Content and Language Integrated Learning in Practice: Comparison of three Cases

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Abstract

Traditional language teaching needs new solutions to provide all students with time to use language at language lessons. Traditional language teaching does not have much to do with authenticity which is proven to help leaners remember new words and connect the language in the right context more easily. Content and Language Integrated Learning (CLIL) responds to these challenges and thus students’ courage to communicate in the foreign language increases. The purpose of this study was to find out how CLIL method is used in practice. The theoretical viewpoint was socio-constructivism and 4Cs (Content, Communication, Cognition, and Culture). This study was ethnographic research in which 44 CLIL teaching moments were observed in three different schools. The schools are referred here as Case Spain, Case Finland, and Case Australia. Results were analyzed through four themes: language, teaching methods, scaffolding, and motivation. The conclusion represents a summary of the realization of CLIL method in these schools. Case Spain followed the principles of CLIL perfectly and was thus considered a model example of CLIL. The purpose of this study was to study the concept of CLIL and make the method
more familiar. These models and clear principles offer foreign language teachers guidelines how to implement CLIL in teaching.

**Keywords:** Content and Language Integrated Learning CLIL, ethnography, socio-constructivism, foreign language teaching, language teaching, primary education, teaching methods.

1. Introduction

Language proficiency can be defined as structural, functional, or interactional (Richards and Rodgers 2001). While the structural refers to the mastery of the phonological, grammatical, or lexical elements of language, the functional proficiently means the communicative role of the language. The third emphasizes the social dimension of the language use and the patterns of interaction. The latter seems more and more important in today’s world where people have to be able to communicate fluently in a language that is not necessarily their native language (Kiiveri, Määttä and Uusiautti 2012).

Indeed, traditional language teaching is challenged by the increased notion of lack of functional knowledge of foreign languages especially among European students (Lasagabaster and Sierra, 2010). Thus, the need for functional language teaching methods has been acknowledged. However, it seems that the realization of teaching seems to vary considerably and practical language teaching tools and instruments are called for (de Graaff et al. 2007).

Content and Language Integrated Learning (CLIL) is a relatively new method that has aroused increasing interest ever since the concept of CLIL was introduced in 1994. CLIL means the use of an L2 in the teaching of non-language subjects (Dalton-Puffer 2008). The first forms of CLIL hark back all the way to Accadian Empire in 3000 BC when the Accadian conquered the Sumerian area and became interested in their language and knowledge. They learned some subject in the foreign language. Later on, CLIL was developed based on this thought.

CLIL in its current meaning is a method originated in Europe. It is relatively young - only a few decades old. Piaget’s, Vygotsky’s, and Bruner’s thoughts about constructivism have affected in its formation largely in the 1950s (Coyle, Hood and Marsh 2010). CLIL aims at cooperative action and students’ activation during lessons. This is how students’ role in the lesson comes bigger and the lesson turns into more meaningful.

Mehisto et al. (2008) regard CLIL as an umbrella term to many versions of language teaching all the way from language immersion, CLIL camps, student exchange, local projects, international projects, families living abroad, to working and studying abroad, and studying one or more school subjects in a foreign language. The aforementioned forms of CLIL can be short- or long-term periods and they can be realized in basic education, secondary education, and higher education. Although CLIL includes clearly-defined principles, it also seems to cover programs that do not follow those principles or follow them only partly. Lehti, Järvinen and Suomela-
Salmi (2006) point out that in Europe, CLIL has been defined as the major concept of language teaching.

In this study, CLIL is considered as a specific teaching method. According to Coyle et al. (2010), CLIL is not just a language teaching method or a method of teaching content but a fusion of them: the language and content are considered equally important. This goal is to be achieved through versatile teaching methods whose ideology is strongly based on socio-constructivism. CLIL is fundamentally differs for example from language immersion because the language used in CLIL is not a language spoken locally. In language immersion, the target language is the local language of a students’ context (Lasagabaster and Sierra 2009).

