level. This is due to the assumption, that students who enrol in English-medium courses have at least an upper-intermediate level of English (Dafouz & Nunez 2009: 105). However, in reality not all students meet these expectations. The level of English very often depends on the educational background of the students (e.g. Hellekjaer 2007: 72). This issue can be addressed by designing CLIL models with an additional language support. Cole, Hood and Marsh propose

two such models at the tertiary level: adjunct CLIL and language-embedded content courses (2010: 24).

'Adjunct CLIL' is a model in which language teaching runs parallel to content teaching. In such a model the language faculty supports the content teachers by offering English for Specific Purposes (ESP) courses related to the specific subject matter. The adjunct CLIL can be an effective tool for overcoming students' language deficits. Language and content teachers can cooperate in designing the syllabus. For example they can agree on the sequence of topics that will be covered and design the syllabus in such a way, that the vocabulary and definitions are covered just before the content teacher introduces the topic to which they relate. Another advantage of the adjunct model is the possibility to identify students' language problems. The language teacher can address these problems by extending the language syllabus. Such an extended syllabus could include aspects of language with which students struggle (e.g. aspects of grammar, academic writing).

The implementation of an adjunct model is a very ambitious task (Brinton, Snow & Wesche 2008: 17). The main challenges are the coordination and adaptation of language teaching materials. The language course's curriculum needs to complement the content curriculum and vice versa. This requires modifications to both courses, and a close cooperation between the teachers and the administrative staff. Nevertheless, for institutions with sufficient resources it can be a very good tool for solving students' language difficulties.

The second model proposed by Cole, Hood and Marsh is the language-embedded content course. In this model the "content programmes are designed from the outset with language development objectives" (2010: 25). In the language-embedded content course, the teaching is carried out by both content and language teachers. The students receive constant language support so that even those with "less than optimal proficiency" in English can cope with teaching the content (ibid.). Similarly to adjunct models, language-embedded content courses require close cooperation between the language and content teachers.

The two models outlined above require considerable resources. For some institutions, especially those without a language faculty, implementation of courses with additional language support may prove difficult. In such cases content teachers need to develop additional competences in order to facilitate language development.

5.1.3 Teacher competences

The teaching in higher education is often viewed as an activity of imparting knowledge on the students (Cole, Hood & Marsh 2010: 24). The teachers are seen as the donors of knowledge and the students as the passive recipients of information. Following this line of thought, it could be said that proficiency in English is the only requirement for teaching in English. However, if the language objective is recognized, the content teachers need to develop skills beyond basic language competences.

Research on CLIL teaching strategies (summarized in Marsh 2002: 78-81) resulted in the description of various competences required from CLIL teachers. These competences include general language proficiency (i.e. fluency and sufficient knowledge of the target language's syntax and lexis) as well as methodological skills such as for example the ability to select and adapt teaching materials for integrated teaching or the ability to develop and implement assessment tools (Marsh 2002). This section of the paper will concentrate on these competences. As it is assumed that the teachers are experts in their respective content areas, only the linguistic and pedagogic competences are discussed.

5.1.3.1 Linguistic competence

Marsh (2002: 78) stresses that depending on the type of CLIL the language proficiency requirements vary. For instance, the CLIL provision for 7 year olds involving games or singing does not require the same level of language proficiency as the teaching of physics at university. The teaching of complex subjects at the tertiary level calls for language proficiency going beyond the general language skills (high level of speaking, listening, reading and writing skills). It also calls for an increased awareness of the demands CLIL puts on the lecturers. Dafouz and Nunez rightly notice that

> university teachers that engage in the teaching of content through a foreign language should be aware not only of the need to teach students social, professional, generic and textual competences that are specific to the degree subject or area (e.g. analyse texts critically or involve students in activities specific to their professional contexts), they should also be aware of the conventional resources available in the foreign language to achieve the intended communicative goals.
>
> (2009: 108)

In order to meet the challenges of CLIL, the university teachers need to develop additional "genre-based specific competences that are relevant in the university context, where the academic and professional domains overlap" (ibid.). Drawing on Bhatia's (2004) model of genre-based literacy, Dafouz and Nunez propose a model of language competences for CLIL university teachers (Table 6).

According to this model, CLIL teachers at the tertiary level need to have two types of competences. The first type of competences is related to the general proficiency in the target language. The teachers should be familiar with the language system of the target language (e.g. grammar, vocabulary and phonology) and possess a high level of language skills (i.e. speaking, writing, reading, listening). The second type includes the specific genre-based competences relevant to the university context (i.e. the generic and the textual competences related to the academic and professional domains). The

teachers should be able to exploit the genre-based competences at two different contextual levels: global and local.

Table 6 Language competences for CLIL university teachers (Dafouz, Nunez 2009: 109)

General language competence	High command of speaking, listening, reading and writing skills	
Specific language competences		
Level of applicability	**Textual competence**	**Generic competence**
Global level: situational context	Knowledge of the different grammatical and lexical alternatives available in the system that can be used in the specific genre stages (e.g. appropriate use of modal verb patterns in a solution stage)	Generic conventions applying to the context of situation (e.g. signalling each stage in a lecture by means of the appropriate metadiscursive devices)
Local level: discipline specific	Specific subject terminology	Generic conventions as applied to the specific field of research or discipline (e.g. knowledge of the structure of reports)

The global or situational level refers to the teaching practices in the context of higher education. Teachers need to know the generic conventions applicable to this context. For example, they should be able to use metadiscursive devices such as the expressions 'first', 'another aspect', 'to summarize', etc. to signal different stages of the lecture (ibid.). In terms of textual competence, teachers should have the knowledge of the different grammatical constructions and the lexical repertoire that can be used for example in the context of the academic lecture (e.g. adjectives: 'important', 'crucial', 'influential', etc. to avoid repetitions of adjectives in evaluation stage).

At the local or disciplinary level the teachers need to apply their generic and textual competences to the specific area they teach. The generic competences

required from university teachers at the local level are connected to their specific area of expertise. Law teachers, for instance, need to know the language constructions used in legislations. Likewise, lecturers in the field of business studies need to be familiar with the generic conventions used in memos or in the descriptions of financial data. In other words, teachers have to have a good understanding of the language conventions specific to their disciplines.

Similarly to the generic competence, the textual competence at the local level is connected to the respective discipline. CLIL university teachers require specific knowledge of the terminology related to the their subject. For example, an Austrian university teacher, who teaches literature through the medium of English, has to know the terms used in analysing literary work (e.g. 'protagonist', 'plot' or 'foreshadowing').

The model proposed by Dafouz and Nunez highlights the high linguistic demands on EMI teachers at the tertiary level. The authors point out that usually the general language skills of the university teachers, who teach through the foreign language medium, meet the requirements of the CLIL methodology. They also observe that teachers seem to posses the generic and the textual competences related to the local level of their disciplines. However, based on their observations and interviews with university teachers, the authors conclude that EMI university teachers often "lack familiarity with the textual and generic conventions specific to the situational context" (2009: 109).

5.1.3.2   Selecting, adapting and creating teaching materials

Besides linguistic competences, CLIL teachers need to be able to select, adapt and if necessary create teaching materials which will promote language learning. In the previous chapter I have discussed the role that meaningful

language plays in communicative approaches to teaching. In CLIL meaningful language can be provided in the form of teaching materials which are "not generated specifically for language teaching" (Brinton, Snow & Wesche 2008: 89). In the context of higher education, the materials used often include scientific publications, Internet resources (e.g. articles, surveys), audio/visual materials (e.g. recorded lectures, power point presentations) or computer software. Arguably, university teachers can choose from a wide variety of authentic texts available in English[2]. However, if the materials are to meet the objective of language teaching and at the same time cater for the comprehension and learning of the content, some factors need to be taken into account.

When selecting materials for teaching, CLIL teachers need to pay attention to the level of difficulty of the texts. In order to meet the content learning objective, the texts should be comprehensive and not too difficult to understand (Cole, Hood & Marsh 2010: 43). At the same time the language used in the text should be demanding in the sense that it should engage students in negotiating the meaning thus promoting language learning. It is the teachers' task to "review whether or not language is over-familiar and untaxing or whether it contains new linguistic items but still remains accessible" (ibid.: 91). The question of language difficulty is very important and requires constant revision. The teacher should be able to react to students' needs and if necessary provide them with materials which are either easier or more demanding from the language point of view.

Another important aspect of material selection that needs to be considered is the variety of text types used for teaching. In order to promote the development of genre-based literacy, students should become familiar with a variety of genres and text types. For example, law students should not only be confronted with legislations and case studies but also with news reports or transcripts of court hearings in order to develop their social and professional competences. Similarly the students of literature should not only

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[2] see section 2.4 of this paper

be confronted with genres such as drama or novel but also with academic writings and literature analysis. Regardless of the area students who are familiar with different text types (e.g. analytic, descriptive, narrative) are also better prepared for the challenges of professional life. The exposure to different discourses and styles can be best achieved by referring to different sources and by using different media (e.g. scientific journals, Internet, books) (Brinton, Snow & Wesche 2008: 91).

Teaching materials can provide further support to learning if they contain textual aids as well as visually attractive packaging such as for example study questions, glosses or illustrations (ibid.). Some textbooks provide additional discussion topics or study questions at the end of each chapter or in the form of a separate section at the end of the book. The use of such textbooks can help students to understand the content better. Similarly, illustrations can be a good way of making the content more understandable. If teaching materials with textual and visual aids are available, CLIL teachers should consider using them in their courses (ibid.).

The selection of teaching materials in higher education depends on the format of the course (lecture, seminar etc.). The teacher needs to take into consideration the context in which the teaching is taking place. In case of lectures, for instance, the students' comprehension of the topic is crucial as there is often little place for negotiating the meaning. While some lecturers may reserve time for questions and clarifications, very often there is simply not enough time to cover all of them. In such cases the selection of appropriate teaching materials helps minimize the lack of comprehension. Deliberate selection of linguistically less demanding readings can be one of the strategies adopted (ibid.). In the context of a lecture the focus is traditionally on the comprehension of the content but using supporting materials in a combination with more demanding readings can also contribute to language learning and especially to the development of reading and listening skills.

In contrast to lectures, small-group courses offer a possibility for interactive content and language teaching. Content learning and the interpretation of the texts can be aided by group work (students influencing each other's learning) or interaction with the teacher (ibid.). It also gives the teacher the opportunity to identify difficulties of individual students and react accordingly (e.g. suggesting additional materials). In the practical courses teachers can also make use of materials such as computer software. For example architecture students can use English versions of the design software thus being confronted with the target language through practical work. Not only will the students use the terms related to the architectural design but they will also learn English commands used in most of the editing programs (e.g. 'copy', 'view', 'save', 'preferences').

The process of materials selection requires constant attention to the issues of students' language proficiency and the difficulty of the text, the situational context, as well as the availability and the form of the materials (Brinton, Snow & Wesche 2008). Sometimes this constrains the possibility to use original texts and materials. In such cases teachers can adapt the materials to suit their CLIL methodology.

Brinton, Snow and Wesche (2008: 93) point out that "adaptation is often necessary to make content clearer and/or to focus on certain language points". 'Authentic' English texts may sometimes contain grammatical constructions or vocabulary beyond learners' level. In order not to jeopardise the content teaching objectives teachers can modify the texts. Cole, Hood and Marsh (2010: 93-94) give an example of how such modifications can be made. They use a text taken from Encarta Online Encyclopaedia (2009) about Britain in Roman times:

> Hadrian's **sojourn** in Britain **seems to have added considerable impetus** to urban life. During his reign a **vast** new basilica, perhaps modelled on the Basilica Ulpia in Rome, was constructed in London. Other towns **were similarly endowed**, notably Wroxeter, the Capital of the Cornovi, where the dedicatory inscription dated AD 130 survives. The cities of the 2nd century had other public buildings such as baths (**best preserved** at

Wroxeter and Leicester), amphitheatres (**such as that to be seen outside** Silchester), and theatres (**like that** at Verulamium). In addition private houses were built by **wealthy** citizens who **had them embellished** with wall paintings and mosaics (examples **of which are preserved** in Verulamium, Cirencester, and Leicester museums). By the end of the century, walls and gates **were being provided** as symbols of prestige as much as for defence.

