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THE FIRST STEPS OF A
SECONDARY SCHOOL TEACHER
EXPERIENCES AND STUDIES OF A STUDENT-TEACHER

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Abstract

ABSTRACT: This dissertation aims at fostering the professional development of the EFL teacher. This document compiles two small scale empirical studies carried out during the Practicum 1 and Practicum 2 periods of the TED's course. The first one is based on the role of the teacher's talk in the EFL classroom, focusing on the importance of IRF sequences through the analysis of a video recorded session's segment. The second one focuses on students' small group talk, analysing the impact of cooperative learning in the EFL classroom by examining students' conversation in a set of audio recordings. The following section gathers the teacher's personal reflections upon the process of professionalization undergone throughout the TED's course. The paper concludes with a summary of the major findings, areas for future in-depth study and further professional improvement proposals.

KEY WORDS: EFL teaching, professional development, TED's course, EFL classroom, IRF sequences, cooperative learning.

RESUMEN: Esta disertación pretende impulsar el desarrollo profesional del profesor de inglés/LE. Este documento compila dos estudios empíricos a pequeña escala que se han realizado durante las fases de Practicum 1 y Practicum 2 del Máster de Formación del Profesorado. El primer estudio se basa en el rol del discurso del profesor en la clase de inglés/LE, centrándose en la importancia de las secuencias IRF, a través del análisis del segmento de una sesión registrado en video. El segundo estudio se centra en la conversación entre estudiantes en grupo reducido, analizando el impacto del aprendizaje cooperativo en la clase de inglés/LE a través del examen de la conversación de los estudiantes en un conjunto de grabaciones de audio. La siguiente sección reúne reflexiones personales acerca del proceso de profesionalización experimentado durante el Máster de Formación del Profesorado. El estudio concluye con un sumario de los hallazgos más relevantes, áreas de futuro estudio y propósitos para el futuro desarrollo profesional.

PALABRAS CLAVE: enseñanza inglés/LE, desarrollo profesional, Máster de Formación del Profesorado, clase de inglés/LE, secuencias IRF, aprendizaje cooperativo.

0. Introduction

Becoming an EFL teacher involves realizing of a set of aspects that teaching a foreign language and teaching, in general, involves. For this reason, this dissertation tackles two pivotal aspects of the classroom: teacher's talk and the interaction between teacher and students and, on the other hand, students' talk in cooperative work. Teacher's interaction with students and student's interaction among themselves constitute two pillars of teaching and two strands of communication which cannot pass under the radar when it comes to teaching.

As a way of illustration, a range of samples from a 4th of ESO group in Institut Garona[1] have been collected in order to study these aspects. More information about the context in which the samples have collected can be found in the Context section.

Through a classroom-based, qualitative, ethnography method, a excerpt of the video recording collected throughout Practicum 1 (in the case of the self observation study one) and several excerpts of audio recording from a jigsaw activity implemented during Practicum 2 have been analyzed, consequently tracing some guidelines and drawing numerous guidelines that can be found in the conclusion section of each study. More details about methodological approach and data gathering can be found at the Methodology section.

Together with the two small scale studies empirical studies, the following section offers a recollection of impressions and reflections that the trainee-student has drawn from the amalgam of experiences that have been accumulated during the intense experience that getting integrated to a secondary school for the first time supposes.

The document finishes with a Conclusion section, which gathers the trainee-teacher thoughts and opens new directions for future research and personal

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[1] All names have been changed in order to preserve the privacy of the participants.

improvement goals. The full transcripts for both papers can be found as appendixes, together with the audio and video recordings used as sources.

1. Context

The audio recordings analyzed for self observation paper 2 were recorded at Institut Garona. This is the only high school in that town, and it was founded in 1994. As of 2010, approximately 600 students are enrolled and 66 teachers work there. At this secondary school, students can take ESO and Batxillerat courses. There are five streams in 1st ESO, five more in 2nd ESO, five more in 3rd ESO and four in 4th ESO. In Batxillerat, there are currently 3 streams for the 1st year and 2 streams for the 2nd) year.

Garona is essentially a residential town, set in the middle of metropolitan area of Barcelona. The socioeconomic and cultural level of students and their families ranges from medium to high levels, and the number of immigrants (newcomers) is very low, being it less than 1% as of 2010.

Incidentally, this school has implemented a PELE (Projecte Educatiu Llengües Estrangeres) project, based in the use of a foreign language to work on the curriculum of content-based subjects. The main objective of this project is to improve the students' linguistic competence in EFL, by means of teaching curricular content in English. This involves working in a Content and Language Integrated Learning (CLIL) program. As an extra help, the English Department features a Language Assistant who helps at the English and CLIL lessons of the centre.

The students who appear in the audio and video recordings belong to a 4th of ESO inclusive group, which corresponds to the last year in compulsory education in Spain. They are mainly 15-16 year old students, although some of them are nearly 18 because they are retaking the course.

It is relevant to mention that this specific group is fairly heterogeneous. Some of the students attend to English extracurricular classes and their level of competence by the majority ranges between an A1/A2 COE level -according to the Common European Framework nomenclature-. On the other hand, some students show a fairly lower level of competence.

2. Global objective of the dissertation

The two foci of observation represent two radically different approaches to the construction of knowledge, which can be integrated and combined in the classroom to exploit all the possibilities they offer. While the teacher-fronted classroom and teacher-led interaction feature the weight of the traditional classroom, cooperative learning among students offers extraordinary insights to the way in which the task is negotiated and knowledge is constructed in that setting.

The first study aims at answering the following questions:

- To which extent teacher-fronted IRF sequences are key to the EFL classroom?

- Does the teacher-led IRF pattern involve risks or not?

The second study aims at answering the following questions:

- Does cooperative learning favour the learning of students with different characterization and learning profiles?

- How does the feeling of success influence students learning and motivation?

All together, this is a compilation of the research and reflection on the teaching experiences which aims at the professional development of the trainee-teacher. This compilation can help a trainee-teacher ponder the decisions chosen during

the implementation of the didactic unit, closely analyzing the strong and weak points, the successes and the weak points.

This dissertation reveals the professional and emotional arc that the acquisition of the competences of the TED course has supposed for the student-teacher.

3. Theoretical framework

On teacher talk

The Initiation-Response-Feedback (IRF) sequence, initially branded as the 'teaching cycle' by Bellack *et al*. (1966) and later defined by Sinclair and Coulthard (1975) as teaching exchanges consisting of *initiation moves* (called the opening move in Sinclair and Coulthard's original model), *response moves* (the answering move), and *follow-up moves*. This three-move structure of an exchange (IRF) is widely acknowledged as the most common interactional pattern in classrooms. It can be also referred to as *triadic dialogue* (e.g. Nassaji and Wells 2000). Each exchange constitutes a *sequence*, i.e. "a structurally coherent collection of not necessarily successive utterances or utterance parts (Coulthard, 1985:76). The structure is highly recognizable, as it involves an expert who asks a question on the first move, a learner who offers a response on the next move and it ends with a third and final move where the expert evaluates the response provided. Broadly, this type of structure absorbs a high percentage of classroom interaction, especially when it comes to language learning.

Within sequences, side sequences also play an important role in teacher's talk. Side sequences can be defined as "pairs of a request of clarification relating to the utterance before it begins with a questioning repeat – an interrogative item indicating that there is a problem in what has just been said and its work to generate further to remedying the problem" (Coulthard, 1985:75).

Certain aspects of the IRF sequence are deeply rooted to the role of the teacher itself, for its pedagogical nature and for the control it gives to the teacher. However, under this type of sequence, teacher talk takes up the largest portion of talk, together with the conversation topic and the turn allocation (Tsui 1995).

The ubiquitous presence of this teacher-controlled pattern widely concerns teachers, as language learners should be exposed to a variety of interactional patterns, especially under the light of the communicative approach that learning a language benefits from. Furthermore, in Dawes *et al*. (2004) it is pointed out that the abuse of IRF sequence in the classroom entails a set of problems:
- inhibits children working out meanings for themselves;
- reduces children's level of competence in spoken language;
- limits the possibilities for discussion;
- treats pupils as subordinates and
- ensures teachers claim all knowledge.

However, these arguments are quite reductionist, as IRF sequences are actually used for a variety of purposes, such as checking for understanding or eliciting misconceptions. Additionally, IRF sequences can be used as a mean to provide scaffolding.

Therefore, the teacher uses certain skills to bridge the difficulties that arise for students when facing new content. Consciously or unconsciously, the teacher intentional, goal-directed ways of talking reflect a set of these techniques in order to construct joint and shared knowledge. Mercer (1995) points out three basic aspects of teacher talk as an attempt to guide learning:
- *to elicit relevant knowledge from students*, so that they see what students already know and understand and so that the knowledge is seen to be 'owned' by students as well as teachers;
- *to respond to things that students say*, not only so that students get feedback on their attempts, but also so that the teacher can incorporate what students say into the flow of the discourse and gather the contribution of the students together to construct more generalized meanings and

- *to describe experiences that they share with students* as foundations for making sense of later ones, so students detect the continuity in what they are doing.

These aspects contribute to the figure of the teacher having a key role in the guidance of the learner towards knowledge. However, in order to avoid the abuse of teacher-fronted IRF sequences, a more communicative approach to classroom talk should be taken into consideration. Thornbury (1996) points out some important communicative classroom discourse features:

- *the use of referential questions*: using genuine questions which the teacher does not know the answer beforehand, rather than display questions, where the primary purpose is to check the students' knowledge. The effort and depth involved in processing referential questions greatly surpasses display questions and offers more realistic exchanges.

- *feedback on content* involves responding to the content of what learners are saying, rather than commenting solely on the form. This is linked to the use of referential questions, where the focus is on what the learner is expressing. Ritualized responses such as 'OK', irrespective of the message, anchor the classroom discourse firmly in the traditional IRF camp and suggest that the focus in not on content but on form.