Moreover, CLIL includes the perspective of learning language in an authentic context and through instruction. This means that language is learned both through “acquisition” and “learning” (see Alssen 2012). Acquisition denotes informal, unstructured, unintentional, or natural learning of language whereas learning is planned, systematic, often formal, and classroom-based (intentional learning) (Mitchell and Myles 2000). In CLIL, pupils learn language in natural contexts (although guided by teachers). This is supposed to promote interest and activity in learning. Simultaneously, it manifests the socio-constructivist dimension of language learning.

Given the controversy concerning the concept, the purpose of this study was to analyze the principles of the method and its various uses in practice. Three schools functioned as the sample cases in this research: CLIL teaching was observed in practiced and analyzed in relation to the principles of CLIL.

2. The Principles of CLIL

CLIL ideology is based on socio-constructivism and 4Cs: Content, Communication, Cognition, and Culture. These Cs focus on content, language, learning skills, and culture, and form together the pillars on which CLIL is constructed. In CLIL, language and content teaching have integrated so that learning them both is equally in language teaching. In this study, CLIL lessons were physical education, science, first language, and religion. Mostly CLIL is used in science and art education. What is common to these school subjects is that they activate students. Due to its student-centered nature, it is only natural that CLIL subjects are focused on action-oriented school subjects.

Communication pillar illustrates teachers’ mutual cooperation and communicative approach in teaching. When planning instruction, it is necessary to pay attention to the three dimension of language in CLIL. Language of learning refers to the vocabulary and sentence structures that students need in order to learn the topic taught in the CLIL lesson. Language for learning refers, at its simplest, to the use of the foreign language focusing on learning the content of the lesson, for example, answering, asking, and reporting things learned during the lesson. Language through learning is based on an idea according to which efficient learning only happens through
thinking and language. The language is used for supporting and enhancing learning simultaneously when applying things already learned (Coyle, Hood and Marsh 2010).

Cognition pillar is based on various teaching methods based on socio-constructivism. Specifically, scaffolding is closely connected to this pillar. As mentioned earlier, CLIL is a student-centered method and the teaching methods used in CLIL have to be based on constructivist idea of knowledge. Cognition also refers to a student’s learning skills that have to be developed. CLIL distinguishes two skills of different level learning skills. The levels are Higher Order Thinking skills (HOTs) and Lower Order Thinking skills (LOTs) (Anderson and Krathwohl 2001). LOTs comprises thinking skills related to remembering, understanding, and adapting. HOTs takes thinking processes to a higher level. It includes analysis, evaluation, and creative action (Coyle, Hood and Marsh 2010). Students should reach HOTs level at CLIL lessons because at this level, they can reach the level of deep learning.

CLIL aims at developing mutual understanding between various cultures and raise students to cosmopolitanism. The fourth pillar is sometimes referred as Citizenship and Community. All these names mean that CLIL is always molded according to that specific country and culture where it is taken. There is not just one correct model for using CLIL but each country, school, and teacher mold CLIL to match their personal goals—yet, leaning on the principles of CLIL, socio-constructivism and 4Cs (Coyle, Hood and Marsh 2010).

3. Method

The purpose of this study was to observe how the principles of CLIL were applied in practice. The main research question was therefore: How is CLIL realized in practice? Three cases were selected to this study. These cases were used for dissecting in the light of aforementioned principles of CLIL the following specific questions:
(1) How did the four principles of CLIL appear in the three cases of this research?
(2) How did socio-constructivism appear in the three cases of this research?
(3) How did the cases differ from each other by their manner of realizing CLIL in practice?

This was an ethnographic study that consisted of three cases. The cases were called Case Spain, Case Finland, and Case Australia. All of these cases were elementary schools with English as the CLIL language. The main research question of this study was how CLIL is realized in practice. The data were collected in two parts. The first data were obtained in 2011 in Catalonia, Spain. The second data were obtained from two schools in Rovaniemi, Finland. The data were analyzed case by case from the viewpoints of language, teaching methods, scaffolding, and motivation. Finally, the cases were compared for their implementation of CLIL.