The above text serves as an example of the original materials for a history lesson for learners learned English for two to three years. On the one hand, the underlined words in bold represent constructions and vocabulary, which are not essential to the teaching of the topic. On the other hand, since the lesson clearly deals with the change of Britain's living space in Roman times, words such as *basilica, baths, amphitheatres* or *mosaics* are vital to the subject. Having in mind the level of English of the learners and both content and language teaching objectives, the CLIL teacher can modify the text so that it reads:

Hardian's **time** in Britain **brought changes** to urban life. During his reign a **gigantic** new basilica, perhaps modelled on the Basilica Ulpia in Rome, was constructed in London. Other towns **had similar buildings**, notably Wroxeter, the capital of the Cornovi, where the dedicatory inscription dated AD 130 survives. The cities of the 2nd century had other public buildings. **We can still see parts of the** baths (at Wroxeter and Leicester), **the** amphitheatre (outside Silchester), and **a** theatre (at Verulamium). In addition private houses were built by **rich** citizens who **decorated them** with wall paintings and mosaics (**see the** examples in Varulamium, Cirencester, and Leicester museums). By the end of the century, walls and gates **were used** as symbols of prestige as much as for defence.

In the modified version difficult vocabulary (e.g. sojourn, endowed) and the complicated passive structures are simplified in order to cater for the comprehension of the content. Vocabulary that is connected to the subject (e.g. basilica, baths, amphitheatre) is kept. This example shows how minor changes to the text can help in achieving the content learning objective.

Teachers may also opt for different strategies of adapting teaching materials. Instead of rewriting the whole texts they can present the information in the form of bullet points, timelines or tables. The form they choose will heavily

depend on the objectives they want to address and the learners' level of English. They may choose between language-heavy forms (e.g. continuous texts), or forms which involve language to a lesser degree (e.g. tables, diagrams) (ibid.: 96).

Teachers may sometimes find it essential to use teaching materials which are not available in English. For example, the course may deal with the local context and the references are only available in the local language. If the publications did not appear in English and were never translated, the teachers might need to translate them themselves. Depending on the teacher's expertise in English, texts can be translated completely or just the essential information can be translated into bullet points or simplified definitions. Since translating requires highly developed skills, the teachers should be very cautious and, if possible, use the help of language experts.

Finally, when original texts are not available or not suitable, CLIL teachers can develop their own materials. Self-developed materials may include slides, task descriptions or visual aids. Again, the design of the materials needs to take into account the objectives of the course, the students' English proficiency and the format of the course.

5.1.3.3   Developing assessment techniques

Depending on the purpose, assessment can be divided into *summative* and *formative*. The summative assessment "aims to measure, or summarize, what a student has grasped, and typically occurs at the end of a course or unit of instruction" (Brown 2009: 6). It usually takes place in the forms of final exams or of evaluation tests. It is a tool for testing whether or not the student accomplished the objectives of the course. It provides information on the student's skills for the teacher, the learner him/herself, and third parties such as the educational authorities, the student's parents or even to future

employers. The results of summative assessment can also serve as one of the elements for evaluating whether the teaching method is successful or not (Cole, Hood & Marsh 2010: 112).

Formative assessment is concerned with the process of learning. According to Brown (2009: 6), formative assessment aims at "evaluating students in the process of 'forming' their competencies and skills". The goal of such evaluation is to help students "continue that growth process" (ibid.). In other words, formative assessment functions as a diagnostic tool which involves identifying the student's difficulties and reacting to them by correcting mistakes or giving feedback. Coyle, Hood and Marsh (2010: 112) recognize another function of formative assessment, namely providing information to the teachers. In contrast to summative assessment, the information provided by formative assessment does not 'summarize' student's achievements but rather monitors hers or his learning progress. Based on formative assessment, CLIL teachers can "alter planning and practice mid-unit" in order to best suit learner's needs (ibid.).

Regardless of the assessment's function (summative or formative), CLIL practitioners often face the dilemma of *what* should be assessed (ibid.: 115-116). The question of whether the assessment of content or the assessment of language should be prioritized can be answered by referring back to the objectives set at the outset of the course design.

I have mentioned previously that the balance between the objectives of content and language teaching varies depending on the educational contexts. Especially in higher education the teaching of content is often prioritized (e.g. Hellekjaer 2007). In the models with a strong focus on content teaching, the language objective often becomes implicit and as a result excluded from the assessment process. The content becomes the primary element of assessment. However, assessment of the content in CLIL courses can be very challenging. Coyle, Hood and Marsh (2010: 116) note that the "content may be understood by a learner, but she or he may not be able to express it sufficiently clearly if the language forms are not known, or if anxiety prevents

it". While for some students it may not be a problem, others, who are less proficient in English, may struggle to demonstrate their content knowledge. Of course, the students may also struggle due to their poor content knowledge in the first place. The teacher needs to make sure that it is not the language that causes problems. The literature provides some guidelines and strategies, which can help the teachers to address this issue.

One way of dealing with the language problem is to "emphasize more frequent, briefer, and less verbally demanding assignments" (Brinton, Snow & Wesche 2008: 184). For example, at the University of Ottawa, the essay-type midterm examinations used in the L1 psychology class were substituted by the weekly short-answer quizzes in the parallel CLIL course (ibid.). This technique allowed the teachers to monitor students' progress in learning the subject matter and reduced the influence of the foreign language on assessment. Other examples of assignments with reduced use of language are: drawing diagrams, completing grids, or giving simple true or false answers to given statements (Coyle, Hood & Marsh 2010: 117). Frequent use of such tasks can help to reduce the impact of language skills on communicating the content knowledge and provide the teacher with constant feedback about the students' success in mastering the content as well as about their language difficulties.

Another principle for content assessment is to "base student evaluation on a variety of tasks rather than on just one type" (Brinton, Snow & Wesche 2008: 184-185). Providing different test formats enables the students to exploit their linguistic skills in the best possible way. For instance, students can be assessed based on an oral task (e.g. oral exam, presentation) combined with a written assignment (e.g. report, essay). Students, with poor writing skills can demonstrate their knowledge orally and those, who are anxious to speak in English can be assessed based on their written work. Using a variety of formats, especially in summative assessment, provides teachers with more evidence of the students' knowledge or lack thereof. It also levels the playing field by ensuring "that students will (are) be not disadvantaged by one or two test formats" (ibid.).

In CLIL courses with a highly prioritized content objective the first language is sometimes used for evaluation (e.g. Brinton, Snow & Wesche 2008, Hellekjaer 2007). However, using the first language (L1) for assessment is somewhat problematic. First of all, students may be unfamiliar with the discipline-specific terminology in the L1. In other words, the students may lack the professional competence, which would enable them to demonstrate content knowledge in their mother tongue. Another problem with the assessment in L1 has to do with CLIL objectives. Although some designs have no explicit language objectives, language learning is always implicitly embedded in different CLIL models. Assessment in L1 will fail to provide evidence of whether the students made any progress concerning their language skills. Additionally, the use of L1 may have an effect on learners' motivation. Students, who know that they will be assessed in their mother tongue, may feel less motivated to think in English and fail to take full advantage of the CLIL course. If the students know they will be assessed in English, they will be motivated to develop strategies for communicating the content in English. Finally, assessment in L1 disadvantages the students who do not share the institution's L1. Especially in the increasingly internationalised higher education sector, assessment techniques should ensure equal treatment of students with different linguistic backgrounds. This applies to both the formative and the summative assessment. For example, if the teacher gives feedback or discusses assignments with the class, she or he should make sure that it is done in English so that the students, who do not share the majority's L1 can also benefit from it. Similarly, final exams and mid-term tests should also be carried out in English so that no students are disadvantaged due to their L1.

Cushing, Weigle and Jensen (1998: 207) identify "foster[ing] language use through purposeful engagement with content" as the goal of content-based instruction and argue that it should be reflected in the assessment.

> Assessments should be authentic in that they simulate as closely as possible the actual language use situations that students will engage in outside of the language classroom. Assessments should also be interactive in that they draw on test takers' metacognitive

strategies as well as their existing topical knowledge, and take into account test takers' emotional responses to the test task.

(ibid.)

This argument is in line with the linguistic theories underlying CLIL and other communicative approaches (e.g. communicative competences, meaningfulness principle, task principle). Teachers need to develop assessment techniques which will draw on the kind of language students are likely to encounter in their professional lives (authenticity). Assessment tasks should also involve the use of different characteristics of the learner such as language knowledge, the topical knowledge and the affective schemata (interactiveness) (Bachman & Palmer 1996: 23-29). Tasks with high levels of authenticity and interactiveness are considered to suit content-based teaching best (Cushing Weigle, Jensen 1998: 207). Figure 2 illustrates how different types of tasks can be described in terms of authenticity and interactiveness levels.

Figure 2 Authenticity/interactiveness in test tasks (ibid.)

Interactiveness

		High	Low
Authenticity	High	Task 1	Task 2
	Low	Task 3	Task 4

Task 1: High authenticity/high interactiveness: e.g. watching a videotaped lecture; taking notes; using notes to write a summary of the lecture, which will be used to study for an exam

Task 2: High authenticity/low interactiveness: e.g. copying definitions from a textbook

Task 3: Low authenticity/high interactiveness: e.g. oral interview on non-academic topics

Task 4: Low authenticity/low interactiveness: e.g. discrete-point grammar test

Assessment techniques with a high level of authenticity and interactiveness are helpful tools for evaluating student's genre-based literacy. They can reveal the level of social (affective schemata), professional (topical knowledge), generic and textual (language knowledge) competences of the students. They can also be used for the evaluation of students' content knowledge. A task, which addresses students' topical knowledge, will not only test their language abilities but also reveal their understanding of the subject matter.

Due to CLIL's flexibility, endless variety of designs and different educational contexts there are no prescribed assessment methods. However, there is a consensus on the issues that need to be considered when assessing students. In this section I have attempted to highlight these issues. Brinton, Snow and Wesche provide an accurate summary of the challenges in CLIL assessment:

> the interface between linguistic and subject matter knowledge raises special problems in evaluating either of them, and demands awareness on the part of instructors of what exactly is being tested by different procedures. Both the "what" and the "how" signal to students what is important in the course and influence their efforts. Each content-based situation has its own context, clientele, and objectives, and it is around these that effective student evaluation procedures will be developed by experienced instructors over time.

(2008: 208)

5.1.4 Staff development

All the issues described in the previous sections circulated around the role the teachers play in CLIL design. I have discussed the linguistic competences that are required from CLIL teachers, I have also looked at the factors teachers should take into account when selecting or designing teaching materials and finally at how teachers should assess their students. Considering all the issues discussed, it becomes apparent that the CLIL approach is very demanding, therefore it is essential that teachers receive appropriate training and support to ensure the quality of teaching and take advantage of the potential of EMI.