- *Wait time* is the time teachers allow students to answer questions before rephrasing it, asking another student or answering it themselves. Studies show that when teachers are trained to wait three or four seconds, not only do more students respond, but there is an increase in the average length of their responses. The proportion of student-initiated questioning also increases.

- *Student-initiated talk*: it is argued that learners should, at least some of the time, be asking the questions. A high proportion of student-initiated questions would suggest a healthy distribution of the 'ownership' of classroom discourse, which in turn would tend to promote more 'investment' on the part of the learner.

These remarks do not imply that there is no longer place in the classroom for traditional display questions and IRF sequences. However, all these features contribute to a more desirable classroom talk where the classic IRF pattern does not work as the axis of the language classroom. The change of patterns is welcomed by students as it takes the classroom closer to interaction outside class and adds variation to the flow of the class, which in turn is more motivational and dynamic.

On Cooperative learning and collaborative learning

The concepts of *cooperative learning* and *collaborative learning* are extensively used in the teaching of many subjects. Incidentally, they are particularly significant in the foreign or second language (L2) classroom. At first, the distinction between these two concepts may seem unexpectedly blurry due to the common usage of these terms. However, each has developed different connotations and applications in the classroom in recent years.

Cooperative learning and the L2 classroom

Cooperative learning refers primarily to an array of highly structured goals and techniques for learning (Oxford, 1997). It can be defined as teaching arrangement in which small, heterogeneous groups of students work together to achieve a common goal. Students encourage and support each other, assume responsibility for their own and each other's learning, employ group related social skills and evaluate the group's progress (Dotson, 2001). The general consensus is that cooperative learning can and usually does result in positive student outcomes in all domains (Johnson & Johnson, 1999)

Kagan & Kagan (1992) describe four basic principles of cooperative learning as the following: Positive interdependence, Individual accountability, Equal opportunities and Simultaneous interaction. Cooperative learning has been implemented in classrooms with different student profiles primarily as a mean of encouraging positive student interaction. The acronym PIES was developed by

participants in the 1993 Facilitators Institute in Newport Beach, California to refer to these principles (Brody & Davidson, 1998).

- Positive interdependence occurs when gains of individuals and teams correlate positively. It would be understood by students as a "your gain is my gain" feeling, thus fostering help among students and supporting the group cohesion.

- Individual accountability requires that all students are actively involved and become responsible for their own learning. This implies that each student is in charge of a share of the work and each share is key for the success of the group.

- Equal participation takes place when all students have the opportunity to contribute and participate actively in their teams. This entails that all students have a chance for growth simultaneously during the activity.

- Simultaneous interaction refers to the fact that in cooperative learning all the students interact during the period of time that the activity lasts.

According to Kagan (1994), "Grouping is essential to cooperative learning. The most widely used team formation is that of heterogeneous teams, containing a high, two middle, and a low achieving student and having a mix of gender and ethnic diversity that reflect the classroom population. The rationale for heterogeneous groups argues that this produces the greatest opportunities for peer tutoring and support as well as improving cross-race and cross-sex relations and integration. Occasionally, random or special interest teams could be formed to maximize student talents or meet a specific student need" (p. 6:1).

The factors which contribute to achievement effects of cooperative learning are group goals and individual accountability. Providing students with a prize increases the probability that all group members will encourage each other, thus creating a better learning opportunity for all students. Furthermore, there is strong evidence that the motivation of students is boosted when group grades and team rewards are introduced in the activity (Slavin, 1990).

Regarding the efficiency of cooperative learning task, many studies have been conducted on the conversation among students in the same team. Students may use their thinking, communication, and information-sharing skills to increase their content knowledge as well as their interpersonal skills. Pica et al., (1996) point out that "learners working together in groups were found to display greater motivation, more initiative, and less anxiety regarding their learning, they were found to produce more language. It also contained a greater number of features believed to assist message comprehensibility and thereby to serve as input for L2 learning" (p. 60).

On the other hand, Skehan (1996) relativizes the efficiency of the conversation among students, pointing out a potential focus away from form and towards lexis, thus learners just focusing on the correct realization of words, leaving behind the importance of syntactic structures.

Cooperative learning has proved to be a suitable teaching approach for all levels. The developing nature of students make cooperative learning a valuable teaching strategy which suits their needs. Students need to socialize, form part of a group, share feelings, receives emotional support, and learn to see things from other perspectives. Cooperative learning groups do not separate students on the basis of class, race, or gender and the goals of middle schools are consistent with the goals of cooperative learning theories. It promotes academic achievement and builds positive social relationships (Sapon-Shevin, 1994, p. 183).

Collaborative learning and social constructivism

Collaborative learning occurs when two or more people attempt to learn something together (Dillenbourg, 1999). It commonly refers to social constructivism, but an increasing number of people in academia have begun to use this term to imply a constructivist epistemology (Oxford, 1997). It encompasses a set of methodologies and environments in which learners share a common task where each individual depends on and is accountable to each other. Collaborative learning is heavily rooted in Dewey's views, which imply that learners do not learn in isolation, but by being part of the surrounding community

and the world as a whole, and Vygotsky's views, which imply that there exists an inherent social nature of learning, shown through his theory of the proximal development zone.

John Dewey, an American philosopher, described a triangular connection for the social construction of ideas between the individual, the community and the world. He proposed that ideas can only become meaningful if they meet the following requirements: (a) the ideas form part of an acceptable theory, (b) are instrumentally useful for creating positive action, (c) are constructed by participants in society and (d) can be related to reference points provided in society.

In Dewey's view, the reflective inquiry of a community of learners helps create meaning between apparently unstable events (Oxford, 1997).

Lev Vygotsky, a Russian psychologist, proposed that ideas are constructed through communication with others. The individual's cognitive system is a result of communication in social groups and cannot be separated from social life (Vygotsky, 1960/1978). For Vygotsky, the teacher acts as a facilitator and provider of assistance. Teachers perform a great service to students by providing any and all forms of assistance that might help students develop their language and cultural skills.

Vygotsky suggests that there are two parts of a learner's developmental level: the 'actual developmental level' and the 'potential developmental level'. Vygotsky situated learning in the 'zone of proximal development' (ZPD), which he posited as being "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). Therefore, the zone of proximal development is the gap between actual and potential development, the area between what the learner can do and what can be achieved with the help of a more knowledgeable other.

In a community of L2 learners, cultural and linguistic ideas are best shaped through reflective inquiry with other people (teachers, peers, native speakers, etc.), who help the learner negotiate his or her own ZPD. Thus, social constructivism is

the foundation for collaborative learning in the L2 classroom. Compared with cooperative L2 learning, collaborative L2 learning is more explicitly oriented to negotiating and fulfilling the potential (traversing the ZPD) of each L2 learner (Oxford, 1997).

Nyikos & Hashimoto (1997) point out that within a group, each person has an individual zone of potential. However, in a dynamic interrelationship of ideas and views, this potential may grow or be stymied, depending on various group conditions that may or may not be conducive to learning and social growth.

In the L2 classroom, this is interpreted as the teacher providing hints or clues, praising, reminding or reviewing anything that L2 students need at a certain stage of an activity. When the learners needs assistance, the teacher provides scaffolding to ensure that the learner's constructs grow more complex. The term 'scaffolding' is first described in Wood et al. (1976) as a metaphor to describe the type of assistance offered by a teacher or peer to support the student's learning. In this process, the teacher helps students master concepts which initially are beyond their grasp. The students complete unassisted as much of the task as possible and the teacher only attempts to help students with tasks that are beyond their current capacity. Student errors are expected but, with the teacher's feedback and prompting, students are eventually able to achieve the task or goal. When students become able to complete the task, the teacher begins the process of 'fading', gradually removing the scaffolding, allowing students to work independently. "Scaffolding is actually a bridge used to build upon what students already know to arrive at something they do not know. If scaffolding is properly administered, it will act as an enabler, not as a disabler" (Benson, 1997). Wood et al. (1976) point out six types of scaffolding functions: recruiting the learner's interest, simplifying the task, highlighting its relevant features, maintaining motivation, controlling the learner's frustration, and providing a model.

Other social constructivist concepts include 'context' and 'situated cognition'. The context in which knowledge is developed cannot be separated from learning, nor

is it neutral (Lave & Wenger, 1991, cited by Oxford, 1997). Learning is always situated within a certain context. Learning takes place while people participate in the socio-cultural activities of their own learning community, thus constructing their understanding and responsibilities. Social constructivists are especially focused on the learning process, rather than in the achievement of projects. Activity-based situations with meaningful purposes are key to develop the construction of knowledge. Rather than just the teacher-learner connection, there exists a field of many other connections that can become means to attain knowledge.

4. Methodology

The studies conducted share a classroom-based approach, as both studies focus on the observation of the teacher and students in the classroom, its implications and repercussions in the process of the construction of knowledge. Furthermore, the analysis has been approached from a qualitative, ethnography perspective, which deals with data through instruments, in this case, video and audio recordings, from a detached and unbiased, objective perspective, aiming at observing what happens in the classroom and what the consequences of each action chosen are, under the light of interaction and the students' learning.

To describe what a qualitative approach represents to the treatment of data, Denzin and Lincoln (1998) propose a fitting metaphor:

"Qualitative research is a situated activity that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations including field notes, interviews, conversations, photographs, recordings and memos to the self. […]

The researcher as a bricoleur, quilt maker or filmmaker. A person who assembles images into montages." (Denzin and Lincoln, 1998: 4-5)

This describes how the researcher is a figure which is able to interpret and find underlying meaning in all aspects by observation. The capacity of observing and analyzing the world is vital for the professional development of a teacher, whose main priority must be the observation of his students, in order to decipher their needs and consequently propose measures which cater for all students potential.

