Cooperative Learning in CLIL Contexts: Ways to improve Students' Competences in the foreign Language Classroom

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Abstract

CLIL is a pedagogical project implemented in foreign language learning and which has been subject of global approval because of its many advantages for creating a suitable environment for learning. Research has shown, however, that while comprehension skills (reading and listening) are really boosted in a CLIL environment, this may not be the case of productive skills (speaking and writing). Students seem not to have enough chances to speak or initiate a conversation, affecting their speaking and writing outcomes negatively.

Cooperative learning may help enhance CLIL contexts, catering not only for the development of comprehension skills and better reasoning, but also for interaction and communication. Students are given chances both for input reception and output production. This paper will address how teachers can improve their students’ competences in the foreign language classroom by implementing cooperative learning structures in content-based environments.

Key words: cooperative learning, content and language integrated learning, interaction, negotiation, competences, L2

Introduction

CLIL (Content and Language Integrated Learning) describes that school situation whereby a foreign language is the vehicle to teach certain subjects, belonging mainly to the areas of history, geography and social studies and in a lesser degree, to science and the arts (Wolff, 2007). Sharing their focus on the integration of language (second or foreign) and content, CLIL diverges from Canada’s immersion programmes and USA’s content-based instruction. In Canada all subjects are taught in a second language (the other official language of the country) without the presence of explicit second language teaching. In the USA, content-based or theme-based instruction is used as a means of promoting second language learning in students with limited English proficiency, content-based instruction being the bridge into the mainstream.

The pedagogical project CLIL embodies aims at materializing the European guidelines of the 2 + 1 formula: Europeans should be able to speak two languages apart from their native tongue (Eurydice 2006: 8). In Andalusia (the largest region in Spain), the education regional ministry has published a plan to promote plurilingualism (Plan de Fomento...
del Plurilingüismo, 2005) where CLIL is strongly recommended. As Dalton-Puffer (2007: 1) states: ‘CLIL is regarded on the political level as a core instrument for achieving policy aims directed at creating a multilingual population in Europe.’ In France, CLIL is named ÉMILE, in Spain, AICLE and in Germany, CLILig.

The integration of content and L2 in the classroom has been worldwide acclaimed. According to Snow, Met and Genesee (1989: 202), this integration provides a motivational and cognitive basis for language learning. On the one hand, learning content (inherent in naturalistic language learning) represents a meaningful, contextualized activity which increases interest and encourages students. On the other hand, being able to speak and reason about academic content in a language different from their own, gives students the chance to expand their cognitive skills and use more sophisticated language. As Kasper (1997: 318) states: ‘Each time students read a discipline-based text, they learn something new about the English language and the academic discipline.’ However, the mere integration of language and content in the classroom is not a synonym for success. Specification of language objectives and careful and systematic planning as well as coordination of the language and content curriculum and / or teachers must be also carried out. (Snow, Met and Genesee, 1989: 204). All in all, changes must be favoured in the language and content curriculum so that language and content objectives are simultaneously taught. The most important point is, as Cummins (1994) remarks, that all teachers are teachers of language and content.

At this point, it must also be stated that the integration of language and content in the classroom is not without its shortcomings. Authors such as Kinsella (1997: 50-51) have objected to this approach being too focussed on the teacher, responsible for rendering input comprehensible for students. According to this author, in classes where content and language are integrated, the excessive emphasis on material simplification acts to the detriment of the development of the necessary skills for students to become independent learners.

Other authors, such as Genesee (1994), Dalton-Puffer (2007), point out that, in contexts where an L2 is learnt through content, students are not offered enough chances to speak or initiate a conversation, hindering their speaking and writing outcomes. As Dalton-Puffer (2007: 11) puts it:

Simple arithmetic tells us that with 25 students in a class, if each has a say in a 50 minute lesson, their speaking time must be less than two minutes since the leader of the discussion also has to speak. If follows, by simple power of logic, that CLIL students are listeners most of the time.