Referring to a number of studies carried out at the Delf University of Technology, which offers all its master programs in English, Klaassen (2008: 34) points out that there is a necessity for "the development of pedagogical skills of lecturers who provide English-medium instruction". This is an important issue that needs to be addressed by the institutions, which introduce the CLIL approach. The Delf University of Technology, for example, had run the course "Principles of Teaching in English" aimed at the lecturers planning to teach their subjects in English (ibid.). The course consisted of four sub-courses:

- "Working with Groups of International students" – introductory course in language, pedagogical and intercultural communication skills
- "Spoken English for Lecturers" – focused on oral language & pedagogical skills
- "Writing Course Materials" – focused on written language & pedagogical skills
- "Intercultural Communication" – focused on intercultural communication & pedagogical skills

The evaluation of the course revealed that such initiatives raise the participants' self-confidence when teaching in English. It also improved their teaching strategies:

> they were better able to deal with foreign students and capable of adapting to students needs. They used more relevant classroom language, integrated classroom language, integrated signposts and made use of summary words. They were better able to ask and deal with questions and capable of explaining new concepts.

(ibid.: 40)

Although one of the objectives of the course was to improve the language competences of the participants, this objective is difficult to realize as it requires "long term dedication" (ibid.: 41). Nevertheless, according to Klaassen, teaching staff development courses are "useful and relevant" for raising awareness thus contributing significantly to the quality of EMI. In fact, the main conclusion drawn from the evaluation of the training program at the Delf University of Technology is that "the awareness and understanding of the complexity of the pedagogical situation is essential for improving English-medium instruction" (ibid.).

Other examples of teacher development programs can be found in Sweden (Benson, Brunsberg, Dush, Minugh & Shaw 2008). Both the Stockholm University and the Royal Institute of Technology in Stockholm (KTH) offer EMI courses. In order to prepare the lecturers for the challenges of teaching in English both institutions offer courses for the teaching staff.

The Stockholm University addresses the issue of staff training by offering two types of courses for teachers. The first type is a general course in pedagogy, which is offered in Swedish and in English. The second type is a course designed to deal explicitly with the challenges of teaching in English at the tertiary level called 'English in Higher Education' (EHE) (ibid.: 275).

> The aim is to build teachers' awareness of the challenges, both for themselves and their students, associated with using a second or foreign language, as well as to offer concrete strategies for scaffolding learning.

Whereas the first course type is very popular among the university staff, the EHE course has not received much attention. This is attributed to the lecturers' unwillingness to participate in pedagogical courses. However, the participants who took part in the course indicated "they became much more aware of the challenges – both for themselves and their students – of teaching and learning through a second language" (ibid.: 277).

The KTH offers a course similar to the EHE course. The aims of the course are almost identical to the aims of EHE.

> (1) to help teachers improve their accuracy and fluency in English, both spoken and written; and (2) to raise awareness of typical student errors and other communication problems and develop strategies for dealing with them.
>
> (ibid.)

The course at the KTH consists of four series of workshops:

1. *Student written production*: How to detect and assess the severity of student errors; how to give written feedback on assignments that will help raise students' own awareness of their language problems and contribute to raising their proficiency levels.
2. *Teacher written production*: How to express aims, learning outcomes, course requirements and examination questions as unambiguously as possible; how to present complex technical and scientific concepts in course materials.
3. *Spoken English-Lecturing*: How to structure lectures effectively so as to guide linguistically weaker students; how to tackle student questions; how to facilitate student understanding of lectures in English.
4. *Spoken English-Seminars*: How to lead seminars; how to encourage student participation in group discussions.

Similarly to the training program offered at the Delf University of Technology in the Netherlands, the evaluation of the courses offered at the two Swedish institutions resulted in a conclusion that raising awareness of the challenges of EMI and addressing pedagogical issues is required to ensure the quality and of EMI teaching.

> Good pedagogy highlights register and terminology, and is sensitive to students' varied understanding of material even in L1, but this aspect of education becomes more prominent when they start to use their L2. Training for it – or awareness raising of practices already used – is very useful for all teachers in any language, but at an international level it is likely to be essential.

(ibid.: 280)

It is absolutely essential that the content teachers are made aware of the issues involved in the CLIL education. Teacher training programs such as the ones described above do not only provide teachers with examples of teaching strategies but also help them understand the complexity of the pedagogical situation in which they engage.

5.2 Summary and some conclusions

In this chapter I have discussed aspects of CLIL design at the tertiary level. I have concentrated on the role of teachers in an effective CLIL model. This section provides a brief summary of the chapter and some conclusions.

The CLIL approach developed in Europe in the early 1990's following the growing demand for multilingual education. It has since established itself as a successful and innovative approach to language teaching, especially in primary and secondary education and now slowly makes its way to higher education. The theoretical basis for CLIL derives from the Communicative Approach and methodologies of other bilingual methods such as for example the Canadian Immersion.

Designing an effective CLIL model starts with the definition of the objectives. Depending on the context and the aims of the course, objectives can vary. In higher education often the content-learning objective is prioritised. However, in order to optimize the outcomes of the course the language-learning

objectives need to be established as well. The objectives determine the design of the method and the choice of the teaching strategies.

The role of teachers in CLIL methodology is extremely important. In order to assure the quality of content teaching and to facilitate language development, teachers need to develop appropriate competences. A high level of language competence is essential for an effective CLIL design at the tertiary level. Additionally, a high level of textual and generic competences at both local and global level is required from university teachers.

Selecting appropriate materials for CLIL is another important issue. The availability of numerous scientific publications in English allows the use of 'real' texts thus providing a meaningful language, which fosters language learning. In order to assure the comprehension of the content and to promote language learning teachers need to use materials which present the content in a comprehensive way and at the same time introduce new elements of the target language. The materials should also include various text types, so that the students learn different genres and conventions.

Assessment is an important aspect of CLIL design. Different assessment techniques can be used to evaluate the outcomes of the course (summative) and to provide information about students' difficulties and needs (formative). Depending on the objectives of the course, assessment may concern content knowledge, language skills or both. Regardless of the objectives the use of a foreign language should always be considered in designing assessment techniques.

In higher education, content teachers are often required to teach their subjects in English to non-native speakers. As mentioned above, this requires appropriate competences, which can be developed in professional teacher trainings. Higher education institutions which introduce EMI should ensure that the teaching staff receives suitable training and support. As improving language skills requires time and commitment, the training programs should

aim at raising awareness and developing pedagogical skills (e.g. material selection, assessment) appropriate for CLIL.

The adoption of CLIL at the tertiary level is a good opportunity to combine content teaching with communicative language teaching. The potential benefits for all stakeholders are enormous. The students can develop their language skills and raise their value on the international job market. Through working in English university professors can become more accustomed to the international scientific environment. Finally the institutions can raise their international profiles thus increasing their competitiveness. However, maximizing these benefits requires a careful design rather than a simple change of the language of instruction. Furthermore, introducing English as medium of instruction without considering the implications on the course design can lead to the decline of the quality of teaching. For these reasons it is necessary that higher education institutions draw on the research in language teaching and especially CLIL, which offers the expertise that can help in reaching the full potential of EMI.

PART II – Empirical insight into EMI.

In the previous chapters of this paper I have looked at the different aspects of EMI in higher education. The discussion of rationales for EMI in higher education and the issues concerning CLIL design provide a theoretical framework for the empirical study presented in this part. The study was conducted in the summer semester 2010 and the winter semester 2010/11 at the Vienna University of Technology.

The aim of this study is to provide insight into EMI education at the Vienna University of Technology (hereafter referred to as TU). The analysis concentrates on the rationale for EMI at the TU and the issues considering the course design. The main themes explored in the analysis are:

(1) Teachers' background
- linguistic background
- formal training and experience

(2) Rationales behind EMI courses at the TU

(3) EMI design
- course objectives (content/language)
- language requirements and students' English proficiency
- course preparation (teaching materials)
- students' assessment

(4) Lecturers' personal views on EMI
- language support
- organizational issues
- advantages of EMI education

Through identification of good practice and areas for improvement, the present study provides insights that hopefully enable the university authorities as well as the lecturers to take informed decisions in order to fully realize the potential of EMI.

6 Methodology

The present research is an explorative case study. The methodology is based on a similar study carried out in Norway (Hallakjaer 2007). The Norwegian study was conducted be Glen Ole Hellakjaer in 2006. Hellakjaer interviewed lecturers at the University of Oslo and the Norwegian School of Management in order to gain insights into the Norwegian EMI programs.   The five respondents from the University of Oslo and the two respondents from the Norwegian School of Management taught different EMI courses at the undergraduate level. The interviews provided information about different aspects of EMI.

> The background questions were about the lecturers' educational and language backgrounds, why the course was taught in English, and about the students – their numbers, nationalities, language backgrounds and admission criteria. These were followed by questions about how the students mastered being taught in English, how the use of English influenced the lecturers' preparations, teaching and teaching speed, and about how lectures, seminars and groups functioned in English. There were also questions about examinations and other requirements, for instance, whether the use of English was compulsory for papers and examinations. Another was to what extent examinations took the use of a foreign language into consideration, and whether the respondents thought a language support course would be useful. Finally there were questions about assessment and equity, that is about how lecturers balanced the requirements with regard to content and presentation when grading student papers and tasks.

> (Hallakjaer 2007: 71)

Following the analysis of the transcribed interviews, Hellakjaer concluded that the potential of EMI for language teaching was not fully realized and that some quality issues had to be addressed. He also remarked that his interview partners knew little about the research done on EMI and that there was a need for staff training.

The Norwegian study serves both as an inspiration and a model for the present analysis. However, this study is not a replication of Hellakjaer's research. The Norwegian study is a multiple case design with contrastive samples (Hellakjaer 2007: 20) whereas the present research is a single case design (Yin 2008) restricted to one institution (TU). The main similarities between the two studies lay in the focus area and the method of data collection. Similarly to Hellakjaer's research the primary data for this analysis comes from semi-structured interviews with university lecturers. The interview questions were designed specifically for the purpose of the present study:

- What courses in English does your department offer?
- Who are the courses aimed at (domestic/exchange students)?
- What is the department's policy towards teaching in English?
- Since when the department offers courses in English?
- What initiated the introduction of EMI courses?
- What are the goals of EMI at your department?
- What is your background in terms of English?
- How does the use of English influence your (lecturer's) preparations for the course?
- What do you take into account when designing an EMI course?
- How much focus is there on the content and how much on the language?
- How does the use of English influence the speed of teaching?
- To what extent do the examinations take into account the use of a foreign language?
- What language is used in informal situations?
- What is the students' background (country of origin)?
- What level of English proficiency is required from the students?
- How do the students cope with being taught in English?
- Is it easy to distinguish whether the students have difficulties with the language or with the content?
- Do you think that a parallel language course would be helpful?

- Is there anything you would like to add?

The design of the interviews enabled the extraction of the information about the different reasons for EMI at the TU, the lecturers' competences, and the linguistic backgrounds of the courses participants, the influence of English on course preparation and the methods of assessment. All the interviews were carried out in English, recorded and later transcribed for further analysis. The analysis is based on the qualitative content analysis framework (Dörnyei 2007: 245-257).

6.1 Qualitative content analysis

The qualitative content analysis or latent level analysis is an "interpretative analysis of the underlying deeper meaning of the data" (Dörnyei 2007: 246). The analytical process in the qualitative content analysis consists of four general phases: transcription, coding for themes, developing ideas, interpreting the data and drawing conclusions (ibid.). This approach offers a systematic framework for the analysis of qualitative data such as spoken interviews, which is why it is a suitable method for the present study.

6.1.1 Transcribing the data

As stated in the previous section the primary sources of data for the present study are spoken interviews. However, as Cameron points out, "without a transcript – a written/graphic representation – talk is impossible to analyse systematically" (2002: 31). This is due to the very nature of the spoken language, which fades away the moment it is produced. Only through transcripts, which function as permanent records, the researcher is able to

instantly access different portions of data and perform analytical operations (ibid.).