In this case, the trainee-teacher has been a participant observatory, who has experienced the implementation of the sessions and, at the same time, gathered a set of data for later analysis.

This way, the trainee-teacher can broaden his vision and review the experience to reflect upon it, consequently expanding his vision and growing as a professional.

The self-observation 1 paper consists in the analysis of an excerpt of 3 minutes taken from the video recordings recorded during Practicum 1. The excerpt has been transcribed through conversation analysis conventions in order to highlight the structure that the interaction between students and teacher follows.

Self-observation 2 uses as a source the analysis of a set of excerpts from the audio recording of a session which consisted in a jigsaw activity. The excerpts have been selected from the data transcribed from the audio recordings, under the light of cooperative learning and the construction of knowledge.

The data has been thoroughly revised by two trainee-teachers in order to guarantee an objective approach, with a collection of results which have been interpreted under the use of a solid theoretical framework. Moreover, the papers have been revised by the tutor, in order to ensure a quality approach and a correct focus.

5. *Can somebody tell me?* A close look to teacher-led classroom interaction and language learning

5.1. Introduction

This paper aims at exploring the complexities of classroom interaction between teacher and student in an EFL class. By way of illustration, a sample from a 4th of ESO grade in a secondary school of Catalonia has been collected. The paper examines teacher-led interaction in an elicitation task through IRF sequences and discusses the role of IRF sequences in the classroom and language learning. This paper concludes with several implications for research and practice.

Classroom interaction is an intricate mechanism, whose ins and outs often escape the observer's perception. By closely analyzing classroom interaction in a three minute long sample from vignette recorded during the student-teacher Practicum I, this paper aims at raising the awareness of the teacher regarding the variety of patterns in classroom interaction a preventing the teacher from getting into bad habits, which may affect negatively the performance and efficiency of the classes.

The focus of observation is of great importance for the figure of the trainee-teacher, being teacher's talk a fundamental part of the EFL teaching. The reflection on the variety of patterns used by the teacher, or the lack thereof, widens the observer's perception and can be of use for professional development purposes.

This paper is formed by a context section, where the background for the data corpus is provided. The next section consists in a set of research questions which aim at being solved by the analysis of the data. The following section provides a theoretical framework which is used as a support to the subsequent analysis of

the data. Finally, the conclusion section gathers the most relevant findings and opens up new possibilities for research and further investigation.

5.2. Research context

The vignette examined is from an English language lesson which forms part of a CLIL unit from the Social Sciences branch focused on migration issues. The language teacher engages in a pseudo-CLIL class where he takes both the role of the content and the language teacher. A full transcript of the vignette (which lasts three minutes and three seconds) is provided (see Annex 1).

The activity consists in eliciting a set of 'push factors' (i.e. reasons for leaving the country where somebody lives in) that they have been working with already. In the previous class, students were given a set of reasons that would lead people to leave their country and they were asked to order them according to which one seemed more relevant for them. Students were also asked to think of other reasons that do not appear on the list given.

In the vignette, the teacher is explaining the concept of what a 'push factor' is and is leading the classroom by eliciting the most important push factors for them. With the answers from the whole group, they must fill a grid they have in their worksheet where it says 'Push factors'. The teacher also writes down the list on the blackboard, providing visual support and a model for students.

5.3. Research questions

Teacher-fronted classroom interaction contributes to the traditional conception of classroom interaction and the role of the teacher in pedagogic terms and also a knowledge transmitter. However, this paper focuses on questioning to which extent teacher-fronted IRF traditional sequences represent the Rosetta stone of language classroom or whether they involve risks or not. Are other forms of

interaction desirable in the classroom? If so, which is the appropriate way to approach them?

Classroom interaction can become an incentive to language learning or a burden up to the approach taken. Attaining a balance between teacher-led interaction and student-centred segments can foster interaction not only between teacher and student but also from students to students and even from students to teachers.

5.4. Analysis

The vignette opens with the teacher explaining the concepts that the exercise aims to revise. The teacher gives relevance to the key words that students must acquire using a range of strategies, so later on in the lesson they are able to identify those lexical items.

00001	**Teacher:**	like someone <u>pushing</u> (0.2) that is to say <u>push</u> factors are the factors	((makes a pushing movement))
00002		that make YOU want to leave the place you are living in OKEY/	
00003		so: : push factors are the ones that PUSH you away from your country	((makes a pushing movement))

In turns 1 to 3, the teacher leads the class with a non-interactive explanation. Before engaging on the explanation, the teacher wrote on the blackboard the lexical items that are going to be explained, so it acts as visual support for students and helps them set in the framework of the task they are in. In line 1, the teacher makes a pushing movement so students relate the concept with the action. This action is reinforced with special emphasis given on the verb 'pushing', so students detect that being written on the blackboard, being given extra emphasis in the utterance and being acted are clear symptoms of it being a key word in the lesson. After explaining the meaning of 'push', the teacher goes on with the relationship between the verb 'to push' and the concept of a 'push factor'. The teacher then proceeds to relate the symbolic meaning of push factor to the actual meaning of push. The teacher uses 'O.K?' as a comprehension

check at the end of line 2 as a marker of the ending of the key idea and proceeds to a rephrasing of it in line 3. The teacher repeats the same gesture and gives emphasis to the same item as in line 1, as a strategy for students to relate both concepts.

The teacher then proceeds with the description of the task procedure, which consists in collecting the lexical items which form part of the target language of the lesson by the elicitation of students.

00004		let's see what you have here (.) you had this for homework and	((points at the handout))
00005		you have even extra ones that we have been working with now OKEY/	

The teacher uses visual support by showing the handout that students have and pointing at it as he proceeds with the explanation of the task procedure. Again, the teacher uses 'O.K?' as a comprehension check at the end of the sentence as a marker of the ending of the task procedure message.

The elicitation task starts by the teacher selecting one of the students. The student is asked to say aloud one important push factor.

00006		so for example (.) over here (.) can you tell me:/ u::h	((approaches student))
00007		one of uh the important push factors/	
00008	**Student1 ♂:**	ehrm poverty	
00009	**Teacher:**	poverty (0.2) GOOD	

This first interaction proceeds in a standard IRF sequence format. The teacher uses a factual open question. The question is both a display and a referential question at the same time, as the student has to provide an answer that is among the vocabulary list that has previously been worked with, but also has to choose which one is the most important from his point of view. In turn 9, the answer from the teacher shows a knowledge checking response together with the approval. As the teacher writes down the result on the blackboard, providing visual support and a model, the rest of the class has to write it down in their worksheet, the teacher

initiates a set of follow-up questions to the whole class group regarding the answer given by the student.

This is linked to Mercer's description of the goal-directed questions that the teacher poses. The teacher tries to elicit relevant knowledge from the student. However, as Dawes *et al.* argue, the answer to the question is reduced to a single word, which limits severely the possibility of further discussion.

00010		do you agree over there/ (0.2) Is this an important (0.2) push factor/	((writes 'poverty' on the blackboard))
00011	**Students:**	yes	
00012	**Teacher:**	okey (0.2) would you like to live in a: : in a poor country:/	((points at the blackboard))
00013	**Students:**	no: :	
00014	**Teacher:**	definitely not\ no: :/ (0.4) very good	

The teacher initiates two side sequences in turns 10 and 12. These two referential close questions aim at consolidating the understanding of the task and the comprehension of the target language.

As the task has already warmed up, the teacher selects another student to provide another push factor.

00015		over here (.) another push factor please/	((approaches student))
00016	**Student2 ♀:**	war	
00017	**Teacher:**	WARS (0.2) what do you think about wars/ would you like to: :	
00018		live in a: : country where there is war/	
00019		(2.0)	
00020	**Students:**	[no]	
00021	**Teacher:**	would you for example/ [you don't seem like]-	
00022		GOOD\ war\ an important push factor (0.2) good	((writes 'war' on the blackboard))

The teacher initiates another sequence by asking the student a factual open question. Again, the feedback from the teacher shows that it was both referential and knowledge-checking. Before proceeding, the teacher initiates another side sequence with a closed question for students to consolidate the answer given by the student, as the teacher writes it on the blackboard.

The teacher adds a follow-up question in turn 17, which consists in a closed question which reduces the students' performance to yes/no, as can be seen in turn 20. This does not allow for further discussion of the topic and contributes to a mechanization of the task which can result repetitive and discouraging for students.

The task proceeds with the teacher selecting another student.

00023		over here at the centre okey:/ please tell me another push factor	((approaches student))
00024		that you think it is important	
00025	Student3 ♂:	natural catastrophes	
00026	Teacher:	okey natural catastrophes okey/ would you like to live	
00027		in a country like that too/	
00028	Students:	[no]	
00029		okey/ definitely not (.) okey/ so: : n a t u r a: l c a t a s t r o p h e: : s	((writes down 'natural catastrophes'))
00030		(4.0)	
00031		good (.) an important one	

The teacher repeats the structure of the task again and again so that students get familiar with it and can easily identify the target language and the aim of the task. The IRF sequence is followed by a side sequence started by a closed question directed to the whole class group as the teacher writes down the student's answer on the blackboard.

The teacher continues asking questions to elicit relevant knowledge from students. The pattern is repeated once again, with the teacher talking considerably more than students. This pattern can fossilize the pretention that the teacher claims all the knowledge in the classroom.

The task proceeds with the teacher selecting another student.

00032		over here [at the]	((approaches student))
00033	Student4 ♀:	economic problems	
00034	Teacher:	economic problems (.) do you agree/ is it an	((nods head))

		important one/	
00035	**Students:**	yes	
00036	**Teacher:**	OKEY good so: : economic problems	((writes down 'economic problems'))

As the students are already familiar with the procedure, the task becomes much more fluid and straight forward. This can be seen in the turns becoming shorter and the response of the students being given with more confidence and firmness. These facts represent indicators of the task succeeding.

