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Content and Language Integration as a part of a degree reform at Tampere University of Technology

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Tampere University of Technology is undergoing a degree reform that started in 2013. One of the major changes in the reform was the integration of compulsory Finnish, Swedish and English language courses to substance courses at the bachelor level. The integration of content and language courses aims at higher quality language learning, more fluency in studies, and increased motivation toward language studies. In addition, integration is an opportunity to optimize the use of resources and to offer courses that are more tailored to the students' field of study and to the skills needed in working life. The reform also aims to increase and develop co-operation between different departments at the university and to develop scientific follow up. This paper gives an overview of the integration process conducted at TUT and gives examples of adjunct CLIL implementations in three different languages.

1. Background

Tampere University of Technology (TUT) is a university of 10,500 undergraduate and postgraduate students and 2,000 employees. TUT is an attractive institution for international students and staff, and there are currently roughly 1,500 foreigners from more than 60 countries at the university (TUT 2014). The internationalization of working life sets high demands on language skills in Finland. The educational system must respond to the needs of the changing world, and provide education that will give graduates skills with which they can succeed in the multilingual and multicultural reality, especially in small countries with substantial volumes of international trade.

The Finnish society has become increasingly diversified linguistically. According to the constitutional law, Finnish and Swedish have the status of national languages, making Finland officially a bilingual country. The state language policy has evolved since the 1980s when the Finnish government aimed to diversify and improve the language skills of the citizens. The 1980s was a decade when opportunities for new language choices were

introduced at the primary level of education. This was followed by an increase in English medium instruction, and in the 1990s CLIL was introduced as a way to improve the language proficiency in the Finnish educational system both in comprehensive schools and at university level (Leppänen et al, 2008).

Due to the bilingual status of the country, students have compulsory second language studies at primary, secondary, and tertiary levels of education. Besides Swedish (at CEFR levels B1-B2), the students have another compulsory foreign language course in their degree requirements at CEFR level B2. For the majority of the students, the compulsory language is English, although it can also be, e.g., German or French, depending on earlier studies at primary and/or secondary levels.

Finnish university degrees underwent a reform in 2005 as part of the Bologna process. One of the aims of the reform was to shorten the study time, while another aim was to adjust the degrees to meet the demands from the working life. At TUT the reform included the development of degree programs so that the Bachelor degree programs became broader in scope, and specialization at Master's level became more flexible. Since fall 2013, TUT has six degree programs. Appendix 1 shows the different degree programs TUT offers.

The aim of this paper is to present the process of implementing content and language integration at Tampere University of Technology. The paper will describe the planning stages and give an overview of integration to content courses in the Finnish, Swedish and English languages. Three of the degree program implementations from fall 2013 will be presented and discussed in more detail.

2. CLIL in Higher Education

CLIL can be defined in many ways, depending on the depth and width of integration. According to Marsh et al (2010: 3) the definition of CLIL in Finland has been quite wide, and it has been used as an umbrella term to describe many different kinds of implementations. Recently, attempts have been made to capture different degrees of CLIL. Greere & Räsänen (2008) use the terms partial CLIL and adjunct CLIL to describe different degrees of integration. Appendix 2 shows the steps from non-CLIL to CLIL courses in higher education (Räsänen, 2011).

The term partial CLIL refers to courses that are offered by subject specialists, and in which language learning is expected to take place due to exposure. In partial CLIL the outcomes are not specified, and the aims and criteria remain implicit. Adjunct CLIL, on the other hand, refers to contexts in which language studies are coordinated with or integrated in subject studies. This definition also emphasizes the importance of coordinated planning between content and language teachers. It also stresses the fact that specified outcomes and criteria for both content and language must be provided.

In situations where integration is implemented as partial or adjunct CLIL, there are advantages that help develop skills that are needed in working life, especially the awareness of field specific discourses, intercultural competence, and other skills needed in multicultural professional encounters (Räsänen, 2011; LanQua, 2010).

