Scaffolding oral interaction in a CLIL context:
A qualitative study

Olga Gerakopoulou

Universidad Complutense de Madrid
olgagp23@yahoo.com

Abstract
The learning of languages as a basic prerequisite in the European Union has created a new educational paradigm called Content and Language Integrated Learning (CLIL). In the CLIL classroom the teacher has to assist students in the learning of content and language at the same time. The support that the teacher offers to the learners to accomplish this dual target is expressed through *scaffolding* (Vygotsky 1978; Bruner 1985), that is a temporary assistance until the student is able to work autonomously. This study aims at investigating and describing instances of scaffolding strategies applied in the CLIL secondary education classroom.

Keywords: SLA, CLIL, socialization, scaffolding strategies, interaction

1. Introduction

In recent years there has been a great proliferation of research on a relatively new area of an educational paradigm in the European Union called Content and Language Integrated Learning (CLIL). The integration of content and language for the acquisition of a second, or even third, language (Baetens-Beardsmore 2001) started long ago in the immersion classes of North America, mainly in Canada, seeking for teaching methodologies to cover the linguistic differences that existed in their society and their schools (Genesee 1994; Swain and Lapkin 2002; Walqui 2006). In Europe the same need came up when, in the newly-constituted European Union, the issues of internationalization, mobility, cross-culturalism and multilingualism came to the surface. The teaching and learning of more languages for communication became a target that had to be reached in a short time and with the best possible outcomes. Under these conditions, the integration of content and language in the school curriculum was viewed as a solution with hopeful results.

As CLIL was a novel approach with political, educational and socio-cultural dimensions, it attracted the interest of many scholars and created inquiries for academic research (see Coyle 2000; Dalton-Puffer 2008). Two significant aspects of

CLIL thoroughly researched are the language learner's socialization and the practice of *interaction* between teacher and student in the CLIL classroom. Interaction during the lesson is accomplished through carefully planned instruction, class practices and the help that the teacher offers to the students when it is considered necessary. The methodology and the linguistic strategies that the teacher employs in order to assist students to develop their cognitive and linguistic skills, extend their understanding and become competent and independent second language learners are all included in the notion of *scaffolding*.

Although scaffolding appears to be essential in the field of second language acquisition and is considered an important element of effective teacher instruction (Mercer 1994; Walqui and van Lier 2010), there is still certain vagueness and generalization on the scaffolding strategies that the teacher can employ in a CLIL context. In this regard and through a qualitative analysis the present study is aimed at investigating educational practices in a CLIL context, describing instances of scaffolding strategies applied by CLIL teachers in their oral production and reporting on the findings and developing their implications for the establishment of scaffolding strategies as a pedagogical practice in CLIL secondary education. Therefore, the current research intends to provide answers to the following questions:

1. What scaffolding strategies do CLIL teachers use to assist students in their content, linguistic and cognitive development?
2. Are there differences in the scaffolding strategies that each CLIL teacher uses depending on their subject discipline and the students' age / CLIL level?
3. How does teacher instruction encourage classroom interaction?
4. Do teachers stimulate the students' participation in the construction of the lesson?

2. Conceptual Frameworks on Scaffolding

2.1 CLIL Definition and Outcomes

The entry of Content and Language Integrated Learning in the educational system of the European schools started as a prerequisite in order to assist the scheme of multilingualism that characterizes the European Union. On this go, the parallel teaching of language and subject matter in a language different from the mother

tongue was proposed. In 2006, a report on the European Union's educational system on bilingualism was issued defining CLIL as follows:

> The acronym CLIL is used as a generic term to describe all types of provision in which a second language (a foreign, regional or minority language and/or another official state language) is used to teach certain subjects in the curriculum other than the language lessons themselves. (Eurydice 2006)

There is not a limitation in the second language chosen for instruction in CLIL. Due to the internalization and expansion of the English language, though, most students in the European schools that attend a CLIL programme are instructed in English.

The general outcomes of the establishment of CLIL in the European school system may be reached from a pedagogical, linguistic and social perspective (Marsh, Maljers & Hartiala 2001). On the one hand, schools re-organise their curriculum structure and teachers become agents of new methodologies and technologies. On the other hand, students of CLIL courses gain in terms of content, develop their cognitive abilities and are more successful language learners as they acquire the second language more effectively than students of solid language instruction (Dalton-Puffer 2008).