Depending on the purpose of the research transcription methods vary. Transcriptions can be 'broad' in the sense that they include little detail. For example, a very broad transcript can be just a written record in standard orthography (Ellis & Barkhuizen 2005: 28). A 'narrow' transcription includes additional information such as for example pause lengths, intonation, emphasis or volume (ibid.).

As the present study focuses on the content and less on the form, the transcription follows a 'broader' approach. It provides a written account of the respondents' utterances using standard orthography. The features of speech such as hesitations, false starts and verbalizations are included. Longer pauses are indicated by ellipsis. In order to assure anonymity, respondents are assigned pseudonyms (for an overview see Table 7 in the next chapter).

6.1.2   Coding for themes

> The qualitative coding techniques are aimed at reducing or simplifying the data while highlighting special features of certain data segments in order to link them to broader topics or concepts.
>
> (Dörnyei 2007: 250)

The analysis of qualitative data sets, such as for example transcribed interviews, requires reduction of extensive quantities of texts into manageable units (Ellis & Barkhuizen 2005: 253). This can be achieved through coding. The coding process can be divided into three stages: pre-coding, initial coding, and second-level coding (Dörnyei 2007: 250-254).

The analysis of the data starts already in the transcription process. While transcribing data, researchers already develop ideas and identify relevant

passages. This is referred to as pre-coding (ibid.: 250). The pre-coding in later stages of the analysis gives way to more formal and systematic coding.

The initial coding for themes involves identifying concepts (opinions, attitudes, behaviours etc.) and assigning them different labels (codes) (Ellis & Barkhuizen 2005: 255-266). The choice of the code depends on the researcher. Some analysts prefer to use keywords, others use numbers or abbreviations. Regardless of the form, it is important that the codes are clear, transparent and can be easily identified with the corresponding themes (Dörnyei 2007: 251).

While initial coding serves descriptive purposes, the second-level coding "intends to capture […] more abstract commonalities". In other words, the second-level coding is about finding patterns and relationships in the data. Through second-level coding the data is reduced into "smaller, manageable set(s) of categories" (Ellis & Barkhuizen 2005: 269). In the present study, for example, the initial coding resulted in assigning codes *guest lecturers* and *cooperation with other universities* to some data extracts. In the second-level coding phase these two categories were grouped under the heading: *reasons for EMI*. Through such grouping of themes under broader labels the data becomes easier to analyse.

When working with qualitative data, researchers usually revise the data several times. Whenever the new idea or pattern emerges codes get revised. Once all the initial codes are revised and grouped the coding process is finished (Dörnyei 2007: 252).

6.1.3   Developing ideas

Dörnyei points out that although coding is a "key process in qualitative content analysis" it should be accompanied by other tools and techniques,

which help growing and developing ideas (2007: 254). These techniques may include writing memos, vignettes, interview profiles as well as all means of data display (ibid.). These additional notes or data representations help in developing conclusions and recognizing hidden patterns.

Writing memos is considered to be the most important analytical tool for qualitative content analysis (ibid.). Analytical memos are the notes, which record the researcher's thoughts and ideas developed in the process of coding the data. They can take forms of long paragraphs or short phrases and are "likely to contain the embryos of the main conclusions to be drawn from the study" (ibid.: 254).

Another tool that can help in the qualitative data analysis is writing vignettes. Vignettes are short narratives, which describe events and experiences. In contrast to memos vignettes are not analytical in nature, nevertheless they can provide a useful description of representative or typical phenomena (ibid.).

Whereas vignettes focus on single events or experiences of the informants, interview profiles provide a more substantial summary of the participant accounts (ibid.). They are comprised of the interviewee's original utterances with only minor additions of transitional passages and clarifications. Interview profiles have a summative function and highlight the most prominent themes.

Finally, data can be displayed visually. Visual data display can take various forms from simple tables to sophisticated conceptual maps (Ellis & Barkhuizen 2005: 271). Through schematic representation information can be presented in a "visually accessible manner", which helps in drawing conclusions (Dörnyei 2007: 256).

Most of the techniques described above were used in the present analysis. Vignettes were created in order to analyse lecturer's backgrounds. Visual aids such as tables and graphs helped in organizing the data. Finally, writing memos helped to develop ideas and draw initial conclusions.

6.1.4   Interpreting the data and drawing conclusions

Interpreting the data and drawing conclusions takes place throughout the whole analysis. As early as the initial coding phase the researchers start to make sense of the data they analyse. However, as Dörnyei points out, the final stages of data interpretation are crucial for the presentation of the findings (ibid.: 257).

In the final stages of the analysis, the overarching themes are selected. It is on these themes that the final report of study is centred (ibid.). However, a simple description of the main themes is not the final 'product' of the analysis. The themes need to be "integrated into a set of conclusions" (Ellis & Barkhuizen 2005: 271). In other words, the researcher has to explain the results to the reader and identify the "possible implications they might have for the future actions"(ibid.).

The final conclusions are built on the provisional ideas developed in memos as well as on various interim summaries. The main categories developed during the second-level coding phase also serve as the building blocks for the final conclusions. Thus the conclusion-drawing process is nothing else than

> taking stock of what we have got, apprising the generated patterns and insights, and finally selecting a limited number of main themes or storylines to elaborate on.

(Dörnyei 2007: 257)

In the present analysis the interpretation of data started as early as the transcription process. Throughout the transcription and the coding process initial ideas and conclusions were recorded in memos. Towards the end of the coding process patterns in the interviewees' responses emerged. These patterns served as the basis for the final conclusions.

7 Case study

7.1 Participants and data collection

The participants in the present study are the lecturers from the TU. TU students who are the researcher's personal acquaintances provided initial information about the EMI courses at the TU and the names of the lecturers teaching the courses. From ten lecturers who were contacted, six agreed to participate in the study. The respondents taught different Master's level EMI courses at the Faculty of Architecture and Spatial Planning and at the Faculty of Mathematics and Geoinformation. Altogether, lecturers from five different departments participated in the study. Tables seven and eight provide information on the faculties, departments and participants' pseudonyms and a list of EMI courses taught by the individual respondents. The list of the EMI courses is based on the course descriptions published on the TU's online platform TISS (Information Systems and Services of the Vienna University of Technology).

Table 7 Departments overview:

Faculty of Architecture and Spatial Planning	Faculty of Mathematics and Geoinformation
Department of Landscape Architecture: Respondent: 2	Department of Geoinformation and Cartography: Respondents: 1A, 1B
Department of Spatial Development, Infrastructure and Environmental Planning: Respondent: 3	
Department of Architectural Sciences: Respondent: 4	
Interdisciplinary Centre for Urban Culture and Public Space: Respondent: 5	

Table 8 EMI courses taught by the respondents in 2010/11[3]

	Course title:	**Assessment:**
1A	Scientific seminar on communication	Based on participation and a presentation on an aspect of the problem.
	Scientific seminar on Ontology and user interfaces	Based on participation and a presentation on an aspect of the problem.
	Geoinformation 2 (lecture)	Written and oral
	Geoinformation 2 (practical course)	Evaluation of the resulting report
	GIS Theory I (lecture & practical course)	written and oral
1B	Seminar Geosciences/Geoinformation - Given in German or English language (depending on students' preferences)	Students are evaluated based on the results of their research.
	Seminar Geosciences/Geoinformation - Given in German or English language (depending on students' preferences)	Students are evaluated based on the results of their research.
2	Landscape Planning (lecture)	Two written group assignments
	Project II (communal open space and landscape planning)	Project submission
	Project I (Master planning)	Project submission
3	Spatial and Environmental Planning in CEE-Countries	Seminar paper
	Cracow-Vienna	Project work
4	Advanced Concepts in CAAD (Lab-excersises)	Assignments and a Final Project
	Image Processing (Lab-excersises)	Homework assignments
	Advanced Concepts in CAAD (Lab-excersises)	Assignments and a Final Project
	Tools and Media (Lecture & excersises)	Assignments
5	Theories of public space I - Actors, institutions and spatial dimensions (lecture)	oral group exam
	Project 3 (part I): Behind the scenes - How do places come into being?	Final report & assignments
	International urban studies: Urban culture and public space (seminar)	Assessment based on three elements: the preparatory text, the individual presentation, and engagement in discussions.

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[3] https://tiss.tuwien.ac.at/course/courseList.xhtml

The data for this study was collected during the summer semester 2010 and the winter semester 2010/11. The interviews were carried out in the offices of the participants during scheduled appointments. The interviewees were informed about the nature of the study and assured anonymity.

7.2 Findings

The findings presented in this section are organized according to the four main themes that guide this study: teacher's backgrounds, rationales behind EMI at the TU, EMI design and lecturers' personal views on EMI. In the process of coding the data a number of constructs or sub-themes were identified (e.g. assessment and teaching materials as a part of EMI design). The constructs were then assigned to the fitting themes. The three-digit section numbers are assigned to the four main themes of the study.

7.2.1 Teachers' background

In order to establish the level of language competence the interviewees were asked about their language backgrounds. The respondents talked about the English teaching they received, their experiences abroad and other experiences that they felt were relevant. This section provides a summary of the respondents' accounts

Respondent 1A is Swiss. His mother tongue is German. He has spent ten years in the United States of America teaching at the university. In addition to German and English he speaks French.

The second interviewee from the Department of Geoinformation and Cartography is Austrian. He had eight years of English at school. He has no further formal training in English but he mentioned practicing his language skills during the stays abroad.

> (1B) I was I think three weeks on vacation in the USA, almost half a year in Cyprus ahm and yeah I speak a lot of English and read a lot and write a lot.

Respondent 2 is the only English native speaker among the six interviewees. His second language is German. He said that despite being an English native speaker he teaches most of his courses in German.

The interviewee from the Department of Spatial Development, Infrastructure and Environmental Planning is Austrian. He had eight years of English at the *Gymnasium* 'secondary school'. During that period he participated in a one-month exchange program with a school in London. During his studies at the TU he participated in international projects such as for example the International Summer School in Germany where the working language was English. As a TU staff member he is involved in various international projects with English as a working language, he is also a coordinator for the Erasmus exchange program. He admits that he had no special training in English.

> (3) And there also have been other projects also in cooperation with universities from America, in particular from New York, where we spent about two weeks. I did it twice two weeks. But I had no special training, it was just learning by doing. And of course, I had a possibility here in my position at the Technical University to take part in European projects where you work together with fifteen to twenty partners from all over Europe. And of course, in these projects the working language is English. But no special training.

Respondent 4 is Austrian and his mother tongue is German. He said that in high school he was a rather "mediocre" student when it comes to English. After spending one year in Chicago on an exchange program his language skills improved and he gained confidence in using English.

(4) When I came back after this year I also picked English designed courses and so to finish my classes here in Vienna and I found out that, yeah, the level was suddenly much different you know. It was much easier for me to talk in English.

The respondent from the Interdisciplinary Centre for Urban Culture and Public Space is German. At school she learned English, French and Latin. During her studies she took part in various traineeships abroad including a traineeship in London. She also learned Spanish and Portuguese during her studies. She completed an international PhD program in Germany, which was taught both in German and English.

(5) I came to study this PhD program at (inaudible) University in Germany. It was an international PhD program as well taught fifty percent in German, fifty percent in English and there we had a lot of exchange with international students and domestic students in Germany, which would also have a lot of experience working in other countries. So we basically talk between Spanish, Portuguese, English, German.

7.2.2 Rationales behind and reasons for EMI courses at the TU

Most of the EMI courses offered at the Faculty of Architecture and Spatial Planning and the Faculty of Mathematics and Geoinformation are part of the Master's programs. The bachelor courses are taught mostly in German. Some of the EMI courses are free electives whereas others, especially at the Institute for Geoinformation and Cartography, are compulsory. The rationales behind and reasons for EMI courses vary across the departments. All the rationales proposed by Coleman (2006: 4) with the exception of 'CLIL' and 'market in international students' were mentioned by the respondents.