Content and language integrated learning (CLIL) in higher education has been a growing trend to answer to the needs and demands in the globalised working life. In Europe, the development of multilingualism, which is one of the main targets of European integration, is one reason for implementing CLIL, along with other economic, political, and social

reasons (Bologna Declaration, 1999; EU action plan, 2004-2006). CLIL has been implemented progressively at universities all over the world (Fortanet-Gómez, 2013).

The integration of content and language in higher education in Finland started with short university courses in the 1980s, while today approximately 5-10% of the university courses in Finland are taught in English (Ludbrook, 2008). The pioneers in implementing CLIL in higher education were the University of Vaasa and the University of Jyväskylä.

In the next chapter, which presents the implementation process at TUT, we will show how integration is based on language policy. According to Marsh et al. (2013: 13) language policy is the formal statement of the university on the language use. The language policy is not only a formal statement linked to the strategy, but it also functions as grounds for a language plan, which describes the use of languages from a practical point of view. Marsh et al (2012: 14) remark that English-taught degree programs are not necessarily based on any explicit policy or plan, and this is true in different implementations of CLIL courses in higher education. Pavón Vasquez (2013: 11) points out that sometimes reform initiatives that are made in one context can also function well in another. Keeping this in mind, the process that has been implemented at TUT could be copied to other universities successfully.

3. CLIL at Tampere University of Technology

At TUT, the head of the Language Center made an initiative to integrate language and content courses in connection with the degree reform. This initiative became a part of the university's language policy, and in 2010 an internationalization plan was crafted at Tampere University of Technology, followed by a language plan, which was written in 2011. At TUT, the language policy and the language plan were put into effect as a top-down model, meaning that the initiative decision making was first done at the university

level. According to Marsh et al. (2012: 14), this is crucial for the success of implementing the plan because the administration needs to be the underlying force that works with central level actors.

The language objectives in the mandatory languages were clearly presented, and the administration saw the relevance and benefits for an extensive reform in the language plan. There was hardly any resistance towards integration as a whole in the different planning groups in each faculty. One reason for this might be that top-down decision making and acting accordingly is a widely accepted culture at TUT. It is clear that this will not be the case with all universities. The Language Center also adopted an active role in informing different levels of actors (from administration to teachers) to reduce the concerns towards integration.

Marsh et al. (2012: 15) claim that the language specialists should have the leading role in the design of the language plan. This was the case at TUT, since the Language Centre (LC) was involved in the planning stages together with the planning groups of the different degree programs since 2012, which led to co-operation on faculty and department level in the whole university. The role of the Language Centre was crucial since it made the initiative to integration, reported on pilot studies and made initiative proposals on the structure of the integrated courses. As mentioned before, in the decision making it was agreed that Finnish, Swedish and English would be the languages integrated with content courses in the first phase. The planning groups of each faculty proposed which compulsory Bachelor degree content courses could be integrated with Swedish and English.

While the planning groups in different degree programs were choosing the content courses for integration, the LC started to prepare their teachers for the integration. The LC also

appointed a coordinator to act as a link between the planning groups/departments and the LC. During 2012 the coordinator and the vice director responsible for teaching organized pedagogical meetings, which addressed issues related to integration from theoretical and practical point of views. At this time the LC received university project funding for extending the piloting of integration, making materials and developing language teaching activities outside the classrooms.

The practical planning of the language courses was conducted by all the language teachers, coordinated in the different languages based on available human resources. In some degree programs all content teachers participated in the planning, while in some cases a representative/-s of a subject teachers group were involved in the planning. From the administrative point of view it was impossible to foresee how many working hours the reform would demand from each teacher. As shown in appendix 1, the planning of different courses was done both simultaneously and in succession. This relieved the work load since all courses did not start in fall 2013.