In this study, the ethnographic research was used for researching the realization of CLIL in teaching practices. Ethnography aims to describe the nature of those who are studied through writing. School ethnography has been implemented already for over three decades (Gordon, Holland and Lahelma 2001; Metsämuuronen 2006). Ethnographic research aims at understanding and analytically describing a group of people through observation (Hammersley
The purpose is to combine the research participants’ viewpoint with the researcher’s viewpoint and theoretical knowledge of the phenomenon (Syrjälä et al. 1994).

The research data were obtained from three different schools where CLIL was applied in various manners. These cases were seen separate examples of the usage of CLIL in schools. Therefore, this study belongs to the field of school ethnography (Lahelma and Gordon 2007). The data from Case Spain were collected during a three-week teaching practicum in the spring 2011. The large observation data contained especially physical education lessons: The data consisted of 17 PE lessons that followed CLIL, 5 regular PE lessons that followed the Catalan curriculum, and remedial education lessons related to CLIL-based physical education. The data also included the principles of 4Cs in the periodical planning of CLIL and a text book used in CLIL-based physical education (Coral 2010) as well as copies of other material used during the lessons.

The data obtained from Spain was complemented by two more cases. Case Finland refers to a school that was observed for a little over a week. The lessons that were observed included school subjects of math, physical education, science, religion, and the first language. Pupils were second-, third-, fourth-, and fifth-graders.

Case Australia refers to a northern Finnish school which had a seven-week-long project called Upside Down. The idea was to teach science in English via Internet from Australia. Case Australia differed from the two other cases because people who participated in Case Australia did not know about CLIL: they did not realize that they were using CLIL. During the project, they taught and learned science in English which resembles CLIL. Altogether 20 20-minute-long teaching moments were observed. Themes that were taught during the project were orbits, friction, missiles, gravity, and global warming.

All data were transcribed and analyzed by categorizing. The theoretical basis of this study leaned on two classic publications about CLIL: Mehisto et al.’s Uncovering CLIL; Content and Language Integrated Learning in Bilingual and Multilingual Education and Coyle et al.’s CLIL; Content and Language Integrated Learning. Four themes were selected from these books, 4 C’s, along with socio-constructivism which was named as the foundation of CLIL in both books. Thus, the data were analyzed by the pre-determined, theory-based categories: language, teaching methods, scaffolding, and motivation. After the categorization, the data were studied in the light of the aforementioned three research questions.

In ethnographic research, the reliability of the research can be strengthened with a variety of data, researcher, or theory (Johnson and Onwuegbuzie 2004; Lincoln and Guba 1985). In this study, data comprised a variety of elements and actually three cases that provided different perspectives to the phenomenon. The researcher’s role should not be forgotten either (Patton 1990), because especially the researcher’s in school ethnography the researcher’s presence and its influence on pupils often can result in the Hawthorne effect (Keskitalo, Määttä and Uusiautti 2011; Uusikylä 1980). In these cases, the researcher’s influence on pupils seemed quite minimal because pupils seemed to mostly behave in the same way regardless of teaching situation and
4. Results

The three cases of the study implemented CLIL in different scales. Case Spain had clearly the most extensive realization of CLIL which was used in fifth- and sixth-graders’ physical education throughout the study year. Case Australia exemplified a one-time experiment among fifth-graders. Case Finland used CLIL method year-round as a linguistic enrichment for the first- and second-graders and wider and more systematically among 3-6-graders. We analyzed the similarities and differences between the cases.