7.2.2.1   Staff mobility

The most frequently mentioned reason for EMI courses at the TU is the presence of a guest lecturer. Four (1B, 2, 3, 5) out of six respondents stated that having a guest lecturer from a non German-speaking country is one of the reasons for EMI courses at their departments. Respondent 3, for example said:

> (3) If we make a course in English there is a specific reason for that. For example if we have a guest lecturer, which normally talk in English, which can also talk in German but their mother tongue is English, or it's better for them to talk in English then we make it in English.

The visiting professors either give their own lectures or they present as guest speakers in the respondents' lectures. For instance, respondent 2 invited guest speakers to his lecture 'Landscape Planning'. He pointed out that although the guest speakers were neither German nor English native speakers they were all able to present in English that is why the course was held in English.

The Department of Geoinformation and Cartography, which offers most of its Masters courses in English, often hires foreign teaching personnel. Respondent 1B points out that sometimes EMI is the only way for them to teach:

> (1B) if we hire personnel that does not speak German, then these persons will have to teach English classes. We had a Japanese colleague who was teaching in the 2nd semester and had to teach in English.

Also the Interdisciplinary Centre for Urban Culture and Public Space invites guest professors. Respondent 5 said that the centre always invites one guest professor from a German-speaking country and one from a non-German speaking country. All teaching as well as the communication among the centre's staff members is in English.

7.2.2.2 Student mobility and joint studies

Another motive behind EMI courses is the integration of international students as well as the cooperation between the TU and other European universities. Although none of the interviewees said that the purpose of EMI is to attract more exchange students, some of them said that using EMI serves the purpose of facilitating and integrating the international students who come to study at the TU. For instance, when asked who the EMI courses are aimed at, respondent 1B said:

> (1B) in general we of course offer for domestic students but the idea is; if we get students from abroad like Erasmus then it's typically older students so courses from the Master level are more applicable to them ... makes more sense to hear these courses and so we offer them in English.

Respondent 3 said that some free elective courses at the Department of Spatial Development, Infrastructure & Environmental Planning are held in English if the exchange students attend the course. The use of English is supposed to accomodate the visiting students. However, the courses are held in English only if the students agree to the language change.

At the Interdisciplinary Centre for Urban Culture and Public Space EMI courses accomplish students integration. Respondent 5 said: "we can enhance integration of foreign students if we just say 'ok, just English courses'". Because of teaching exclusively in English, international students have "the possibility for working together with Austrians".

Related to student mobility, international cooperation and joint-studies are another rationale behind EMI. For instance, the cooperation of the Department of Spatial Development, Infrastructure & Environmental Planning with the Cracow Technical University is an explicit reason for EMI. Respondent 3, who is involved in the cooperation said:

> (3) we use English if we make joint study courses with other universities. For example we do now a course together with the Technical University of Cracow and therefore it's obvious that we use English. Nobody of us can speak Polish, some of them can speak German, but we use English as a common language for the course. And then the students, also the Austrian students are forced to make all the reports also in English because then it makes sense.

7.2.2.3   Internationalisation (subjects with an international context)

Some of the courses taught at the Faculty of Architecture and Spatial Planning deal with international matters. The course "Landscape planning" for instance deals with European policies. Also the course "International urban studies: Urban culture and public space" has an international dimension. Respondents 2 and 5, who teach the courses respectively, indicated that the international dimension embedded in the courses justifies the use of English.

Responded 5 explicitly addressed the issue of the international context of the subject matter and its influence on the use of foreign languages. She said:

> (5) So we are dealing with urban studies and implementation of interventions into our development, and so it's in itself a topic that, of course, is related to lots of different sites in the world. Like, ok our focus is Vienna, another focus is European cities but they are again, you have different languages. If you go to urban studies, dealing with different languages, usually it's part of the game.

When she was asked whether the EMI courses are aimed at domestic or exchange students she further stressed that internationalisation is a rationale behind EMI.

> (5) Mixed, both, on purpose. So the idea is to internationalize the domestic students and to give them the possibility, the

international students the possibility for working together with Austrian and locals as well. That's the basic idea of it.

Respondent 3 said that at the Department of Spatial Development, Infrastructure & Environmental Planning the international context of the subject matter of certain courses is a reason for EMI.

> (3) We have for example one module in Masters program called "European Spatial Development" and my input be that these lectures in this module are offered in English. Now we have two lectures in English, one of them is European Spatial Development, which is given by a guest lecturer and then we have a seminar. It's called Spatial and Environmental Planning in CE countries, which normally is organized in that way that we invite people from central and eastern Europe to give a specific topic lectures to our students. That is also a reason why to make this in English.

7.2.2.4 Teaching materials

Respondent 4 said that the availability of English teaching materials was one of the reasons for introducing EMI. The courses taught by respondent 4 are practical courses on digital tools and media. The classes are taught in English due to the software and the terminology that is used in the field. Also most of the literature and the Internet resources are in English.

> (4) The rest classes are taught in English due to the thing that I mentioned before: software that we're using and the help that is available in English. And also some of the terms, they are just yeah, English ones that are used.
>
> […]
>
> I think, at the time when we created the schedule for those classes all the lecturers that are involved kind of agreed on that it's necessary to teach in English […] because all the state of the art literature, all the state of the art publications and internet resources are in English.

7.2.2.5   Preparing the students for professional life

Most of the respondents recognize the importance of English for scientific and professional life. Respondent 4, for example, said that the use of English allows "being at the edge of technology". Respondent 1B noticed that English is essential for discussing professional matters with colleagues at international conferences. One respondent (3) connected the issue of English as a professional language with graduate employability. He expressed the opinion that English skills are essential in order to "participate in the scientific and professional community". Towards the end of the interview, when he was asked about his personal view on EMI, he explicitly addressed the issue of professional development and employability.

> (3) I think that we have to offer more English courses in general. Why? Because, also in my field, professional language is English and if we want to give our students good job opportunities, we have to guarantee that they have at least some basic knowledge of this professional English. I mean we do spatial planning yes? If they are working in an Austrian office doing just spatial development programs for villages and cities in Austria, ok then they don't have to know English, but if they are working in an office dealing with spatial programs and they are taking part in international and European projects they have to know at least some basic knowledge in English. So I think it's necessary.

7.2.2.6   Summary

The six respondents give different reasons and rationales behind EMI at the TU. Some of the motives are more widely used than others. Table 9 provides a summary of the motives behind the introduction of EMI.

Table 9 Reasons and rationales behind EMI across the TU departments

Departments / Motives	1.	2.	3.	4.	5.
Staff Mobility	*	*	*		*
Student mobility and joint studies	*		*		*
Internationalisation (subjects with an international context)		*	*		*
Teaching materials				*	
Preparing the students for professional life			*		

1. Department of Geoinformation and Cartography
2. Department of Landscape Architecture
3. Department of Spatial Development, Infrastructure and Environmental Planning
4. Department of Architectural Sciences
5. Interdisciplinary Centre for Urban Culture and Public Space

7.2.3 EMI design

The following sections explore the different aspects of teaching content courses through English at the TU. They focus on the design level (Richards & Rodgers 2002: 20). The four elements of EMI design explored in this section are: course objectives, language requirements and students' English proficiency, course preparation, and students' assessment. As discussed in chapter five of this paper setting the language objective is an important first step in designing effective EMI models. Similarly course preparation and students assessment are important aspects of EMI. Finally, considering students' language proficiency is essential when preparing teaching materials for EMI and assessing students (see sections 5.1.3.2 and 5.1.3.3). The findings presented in the following sections provide insight into how these issues are addressed at the TU.

7.2.3.1 Course objectives (content/language)

In order to determine the objectives of EMI courses the interviewees were asked about the focus of the courses and about the teaching goals. Five respondents stressed that the focus of the EMI courses is on content teaching. Respondents 1A, 3 and 4 were very clear about the objectives of the courses:

> (1A) "No, no language teaching. Focus is only on the content"

> (3) "No focus on language teaching"

> (4) "It's strictly content based"

Respondent 2 also considered content teaching as the main objective of the EMI. He hopes that language learning is taking place implicitly. For instance, when asked about the goals of EMI he answered:

> (2) It's not really to teach English certainly (laughs) certainly no. I mean it's starting to make people familiar with listening in English, understanding what's going on. Again, it's the content that is the main issue.

Later, when answering the question about the focus of EMI, he said:

> (2) Effectively it's about the content. Obviously by using specific terms in the right context you hope people will pick them up and understand but there's no attempt on my side to give people lists of vocabulary or anything like that. I mean it comes in the context and I hope people will ask if they don't understand anything.
>
> […]
>
> I mean, I hope it's a sort of by-product of how it works.

Similarly respondent 5 said that the focus is on the content, but the language learning "comes along of course implicitly". She considers EMI courses to be a good opportunity for the students to improve their language skills. She also stresses that there is a lot of interaction in the EMI courses at the Interdisciplinary Centre for Urban Culture and Public Space making them a good platform for practicing language skills.

(5) We encourage our students to take our courses of course as well as if for example they want to go on Erasmus, they want to do a traineeship abroad to sharpen terminology of course

[...]

in our courses we have a lot of debates as well, it's not just working and handing in but really presentations, debates, and discussions so this is also good stimulus for trying to practice.

Finally, respondent 1B is the only interviewee considering language teaching as one of the explicit course objectives. Although the focus of his courses is on content teaching, he recognizes the language-teaching objective. Apart from teaching the content his courses aim at developing the basic language skills (e.g. speaking, reading) and at expanding students' professional vocabulary.

(1B) The aim is twofold. First of all we teach our students the English language. So we train them to speak in English, to think in English, to read English. And we teach them the correct wording for specific terms.

7.2.3.2   Language requirements and students' English proficiency

Most of the respondents found it difficult to answer the question about the level of English proficiency required from the students. None of the departments have any formal requirements concerning English proficiency and most of the time there are no admission criteria so students with different levels of English can participate in the same EMI courses.

(1B) We have no formal definition of that. We assume that they can understand English and they can listen to it.

(2) I find it difficult to answer that because we don't have any sort of selection. There's a lot of people whose English is very good and some whose not good but we don't define any levels and it's hard for me to say what those levels should be.

Despite the lack of formal requirements, the respondents have certain expectations concerning English proficiency. These expectations concern basic language skills such as reading, listening or writing. For example, respondent 5 said:

> (5) Yeah, let's say this is more embedded in general participation. So they need to be able to talk in English and discuss in English and write in English.

One of the interviewees (1A) indicated that the level of English expected from the students corresponds to the Austrian *Matura*[4] 'school leaving examination' level. He pointed out that the levels achieved by different schools are not the same. He also said that 10 to 20 percent of the students have language problems.

> (1A) 10 to 20 percent of students have real serious problems with the course material because for language problems but that's the exceptions. So the people who barely passed their maturity, English not very well.
>
> [...]
>
> The expectation is that students have a decent level at *Matura* level and we all know that not every school in Austria achieves the same levels. The problems are students that have never had English as ... in teaching, which are typically students from Südtirol. That's one every second year. And then there are a few that nobody understands how they ever passed *Matura*. But we have the same problem in other parts of German or mathematics as well, so nothing special.

Other respondents also pointed out that the students' language skills are sometimes too poor to follow the EMI courses. They indicated that, whereas language skills of the Austrian students are usually sufficient, international students from some countries often struggle in the EMI courses. Respondents 1B and 3 said that the students from Turkey and Spain had most difficulties.

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[4] Level B2 (in some cases C1) (http://www.veritas.at/sixcms/media.php/140/ahsmaturaenglischcertificatess8.pdf 19 August 2011).