However, there are signs that the conversation, being monopolized by the teacher, is entering in a loop. The same exchange structure has already been repeated for several times. The rigid structure may lead to Dawes et al. assumption that the IRF patters contributes to students getting the impression that they are subordinates to the teacher.

The task proceeds with the teacher selecting another student

00037		MORE (.) okey (.) over here/	((points at student))
00038	**Student5 ♀:**	mmmh discrimination	
00039	**Teacher:**	DISCRIMINATION (0.4) goo: :d very good	
00040		so if <u>you</u> are discriminated <u>against</u> (0.4) in your country (0.3)	((points at himself during 'against'))
00041		would you like to live there/	
00042	**Students:**	no	
00043	**Teacher:**	oke:y (0.2) would you like to <u>live</u>	
00044		in a country where you are discriminated <u>against</u>/	
00045	**Students:**	no.	
00046	**Teacher:**	definitely not (0.2) okey/ oke: :y discrimination okey/	((writes down 'discrimination'))

At this point, as the procedure has already been consolidated, the teacher decides to introduce a grammatical feature of the lexical item given in the response. In turn 40, the teacher introduces the prepositional verb 'to be discriminated against'. In order to do so, the teacher repeats the structure twice, as can be seen in turns 40 and 44. He also gives special emphasis to the preposition 'against' in his speech so that it becomes noticeable for students. Moreover, the teacher gestures by pointing at himself when saying that word. All

these strategies aim at students getting familiar with such structure so they can implement it in their speech in future opportunities.

Additionally, in this segment, due to the teacher monopolization of the talk, students are inhibited to work out the meaning of the of the structure by themselves, being the teacher the one who offers the model for them to follow and immediately moving on towards another item.

After writing the target word on the blackboard, the teacher moves on to the next IRF sequence.

00047		good (.) okey (.) erhmmm (0,4) over here (.) another one please/	((approaches student))
00048	**Student6** ♂**:**	ehrm… fa:: fa famine	pronounced as /fæ'mi:n/
00049	**Teacher:**	FAMINE (.) exa:ctly (0.2) what is famine again/	
00050	**Students:**	*fam fam*	((Catalan for 'famine'))
00051	**Teacher:**	can you tell me what-	
00052	**Student7** ♀**:**	*quan tens gana*	((Catalan for 'when you are hungry'))
00053	**Teacher:**	oke:y so: : can you tell me in English/	
00054	**Student4** ♀**:**	when they are hungry	
00055	**Teacher:**	okey when you are <u>really really</u> hungry and you can't eat (.)	((makes gesture during 'really really'))
00056		that is famine (.)okey/	

In turn 48 the student response is not pronounced properly. However, as the focus of the task is on vocabulary, the teacher gives complete approval, but also provides a corrected model for the student and the whole class group in his feedback, as can be seen in turn 49. Moreover, in the follow-up side sequence initiated by the teacher in turn 49, the answer is given in Catalan. This is given approval, but leads to a language negotiation sequence, initiated by the teacher in turn 53. Another student is able to provide an answer in English. As the teacher detects that this concept is still unclear to many students, he proceeds to explain it, as can be seen in turn 55. In order to do so, he uses the repetition of the word 'really', to emphasize and strengthen to the idea, together with gesturing and prominence in the utterance, in order to reinforce the message.

This leads to another student saying aloud a related term.

00057	Student4 ♀:	starve sta: :rving	
00058	Teacher:	when you are <u>starving</u> EXCELLENT (.) do you know what to starve is/	((points at student))
00059	Students:	xxxxx	
00060	Teacher:	okey\ very good\ okey (.) okey (.)	
00061		to starve is to be <u>really really</u> hungry (.)okey/	((makes gesture during 'really really'))

The student decides to say the word aloud as she deems it relevant for the topic. The contribution is praised by the teacher, as he initiates a side sequence to ask the rest of students if they know the meaning of the verb 'to starve'. As can be seen in turn 61, in order to explain the meaning to the whole class, the teacher resolves to use the same structure that he used to explain the meaning of the word 'famine' and uses again the repetition of 'really', together with the same voice pattern and the same gesture as he did in turn 55.

The vignette ends with the teacher introducing the next task.

00063		can somebody tell me a push factor that isn't listed/ okey	
00064		in the handout that you have been given/	((points at the handout))

5.5. Conclusion

As can be seen, the whole vignette consists in teacher-fronted IRF sequences and teacher instruction sequences. This contributes to an easy-to-assimilate procedure where both teacher and students quickly feel comfortable. The task is carried out with fluidity. However, if the activity drags for too long, it is quickly perceived as repetitive and students may grow tired of it really fast. This was not the case, as it consisted in a brief, going-over activity, but even so, some students feel discouraged and intimidated by this kind of approach.

Moreover, all the questions asked by the teacher to students are referential in nature but display at core, as students must provide an answer from a list of lexical items and they do not need to justify their decision.

The teacher tries to involve the whole class whenever he receives a response from as student. However, the question to the group class is referential at core as well and aims at checking whether the students have understood the lexical item that their classmate has chosen or not.

Some ways to improve the activity would be to personalize the questions in order to involve students more and escape from the mechanization of the task. The use of referential questions would lead students to make an extra effort in order to construct their utterances but on the other hand it would be much more rewarding as they would be able to get involved much more. The pace of the activity would slow down significantly in favour of treasuring the possibility of student-initiated talk.

Thornbury's proposals could have contribute to change the dynamic of the activity towards a less restricted model, which could allow for students to comment on the items, giving their opinion and allowing the teacher to move away from the pattern by responding to what students say. By using referential questions, the teacher talk is minimized and there is a reversal in roles, where the student is allowed to contribute with more complex structures, which have a positive effect on his competence in spoken language and also contributes to a healthy distribution of the ownership of the lesson.

As students may self-elect themselves and allocate the turns by themselves, that would contribute to a certain feeling of 'democratization' of classroom talk, where the teacher does not need to be talking or leading the conversation all the time.

The teacher could also provide feedback on content according to the students' message (another of Thornbury's proposals), fostering the debate and shifting the

classroom interactional pattern. That would enrich the variety of patterns used in the language lesson, which would be welcomed by both students and teacher.

However, IRF sequences have a wide range of purposes which are exploitable for the teacher. They represent an excellent classroom management device, which allow including students that are not participating by allocating turns on them, they contribute to the construction of the role of the teacher as the formal leader of the class group and to spot and clarify misunderstandings. Furthermore, IRF sequences can be exploited as scaffolding devices which help students interiorize the target knowledge and provide a safe and recognizable structure for the teacher and students to work with.

Even though IRF sequences represent an axiom of the language classroom, what would represent a proper balance of their usage under the lights of communicative approach? Further research should be carried out on to which extent it is good to drop IRF structures in favour of a more communicative approach? What implications may arise from it? Would the language and the content be managed as efficiently as if the teacher had resorted to IRF sequences?

As can be seen, this is an area where many implications and directions for further research arise, as it is an area full of lights and shadows where only empirical research can provide answers.

6. From "*Això és impossible*" to "*Deixaré el llistó alt*": a close look to cooperative learning in the English classroom[2]

Joint study carried out with Elena Hernández

6.1. Introduction

This paper aims at exploring the complexities of cooperative learning through the oral production of a group of students in an EFL classroom. By way of illustration, a sample from a 4th of ESO grade in a secondary school of Catalonia has been collected. The paper examines the impact of cooperative learning in an information swap task through their outcome and discusses the role of cooperative learning in the classroom and language learning. This paper concludes with several implications for research and practice.

One of the primary functions of a teacher is to create opportunities so the students will develop their skills they will need to become competent citizens in the future. Consequently, teachers must take into account the aspects which shape society and the current world. The role school plays in preparing students is significantly different nowadays from the traditional role of schools used to play in the past.

Cooperative learning has always had a place in the classroom. However, in recent years, schools have shown their concern about the need of adapting themselves to the advances of society, which demands citizens capable of work cooperatively, interact with others and communicate effectively, making imperative expanding the methodology from individualistic and competitive approaches to a wider focus which encloses cooperative learning.

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[2] "*Això és impossible*" (Catalan) means "*This is impossible*".
  "*Deixaré el llistó alt*" (Catalan) means "*I will make the standard higher*".

This research is based on the analysis of the data obtained from the audio recording files recorded during two sessions and the detailed transcripts of a set of excerpts from these recordings.

This paper's focus is set on how students process the content in an information swap task in an EFL classroom though cooperative work. This study draws on the research conducted by several members of the Universitat Autònoma de Barcelona CLIL-SI group. Studies like Escobar and Nussbaum (2008), Evnitskaya and Aceros (2008) and Horrillo (2009) analyze the complexities of the jigsaw task, ranging from its design to the qualitative and quantitative approach taken to analyze said task. This research has been carried out by examining the students' oral productions through content analysis, occasionally using conversation analysis tools as a mean of support.

Escobar and Nussbaum (2008) explore the learning processes in information-swap activities during CLIL by analysing the recordings of several student dyads during the task, researching on the strategies used by students which are common in all groups, such as the students' hierarchical vision of the teacher's instructions and their strategies to construct the conversation together. Evnistkaya & Aceros (2008) study the effect of cooperative work regarding students' characterization and its role in student's foreign language learning. Horrillo (2009) approaches the data quantitatively, researching the amount of time that students spend on-task and off-task during cooperative activities.

To begin with, the research context of this present study is explained (section 1) to contextualize the information. There can be found a description of the school, the students, the activity implemented and the data gathering conditions. The jigsaw model is the cooperative learning technique examined in this study. A set of modifications to this traditional model have been applied in the implementation of this activity.