Finally, authors such as Mewald (2004, quoted in Dalton-Puffer 2007: 11) also emphasize this lack of opportunities for students to initiate or be engaged in a conversation, stating that in CLIL lessons, students use much less English as a foreign language (contrary to what would originally be expected); that the situations where students use English are very limited and that their creative use of English is also scarce or even ‘non-existent’.

Cooperative learning, for its part, has been defined as “a body of literature and research that has examined the effects of cooperation in education. It offers ways to organize group work to enhance learning and increase academic achievement.” (Olsen and Kagan, 1992: 1). Cooperative learning, used systematically in primary and secondary levels, has shown to improve students’ self-esteem, their understanding of tasks and of others as well as their teaching skills. Cooperative learning has also proved favourable to social cohesion and collaboration within the group, allowing students to overcome fear in front of other students or teachers. (Johnson, Maruyama, Johnson, Nelson and Skon, 1981).
In the area of L2 teaching and learning, different studies and works feature cooperative learning activities and methods that have been successfully implemented in the classroom. Casal (2005) provides a detailed account of the evolution of studies on cooperative learning in relation to L2. Some of the most outstanding works are: Bejarano (1987), Coelho (1992), High (1993), Crandall (1999), and more recently, McCafferty, Jacobs and DaSilva Iddings (2006) (for a review, see Casal 2005).

According to Barnett (unpublished manuscript), cooperative learning’s success lies on the synergy which is created within groups. The concept of synergy is defined as that situation where the overall result of actions in a group is higher than the sum of actions in the group individually considered. Barnett tells of an experiment carried out by Holt in 1987 where, before pulling from a rope, the four men belonging to the same group had the chance to talk to each other for about ten minutes. The outcome was astonishing: group pulls were higher in force than the sum of individual pulls, proving the strength of the concept of synergy. These experiments, applied to the educational realm, Barnett states, show that a teaching methodology which trains students to work in groups will be able to create an atmosphere where learning achievements will be more notable than those of a traditional classroom.

With its focus on structured group work, cooperative learning may help enhance CLIL contexts. The underlying assumption is that communication among students working in groups rises as they have a need to exchange information. The result is higher participation, lower level of inhibition and more possibilities for oral practice. Likewise, by engaging in face-to-face interaction with their peers, students use the L2 in a more creative way than when they have to speak in front of the whole class. Groups cater for the integration of reading, listening, writing and speaking by means of interaction and communication. Finally, cooperative learning ‘promotes among students the ability and the inclination to work together beyond the classroom by making cooperation not just part of the how of learning but also part of the content’ (Jacobs, McCafferty and DaSilva Iddings, 2006: 17). The next sections in this paper will tackle the benefits for teachers and students in CLIL contexts presenting Kagan’s structural approach as a possible way (although not the only one) to implement cooperative learning in their classes.

**Benefits of cooperative Learning in CLIL Contexts**

The benefits of working in small structured groups in the L2 classroom have been praised in the L2 literature. Already in 1977, Long referred to the advantages of groups, basing his statement on five main points: 1) group work increases opportunities for practising the target language; 2) it improves the quality of conversations among students, since face-to-face communication in a small group is a natural communicative situation; 3) it is the first step towards individualization in education; 4) it promotes a positive affective atmosphere; 5) it is a source for student motivation.

One of the most elaborate models of cooperative learning applied to L2 teaching and learning is the one by Bejarano (1994) *An Integrated Groupwork Model*, successfully carried out in an experiment involving thirty groups (Bejarano 1994: 200). Following Spolky’s model, Bejarano claims that results in an L2 context are affected by factors such as: previous learning experiences; matters related with personal abilities; affective factors such as personality, attitudes, motivation, anxiety and finally, the opportunities for learning offered to the student. Taking these elements into account, Bejarano places the basis of this model on a combination of cooperative learning methods such as STAD, Jigsaw, discussion groups, pair work and individual work.