Based on the individual needs in each degree program, there was variation in the design of CLIL implementations. The majority of integrated courses are what Räsänen (2010) refers to as adjunct CLIL courses since language is coordinated and supported on the basis of subject studies, and teaching is designed to take place simultaneously.

4. The Integration of Bachelor Seminar and Finnish language

An example of the integration of content and language studies at TUT provides a way for Finnish students to complete their mandatory first language requirement in connection with writing their Bachelor's thesis. The figure below illustrates the organization of the Finnish language component. This model is used by almost all the degree programs. The model

increases students' possibilities to receive individual feedback and help with their use of language during the writing process.

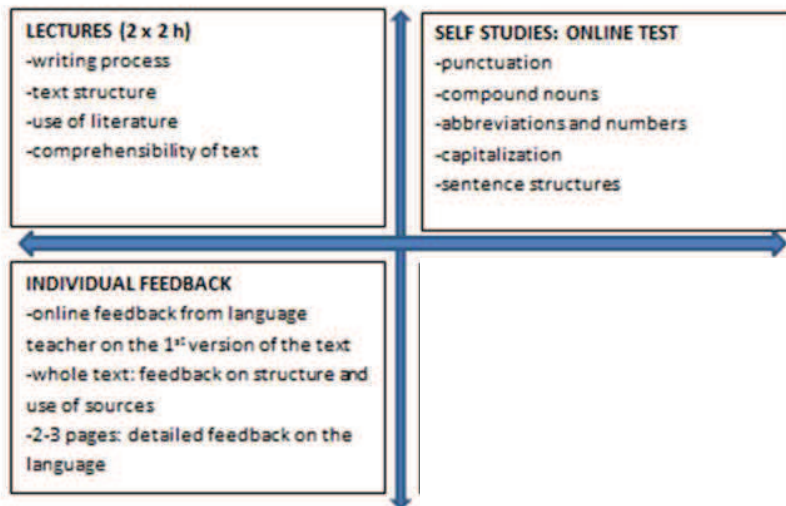


Figure 1. Finnish language and Bachelor seminar integrated course design.

The ability to produce academic text in Finnish was earlier mainly the students' own responsibility. The learning opportunities in the earlier system were scarce, because the language they used in their Bachelor's thesis was checked by the language teacher only after the students had completed their thesis. Therefore it was natural to integrate language teaching with the seminars. In this way the students receive feedback on their language use during the writing process instead of after the thesis was completed.

5. The integration of Swedish and Natural Sciences

The content course which the degree program chose for integration with Swedish is the first mandatory course the first year students take when they begin their university studies in Natural Sciences. Several content teachers were involved in the teaching of the course, and the first author of this article was one of the two Swedish teachers who taught this course.

The content course is a course where students are taught how to manage their studies and how to become active university students. Because of the practical nature of the course, both content and language teachers felt it would be fruitful to design a closely linked integrated course where the language course would follow tightly the thematic units of the content course. Table 1 below presents the contents of the first period. The language teachers planned teaching materials which were strongly linked to the content course. For successful results, this kind of course design requires good co-operation between the language and content teachers. The design also sets high demands on the communication between the teachers, e.g., in the case of changes in timetables and weekly contents.

Table 1. Teaching themes in an adjunct CLIL course (SWE).

WEEK	Career Paths in Natural Sciences	Written and Spoken Communication in Swedish
0	Orientation week	
1	Basics of studying at a university	Course introduction and studying at a university
2	Introduction to major	Examples of university studies in Sweden
3	Internationalization and language proficiency	Internationalization and language proficiency
4	Engineering skills	Working life

5	Library visit (arranged by Swedish teacher)	
6	Learning and study techniques (a lecture by study councillor)	Summary of the lecture by the study councillor
7	Exam week	

In the planning it was crucial to bear in mind what the objectives of the two course contents were, especially from the language point of view, since the language course depended on the content course. One mandatory assignment was to write a summary (home assignment) which was linked to the content course in such a way that the students wrote the summary about one of the content lectures. One objective of the content course was to visit the university library, especially to learn about the services provided. The library visit was fully organized by the language teachers together with a librarian, who volunteered to give a tour and guidance in Swedish. This was one of the few possibilities offered for the students to use Swedish outside the classroom.