Then, the objectives and the research questions considered in this study are exposed and dealt with (section 2). Afterwards, the theoretical framework is covered (section 3) focusing on the concept of cooperative learning and its application to the EFL classroom as a valuable mean to learn the target language.

This section also includes several theories regarding collaborative learning and its impact on social constructivism. In section 4, eleven excerpts from the transcript analysis are examined under the light of cooperative and collaborative learning.

The following section, the general patterns found in the data analysed are discussed, together with the expectations on the students chosen from the context section (section 5).

Section 6 of the paper refers to the conclusion, where the findings are summed up and the doubts generated open new guidelines to further research and practice.

6.2. Research context

6.2.1. The Unit

The activity implemented forms part of a content-based unit which was implemented during the second Practicum of the Universitat Autònoma de Barcelona TED Master's Degree by the two trainee-teachers and their mentor. This content-based unit represents a joint project with the English and Science branch of the TED Master in Institut Garona and is focused on the presence of chemistry in everyday life.

Consequently, not only the language, but also the content –Chemistry- poses an extra difficulty to students, who need to work out a content which may appear to students as encrypted in L2 in order to effectively solve the tasks, all this in the EFL lessons. This option was chosen for pedagogical and also for circumstantial reasons, taking into account the CLIL program that the secondary school was implementing.

6.2.2. Activity implemented

The audio recordings were recorded on April 2010, specifically on the 15th and 19th, in a 4th ESO classroom during trainee-teachers' second practicum period. It is an information swapping activity based in the principles of cooperative learning.

This activity corresponded to a jigsaw activity which represented one of the main activities in the trainee-teachers' unit.

Jigsaw teaching was invented and named by Elliot Aronson et al. (1978). This activity was originally designed as an answer from education to the social disarray that the racial mix had produced in Austin, Texas. This technique fostered collaborative work and learning among students from different communities and proved to be a valuable contribution to socialization among students from different belonging to different ethnic groups (Aronson et al., 1978).

The content of the unit was divided in four sub-topics (the presence of chemistry in food, the presence of chemistry in medicine, the presence of chemistry in housekeeping products and the presence of chemistry in personal care products) and four expert sheets where designed, covering the four sub-topics. Only three of these expert sheets were implemented on that group for classroom management reasons, leaving out the presence of chemistry in housekeeping products.

6.2.3.1. The traditional jigsaw model

The jigsaw model is a cooperative learning technique. This procedure encourages listening, involvement, interaction, peer-teaching, and cooperation by giving each member of the group an indispensable part of the activity. Both individual and group accountability are built into the process (Aronson, 2008). In ESL classrooms, jigsaws are a four-skills approach, integrating reading, speaking, listening and writing.

Aronson (2008) describes the procedure in ten steps:

1. Divide students into 5- or 6-person jigsaw groups. The groups should be diverse in terms of gender, ethnicity, race, and ability.

2. Appoint one student from each group as the leader. Initially, this person should be the most mature student in the group

3. Divide the day's lesson into 5-6 segments. For example, if you want history students to learn about Eleanor Roosevelt, you might divide a short biography of her into stand-alone segments on: (1) Her childhood, (2) Her family life with Franklin and their children, (3) Her life after Franklin contracted polio, (4) Her work in the White House as First Lady, and (5) Her life and work after Franklin's death

4. Assign each student to learn one segment, making sure students have direct access only to their own segment.

5. Give students time to read over their segment at least twice and become familiar with it. There is no need for them to memorize it.

6. Form temporary "expert groups" by having one student from each jigsaw group join other students assigned to the same segment. Give students in these expert groups time to discuss the main points of their segment and to rehearse the presentations they will make to their jigsaw group.

7. Bring the students back into their jigsaw groups.

8. Ask each student to present her or his segment to the group. Encourage others in the group to ask questions for clarification.

9. Float from group to group, observing the process. If any group is having trouble (e.g., a member is dominating or disruptive), make an appropriate intervention. Eventually, it's best for the group leader to handle this task. Leaders can be trained by whispering an instruction on how to intervene, until the leader gets the hang of it.

10. At the end of the session, give a quiz on the material so that students quickly come to realize that these sessions are not just fun and games but really count.

6.2.3.2. Modifications to the traditional model applied in the activity

The implementation of the activity followed the traditional model to a certain extent. The orthodox method to implement the task was not designed to take into account foreign language speakers. Therefore, an adaptation of the orthodox method has been chosen in order to exploit cooperative learning in the ESL classroom. Said adaptation draws on the "ArtICLE" project from the Universitat Autònoma de Barcelona CLIL-SI group. A resume of the divergences from the orthodox method can be found below:

1. The groups were heterogeneous and formed by three to four students.

2. There was no leader figure.

3. The students dealt with three topics.

4. It was allowed to write down up to five words as reminders of their topic.

5. Students were allowed to take notes of their peer's explanation but not of their own topic.

The ArtICLE project was used as a basis, considering their proposal for instructions delivery, measures to adapt and structure the language, the presentation of the information in the experts' sheets, the modulation of the communicative and cognitive challenges, support for students, creation of the final quiz, etc.

6.3.   Data and data gathering conditions

The data corpus was gathered from the oral conversations produced in the jigsaw activity during two EFL sessions. These conversations were recorded with tape recorders. To implement the activity a group of two teachers, two trainee-teachers and one researcher decided to split the group in two halves. One of the halves was formed by a group of 10 students, who worked in 3 teams which ranged from 3 to 4 members. The recordings comprise the two sessions were the activity took place. Students were asked not to stop the recorder during the whole sessions unless the teacher asked to.

The methodological tool chosen is conversation analysis. With this tool, the data can be examined thoroughly to reveal the mechanisms used by students to master their topic, exchange information and learn from their partners. This aims at identifying the possible regularities and patterns that students use to complete each stage.

In order to preserve the students' privacy, all names appearing in this study have been substituted by pseudonyms.

Conversation analysis transcriptions appearing in this study follow the symbol conventions referenced in Richards and Seedhouse (2007).

After listening to the whole data corpus, data for analysis was selected according to the quality of the informants. The informants selected work collaboratively in the task in order to attain the goals. Once the relevant data was selected, the focus was set on the response of two specific students who had different learning profiles and responded to different expectations. The table below shows the characterisation of the informants selected and the researchers' expectations on their behaviour when confronted with the activity.

Main informants	Characterisation of the informant	Researchers' expectations on the informant
Pau	He is retaking 4th of ESO. Failed English the course before. Low English level in reference to the rest of the group.	He will probably be off-task most of the time. He will probably not talk in English at all. He will probably give up.
Mar	Her ESL marks are remarkably high in reference to the average of the group.	She is likely to talk in English most of the time. She will probably be capable of succeeding in the activity.

TABLE 1. Informants primarily tracked during the task.

In this task there are other informants as well, whose contributions are not primarily tracked but provide relevant information in the context of excerpts chosen. The following two tables show the characterisation of the rest of the expert and home group members.

Subsidiary informants	Characterisation of the informant	Researchers' expectations on the informant
Carles (expert and home group)	Retaking 4th of ESO. It appears he will most likely pass the course according to his marks. Low English level in reference to the rest of the group.	As he and Pau are both in the same expert and base groups, and also in good terms with each other, he will try to help Pau. He is not expected to use much English. He will probably give up.
Oscar (expert group)	Retaking 4th of ESO. He will not pass the course if he continues with his low marks. Prone to get distracted	He might not talk in English at all. He will not try. He will remain silent and off-task most of the time.
Eva (home group)	High English competence level according to her marks. Very social but prone to behave disruptively.	She is considered to be capable of succeeding in the activity but she might not as she will be off-task most of the time. She will talk in English often.
Laia (home group)	Average English level in reference to the rest of the group. Very respectful to teachers and classmates.	She is expected to try hard to succeed in the activity. She will struggle to talk in English. She will help her team mates.

TABLE 2. Other informants.

6.3. Research Questions

Cooperative learning has been traditionally used in the classroom to learn content. However, L2 teacher's approach opens a new perspective, using this approach to attain language goals through content. This approach can be confusing for students, who in the traditional teacher-led lessons have the continuous input of the teacher. This study focuses on the use of cooperative learning in a EFL classroom and its impact on students, observing how they negotiate and cope with the new information through team work.

To achieve these goals, this study poses the following research questions in this study are the following:

- Does this activity favour the learning of students with different characterization and learning profiles?

- How does the feeling of success influence students learning and motivation?

4. Analysis

Pau shows a low English competence level according to his marks and shows certain discouragement towards the whole educational system. He has been diagnosed Attention-deficit hyperactivity disorder (ADHD) and is re-taking 4th of ESO. Moreover, this is the second time that he re-takes a course, thus reaching the maximum times that a student can re-take a course in the current Spanish obligatory educational system. For classroom management purposes, Pau and Carles, a student with low English competence level, share the same topic in their base group, thus forming the only base group of four members. This strategy aims at fostering their cooperative work and consequently catering for the diversity in the group.

Mar, on the other hand, shows a high English competence in comparison with the average level from her 4th of ESO group. She takes extra-curricular English lessons. This student shows a relatively high potential for learning. However, this

potential is not developed as her quality contributions during the lesson are not reflected in the exams. She seems to be content with just passing the subjects.

In the following eleven excerpts there can be found evidences of the stages the students go through during the task development, together with information on how do they approach the content and how do they negotiate the procedure and how the they face the challenges.

Experts group, day 1

This first excerpt belongs to the expert group recorded on the 15th of April, and roughly starts at 02'50'' and ends at 03'07", lasting for about 18 seconds.