Different learning theories have influenced the philosophy of education underlying cooperative learning. These theories reflect on how learning is best achieved and cooperative learning makes the most of all of them. That is why the introduction of cooperative
learning in CLIL contexts may be beneficial: reflecting on the factors that intervene in the learning process, better decisions will be taken and both teacher and student will profit from this. The most important points of these learning theories - Vygotsky’s sociocultural theory, constructivism, humanistic psychology and group dynamics- are mentioned here (for a detailed review of learning theories in cooperative learning, see Casal 2005).

**Vygotsky’s sociocultural theory**, which states that learning is facilitated if observed as a social process, is implemented in cooperative learning lessons thanks to the frequent opportunities students have in their groups to speak and listen to the L2, limiting this way teachers’ talking time and focussing on content and fluency rather than on correction. Quoting Crandall (1999: 242):

> Possibilities of uncorrected or miscorrected student contributions are less important in the overall development of second language competence than opportunities for negotiation of meaning and interaction. [E]rrors are natural when learners are focused on making themselves understood...

Students are compelled, this way, to use language in real communication contexts, boosting the variety of speech acts normally used in class. By increasing the time students are using the language, their listening and speaking skills are also enhanced. With the help of language and supporting the Vygotskian language-thought connection, students develop higher level cognitive strategies: they are asked to plan activities, organize and defend ideas, find information, take decisions or solve problems.

**Constructivism** claims that learning an L2 involves negotiation of meaning, present in cooperative learning classrooms thanks to the input and output modifications students are obliged to make in order to understand and be understood. In a lesson organized under cooperative learning principles, students ask for clarification, provide the necessary vocabulary or grammar structures and explain key words or concepts, aiding their learning in general and language fluency (oral and written) in particular. Through this process of negotiation, students have the chance to relate the new information received with the information already acquired provoking, in some cases, the appearance of cognitive conflict: ‘the conflict that arises when one person’s ideas, information, conclusions, theories and opinions are incompatible with those of another, and the two seek to reach an agreement.’ (Johnson, Johnson and Smith, 1990: 200).

**Humanistic psychology** upholds the creation of a climate where anxiety is reduced. In effect, students learning an L2 in a cooperative learning context have the possibility of discussing the correct answer with their classmates before speaking in front of the whole class and the teacher. Likewise, less participative students are encouraged to contribute to their groups, promoting thus participation of every member in the group (Equal Participation, one of the principles of cooperative learning). This relaxed atmosphere, where the student feels safe, fosters respect for opinions or points of view different from one’s own as well as tolerance towards ambiguity.

In this same sense, humanistic psychology supports the promotion of self-esteem, achieved thanks to the Positive Interdependence and Individual Accountability (two other principles of cooperative learning, together with Equal Participation) created among members of the same group. This higher self-esteem pushes the student forward to make a bigger effort to learn the language, mitigating fear to make mistakes or explain their point of view. Motivation is also raised, since students are considered active participants and individually accountable for their part of the task. This active participation offers the student the opportunity of building a deeper understanding of concepts, procedures and attitudes in lesson plans. The classroom becomes a social context where ideas and strategies are exchanged and shared.

Autonomy, also important for humanistic psychologists, is strengthened through peer interaction. Students become more independent in relation to their own learning since
they perform tasks originally fulfilled by the teacher (planning tasks, finding sources, explaining difficult points, summarising a text or providing feedback to a classmate).

Finally, group dynamics make cooperative L2 classes focus on the student and their interaction with peers. Through different cooperative learning techniques, students learn to develop social skills (active listening, turn taking, praising, giving opinions, encouraging others) which have interesting effects on students’ attention and on the teacher-student relationship.

Vygotsky’s sociocultural theory, constructivism, humanistic psychology and group dynamics, each emphasising different -though interrelated- aspects present in learning and teaching, cater for the students’ overall maturity as human beings. In this maturity, intelligence -understood as a blend of different abilities- plays an essential role. Prior analyses have studied intelligence as an abstract, individual, gradable and uniformed entity that some were lucky enough to have while others, less fortunate, lacked. The Theory of Multiple Intelligences by Gardner (1993), however, analyses intelligence as a box full of tools with which we take part in the game of knowledge (Lefrançois 1997: 239). We may not have the same tools in our boxes but we can improve their use and, what is more important, we can learn from the use others make of theirs.