2.2 Literature review

Scaffolding has been subject to intensive research by scholars and educators (Bruner 1985; Mercer 1994; Hammond 2001; Walqui 2006; Walqui and van Lier 2010). It was initially presented in the learning theories of L. Vygotsky (1896-1936) who first introduced the idea of Sociocultural Theory (SCT) which supports that learning is closely related to and influenced by culture and the child's social interaction. Vygotsky's theories were extended by J. Bruner (1985) who argued that "*learning to use* the language" cannot be conquered solely without the assistance of other factors, such as the tutor, because the use of language demands the learning of notions that someone has to explain thoroughly (Bruner 1985). Hammond and Gibbons (2001) have researched other aspects of scaffolding such as its main characteristics and have identified three of its "key features": 1) *extending understanding*, 2) *temporary support* and 3) *macro and micro focuses* that relate to its educational dimension.

3. Data and Methodology

3.1 Data collection

The data of this study were obtained and selected from material originally collected by Dutch researchers (de Graaf et al. 2007) who conducted a research on CLIL classes of secondary education. The original material was collected and videotaped by CLIL teacher trainees who observed seven CLIL lessons from the subjects of History (three teachers), Geography, Maths, Biology, Arts and Crafts, and two EFL lessons (two teachers). Apart from one English teacher who was a native speaker, the other eight teachers' mother tongue was the Dutch language. All of them had an almost five-year teaching experience and a two-year CLIL experience, and were holders of the Cambridge Proficiency certificate. Moreover, they all taught their subjects in the English language.

Three medium-sized schools that ran the CLIL programme for six years were chosen for the specific research. Of the 1200 students that each school hosted, almost 300 attended the CLIL classes. Students aged from 12 to 17 years old and ranged from the first until the fifth year of CLIL education.

In the specific study data were collected and analyzed from four CLIL and one EFL lessons. The profile of the subjects, teachers and students used in this study is presented underneath in Table 1:

Subject	Teacher	Students	
		Year of CLIL education	**Age**
History	History Teacher 1	First year	12-13
History	History Teacher 2	Second year	13-14
Geography	Geography Teacher	Third year	14-15
Biology	Biology Teacher	Third year	14-15
English	English Teacher 1	Fourth year	15-16

Table 1. Subjects, teachers and students in CLIL and EFL lessons
(adapted from de Graaff et al. 2007: 611)

3.2 Methodology

This study follows a qualitative analysis and uses as form of data videotaped material that was obtained from the abovementioned Dutch CLIL classes. Videotaped moments of this material and other relevant information concerning the Dutch research are included in a CD entitled "*Identifying effective CLIL pedagogy for L2*

learning, Utrecht University, IVLOS" that was created in 2006 by the Dutch researchers De Graaff, Koopman and Westhoff. For the current paper fifteen videos of short duration that show either teacher instruction or oral interaction between teacher and student were selected in total. The fifteen selected videos were firstly observed and later on classified according to the discipline of the five previously mentioned CLIL teachers. Therefore, five different sections were created each one for a different teacher. Afterwards, the fifteen videos were distributed to the corresponding disciplines and they were transcribed creating in turn a number of extracts for analysis.

Following this, a discursive analysis was developed for each extract with a detailed description of the exchanges between teacher and students or of the teacher's instruction. Apart from the description of the interactions, the discourse analysis also worked as an indicator of the non-verbal scaffolding techniques, for example gestures, facial expressions, intonation, etc., that were used by the teachers during instruction. At the end of each video analysis, observations on the findings followed. The purpose of the observations was the identification of the scaffolding instances that were found in each video separately and the interpretation of what was noticed, for example in what area of language acquisition the teacher has worked on, what s/he has accomplished or what the students have gained as learners.

This study does not analyze data based on a specific framework or taxonomy but it intends to identify the general scaffolding techniques used by CLIL teachers.[1] Nevertheless, there was influence from two main frameworks proposed by scholars[1], namely by Walqui (2006) and Mercer (1994). Walqui (2006) analyzes six main scaffolding strategies. These include:

- *modelling* (the teacher offers examples that students can imitate or clearly demonstrates what they have to do)
- *bridging* (connecting new input with students' previous knowledge, for example activating knowledge they already have from personal experience)
- *contextualizing* (the teacher enhances learning with pictures, graphs, etc. or verbally with metaphors or analogies to make the input more comprehensible)

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[1] Scaffolding strategies are many and there is not a framework that teachers use exclusively, some of them are just used more often than others.