Excerpt1

00011	Pau:	*jo no m'entero de res*
00012	Oscar:	yo no me entero de nada
00013	MARC:	okey (.) so you will have to help each other\
00014	Pau:	*no no* (.) *això és impossible*
00015	MARC:	if you read it aloud maybe it will help you (.) but it's up to you (.) okey/
00016	Oscar:	yo si quieres me apendro una linea
00017	Pau:	food additives are substancesss (0.5)
00018		added to food\ (.) ya está\
00019	Oscar:	yo la primera!
00020	Mar:	*pero tio que no t'has d'apendre*(.) *ho has d'entendre i ja està*

This excerpt belongs to the initial stage of the task, where students join in experts groups. This expert group is in charge of explaining to the rest of their home group the presence of chemistry in diet. This excerpt is extracted from the very beginning of the recording and it shows the first impression from students towards the activity. In this first excerpt there are signs of anxiety about the resolution of the task, as can be seen in turns 11 or 14. The expert group shows traits of doubt and express verbally their feelings of overwhelm and frustration.

This group is remarkably heterogeneous, it being formed by a female student with a high English competence level (Mar), another male student with a low level (Carles) and two other male students with a very low level (Pau and Oscar). In this

excerpt there can be observed the first traits of socialization in the group, which is a relevant factor of team work. Students express their feelings looking for support and approval in the rest of their team mates. Students support each other, as can be seen in turns 11 and 12. Moreover, at this preliminary stage, students start understanding the procedure and request support from the teacher. Right afterwards, they start negotiating the task procedure, as can be seen from turns 16 to 19.

While Pau and the rest of the group show these signs of anxiety, Mar shows much more restrain and confidence and is able to reformulate the task procedure to her team mates.

This second excerpt belongs to the same stage of the previous excerpt and appears approximately 5 minutes later, roughly lasting from 08'05'' to 08'25''.

Excerpt2

00026	**Mar:**	*diu que*:: *que*:: *els* foods additives *es posen al menjar* (.) *per conservar el sabor*(.) *o l'aroma*:: *o que*:: *o sigui* (.) *que es vegin millor* (.) *saps/*
00027	**Pau:**	*per l'olor també*(.) *veritat/*
00028	**Mar:**	*si* (.) *perque tinguin millor aparença*
00029	**Carles:**	*ah val*

In this excerpt students have already finished a preliminary first reading of the text and start getting familiar with the content. There is evidence that students are trying to solve the problem and, after reading the text, are constructing the content in group. To achieve this, they are reasoning the content so it becomes meaningful to them, as can be seen in turns 27 and 28. This is linked to Dewey's and Vygotsky's theories about the social nature of learning.

Interestingly, as students deem the task too complex, students decide to self-scaffold the content of the text by going through it in their L1. This way, the content becomes more transparent and this eventually leads them to understanding it in a more efficient way. Students are relating the content to their previous experience.

Mar acts as the more knowledgeable other and instructs her team mates so that they all reach the same level of competence. Therefore, Mar is interacting with the group zone of proximal development so that all the group members achieve a similar status of mastery.

This third excerpt is taken approximately one minute later from the previous one, lasting from approximately 09'15'' to 09'30''.

Excerpt3

00033	Mar:	*i llavors* (.) *aquí diu que* (.) *hi ha polèmica sobre si els aditius aquests* (.) *són bons o dolents perque alguns han-*
00034	Pau:	*=perque alguns han donat problemes* (.) *no/*
00035	Mar:	*SI* (.) *maleltiesss i coses d'aquestes* (.) *com obesitat* (.) *i problemes de cor* (.)

It can be observed that the first preliminary anxiety stage has dispelled in favour of a much more confident stage where students feel more comfortable and start a reflective inquire stage where they try to create meaning from the text given. As can be seen in turn 34, Pau tries to recognize the new information from the content by linking it to his previous knowledge and creating an acceptable hypothesis. This responds to an exploratory conversation, where they are trying to decode the content through their L1. This conversation shows higher quality from fragment 1. Pau is paying close attention to Mar's discourse.

His disposition is not passive, as he is processing the text. This justifies the overlapping from turn 34. Mar ends turn 35 inviting Pau to contribute. He accepts the invitation and adds new information that is not present in the original content. He is adding essential information. In turn 34, he asks Mar for confirmation (*no?*) and in turn 35 she confirms it (*si*).

The fourth excerpt is extracted during the same stage, approximately four minutes later from the previous one, this exchange taking place from 12'55'' to 13'15''.

Excerpt4

00044	Carles:	=a::nd to regulate each additive is assigned an e number
00045	Mar:	no\ vamos por aquí\
00046	Carles:	*pero si aixo ja ho has dit*
00047	Carles:	this is used only in Europe\

In this excerpt there can be seen an effort by the students to explore the content in the target L2. This covers the first approach to the content using the target L2. However, when it comes to negotiating the task, students switch back to their L1. This implies that students are trying to solve the task with the help of the rest of the group members and that there is a simultaneous interaction where all the members are contributing to the common goal. There is evidence that students with different levels participate similarly, disregard of their competence.

As can be seen in turn 45, Mar manages the task so that all her team mates reach the same goal and openly expresses her guidelines in order to solve the task as efficiently as possible. This negotiation is accepted by the rest of the team members, who acknowledge her as the most competent member of the group.

This fifth excerpt is taken from the same stage of the activity, approximately 4 minutes later and is representative of the last part of this first stage. This excerpt lasts approximately from 17'37'' to 17'57''.

Excerpt5

00052	Pau:	food additivesss *què vol dir/*
00053	Mar:	*eh/*
00054	Pau:	food additives
00055	Mar:	*són substàncies*
00056	Pau:	a:: substances
00057	Mar:	food additives
00058	Pau:	[*són substancies*]
00059	Mar:	*com colorants*
00060	Pau:	a::: *d'acord\ d'acord*

During this excerpt, the time to master the content in the experts' group is finishing and students are consolidating the content they later will have to explain to their base group. At this point, Pau, being aware that he will have to explain this data to his team members, realizes that one of the key concepts he will have to transmit remains unclear to him. He resorts to Mar to clarify his questions.

This fragment reflects how knowledge is constructed collectively at first and later processed individually. Pau shows a moment of reflective inquiry when in turn 52 he asks Mar. This leads Pau and Mar through a series of exchanges until turn 60

where Pau expresses that the concept asked has been clarified. The key seems to be at turn 59, where, in order to explain the concept, Mar uses an example so Pau can relate the concept to his knowledge. Students resolve local problems, which are focused on specific information. Students realise of the importance of comprehending the content when they have the need to produce.

Home group, day 1

The sixth excerpt consists in an exchange that takes place during the second stage of the activity approximately from 21'25 to 21'35''.

Excerpt6

00072	Eva	the personal products use soaps (.) sunscreen (.) fragancesss
00073	Pau	*=com la meva! custo Barcelona!/*

At this point of the activity, Pau is listening to his base team mate who is explaining her topic, the presence of chemistry in personal care products, to the rest of her team members. In the exchange in excerpt 6 Pau makes a spontaneous contribution which illustrates how he constructs a relationship between the target content and his previous knowledge.

This implies that he has managed to integrate this new content and give meaning to it by making it instrumentally useful and creating reference points that can be provided in society, aspects directly linked to Dewey's vision of social constructivism.

The seventh excerpt is extracted from the recordings of the second stage of the activity and approximately comprises from 32'55'' to 33'08''.

Excerpt7

00103	Pau:	=to have a better look to the products\
00104	Pau:	it gives a better look\
00105	Eva:	yeah\
00106	Pau:	it's like make-up\ bu:t (.) a:nd (.) **ya tu sabes**

During this excerpt, Pau has started explaining his topic, the presence of chemistry in diet, to his base team mates. It is very noteworthy the fact that Pau is mainly using the target L2 to explain the content to his team mates, switching to L1 when he wants to remark something, clarify some aspects or simply share his feelings and socialize with the rest of the group.

In order to explain the content to his team mates, in turn 106, Pau makes a link between the presence in chemistry in personal care products, that has been previously explained to him by a team mate, and his own topic by relating the effect of food additives on food to the effect of make-up on people.

This reflects how the content is becoming transparent and meaningful for him and how he tries to interact with the group's ZPD. This also evidences that he has reasoned the content and that he is making an effort to give meaning to his explanation in his group.

The eighth excerpt belongs to the recordings of the home group and approximately lasts from 34'45'' to 34'58''.

Excerpt8

00119	Laia:	it's the number tha::t/
00120	Pau:	=it's the number that they assign to the products\
00121	Carles:	=it's a number they assign to the products to recognize them\
00122	Carles:	=to recognize them\ (.) to recognize them\

This extract represents a good example of how cooperative learning fosters a joint construction of knowledge, interacting simultaneously. From turns 119 to 121, students contribute to form an increasingly complex utterance. This is directly linked to the collaborative dimension of learning and how it is constructed in society. It is relevant how each member wants to contribute, aiming at the equal participation of all the group members, and make his contribution be accepted by the rest of the members of his group.

The ninth excerpt is taken from the last part of the second stage and lasts approximately from 35'00'' to 35'26''.

Excerpt9

00125	Pau:	*un moment\ (.) un moment\ (.) que això és el que ser fer* (.)*deixaré el llistó alt* (0.5)
00126	Pau:	the letter e me:ans the: the: Europe\ *saps/*
00127	Eva:	yes/
00128	Pau:	yes\
00129	Eva:	and the number/
00130	Pau:	the number just the products\
00131	Eva:	<u>very</u> goo:d!
00132	Pau:	ye::ah!

This excerpt is highly relevant because it evidences how Pau is aware of him being capable of succeeding. This reinforces his motivation to complete the activity by mastering the content and consequentially becoming more confident of his performance, as he feels that he is succeeding. They are aware that there will be a quiz on the following day and there will be a prize for the team who reaches the highest score. Turn 125 evidences not only how Pau feels confident about his mastery of the content, but also about his production in the target L2.