The teaching in English started in different phases at these three schools: Case Spain had English as a school subject starting from the first grade while Case Finland and Australia from the third grade although the linguistic enrichment began already during the first grade in Case Finland. During the lessons, teachers in all cases used body language and slowed down their speech in order to support learning. Although pupils seemed to prefer talking to their own teachers and each other their native language, teachers usually answered in English. Case Australia differed a bit because the Finnish teacher spoke mostly Finnish with the pupils. Case Australia did not consciously realize CLIL and thus principles of CLIL were followed randomly and unconsciously. On the other hand, CLIL allows the so-called code switching (switching from a language to another) if it is justified. During the CLIL lessons, pupils’ pronunciation or grammatical correctness was not controlled but they were rather encouraged to use the language. The following example from one PE-lesson of Case Spain illustrates pupils’ and the teacher’s use of language during the lesson:

21 Feb 2011, fifth grade, CLIL PE-lesson at 11.20 a.m. – 12.10. p.m., Tee Ball

I think it is good that the teacher and pupils use the same sentences and words. Everything was repeated many times which gave time even to a slow learner to understand and learn the vocabulary used during the lessons. Pupils seemed to be shy about using English in other ways than just repeating the ready sentences in the contexts of refereeing and forming queues. They preferred talking the Catalanian language to each other and to the teacher. But I found it good that the teacher always answered in English instead of their native language. I just wonder if it is possible to make pupils speak more but, on the other hand, would they have enough time for PE in that case? Now, physical education and the language seemed to be in balance.

In Case Spain and Case Finland, language lessons were held alongside CLIL lessons. In Case Australia, English lessons were replaced by the Upside Down project. They did not have other lessons in English language lessons. This is against the principles of CLIL because language lessons should support CLIL lessons. In Case Spain, actual language lessons were partly used for studying the vocabularies of CLIL lessons in small groups. This supported the CLIL lessons because teachers collaborated. Indeed, in all Cases, teaching moments had more than one adult per classroom.
Unlike other cases, Case Spain contained an end-of-course language evaluation among the pupils accompanied by couple and group evaluations. In addition, before each lesson, teachers considered quite carefully how the language will be used during the lesson. Due to this practice, the three dimensions of language, language of, for, and through learning, were present in each lesson. It remained unclear whether teachers in Case Finland and Case Australia considered these dimensions and concerning Case Australia, it seems unlikely because CLIL was not used consciously.

All cases used cooperative teaching methods typical of CLIL. These types of teaching methods were used the most in Case Spain and the less in Case Finland. Upside Down project had the same small groups during the whole period but only a part of teaching moments had functional exercises. Case Spain and Case Australia had linguistically heterogeneous groups. In both cases, the teacher had divided the groups so that each group had at least one pupil with good knowledge of English. Usually this pupil kept up the discussion, asked the teacher questions that the whole group wanted to ask, or supported other members of the group. Case Finland did not have group work. Instead, a British pupil in Case Finland could have separate teaching moments for a few pupils either at a beginning or end of a lesson.

PE-lessons that following CLIL in Case Spain were clearly socio-constructivist and were evidently opposite to the other lessons held at the school as they clearly preferred behaviorist approach. The following example illustrates how behaviorism appeared during the third-graders’ PE lesson when the children practiced somersaults:

17 March 2011 at 11.20 a.m. – 12.06 p.m., PE lesson, third grade, Catalan as the teaching language:
All pupils go sitting next to the wall and listen to Eulalia. Eulalia takes four mattresses on the floor and shows what children are supposed to do. Division into four groups. Four pupils are practicing while others sit. Eulalia counts 1, 2, 3, up and new group. Quick changes. And again. Here, in Spain, teachers seem to prefer bossing. The teacher is the definite authority.

The previous example illustrated a teacher-led lesson during which pupils were merely passive listeners. All ordinary PE-lessons observed in this study were clearly teacher led. In CLIL lessons, pupils were allowed to participate more as shown in the following PE lesson among fifth-graders. Cooperation was evident in group work, pupils’ active participation, development of problem-solving skills, and collaborative action during CLIL lessons. In this example, the teacher divided pupils into groups that each had group leaders. In addition, groups had a member responsible for the equipment. Problem-solving and collaboration skills were developed through creating games with the help of scaffolding-based self-help paper and some sport equipment.