As it has been stated before, through the implementation of cooperative learning in CLIL contexts we are promoting not only better L2 and content learning and teaching but also the development of the individual as a whole. The Spanish government has recently (2006) passed a law (Ley Orgánica (2/2006) de Educación de Enseñanzas Mínimas en primaria -R.D. 1513/2006- y en secundaria -R.D. 1631/2006-) where it advises teachers to develop eight different competences in students throughout their school years as a means towards a more globalised kind of teaching: linguistic / communicative competence; mathematical competence; knowledge and interaction with the physical world competence; dealing with information and digital competence; social and citizenship competence; cultural and artistic competence and learning to learn competence. These eight competences remind us of the eight intelligences defended by Gardner (linguistic intelligence; logical-mathematical intelligence; musical intelligence; spatial intelligence; bodily kinaesthetic intelligence; intrapersonal intelligence; interpersonal intelligence; naturalistic intelligence) and show that the move in education nowadays is towards global education, education of the individual as a whole. In Troncale’s (2002: 1) words: ‘...teachers need to address their students’ whole education.’ This can be best achieved by the union of CLIL and cooperative learning.

Task Specialization Methods: the structural Approach to cooperative Learning by Kagan

Damon and Phelps (1989: 11) state that cooperative learning is ‘... an umbrella term that loosely covers a diversity of team-based learning approaches.’ The different tendencies grouped under the same common term of cooperative learning together with their most relevant features and authors are included in the table below (from Casal, 2006 and based on Sharan, 1994. Slavin 1995 and Johnson and Johnson, 1999):

As can be seen in the table on the following page, Kagan’s approach belongs to ‘Task Specialization Methods’. In this group, the key point is the way these methods organize tasks and distribute information among their members. Coelho (1992: 131-133) describes three possible ways of organizing tasks in the classroom: 1) tasks where all group components work on the same material using the same information; 2) tasks where each group member gets different information about a topic which is common to the group; 3) tasks where each group in the class works on a different topic.
## Cooperative Learning in CLIL Contexts

### METHODS

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<tr>
<th>Methods</th>
<th>Names &amp; Authors</th>
<th>Key Features</th>
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<tr>
<td><strong>Student Team Learning</strong> (In common: group rewards and opportunities of success for all)</td>
<td><strong>TGT</strong>: Teams-Games-Tournaments. (De Vries and Edwards, 1973)</td>
<td>Teams compete with other teams to get points for their group.</td>
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<td></td>
<td><strong>STAD</strong>: Student Teams-Achievement Divisions. (Slavin, 1994)</td>
<td>Students learn new material in teams but take individual tests weekly to ensure individual accountability.</td>
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<td></td>
<td><strong>TAI</strong>: Team-Assisted Individualization. (Slavin, Leavy and Madden, 1982)</td>
<td>Implemented in Maths. Each student in each group works in a different unit and changes unit when exercises are correct. Other members help them.</td>
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<td></td>
<td><strong>CIRC</strong>: Cooperative Integrated Reading and Composition. (Stevens, Madden, Slavin and Farnish, 1987)</td>
<td>Heterogeneous groups work with different reading levels, reading to each other, predicting, practising spelling and vocabulary.</td>
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<td></td>
<td><strong>Jigsaw</strong>. (Aronson, 1978)</td>
<td>The task is divided into as many parts as members in the teams.</td>
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<td></td>
<td><strong>Group Investigation</strong>. (Sharan and Sharan, 1976)</td>
<td>Based on four components: investigation (analysing the problem from different points of view), interaction (activities and skills) and interpretation (presentation of findings in front of the class).</td>
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<td></td>
<td><strong>Complex Instruction</strong>. (Cohen, Lotan, Scarloss and Arellano, 1999)</td>
<td>Students work in heterogeneous groups to achieve a common task.</td>
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<td><strong>Cooperative Learning and Teaching Scripts</strong></td>
<td>Dansereau (1987)</td>
<td>Students work in pairs on two different texts. Students read them aloud, summarise them in turns.</td>
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<td><strong>Learning Together</strong></td>
<td>Johnson and Johnson (1994)</td>
<td>Importance of cognitive conflicts and controversy. Face-to-face promotive interaction; interpersonal and small group skills and group processing are its basic components.</td>
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In the first case (where students work on the same topic using the same information and material), the teacher introduces the topic, which is followed by structured group work. Each group member must be an expert in the subject so that when asked about that topic, any member must be able to answer on behalf of the team. Coelho (1992) suggests implementing this kind of task organization in classes where group composition is not stable due, for example, to discontinuous class attendance. This is the procedure adopted in the structural approach to cooperative learning by Kagan and which will be discussed in more detail later.