This has an effect on his self-confidence and takes the initiative to talk directly to the tape recorder, to prove that he has reached the objectives of the activity. This is linked to the construction of motivation and initiative in cooperative learning and the notion of group reward.

It is relevant to point out the development in the way the task has been managed by the team members and how the fact that they feel that they have attained the goals has a positive impact in their self-confidence.

Experts group, day 2

The tenth excerpt is taken from the first stage of the second day of the activity, where students in the expert group briefly reunite for a second time to revise the content.

This is recorded on the 19th of April, four days later that the previous recording. This excerpt approximately lasts from 02'15'' to 02'52''.

Excerpt10

00149	Mar:	what are the e numbers/ <u>venga</u>\
00150	Pau:	*un tros cada un diem*(.) *no/ tu dius* the e numbers (.) the e numbers are the:: (.) *aviam* (.) *com t'ho dic* (.) the e numbers i::s (.) e::h an Europe:: (.) *saps el que et vull dir/*
00151	Carles:	*explica-ho <u>tu</u>*
00152	Pau:	only Europe (.) OKEY/
00153	Mar:	humm::
00154	Pau:	=and the only number:::
00155	Carles:	tío\ (.) **venga**\ (.) **que nos van a suspender**\
00156	Mar:	*no*:: *no*:: (.) *va* <u>**explícalo**</u> **que tu lo has explicado bien**!

This excerpt further evidences the construction of motivation among team mates and the negotiation of the task within the work group. In turns 149 to 152, Mar takes the initiative of managing the situation and starts negotiating the task with her team mates.

It its remarkable how in turn 155 his team mate Carles uses a threat as a mean to put pressure on Pau and therefore prompt his response. Just afterwards, in turn 156, Mar re-directs that stimulus by praising him and boosting his confidence. This shows two very different approaches towards the construction of motivation in the same team. While Carles puts pressure on Pau by telling him the possible consequences of a failure, Mar uses positive reinforcement to make Pau feel comfortable and encourage him to do his best for the whole group.

It is interesting how Mar takes the role (turns 149 and 156) of the teacher in this group to a certain extent, by managing the task and motivating her team mates. The fact that she is acknowledged as the most knowledgeable other by the rest of her team mates contributes to strengthen the roles that each student complies with in the group.

The eleventh and last excerpt is taken from the same stage as the previous recording and approximately comprises from 02'53'' to 03'16'', it being taken right after excerpt 10.

Excerpt11

00157	Pau:	*ja*\ (.) *però més o menys*\ (.) *més o menys*\ (.) the e number [are the name of]
00158	Mar:	=<u>is</u> the name (.) IS or ARE the names/

00159	Pau:	is the name used to the products to identify
00160	Carles:	=<u>ahora</u>!
00161	Pau:	to identify the products (.) and the E is only used in Europe
00162	Mar:	=<u>*molt bé*</u>!
00163	Pau:	in the rest of the world they don't use any letter\ (.) just numbers\
00164	Mar:	<u>very good</u>!

This excerpt further develops the figure of Mar as taking the role of the teacher in the expert group. In turn 158, Mar detects a mistake in Pau's utterance from turn 157 and decides to interrupt him. Mar corrects his mistake and poses a question to Pau so he realizes that he has committed a mistake. In turn 159, Pau produces a corrected utterance and consequently, in turn 160, Mar expresses her approval.

Furthermore, Mar uses positive reinforcement to praise Pau after each utterance he produces correctly, as can be seen in turns 162 and 164. It is relevant that Pau uses the target L2 all the time to talk about the content and that he has mastered his part of the content.

The analysis of these excerpts, together with the observation of the rest of the group, points out various patters that can be extrapolated to the process of learning of other students in the group and a set of common behaviours which are inspected on the following section.

6.5. Discussion

After examining the transcripts, some general patterns can be identified in the way the task has been approached by students. The analysis of the set of excerpts supports these findings. In the excerpts there can be found evidence of the following aspects:

- The fact of making students work together divided in groups of three does not cause students to give up, even though some students present a very low English competence level.
- Students show a high degree of involvement while their team mates are producing their explanation and pay a high degree of attention to them.

- Students highly cooperate in the construction of the conversation and interact simultaneously.

- Students face the task both in group and autonomously. They manage the task, help each other and save their team members and own face.

- Student's motivation grows as they master the content and it stems from that fact.

- Students self-scaffold their way through the task by using L1 to master the content. Once the content is mastered, they switch to the target L2 to refer to it, as the input is presented is that language.

- Students automatically switch to L1when they want to socialize or express their feelings.

- Students try to reason the content and create reference points to their previous knowledge in order to master the content. These reference points are shared in the group in order to help the rest of their team mates.

- Student's motivation is influenced by the common group reward and by the common threat of failing the subject as well.

- The heterogeneous group favours the creation of leader in the group who coincides with the most knowledgeable other.

Regarding the expectations set on the students chosen, some of these expectations have been met while some other expectations have proved to be incorrect. Interestingly, both Mar's and Pau's performance is over the expectations for both the teacher's and the trainee-teachers.

Regarding Pau, taking into account his trajectory, the expectations on his performance were fairly low. He was expected to be off-task most of the time, give up the activity soon and not to use English at all. However, he took the activity seriously and, even it meant a challenge for him, he had the reinforcement of his team members, which eventually led him to master the content and boost his confidence up to producing a speech levelled to the rest of his team members. He does use English a lot more than expected, using the target vocabulary and explaining his part to his team members in English.

He gets really involved and finds his motivation from feeling confident after having mastered the content and being able to explain it in the target L2. He reasons the content and links it to his previous knowledge, he generates doubts while processing the information and asks his team mates for clarifications. He manages to produce a speech intelligible enough for his base team mates to take notes and manages to get the content across.

Regarding Mar, she was expected to talk in English most of the time and to succeed in the activity. The expectations on her were mostly met. Mar was set in a heterogeneous group with three male students who ranged from a lot to a very low English competence level. This automatically set her as the most knowledgeable other of the group. This led Mar to set herself into the role of the teacher and become the group manager and leader to a certain extent.

Mar manages the timing, the part that each member has to master, the way the activity is approached and gives instructions to the other three members. Moreover, she monitors her team mates' productions both in terms of content and in terms of language. Mar also provides positive reinforcement and protects her team mates' face.

6.6. Conclusion

Several conclusions can be drawn from the analysis of the data under the light of cooperative learning. To begin with, it can be observed that students struggle to create meaning out of the content by relating it to their previous knowledge and reasoning it. It is paramount for students that the content forms part of an acceptable theory, that it is instrumentally useful and that it can be linked to reference points provided in society.

In the data, it can be observed how the principles of cooperative learning described by Kagan are tracked, being present in the course of the activity. Students rely on positive interdependence to justify their motivation and support one another in the aspiration of a common goal. Additionally, students develop their individual accountability by being and feeling valuable for the outcome of their

group. Students participate equally to a certain extent in the construction of knowledge and interact simultaneously, constructing their knowledge cooperatively.

Resolving complex problem-based tasks promotes the reflective inquiry of students, who share their feelings in group and the goal of creating meaning out of the content. This leads to students expressing their doubts and moments of enlightenment, trying to master a content which initially was beyond their grasp.

In order to succeed in the activity, students resort to self-scaffold their way through the content by using L1 and reasoning the new information. Students in group share their findings, further interacting with the zone of proximal development through the presence of a more knowledgeable team mate, in an attempt to level all the group members' knowledge.

There is evidence in the recordings that students with different characterization and learning profiles show results which are over the expectations and that students adapt to the task by negotiating and accepting roles. Furthermore, several patterns can be observed in the resolution of the task.

The analysis also supports that knowledge is constructed first in group and later construct it individually. This leads to students' confidence boosting as a result of the mastery of the content. Consequently, they feel more comfortable talking in the target L2 once they have received and negotiated the input of the content with their team mates.

It is remarkable how Pau progresses during the activity. He starts feeling intimidated by the task and assuming that the activity is impossible to be carried out by him, as can be seen in turn 14 (*això és impossible!*). As he uses a series of strategies to achieve the activity, the feeling of success grows in him. This causes him to feel more confident, showing results in his learning, as can be seen in turn 125 (*això és el que se fer, deixaré el llistó alt!*).

On the other hand, Mar also shows a traits of learning, as she takes on the role of the teacher, to a certain extent, and decodifies, reformulates and instructs the rest of her team members. This process of assuming the role of the teacher reinforces

her motivation, as she feels that she has to be able to help her team mates, who are experiencing a hard time with the task. This situation promotes her learning significantly, as she has to master it in order to be able to explain it.

A key part of the activity is that students manage to level it to their own standard. The feeling of success is essential to create a link between learning and motivation. As the student feels more and more successful, his motivation towards the activity grows and his learning develops.

Cooperative work proves to be a pedagogical device which allows students to self-adapt the task level to their own needs and learning styles. The results found cannot be generalized, but different studies carried out by other CLIL-SI contributors like Arjona (2006), Calvo (2006), Sanchez (2006), Cordeiro (2007), Fernandez (2007) and Escobar & Nussbaum (2008) point in the same direction.

Even though the analysis results provides several insights into the construction of knowledge in cooperative learning, it also generates certain doubts which would need further research in order to reach a more profound understanding of the implications of cooperative learning in the EFL classroom.

For instance, the fact that in the research a number of tape recorders were introduced conditioned the response of students to a certain extent. Would the amount of English have decreased if the recorder would not have been present? Moreover, in the implementation of the activity, taking into account that the activity spanned for two sessions, members of the group were allowed to take notes of the topic that they were not covering. This lead to students investing a high amount of time carefully looking at the spelling of the complex vocabulary and taking note of the words they found difficult to retain. Another important factor is what happens to students who fail to cope with the challenge that the activity poses and decide to give up. For instance, among the students observed, one of them, Oscar, seemed to be quite lost during many points of the activity. Is there a way to re-incorporate them to the activity once it has begun? Are there resources to prevent such situation? Regarding the role of the teacher in the activity, to which extent should the teacher help students with special needs?