(1B) We had sometimes students from Turkey or Spain, whose English was not too good. Then of course you have to decrease and slow down a little bit.

(3) With people from Turkey we have big problems because they have no knowledge in German and their English is very weak. [...] Spain sometimes.

7.2.3.3   Course preparation and teaching

When asked about the influence the use of English has on the course preparation, the amount of the material and the pace of teaching the interviewees expressed different opinions. Some of them said that preparing EMI courses is easier than preparing German courses and that the pace of teaching is not affected. Others complained about the difficulties and challenges of preparing EMI courses.

Both respondents at the Department of Geoinformation and Cartography agreed that the use of English has no negative impact on course preparation. Neither does it influence the amount of the material covered nor the teaching pace. For instance, when asked about the influence of English on course preparation, respondent 1A said: "I taught ten years in English so my courses, they are easier to teach in English then in German". He also said that due to the nature of the courses the pace of teaching is not much affected: "Not significantly. They are very mathematical, theoretical courses".

Similarly to respondent 1A's account, interviewee 1B expressed the opinion that preparing EMI courses is easier than preparing German courses. He said that "there are more papers in English than in German, and more books available". He also stressed that although preparing EMI courses was easy, making sure that all the materials are in English is an important element of EMI design.

(1B) Of course, if we do slides, if we print, create slides, we do that in English. When we look for literature that we want to give to the students we take care that it's not literature in German language then, so it's then it's purely English.

[…]

Typically we know what we want to teach. We have written that down already and this is typically in English so the preparation is pretty easy.

The respondent from the Department of Landscape Architecture said that in terms of course preparation "to some extent literature is an issue". Although many English publications are available at the TU library, sometimes it is not sufficient. The availability of teaching materials or lack thereof occasionally influences the course design.

(2) In some areas it can be a problem and obviously it means you tend to restrict references to things, which are available rather than perhaps the ideal literature.

[…]

One tends to look at what we have in the library and what is available before thinking about recommending things.

When asked if he feels that the use of English influences the pace of teaching in any way respondent 2 answered:

(2) Possibly, but I think it's very marginal. Maybe I don't take enough account of it but I don't specifically reduce the amount of the material as the result of that consideration.

Respondent 3 said that there is no difference in preparation between EMI courses and courses in German in terms of design. The only influence English has on the course preparation is that it consumes more time. In terms of teaching, the use of English influences the pace due to the respondent 2's language competences.

(3) Yes. I think so because I personally am missing the exact words, the exact terms so I have to describe it. So the usual way if you don't know the word – describe it and explain it, and it takes longer.

The interviewee from the Department of Architectural Sciences (4) indicated that due to the content of the courses he is teaching it is easy to design the course format. The only difficulty he sometimes has to face is the availability of English software. Although his courses are in English, sometimes the software used for training the students is in German.

> (4) I do architecture visualisation, animation, a little special effects. There's also film editing and some cut and design basics. But it's always easy to structure courses like this because you have a certain goal that you have to reach at the end and you have a software package or couple of software packages that you're following so it's pretty easy to structure because it's a purely technical, it's a technical field.
>
> [...]
>
> You always still have the problem that lots of people teach in the computer lab in the main building. That they teach in German and that's why at the beginning of the semester we always fight which software will be installed in English and in German. So the ones I will use alone will be in English but the rest is in German. So if I do a class in Photoshop it's basically teaching in English and showing in German. So it sometimes doesn't work quite well.

Similarly to respondent 3, respondent 4 feels that the use of English has an effect on his teaching pace.

> (4) It slows me down a little bit. In German I'm getting faster and faster the more I speak. So it still slows me down, sure.

According to respondent 5 the use of English significantly influences the preparation of the course. Finding the right teaching materials is one of the main issues she faces. The fact that some literature is only available in German means that sometimes she has to translate the texts into English.

> (5) I have to search for other bibliography. So the bibliography completely changes. And before I had as well as English, as well as German bibliography but now, of course, the whole German bibliography is to some extent kept out. Sometimes what I did, but this is a double effort for me, I have some very important German bibliography on theory of public space, which I translated into English for my students. But nobody does this usually, I guess.

Respondent 5 said that the use of English not only influences the selection of teaching materials but also the pace of teaching. In order to achieve understanding she often uses repetitions and reserves time for questions. She also reduces the amount of the course material in order to assure the quality of teaching.

> (5) When I was designing my lecture course for this year I was taking into account double of the material, or let's say at least the same amount of the material I would have been teaching last year but actually I had dispense a half of it. I decided it's better I ask the students "please bring in your questions if you don't understand my terminology, my language, if…" Because I know I have a different, I'm not a native speaker. And so sometimes they come up with a lot of questions on terminologies in English and how to translate them. But also on, of course, content of the lecture. […] And so then I said: "ok, let's decide for a slower pace and I'm going to repeat more in order so we make ourselves understand. And then, but we maybe not go through all the materials I have been announcing". And then it was more less as well a consensual decision with the students as well to go for less but in a more explicit way and more explained way, and with repetitions.

7.2.3.4   Students' assessment

All interviewees said that the summative assessment (Brown 2009: 6) is exclusively content based. The students are not graded for their language skills. Grammatical errors as well as spelling mistakes are ignored. Only respondent 2, whose students have a choice of taking exams either in English or German, said he gave extra credit for using English if the grade was on the borderline.

The respondents are aware that in some cases the use of English can influence the students' performance. Some of the interviewees address the issue by allowing the use of German during the examinations. At the Department of Geoinformation and Cartography this is a common practice.

(1A) The examinations can be held in German or in English. The students do not know enough English so that the examination in English would reveal more about their English than about their knowledge of content.

(1B) For Austrian students or German speaking students, if they don't know the English expression then they are allowed to tell the German expression just to show that they know what they want to say but don't know how to express it. We ignore grammatical errors, we ignore misspellings of words, stuff like that. So we focus in the exams on the content.

Similarly to the respondents from the Department of Geoinformation and Cartography the respondent 2 from the Department of Landscape Architecture allow his students to give answers in German.

(2) What I tend to do in case of this one course is to say that I'd rather have answers, which are good in German than bad English. So I leave it up to people to decide whether they answer in German or English.

Respondent 5 approaches the issue of assessment differently. She assesses her students based on oral examinations. According to her, oral examinations are more interactive and allow for immediate feedback and negotiation of meaning. Oral examinations also reduce the risk of misunderstandings caused by the students' cultural backgrounds.

(5) I switched from written examinations to oral examinations, which again… I guess especially sometimes in… I have a lot of written seminar texts in English, and from people coming from all around the world and from Austria as well, and for me of course it's easier to understand: or British English, American English, and of course English speakers that come from German speaking countries, whereas from the… from sentence structure etc. sometimes maybe people from Africa, from Asia, from other countries, they have another way of thinking and this is reflected in language as well. And so there are often misunderstandings in texts and I have to correct a lot. And so I just in the oral examination if I see that someone doesn't get it, or I don't get what he or she wants to say I can ask again. So this is more communicative in a way.

[…]

> It's easier when you have, let's say more interactive examination procedure. If I just give him some tasks to write down some notes, and I get it back, then of course I don't have this possible feedback in group oral examinations.

Respondent 3 assesses his students based on written work. He does not consider the use of English a problem as long as the students can communicate the meaning: "the question is; can you express yourself that the other one understands you? That's the only thing". He considers himself to have a similar level of English competence as his students, which makes it easier for him to understand the students' writing. However, the issue of assessing becomes problematic for him, when he has to correct papers submitted by English native speakers, who use a more sophisticated language.

> (3) To be honest, I think that is not really a problem because my English is not so good that I... You know, we are on the same base so... Of course, the impression when you write in English it's a little bit simpler, yes. But you know, this is also a level that I understand, yes. You know, this is good old European English. This is always a problem when you have native speakers. When you have native speakers it's getting a bit complicated.

The only interviewee, who said that the use of English has no effect on assessment, was respondent 4. The courses he teaches are lab-exercises in which the students learn how to work with specialised computer software. The assessment is based on practical assignments which require familiarity with the tools but no language knowledge.

> (4) The way I grade classes is mostly based on practical work. So there's no written work that I'm grading, so it doesn't matter. So I don't care if they have their Hungarian Windows installed and I don't care... The result is the same. They are doing certain files, they are giving me pictures, they're rendering, they're handing in films and so on. So this is basically it. Doesn't matter in the assignments.

In terms of formative assessment (Brown 2009: 6), two interviewees indicated that sometimes it is challenging to monitor the students' progress. Respondents 1B and 4 occasionally have difficulties determining what hampers the learning process. When asked about whether it is easy to

distinguish between language difficulties and problems with mastering the content they answered:

> (1B) That's sometimes difficult. I have not yet found a simple solution to finding out if it's boring, if he doesn't understand the content or if he doesn't understand the language. That's the three possibilities. Usually the students have a blank stare and don't follow at all.

> (4) That could be partly a problem that you… That they are mixed up, those two things. But mostly it is the content that they don't understand due to the fact that they… It's a… It kind of mixes up, but it is… the problem for me is that at the end they don't understand the content, or they just… they don't ask the right questions at the right time.

Respondent 1A's answer to the same question was even more radical. He said that it is impossible to distinguish between content and language problems. He also said that since the course objective is to teach content, it is the students' responsibility to overcome their language difficulties.

7.2.3.5   Summary

Most interviewees consider content teaching the only objective of their EMI courses. Although they do not consider English teaching as their responsibility some of them express the hope that the students improve their language skills as a result of participating in EMI courses. Only respondent 1B considers language teaching to be one of the objectives.

In terms of language requirements, none of the five departments has any official criteria. Most respondents consider the ability to read, listen, write and talk in English as a prerequisite and one respondent said that these skills should be at the Austrian *Matura* level. In general the interviewees judge the language skills of the students as sufficient with some exceptions (mainly incoming students from Turkey and Spain).

The preparation of EMI courses at the TU is sometimes more time consuming than the preparation of German courses. The most common issue is the selection or the adaptation of the teaching materials. Whereas for some courses there are more English materials available, for others it is difficult to find the right literature.

The use of English sometimes influences the pace of teaching and the amount of the material covered. Due to their language competences, some lecturers struggle to cover the same amount of the material that they would in a traditional German course. Additionally, the students' limited language skills sometimes result in a slower teaching pace.

The assessment is content based. The language skills are not assessed. Most lecturers agree that distinguishing between content and language problems is sometimes problematic. Sometimes during the examinations they allow the students to use German or they use oral examinations in order to eliminate or reduce the foreign language influence on the students' performance.

7.2.4   Lecturers' views

Apart from answering the questions concerning the rationales behind EMI, the language backgrounds and various aspects of the course design, the interviewees presented their views on other aspects of EMI. They expressed their opinions concerning possible language support classes, touched upon some organizational issues and talked about the advantages of teaching in English. These personal views are summarised in the following sections.

7.2.4.1 Language support

In general the respondents agree that an additional language course accompanying the content EMI courses could be beneficial. However, some of them expressed doubts as to whether it would benefit all the students or just some of them. Respondent 1B, for instance, said that such a course could be good for the visiting students.

> (1B) Ahm… I don't think it's… It may be helpful for some students. So we had students from Turkey who couldn't speak German at all, and barely were speaking English. For them it could be helpful to get basics. Ahm… usually when you have students from Austria, they should have learn English for at least eight years, so they should be able to speak English, to understand it. And to learn those few vocabulary that they need, they have to learn within the course. That should be no problem. For our Erasmus students it could be interesting.

Similarly respondent 2 said that a language support course could be useful, but he was not sure how it could be organized due to the different language levels of the students.

> (2) I'm sure it would be no disadvantage. It's a question of how you would organize it but… And again, because the level of the students is different, they would benefit from it to different degrees. But I'm sure it would be good.