23 February 2011, at 9.00 – 9.55 a.m., CLIL PE-lesson, Tee Ball
Then Jorge divided the class into three groups. Each groups had five cones, three catcher’s gloves, two balls, and two scaffolding-based self-help papers. Pupils were supposed to
develop a game by using the papers and all equipment (HOTs). They made the rules, changed the rules if they did not work, and played the game simultaneously. The group selected a group leader and the leader explained the others what happened but they all discussed the rules. The most difficult part was to make sure that the pupils spoke English. If something did not work, we stopped the game and developed a new rule.

During the aforementioned example situation, cooperation did not only concern pupils but teachers, too. The school had three student teachers and the PE teachers. The student teachers did not have to stand by and watch the lesson but cooperation included the teacher and the student teachers as well. In comparison, lessons observed in Case Finland were mainly teacher-led given that CLIL was supposed to be used consciously.

In all cases the importance of body language and slow manner of speaking were considered important but the older the pupils were, the less these aids were paid attention to. Each case also used technological aids to support learning: Case Australia used Skype and the project web page, Case Finland used the digital overhead, whiteboard, and PowerPoint presentations, and Case Spain used a microphone. In Case Australia, the whole project leaned on technology while the two other cases used it as a supplementary support. The following example illustrates how older pupils were supported during lessons:

14 May 2012, Fourth grade, Science lesson at 11.15 a.m. – noon

The teacher recapitulates the theme of the last lesson, “sound waves.” Active children, the teacher uses hands, does not slow down speech. The teacher and the pupils go through more information about sound waves, the teacher makes sure that everyone understands “put your thumbs up if you understand, down if you don’t understand.”

When talking about pitch, the teacher demonstrates with her own pitch. The teacher says the word “high” in a high voice and shows up with her hands.” does everybody understand?” “yeeeeeees”, but the teacher still repeats and makes sure that sound waves are now understood.

Case Spain was special because pupils were given plenty of written support. Almost each lesson involved either scaffolding notes, text book, or both. This was a clear difference to the other two cases where written support was considerably less used. Case Australia used the project web page as support. This page was officially referred to as the support for actual lessons because it also included instructions to how to do homework. Case Finland used written support relatively little: two lessons observed included handouts.

In Case Australia, pottering helped understanding the theme studied as it manifested learning by doing. Case Finland used visual support in the form of PowerPoint and a digital overhead. In Cases Australia and Finland, pupils were mostly supported through communication and contact. The significance of gestures, the speed of speech, and body language was accentuated in these two cases. To conclude, the emphases on supporting pupils were different in Case Spain and Case Finland.
Despite the differences in implementing CLIL, pupils’ motivation was in all cases excellent. In Case Australia, pupils were asking already weeks before when the project would start. In Case Finland, pupils’ motivation was evident specifically in the enthusiasm of the 1-3-grade pupils but also older pupils were active in CLIL lessons. In Case Spain, pupils’ motivation was manifested by their activity during the lessons and by the considerable improvement in the results of the nation-wide language test.

5. Discussion

Despite the different ways of implementing CLIL, all schools seemed to follow at least some principles of CLIL. Table 1 illustrates how CLIL is realized at schools, not by learning results. If a principle was used during a lesson, it was marked as “realized” in the table. “Partly realized” refers to a situation in which a principle was used to some extent but not fully. “Not realized” thus means that a principle of CLIL was not realized during a lesson at all. Table 1 illustrates how the principles were realized in each case.