- *schema building* (the teacher helps students organize their thinking or knowledge by creating schemas that are mutually connected)

- *re-presenting text* (students change a text into another written or visual form, for instance a story can be changed into a dialogue)

- *developing metacognition* (students learn how to evaluate themselves and are taught strategies of thinking)

(Walqui 2006: 170-177)

Another category of strategies taken under consideration in data analysis came from the list suggested by Mercer (1994) which are the following:

- the teacher sets themes and elicits responses that draw students along a line of reasoning. Sharpe (2001) explains that drawing students along a line of reasoning leads to a *metastatement*, a kind of summary of what has been said.

- the teacher elicits responses through cues in the form of questions (for instance "a term that starts with 'a'…")

- the teacher elaborates and redefines what the students should do in an activity

- the teacher uses 'we' to show shared experience

(Mercer 1994: 99)

4. Findings and Comments

The findings of the study are presented underneath in the form of Tables regarding the subject discipline, the topic discussed and the scaffolding strategies that each CLIL teacher used in the analyzed videos while the relevant comments follow after each Table.

Subject discipline	Topic	Scaffolding strategies
History Teacher 1	Stonehenge	-repetitive language -body language (intense gestures, intonation) -contextualizing and real life examples -teacher's personal engagement -translation in mother tongue
	Egypt	-contextualizing (use of a picture) -simple language -teacher's personal engagement -translation to mother tongue

Table 2.Scaffolding strategies used by History Teacher 1

The results in Table 2 show that History Teacher 1 used similar scaffolding strategies in the two topics that he instructed to build mainly on the students' understanding of the content. An important variable in his case is that the students in his class were first year CLIL students, 12-13 years old, and therefore less competent in the comprehension of the input and the production of the output in the second language.

Subject discipline	Topic	Scaffolding strategies
Geography Teacher	Infrastructure	-elicitation with pausing -body language (intonation) -drawing students along a line of reasoning -questioning -elaborating and redefining the requirements of an activity -bridging (prior knowledge activation and showing shared experience with 'we') -repetition of the students' answers to build on vocabulary -facilitating student participation
	Economic situation in Ghana	-metastatement -elicitation with pausing -facilitating student participation

Table 3. Scaffolding strategies used by the Geography Teacher

From Table 3 it can be seen that the Geography Teacher placed a lot of emphasis on the point-of-need scaffolding and he supported the students' content understanding with interaction and knowledge that comes from the students themselves. It is also noticed from the results that the Geography Teacher, apart from intonation, did not use any other form of body language, neither contextualizing nor translation but he tried to elicit from the students unknown meanings.

Subject discipline	Topic	Scaffolding strategies
	Colonization	-body language (gesture)
	Explanation of a cartoon	-repetition of what is requested and encouragement of deeper thinking -elicitation through clues
	Explanation of the word 'purpose'	-teaching key vocabulary terms -body language (stressing vocabulary and important notions) -putting vocabulary into context -synonymy -paraphrasing

History Teacher 2	The American colonial system	-description in simple language with simple words -explanation of complex input -making students summarize
	Evaluation of classmate's content and linguistic work	-metacognitive development -facilitating student participation -monitoring and evaluating classmate's work
	Argumentation on a topic	-contextualizing (use the board to give visual aid) -questioning -summarizing in a list form -drawing students on a line of reasoning

Table 4. Scaffolding strategies used by History Teacher 2

The findings in Table 4 indicate that History Teacher 2 approached the topic of the colonization in America applying a significant number of scaffolding techniques which did not focus only on the content and linguistic development of his students but also on their cognitive development. Moreover, from the results it is shown that he paid a lot of attention to building on the students' linguistic development and he worked on vocabulary using gestures, stressing of words with his voice, synonyms, paraphrasing and putting vocabulary into context to make sure that his students would assimilate vocabulary well.

Subject discipline	Topic	Scaffolding strategies
Biology Teacher	Human teeth	-modelling (clear and detailed instructions) -contextualizing (the board, colours) -text representation -elicitation with clues -repetition -questioning -bridging (showing shared experience with 'we') -giving examples -assignment of in-class activity in pairs for practice and monitoring from the teacher

Table 5. Scaffolding strategies used by the Biology Teacher

The results in Table 5 reveal that the Biology Teacher's instruction focuses mainly on the content area. She had planned a well-organized instruction of the topic and

based the students' comprehension of the input on coming from the students themselves.