Another concern expressed by the respondents was the question of the area that such a language course would cover. Due to the various areas that are covered in the content EMI courses it would be difficult to design a universal ESP course for the TU students. For example, respondent 4 said:

> (4) Strictly language course? Hmm… Of course it would help somehow. It always helps. […] with the technical vocabulary would be so different. The vocabulary that we use in technical fields, and even the one that's using on visualisation only is totally different vocabulary than let's say… I don't know… building physics for example. They have vocabulary that I…"what is it?" So it's difficult for me sometimes.

Respondent 5 points out that an additional ESP course could be interesting, especially for the students writing their masters and PhD thesis. However, similarly to respondent 4, she pointed out that different content areas require different language courses. Within the faculty of Architecture and Spatial Planning she made a distinction between the two broad content areas that would require different ESP courses (Architecture and Spatial Planning).

> (5) As we're settled in the masters program, I guess especially the link for like people who want to write their theses, and people who want to go on and write their PhD and getting more into debates, here I guess this would of course be recommended. But then, for example, you need to find a consensus between different schools because on the one hand there is this planning part of the Architecture and Planning faculty, which is like 150 students each year coming. And then you have this huge architecture part of the faculty. And so architecture requires a sort of another set of technical terms than planning language. So we would have to really see in which area you offer.

Interestingly, respondent 5 sees a greater need for staff training than for ESP courses for students.

> (5) So what I would rather recommend is offering [...] basic English teaching for colleagues. But this is, you know, at the professors level, researchers level. You have so much people who are thrown up with so much work so they would like to have an additional language course. But the time is very much limited. But this would help a lot, I guess.

7.2.4.2 Approaches towards EMI and organizational issues

During the interviews some of the respondents expressed their opinions concerning the potential benefits of introducing more EMI courses. Respondents 2 and 3, for instance, agree that offering more courses in English would attract more foreign students and foster the process of internationalization. Respondent 2 believes that due to the organizational issues and the approach of the TU administration this potential is not likely

to be reached soon. When asked about the future of EMI at the Department of Landscape Architecture, he said:

> (2) These decisions are not taken at the level of the department but they're taken on the level of the course committees, and at the moment everything is being reorganized. [...] But so far there hasn't been an issue that there is an intention to increase the percentage of English. I think there certainly could be potentials for developing programs in English at master's level. Certainly it would be interesting to attract good foreign students, but I mean… At the moment the way university system works here, which is… focus is largely on quantity. The issue of attracting more students isn't really an issue and therefore not a big discussion at the moment. But I think potentially it could be very interesting. I think Vienna has a very attractive location and could be a very attractive international centre of study. So I think there is a lot of potential there. At the moment it's not really being seriously considered as far as I'm aware.

Respondent 3, who is an Erasmus coordinator at the Department of Spatial Development, Infrastructure and Environmental Planning, also believes that there should be more EMI courses at the TU. He believes that due to the position of German in the European Union the TU lacks the motivation for introducing new EMI courses. According to him the TU's approach prevents securing Erasmus contracts with some English universities thus reducing the number of opportunities for TU students to go on an exchange program to England.

> (3) But we have the problem that, you know, that German is the most talked language in the European Union so there is no really a push that we offer a lot of English courses. If I compare it to other universities, they normally have for Erasmus students, for incoming students special courses in English. We haven't. They don't expect that somebody can talk Czech or Polish but we expect if somebody is coming to talk German.
>
> [...]
>
> And there is another problem, for example, this with English. I really tried for ten years very hard to have more Erasmus partner universities from England. It's very complicated to get a contract with an English university. [...] And the problem is that their

students, in most of the cases, have no knowledge base in languages. They only speak English. So the students don't come to our university, not because the offer or the quality of teaching is so bad, simply because they cannot understand English. And so the university, the English university, says: "ok, why should I make a contract with you? Because there is no need for our students, because nobody wants to come to you to study". [...] of course it would be the best if we can offer a lot of Erasmus partner universities within the framework of Erasmus, yes. And then send students to train their English, but it's very hard. We have a few of English partner universities but it's really very hard.

Respondent 3 also notices a lost opportunity due to the limited number of EMI courses. He points out that the English universities can benefit financially from offering courses to students from Asia and other countries outside the EU and suggests that the TU should do the same. He believes that offering an international master program in English would help the TU lure more English students and also more international fee-paying students.

(3) And by the way, they offer their courses for students from Asia or somewhere abroad, therefore they can ask for study fees because, you know, in the Erasmus program they are not allowed to do that. So there is also a financial reason behind that, yes.

[...]

We talked also within our curriculum group if we perhaps should make in the masters program a... specially English master, perhaps in cooperation with partner universities, yes. Make some special European or international master in English. Well, we'll see but it's not very easy to organize. But I personally think it would be a good thing. And if we offer such a master, I think then we'll have also English and more international students coming from Asia, from America.

Apart from the limited number of EMI courses, two interviewees addressed other organizational issues. In section 7.2.3.3 I mentioned the problem concerning language versions of the training software highlighted by respondent 4, but also the availability of English contracts for visiting professors is sometimes problematic. Respondent 5 elaborated on this issue.

(5) I remember one problem, this was just an administrative problem [...] we had some contracts for our visiting professors, and I said to the contract department, the juridical department:

"ok, I need one of these contracts in English because the colleague that is coming, she doesn't understand any German". So they said: "no". That was the first reaction, like this: "No, German is of course the traditional language here, and official language". Which is part of keeping it of course. But then I was like: "You know what? I cannot give any contract to a person in a language that he or she doesn't understand". At least internationalization of the university etc. So in the end there was no problem of getting it in English but there was like… I had to ask several times and it was not ahm… Yeah, I was considering it to be a part of international university like Vienna University of Technology to have just an English contract ready when the visiting professor comes. But change happens slowly sometimes and maybe we need to be more patient about this.

Another issue mentioned by respondent 5 was establishing a working language within the department.

(5) In the beginning we would start with German and English in the courses, and then… but then we realized on the one hand in terms of administration it's like double effort because you always have to translate inputs by colleague number one for colleague number two and then as well for students [...] So it was rather, on the one hand there was from the beginning a structural decision to allow for English as well, but as well! And so then incrementally we realized: 'no, it's difficult for our working team staff, and it's as well of course difficult for the students'. [...] 'ok, just English courses, and we can modify our working language within the team, and modes of working together if we just decide on one language', which was English.

The Interdisciplinary Centre for Urban Culture and Public Space, where respondent 5 is teaching, offers exclusively courses in English and English is the established working language. The Centre often cooperates with other departments and has to face many organizational problems.

(5) In the following semester we have another new cooperation with some institutes here and we ask them: "ok, we want to do courses just in English". But again they said: "No! If there are German students and German groups we will talk in German". But we wanted to be more radical in that sense, but these institutes insist. [...] so we want to have them in terms of contents as a partner, but on the other hand it's difficult because this, I guess implicitly often creates like, yeah, disadvantage for the students. So we said: "for example it's important if you have foreign students, so the announcement for example is in English. But if

you have foreign students they should not be just in foreigners group so you can talk just English with them. But how do you deal with this?". "Ah ja, we are going to deal with this when it comes into question". So it's still a process of.. yeah... let's say learning, mutual learning. And it takes a while I guess, for the colleagues as well.

7.2.4.3   The advantages of teaching in English

In conclusion to the interviews two respondents (1B, 4) talked about how the use of English enhances their teaching experience. They recognize the positive effects EMI has on their personal development as well as the benefits of introducing an international dimension into teaching. For instance, when asked if he has anything to add concerning teaching in English, respondent 1B said:

> (1B) I think for the teachers it's nice to teach in English because you train your English and if you go then to a conference you are used to speak in English and you have no problem discussing your experiences and your work in English.

Respondent 4 welcomes the use of English because it attracts foreign students, whose presence benefits the entire class.

> (4) It's just fun. I like it, it's a... yeah. Sometimes it's easier for me. I don't care anymore about how it sounds and if it's always the correct terms that I use and... As long as you bring the message and people can follow. And it is a big improvement, because otherwise I wouldn't have that much of international students. Although they leave after a year, it's still enriching the class environment.

7.2.4.4   Summary

All six respondents admit that an additional language course for the students would be beneficial. However, they generally agree that the organization of such courses would be difficult mainly due to the different language levels of the students and the variety of content areas that are covered at the TU. One respondent suggested that additional language training for the teaching staff would be more advantageous.

Some lecturers expressed the view that the TU should offer more EMI courses. The introduction of new EMI courses and whole programs in English would benefit the TU in many ways. Firstly, it would attract more international students thus contributing to the TU's international profile. Secondly, it would attract fee-paying students from countries outside the EU. Finally, it would pave the way for cooperation with more foreign universities.

Although the respondents recognize the potential benefits of offering EMI courses, they believe that the current approach of the TU authorities does not indicate the expansion of the EMI offer. According to one interviewee, the reason for the 'fossilization' of EMI at the TU is the position of German in the EU. Another respondent indicated that due to the large number of students, the TU is not really interested in attracting more students.

There are some organizational issues concerning the existing EMI courses at the TU. The interviewees mentioned administrative problems such as agreeing on the training software language versions and preparing English contracts for visiting lecturers. Also the establishment of the internal working language within the departments and the faculties is sometimes problematic. Finally, one respondent pointed out that some departments within the TU are reluctant to make a commitment to teaching in English thus restraining cooperation between different departments within the TU.

In general the respondents consider EMI to have a positive effect in many respects. Two interviewees talked explicitly about the advantages of EMI. The use of English contributes to the lecturers' personal development and attracts foreign students thus enriching the class environment.

8 Discussion of findings

Before I turn to the interpretation of the findings I shall point out that the present study has some limitations. Firstly, the scope of the study is limited (only six respondents) due to time constraints and lack of responses from some potential interview partners. Secondly, only the teachers' perspective is taken into account. Finally, no official TU documents concerning language policies or official data on mobility at the TU are available. An attempt to contact a member of the Curriculum Planning Committee proved to be unsuccessful.

Due to the limitations of the study it needs to be stressed that further research is needed. The conclusions drawn here need to be approached with caution. They need to be treated as a starting point for further investigation rather than finite statements.

Despite limitations, the study provides some valuable insights into EMI at the TU. Especially, it highlights some potential areas for improvement. Course design, teacher competences as well as some organisational issues are the areas in which most problems occur.

8.1 Recognizing CLIL

At the beginning of this paper different rationales for EMI in European higher education were explored. Internationalisation and some of its aspects such as mobility of staff and student exchanges (Wächter 1999) are the most common reasons for EMI. Other possible rationales for EMI in higher education are: teaching and research materials, graduate employability, market in international students and CLIL (Coleman 2006). The analysis of

these different rationales showed that, although language teaching is rarely explicitly considered to be a reason for EMI, it is often assumed implicitly. The data analysed in the previous chapter indicates that at the TU the situation is the same. Staff and student mobility, as well as internationalisation seem to be the main drives behind EMI. Language teaching is not a reason for EMI but is assumed implicitly. Due to the omission of language teaching goals in the rationale for EMI the language objective is not considered at the design level.

As argued in chapter five of this paper setting the language objective is essential in order to reach the potential of EMI. Due to the lack of the language objective at the TU the potential for language development is largely wasted. Considering the limitations of the present study it is impossible to determine to what degree language learning takes place but certainly an explicit formulation of language objectives would enable designing effective CLIL models for respective content areas.

All the ingredients needed for communicative language teaching (Littlewood 1981, Richards & Rodgers 2002) are present at the TU. The EMI courses offer an environment in which through purposeful communication and the engagement with 'real' and 'meaningful' materials the students can develop their language skills (Brinton, Snow & Wesche 2008). Through CLIL, the TU could take the advantage of the environment that already exists and add an additional language-teaching dimension thus improving the quality of teaching. However, as the data suggests, there are some issues that need to be resolved before the potential of EMI can be reached.