6. The integration of English and Strategic Management

An example of an adjunct CLIL course is a pilot course combining Academic Writing in English with a course in Strategic Management. The courses ran parallel to each other, and the Strategic Management content course was also taught entirely in English. This is an example of a course that could possibly be taught as a full CLIL course.

In the Strategic Management course there were 3 written assignments with which it was possible for the students to earn bonuses towards the course grade. In the assignments students were asked to provide informed arguments on different aspects of strategic

management. These three written assignments were also used as the academic writing course assignments. In practice this meant that the first version was submitted to the language teacher, who read and commented on the paper. Students could then revise their papers based on the teacher comments before submitting them for evaluation. Integration aimed at improvement in argumentation by, e.g., using appropriate style, and more effective organization on textual, paragraph, and essay level. The core elements of the academic writing course included inputs on different aspects of academic writing, in-class exercises, class discussions together with writing, and revising the assignments.

7. Conclusion

Multilingualism is acknowledged in the Finnish universities' language policies. At Tampere University of Technology the answer to the language demands of today's society is an adapted model of CLIL. The reform in the TUT language plan and the degree reform stating a multilingual language policy were conducted as a top-down process involving the whole university at the same time. In our opinion, this was one of the main reasons why integration on such a large scale, concerning all degree programs, could be implemented successfully. As far as we know, other universities in Finland have not explicitly modelled a fully dual approach of CLIL in their language plans.

There are reasons why the model has taken the shape it is now presented in. As a result of the many agents in the process; decision makers together with planners, as well as content and language teachers, TUT is not adopting a unified model of CLIL (see Räsänen, 2010). As a result, all the degree programs have their own adaptations of the CLIL model in Finnish, Swedish and English. This was not a preplanned aim, but the results serve TUT students in the best possible way, taking into account the different needs.

At this point we can argue that in Finnish, integration has created opportunities for support during the writing process of the Bachelor's thesis. With Swedish, we can say that it is not realistic to aim at full integration of content and language at university level which Räsänen (2012) defines as (full) CLIL because of the students' lower level of language skills. It is not even necessary, since the status of Swedish is different when compared to, e.g., English. In English, the situation we have at TUT at the moment can also be defined as adjunct CLIL (Räsänen, 2011). However, with English, it is realistic and possible to develop syllabus design towards full CLIL.

At TUT, the top-down process has functioned effectively in the sense that all the degree programs throughout the university, in three compulsory languages, have implemented adjunct CLIL at the same time, starting from fall 2013. This is the first time a degree reform has brought content and language teachers together to improve the offered studies at the Bachelor's level. A reform of this extent, after being conducted for less than one academic year, has raised several issues that need to be addressed in the next phase. In the future even closer co-operation is needed between teachers, e.g., in the curriculum planning, so that success can be ensured. Close co-operation between teachers is essential in defining even better and more precise learning objectives for the subject content and for the language, especially in the courses that aim to become full CLIL. The diversity of implementations of courses in different degree programs causes a need to carefully evaluate the needs for professional development of teachers. Hopefully the Language Center will provide CLIL training for both content and language teachers.

The new language plan at TUT and its practical development in the next phase will be followed scientifically by a survey directed to students, staff, and administration. Nikula, Dalton-Puffer and Llinares (2013) point out the need for CLIL research in higher education. As far as we know there is no previous empirical CLIL research that focuses on language

skills needed in working life in Finland at the university level in English and Swedish. This need is addressed by Jauni & Niemelä (2014; forthcoming) who focus on interactive practices used in SL/FL courses that are integrated with content courses.

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