Subject discipline	Topic	Scaffolding Strategies
English Teacher 1	Preparation for oral talk (time structures)	-modelling (clear and detailed instructions) -contextualizing (use the board to give visual aid) -teaching key grammatical structure before writing -facilitating student participation -contextualizing (putting form-focused input into context) -giving and asking for examples -summarizing in a list form
	Instructions on students' presentation	-modelling (guiding students with strategies to help them work independently) -contextualizing (cards to write on, cards with information, use of dictionary) -monitoring from more qualified people -modelling (offering content and language information to help students work independently)

Table 6. Scaffolding strategies used by English Teacher 1

It is apparent from Table 6 that the strategies that English Teacher 1 applied had a dual purpose. On the one hand, she put a lot of emphasis on the linguistic development of the students, specifically on grammar, and, on the other hand, on the clear explanation of the strategies that the students had to follow in order to complete correctly the oral tasks that she had assigned to them.

4.1 Discussion of the findings

In general, the findings of this study indicated that CLIL teachers include in their instruction a wide range of scaffolding strategies that especially contribute to the students' understanding in the second language. More specifically, it was found that the teachers' subject discipline and the students' age are variables that affect the choice of scaffolding strategies. Thus, in specific subject disciplines such as History Teachers 1 and 2, the Geography Teacher and the Biology Teacher tended to focus mainly on the students' content development and applied techniques that targeted at the students' content area understanding. On the other hand, the language teacher

focused mostly on the students' linguistic development while for the students' cognitive development few techniques were used by the teachers.

Regarding students' age, it seemed that the teachers took under consideration the students' level of linguistic knowledge and competence and applied scaffolding strategies that would be more helpful for them depending on their age and thus their CLIL experience. It was noticed that the younger the CLIL students, the more body language and contextualizing were used by the teachers, as well as translation to mother tongue, for example in the case of History Teacher 1. In fact, all CLIL teachers used either body language or contextualizing, or both, probably because they consider them helpful for the transmission of meaning and vocabulary, especially in the content area.

Another significant finding was the fact that almost all teachers encouraged the students' participation through elicitation and questioning. These scaffolding techniques promoted oral interaction between teacher and students. In general, teaching was mostly teacher-centered and interaction between teacher and student was the predominant interaction pattern.

As a summary, Table 7 below presents the most predominant scaffolding techniques applied from the CLIL teachers of the selected videos:

Subject disciplines	Predominant Scaffolding Techniques
CLIL teachers of History, Geography, Biology and English	Body language Contextualizing Repetition Elicitation Questioning Facilitating student's participation

Table 7. Scaffolding techniques used more by the CLIL teachers analyzed

It is probably the dual nature of the CLIL approach that pushes the teachers in a constant application of scaffolding techniques that will ensure successful teaching and learning on the part of the students.

5. Conclusions and Implications

This study has attempted to investigate educational practices of the CLIL context and to analyze scaffolding strategies mainly in the oral discourse of CLIL teachers in

secondary education, concentrating on the socio-cultural dimension of the CLIL approach which gives attribute to interaction in the classroom and promotes the second language learner's autonomy. As evidenced in the selected videos that constitute the data of this research, CLIL teachers apply scaffolding techniques that stimulate students and, although their instruction is mainly teacher-centered, they attempt to co-construct the lesson along with the learners. More specifically, key findings of this study reveal that teachers tend to use different forms of body language and contextualizing to support their instruction especially with the younger learners, that is, with the students belonging to lower secondary classes. Another significant result of this research is that student participation is encouraged and the teachers try to lead students to the production of the output mainly through the technique of elicitation. Moreover, CLIL teachers appear to concentrate more on the development of content and linguistic competence while less attention seems to be paid to the students' cognitive development perhaps due to the teachers' priority of teaching content and language in the CLIL context. As far as the teachers' discipline is concerned, the results show that the language teacher scaffolds students on strategies that instruct them on the steps they should follow for greater linguistic development.

In conclusion, the implications of this study are related to teaching practices and further research. More specifically, different teacher profile seems to affect the use of scaffolding strategies. Thus, in teaching contexts it might be advisable to expose pre-service teachers to the existent variety of scaffolding strategies. Moreover, classroom observation could be used as a resource for teacher training as it offers exposure to authentic classroom situations and raises awareness of good teaching within the CLIL context. Furthermore, the results of the present study could be used comparatively for further research with other national contexts in which CLIL is already applied, for example in Spain, or as data basis for national contexts in which CLIL is in a very initial level, for instance in Greece. Finally, the students' age appeared to be an important factor in the choice of the scaffolding techniques the teachers applied in secondary education. Therefore, it would be interesting these findings to be compared with evidence from research carried out in primary education so as to report on the CLIL teaching practices used in younger ages and check on common scaffolding strategies which apply in both educational levels.

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