 8.2 Problems with EMI

One of the issues addressed by the respondents is the different level of language skills among students. Introducing additional language support

courses could be a way of addressing this problem. However, the respondents expressed doubts concerning the organisation of such courses due to the variety of content areas taught at the TU. CLIL models with language support such as the adjunct model or the language-embedded model (Coyle, Hood & Marsh 2010) discussed in section 5.1.3 could offer a good solution to this problem. Language classes dealing with the genres and vocabulary specific to the content area could accompany the individual content courses. The language issue could also be dealt with within the content class through additional language support.

Another problem faced by some of the TU lecturers are their own language competences. The limited vocabulary and the inability to explain some concepts result in a slower teaching pace which sometimes leads to the reduction of content. The TU authorities should address the issue of teachers' linguistic competences. Language courses for the teaching staff could be one way of addressing the issue. Another solution could be selecting the teachers with high levels of English skills to teach EMI courses. Finally, employing staff with good language skills (e.g. native speakers) could improve the quality of EMI.

The selection of appropriate teaching materials is challenging for some TU lecturers. The materials are sometimes unavailable in English and if they are available, they are not always easy to access. In order to help the teachers in their course preparations, the TU should ensure that the library has all the relevant literature in English and that the software in the computer labs is suitable for teaching in English. The issues of unavailable teaching materials or English contracts for guest lecturers should be dealt with at the administration level in order to lessen the already heavy load on the lecturers.

In terms of the assessment procedures at the TU there is certainly room for improvement. The biggest issue is the use of German during examinations. Although such practices may reduce the influence of language skills on the assessment of German speaking students, foreign students may be

disadvantaged (Brinton, Snow & Wesche 2008; Coyle, Hood & Marsh 2010). The use of German may also reduce the motivation for language development among German speaking students (ibid.). This issue can be addressed by using a variety of examination formats (see section 5.1.3.3). The Interdisciplinary Centre for Urban Culture and Public Space, where oral exams are used to reduce the language influence, could serve as an example of good practice for other departments.

8.3 Teacher training

The issues discussed in the previous section could be addressed by providing adequate training programs for the teaching staff. Such programs should foremost aim at raising awareness. As shown by Klaassen (2008), Benson, Brunsberg, Dush, Minugh and Shaw (2008) making the lecturers aware of the implications the use of a foreign language has on content teaching is necessary in order to assure quality of teaching (see section 5.1.4).

As mentioned before EMI at the TU has a potential for fostering language development. Teacher training could help in achieving this potential. The lecturers could be trained in CLIL methodologies. They could learn how to prepare teaching materials, which cater for both content and language learning. Their generic and textual competences (Dafouz & Nunez 2009: 109) could be improved in order to equip them with the linguistic resources necessary for effective teaching in the university context. Finally, they could be trained in developing appropriate assessment techniques for both content and language assessment.

The introduction of teacher training programs is not an easy task. It requires resources and commitment. However, the TU could benefit greatly from such training programs.

Firstly, the lecturers would gain additional competences (see section 5.1.3) allowing them to make informed decisions in their course designs. The ability to select suitable teaching materials and develop appropriate assessment techniques would enable them to extract the hidden potential of EMI. Informed decisions taken at the level of design would also help them develop effective procedures for EMI teaching (see chapter 3).

Secondly, the students would benefit from the improved quality of EMI. Trained teachers are more likely to pay attention to the influence students' language proficiency has on content learning (section 5.1.3.3). Additionally, through increased generic and textual competences (Dafouz & Nunez 2009: 109), teachers are be better equipped to teach content effectively through English.

Lastly, having teachers who are trained for EMI, the TU could increase the number of EMI courses thus strengthening its international profile. More EMI courses would attract not only foreign fee-paying students (see chapter 2) but also international staff. It could help the TU become a major player in the international scientific community.

9 Conclusions

The first conclusion drawn from this analysis concerns the rationales behind EMI in higher education. The most common reasons for introducing EMI at tertiary level are internationalisation and mobility. Other popular reasons for EMI are reaching high graduate employability and making use of the extensive body of scientific publications available in English. Surprisingly, teaching English is rarely an explicit reason for introducing English as medium of instruction (Coleman 2006).

The results of the empirical study at the TU confirm the general tendencies in higher education. Mobility and internationalisation are the most common rationales behind EMI. The use of English teaching materials and the desire to prepare the students for professional life are other reasons for EMI at the TU. Although assumed implicitly, language teaching is not a direct reason for using English as medium of instruction.

The second conclusion that can be drawn from this analysis is that only through explicit formulation of language objectives the full potential of EMI can be reached. Clear formulation of language goals is needed in order to design an effective teaching model. Once explicitly formulated, teaching goals can be addressed in the course design and an appropriate teaching method can be selected.

At the TU lecturers are focused exclusively on content teaching. Language objectives are not formulated and language development is assumed implicitly. Often this lack of explicit language objectives results in designing EMI courses without considering the implications of using a foreign language as medium of instruction. Lecturers make sure that the materials are in English but often this is the only difference to German course designs. This approach may result in wasting the language development potential of EMI at

the TU. However, more research is needed to confirm whether or not language learning is taking place in present EMI courses.

The third conclusion from this study is that there exists extensive research on language teaching that provides theories and expertise that can be used for effective integration of content and language teaching (e.g. Brumfit 1984; Christ & Rosenstiel 1999; Brinton, Snow & Wesche 2008; Coyle, Hood & Marsh 2010). One of the most recent methods of teaching content through foreign language is CLIL. CLIL integrates content and language teaching into a single design thus enabling the extraction of the full potential of EMI.

The lecturers at the TU struggle with many issues connected to teaching content through English. Students' language proficiency, selection of teaching materials, assessment and administrative issues are the most common problems faced by EMI teachers. Adoption of CLIL can help addressing these issues at the TU and other higher education institutions.

Finally, present analysis shows, that appropriate teacher competences are needed in order to apply CLIL methodology and maximize the outcomes of EMI. The analysis of data obtained at the TU shows that lecturers sometimes struggle due to their poor linguistic competences. Additionally, as none of the interviewees have had any professional training, the decisions regarding teaching materials and assessment techniques are often not in line with CLIL recommendations thus may have a negative effect on content learning. Again, more research is needed in order to determine how much the decisions at the design level influence content teaching.

Hopefully the conclusions drawn from this study can help institutions such as the Vienna University of Technology realize that a simple change in language of instruction is not enough to improve the teaching offer. The present study offers an overview of important issues of EMI at tertiary level and can be used by the TU and other universities as a starting point for the revision of the effectiveness of their EMI designs. Only by understanding the implications of teaching through a foreign language higher education

institutions can assure the quality of content teaching and introduce the language teaching dimension into the course design thus maximizing the potential of EMI.

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Abstract: summary in English

The reasons for using foreign languages as medium of instruction vary across countries and educational settings. They stretch from pedagogical (e.g. language teaching), through practical (e.g. common language for education in multilingual societies) to ideological (e.g. integration). In the case of English, the reasons for its increased use as medium of instruction are closely related to the process of globalization and the establishment of English as an International Language.

The present paper seeks to investigate the different rationales behind using English as medium of instruction (EMI) at tertiary level. In particular it focuses on the language-teaching dimension, which in the context of higher education is not always explicitly addressed. This lack of explicit language teaching objectives in English-medium courses is a barrier to unlocking the potential of EMI.

Apart from examining the rationales behind EMI, this thesis explores the principles of CLIL method (Content and Language Integrated Learning). In CLIL content is taught through a foreign language with an aim of developing both content and language knowledge. Through application of CLIL higher education institutions can explore the potential of EMI and in particular enhance the English learning.

This thesis investigates the rationales behind EMI and CLIL methodology by combining theoretical discussion with an empirical enquiry into EMI practices. The first part of this paper provides a theoretical discussion of most common rationales behind EMI in higher education and looks at the most important aspects of CLIL design. In the second part rationales behind EMI and teacher practices at the Vienna University of Technology (TU) are investigated empirically.

The results of the empirical study suggest that due to the lack of explicit language goals the potential of EMI at the TU is not realized. Moreover, EMI teachers at the TU often face issues such as for example insufficient language competences of the students, lack of appropriate teaching materials, problems with assessing content knowledge or administrative issues. As a result of these findings it is suggested that language teaching should be explicitly addressed in the rationales behind EMI. Furthermore, teachers should be trained in CLIL methodology in order to avoid pitfalls of teaching in a foreign language and maximize the potential of EMI.

Abstract: deutsche Zusammenfassung

Die Gründe, Englisch als Arbeitssprache einzusetzen, variieren je nach Land sowie dem jeweiligen Bildungsbereich. Dies wird aus pädagogischen Gründen (z.B. im Sprachunterricht) oder auch praktischen (z.B. eine gemeinsame Sprache in multilingualen Gesellschaften) oder ideologischen Gründen (Z.B. zur Integrationszwecken) forciert. In Bezug auf die englische Sprache sind die Gründe, diese als Unterrichtssprache einzusetzen, eng mit einerseits dem Prozess der Globalisierung, andererseits mit dem Motiv Englisch als internationale Sprache durchzusetzen, verknüpft.

Diese Diplomarbeit versucht herauszufinden, welche Beweggründe es derzeit gibt, Englisch als Arbeitssprache im tertiären Sektor einzusetzen. Das Hauptaugenmerk dieser Arbeit wird besonders auf die Dimension des Sprachunterrichts gelegt, da dies im Kontext von höherer Bildung oft nicht explizit thematisiert wird. Der vorherrschende Mangel an expliziten Zielsetzungen und Formulierungen kann eine Hürde sein, das volle Potential von Englisch als Arbeitssprache auszuschöpfen.

Diese Arbeit widmet sich nicht nur den Gründen für Englisch als Arbeitssprache, sondern versucht auch die Prinzipien der CLIL-Methode (Content and Language Integrated Learning) zu erläutern. Bei Einsatz der CLIL-Methode wird der Inhalt durch eine Fremdsprache vermittelt, mit dem Ziel, inhaltliches und sprachliches Wissen zu entwickeln. Durch die Anwendung dieser Methode in höheren Bildungseinrichtungen können diese das volle Potenzial von Englisch als Arbeitssprache ausschöpfen.

In dieser Arbeit werden die Gründe für den Einsatz von Englisch als Arbeitssprache und die CLIL-Methode genauer untersucht und durch einen empirischen Teil ergänzt. Dieser untersucht die tatsächliche Ausübung von Englisch als Arbeitssprache. In anderen Worten schafft der erste Teil dieser Arbeit die theoretische Basis, indem die diversen Gründe für Englisch als

Arbeitssprache genauer beleuchtet werden und die wichtigsten Aspekte der CLIL-Methode präsentiert werden. Im zweiten, empirischen, Teil werden die Gründe für Englisch als Arbeitssprache an der Technischen Universität Wien (TU) genauer erforscht.

Die Ergebnisse der empirischen Studie deuten an, dass durch das Fehlen expliziter Sprachziele das volle Potenzial von Englisch als Arbeitssprache an der TU nicht ausgeschöpft wird. Daraus resultiert der Vorschlag, das Lehren der Sprache als expliziten Beweggrund für Englisch als Arbeitssprache zu erwähnen. Weiters soll den Lehrenden die CLIL-Methode vermittelt werden, um einerseits etwaige Probleme, die das Lehren in einer Fremdsprache mit sich bringt, abzuwenden, und andererseits das volle Potenzial von Englisch als Arbeitssprache auszuschöpfen.

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