In the second case, the task is structured in such a way that each group member has different information about a given topic. However, students in each group find students in other groups with the same information as theirs. In other words, the classroom is made out of groups with a similar composition with respect to the division of information. This distribution of information allows students to group with members of other groups with the same information forming expert groups in order to study material. Once this stage has been completed, students go back to their original home groups and, since every component has different information, they share it with the rest of members in the group. Every student must prove that they master not only the information they have but also other members’ information by means of a class presentation, a test, or any another kind of assessment criteria. This kind of organization is implemented in Jigsaw, developed by Aronson and colleagues (1978).

The last procedure to organize a task is when the topic is different from group to group. Here, students from different groups have to look for information about their different topics using different sources such as the library, oral interviews or audiovisual methods. Students summarise the information they find and present it orally or in written form to the whole class. Students need to be trained to carry out the task in a structured and effective way. This is the bases of Yael and Shlomo Sharan, Group Investigation (1976, 1992) and Elizabeth Cohen, Complex Instruction (1994).

The Structural Approach to cooperative Learning in CLIL Contexts

The basic premise in the structural approach, carried out by Kagan in California since 1991, is that there exists a close relationship between what students do and what they learn. In other words, interactions in the classroom influence the social, cognitive and academic development of students. With the objective of promoting this development in a full sense, the structural approach provides teachers with a series of structures which aim at attaining different educational objectives. The structural approach is based, therefore, on the creation, analysis and systematic implementation of these structures, defined as ‘...content-free ways of organising social interaction in the classroom.’ (Kagan 1989: 12). The structures in Kagan’s approach perfectly fit CLIL, which derives content from the academic disciplines or culture in the target language.

Mastering the structural approach involves correct understanding and manipulation of the elements in the different structures. Likewise, the combination of structures unifies lessons presented in class and may complement other cooperative learning methods. Kagan and Kagan (1994: 118) state that three issues must be taken into consideration before choosing the structure: the type of cognitive and social development the structure implements; the moment in the class where it best fits and the kind of content it involves. In this sense, structures are divided into different groups: 1) teambuilding structures, to consolidate groups; 2) classbuilding structures, to consolidate the class as a single group; 3) mastery structures, which involve an advanced knowledge of structures; 4) structures which help develop thinking skills; 5) structures which promote information sharing and finally, 6) structures which help develop communication skills.
When structures, pillars in this approach, are loaded with content they originate activities. In other words, an activity is a structure plus content. In the case of CLIL lessons, the content will stem from subjects (history, geography, etc.) or from cultural aspects of the L2. Among the best known structures in this approach are: Numbered Heads Together, Roundtable, Roundrobin, Talking Chips, Three-Step Interview and Think-Pair-Share.

**Numbered Heads Together** contributes to develop Positive Interdependence in CLIL contexts by giving all the students the opportunity to reflect, give their opinion and know the answer before the teacher asks anyone to answer. It works like this: the teacher numbers students off. Next, the teacher poses a problem or a question related to the topic being dealt with. Students put their heads together to think in order to find the answer and finally, the teacher calls a number. All the students with the same number raise their hands and the teacher asks one of them to answer the question or solve the problem.