Table 1 The realization of the principles of CLIL during the lessons

<table>
<thead>
<tr>
<th>Case</th>
<th>Content Communication</th>
<th>Cognition</th>
<th>Culture</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Socio constructivism</td>
<td>Scaffolding</td>
</tr>
<tr>
<td>Case Spain</td>
<td>Realized</td>
<td>Realized</td>
<td>Realized</td>
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<tr>
<td>Case Finland</td>
<td>Realized</td>
<td>Partly Realized</td>
<td>Partly Realized</td>
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<tr>
<td>Case Australia</td>
<td>Realized</td>
<td>Partly Realized</td>
<td>Realized</td>
</tr>
</tbody>
</table>

In Case Spain, all four principles of CLIL were followed. Therefore, Case Spain was considered in this study as an exemplary case of the wide-scale realization of CLIL. The teaching of language and substance matters was in good balance. The PE-lessons that followed CLIL evinced socio-constructivism which was noted when compared them to the regular lessons that were strongly behavioristic. Scaffolding was literal, abundant, and encouraged pupils to use the English language. The dimension of Culture manifested itself in the way the school created its own way of using CLIL. New themes were learned in authentic contexts for example by learning a new game in the foreign language.

In Case Finland, pupils were taught the content of the school subjects. This happened either totally or partly in English. Cased Finland had the least group or pair work. Cooperative learning
was not implemented enough to call it socio-constructivist. Support was partly realized because teachers spoke more slowly and used body language, although literal and visual support remained minimal. Instead, authenticity was fulfilled well due to a British student’s visit to the school. This was not something exceptional because the school had foreign visitors regularly throughout the school year. This kind of action promotes internationalization.

Case Australia was focused on teaching science. Although the themes were taught well, the language did not become an equal target of learning. However, in CLIL, language learning should be in balance with the content learning. In this case, the language functioned as a means to learn contents but not specifically as the target of learning. The only exception was the lesson when the theme covered missiles: the key words were learned through play. The reason for the imbalance between language and content was probably the fact that this was not a conscious attempt of using CLIL. The principles of CLIL were, therefore, used accidentally. Socio-constructivism was realized through group work, and yet, more measures of support could have been used in order to have pupils use English more courageously. Extra support could also have made learning more efficient. On the other hand, authenticity came true in this case and seemed to activate a couple of otherwise inactive pupils during the lessons.

In the light of this study, the principles of CLIL were realized the widest in Case Spain. In Case Australia, CLIL was used relatively widely given that the people did not know about CLIL. In Case Finland, CLIL had been implemented already for a long time but still the principles of CLIL were not realized insomuch as they were in Case Spain and Case Australia. Although in Case Finland and Case Australia the principles of CLIL were not fully realized, the cases can still be categorized as CLIL.

6. Conclusion

The current language teaching emphasizes grammar and contents but leaves too much time for practicing the language usage during the lessons. The purpose of CLIL is not to replace the traditional language teaching but to support it. In addition, issues to be learned are learned in an authentic context which makes learning more meaningful and unforgettable. Indeed, CLIL students are usually above average when it comes to grades, motivation, and language skills and interest (Airey 2004; Lasagabaster and Sierra 2010).

Likewise, Marsh (2000) points out that CLIL can nurture a feel good attitude among pupils, as the higher proficiency level achieved may have a positive effect on their desire to learn and develop their language competence not just in the foreign language but their native language as well (see also Lasagabaster and Sierra 2009; Murphy and Alexander 2000).

This study described three ways of using CLIL in language teaching and thus provides information about the use of CLIL in practice. This contributes to the lack of information about CLIL practices pointed out for example by de Graaff et al. (2007), Marsh, Maljers and Hartiala (2001), and many other researchers and practitioners. The study also showed that CLIL includes such ways of language teaching that do not fully follow the principles of CLIL. Thus, the
definition of the concept needs to be clarified (see also Coyle 2007). In Europe, language teaching is often referred as CLIL but not all language teaching and its variations are CLIL per se. Unquestionably, more research on CLIL and its practical uses are needed to clarify the method.

References