**Roundtable** is a structure which promotes writing skills and, at the same time, a sense of collaboration among the members of the team. In this case, every student has a piece of paper and a pen. The teacher dictates the beginning of a text (which could be about any topic, or even an invented, more creative text) the group must write. Each member writes one paragraph and when the teacher claps hands, students pass their piece of paper on to the student on their right, who reads the paragraph and continues the text. This way, the piece of paper rotates until reaching the person who started the text, who writes the final paragraph. This structure asks for reading comprehension as well as for writing skills.

At this point, the group decides which text is more suitable for the objectives of the task and present it to the rest of the class. With this aim and in order to foster Individual Responsibility, roles are assigned: the secretary will write the final version; the spokesperson will read the text aloud in front of the class; the artist will visualize the text with a drawing and the language controller will be responsible for everybody’s participation. In the structure named **Roundrobin**, the procedure is the same, but students contribute orally instead of doing it in a written manner.

**Talking Chips** aims at promoting Equal Participation developing, at the same time, discourse abilities. Talking chips works as follows: once the group has been established, each member gets different chips that they must use whenever they want to speak. These chips include different strategies to use in discourse, as the following table shows:
Students place one of these chips on their desks before speaking. When they finish speaking, the other members think of different ways to continue the discussion. They cannot speak unless they use one of the talking chips they have. At the end of the discussion, students must have used all their chips, avoiding this way the risk that only some members in the group participate in the task.

Three-Step Interview is a structure used to develop oral skills and is divided into three steps (as its own name shows). It works best with groups of four. In step one, students work in pairs: one of them interviews the other. In step two, students change roles: the interviewee is now the interviewer and vice versa. In step three, students take turns to tell the team what they have learnt about their partners in the interview.

Finally, in Think-Pair-Share students are allotted some time so that they carry out the task individually. Once this time elapses, students are asked to work in pairs, sharing problems, answers, difficulties, etc. Finally, students share their conclusions with the other members of the group.

These structures are an easy and understandable way for content and L2 teachers to start introducing cooperative learning activities in CLIL classrooms. As stated before, these structures comply with the principles of cooperative learning: Positive Interdependence, Individual Accountability, Equal Participation and Simultaneous Interaction and they can be loaded with any content, from history to mathematics. Content and L2 are developed simultaneously and students have a chance to be active participants and little by little more autonomous and independent learners.

Summary and Conclusions

This article started off by describing CLIL (Content and Language Integrated Learning) as a pedagogical project that aims at integrating content and foreign language at primary and secondary levels. Its role as a means for building a multilingual society in the broader scenario of the European Union has then been pinpointed. The article proceeded to mention the many advantages (cognitive, such as better reasoning as well as affective, such as solidarity and tolerance) CLIL offered for students’ development as human beings, pointing out, at the same time, the shortcomings mentioned by different authors and which were mainly related to the lack of opportunities CLIL students were granted to speak and to develop autonomy as independent learners.

Cooperative learning has been suggested as an instrument to overcome these drawbacks. The idea of the benefits group work may bring to learning in general and to learning an L2 in particular is not new in the L2 literature, but cooperative learning adds some specific features (Positive Interdependence, Individual Accountability, Equal Participation and Simultaneous Interaction) to avoid the problems that may rise when students work together in groups. The benefits that CLIL derives from cooperative learning are based on theories of learning and teaching. Cooperative learning constitutes the ideal framework for Vygotsky’s sociocultural theory, constructivism, humanistic psychology and group dynamics. Each embodies a different dimension of learning and teaching present in any classroom.

Kagan’s structural approach to cooperative learning has been described as a possible method to first start introducing cooperative learning in CLIL contexts. Belonging to Task Specialization Methods in cooperative learning and consisting of structures which can be filled with content, Kagan’s approach proves a valid method where content and foreign language can be successfully integrated.

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