In summary, cooperative learning has proved to be a valuable tool for teachers and students, which fosters both their capacity to work in group and autonomously. It enhances their self-confidence and it helps catering for the diversity of the group. This way of learning supposes a more motivational variable in contrast with the traditional teacher-led lessons and contributes to creating future citizens capable of working together, interacting with the community and opening up to the world.

7. Reflection on the process of professionalization

7.1. Introduction

This section covers the highlights of the trainee-teacher's experience as a secondary school teacher. This section is divided in several subsections so that the most relevant points of the experience are covered.

To support the statements provided, a set of photographs, materials and impressions from the Science branch peers is provided. This section also features information extracted from the feedback form that was handed in to students after the implementation of the unit was finished.

All these are means to try to capture the emotional and edifying arc that this period has supposed to the trainee-teacher.

7.2. Hot appraisals

This part gathers the very first impressions from the trainee-teacher during the Practicum1 period. This involves two documents: the first one, from the very first days and the second one, written once the Practicum1 had finished. These documents are precious since they contain the raw feelings of what the new situations was like for the trainee-teacher.

From the first week:

"Elena and I have been taking the Practicum at Institut Garona. From the very beginning, we have been by our mentor's side and working as teachers and from the second day onwards, we arranged a regular segment of each class that ranged from 15' to 45'. It has been a complete and successful immersion in the IES everyday life. Too many things to do, too little time.

We have worked three times as much as we needed to, but it has been really edificating. We have arranged several extra ICTs as well, including actively working with Moodle. Our mentor and the rest of the teachers from the department have received us warmly and the IES is fantastic. The children behave surprisingly well and have a more than decent level of English, broadly."

From the second (and final) week:

"Practicum 1 has been really intense. I have the impression that I have worked three times as much as I needed to, but it has been so motivating and engaging that I felt I did not mind the amount of work.

However, I would had enjoyed it much more if it weren't for the gargantuan amount of work we had for the 'mòdul comú', which was really interesting , don't get me wrong, but made us quite stressed when added to the daily hustle and the amount of work and time that the preparation of our classes required. For several days, I woke up in the morning to go to IES and went back to bed after doing university work, which left me with no sense of relief or disconnection at all.

After these two weeks I am knackered. Yes, it has been really fulfilling and so on, but it has been really stressful due to all the university requirements. I am looking forward to finishing the master and just focusing on work."

7.3. Creating materials: the first steps

Before attending to the first practicum, the trainee-teacher already had certain experience as an English teacher, as he had working at a language school for 4 years, while he was finishing his degree. However, he did not have many opportunities to implement materials he created. The language school where he worked was very strict with the following books closely and had a really tight schedule, so he only managed to create some "fill in the gaps" activities when he wanted to work with some songs. Therefore, even though he had a bit of

experience teaching English to small groups, he did not have any experience at all creating materials.

Despite of that fact, he had to face the challenge of creating materials from scratch at the very beginning of our Practicum1. He only had two weeks and, together with his Practicum partner, they had to design and implement 2 standard and 2 ICT activities. That made both of them rush throughout the whole Practicum1, creating appropriate materials which had to fit within their unit's framework, a pseudo-CLIL project on Migration, linked to a Comenius program that Institut Garona was taking part of.

Before starting Practicum1, the trainee-teachers had designed some tasks –as part of the university assessment– which they were unable to implement, because they were completely out topic. Therefore, their very first task was to fit in the schedule 4 brand new activities that came out of the blue for their mentor.

That means their mentor had to make an effort to accommodate to all the guidelines and requirements that hosting two trainee-teachers meant.

There was no trouble at all finding the days where to implement the activities. However, the hardest part was yet to come: which kind of activities would complement an overall balanced and solid project that was already being implemented?

Both trainee-teachers met on that weekend, and decided to create materials according to the basic skills. They wanted to design a set of activities which integrated reading, writing, listening and speaking (and also interacting). This was the starting point they chose as a first guideline to create their materials.

They started the process by googling the target language of the unit to see what they could find and how could they exploit it. They found that a hot topic at the moment, the earthquakes in Haiti, where on the news and that some of those news were related to migration issues. Therefore, they considered that creating a link between the unit's topic and the current issues of the moment would be a really interesting opportunity for students, so they decided to look for videos about the Haiti incidents on the BBC website.

They opted for something short and synthetic, which they could use to trigger the student's interest and make them talk. Both trainee-teachers decided that it was best to create a worksheet with a pre-listening activity, a while-listening activity and a post-listening activity. That was way beyond the time allotment they were supposed to intervene during Practicum1, but they wanted to make an overall well-rounded activity.

Regarding the other standard activity, they wanted it to be reading with a set of comprehension exercises, aimed at being solved in small groups, together with a follow-up activity which would consist in a writing, which would be implemented as homework. They absolutely wanted to use authentic material, so, googling again the key language of the unit, they managed to find press articles on current US naturalization acts. Coincidentally, US naturalization acts were being held during that week, so those ceremonies were present the news in the US. Eventually, they managed to find a short article which they deemed appropriate for a 4th of ESO level, and they decided to create another worksheet, this time focusing on the news style.

The materials created were simple and straight-forward. They featured large, black fonts and big blanks in the middle for students to fill in with their answers. The layout or the worksheet design was very schematic and minimalist. The most complicated part was designing the questions, but after studying the materials, they managed to achieve a good balance between higher-level and lower-level tasks, thus catering for the different student levels of competence.

Layout of one of their first activities.

Again, their main focus was to design activities using authentic material, being coherent with the skills, fostering pair work and group work and exploiting the stimuli with pre-, while-, and post- activities. The resources used were mostly online, so they heavily relied on googling searching exploitable material among the results. They also focused remarkably on online news sites, which were a good approach, but offered narrow data. One of the main intentions of the trainee-teachers was to show students that, in current society, communication runs much faster and in English, thus understanding English being a really important competence.

When it came to designing ICT activities, they chose a different focus. All the news about the importance and the weight of the ICT in the new curriculum has shocked them greatly. In their experience, none in the course students had had significant experience with ICT during their education, besides the recurring PowerPoint presentation or videos from Youtube.

They started looking for new trends on ICT resources on the Internet and found a plethora of opportunities, which they thought would add variety to the lessons and motivate students. However, in the group where they were implementing the unit, they only had computers at their disposal once a week, with one half of the group working at the school's language room while the other half remained in the standard classroom. Moreover, the number of computers was quite limited, with only 4 computers working. Luckily, they could resort to using a set of laptops and connecting them to the Internet via Wi-Fi so, taking that into account, they designed an activity as part of the ICT corner in the language room.

Basically, students had to get in pairs and create a mind map together using the target language of the unit, arranging it in different sub-categories. They chose to work with a resource we were already familiar from their university lessons, Text2Mindmap <www.text2mindmap.com>, a site which easily managed the generation of mind maps. When they created it, they deemed the activity simple, quick and achievable by all students. Also, it was a good way to review all the vocabulary that they had been working with in the unit and put it to use.
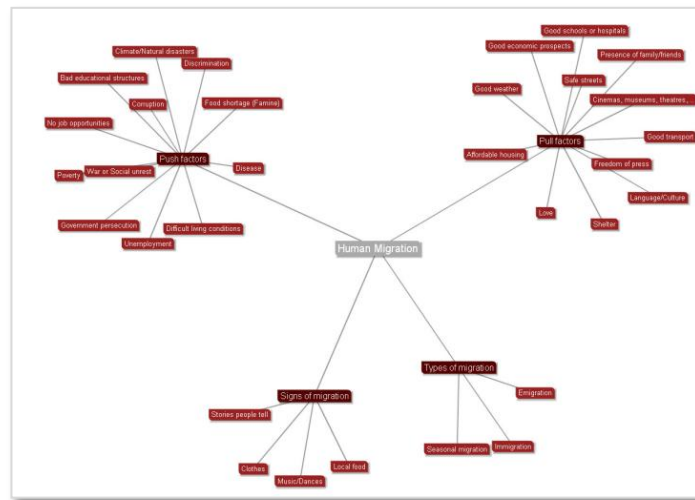
Sample mind map we used, generated with text2mindmap.com

Regarding the other ICT activity we had to program during Practicum 1, in a meeting with their mentor, they expressed their wish to create a blog. Their mentor thought it was a good idea and told them she had some online videos prepared about immigrants in the US telling their stories prepared for an activity.

When both trainee-teachers watched the videos, they believed they were too difficult to understand for students with a A1/A2 COE level, and thought it was necessary to subtitle them in order to exploit them as much as possible. However, the videos that their mentor had chosen belonged to online resources which could not be subtitled right away. Therefore, we entered the convoluted process of searching a way to rip the videos from the online resource, re-uploading them under their own account and finally adding subtitles.

As they uploaded the videos to the online video resource Youtube <www.youtube.com>, they resorted subtitling the videos through Youtube's inner application 'Youtube Notes', which was completely new and unfamiliar for them. Moreover, it was their first experience ever subtitling a video, and they spent hours and hours on the whole activity design. Despite that, it was really rewarding for them to see the final outcome, as they had the conviction that they had worked so hard on it.

The two videos ripped, re-uploaded a subtitled.

Their mentor thought it was a good opportunity to use the school's Moodle, even though she herself had a limited experience with it. Consequentially, both trainee-teachers were granted access to the English site of their Moodle as editor teachers and, after reading an intricate manual and fighting against all the inconsistencies that it presented towards the actual Moodle's interface, they decide to manage all the instructions on the ICT tasks through it and ask students to use it in the English subject for the first time. Moreover, they asked students to upload their final products to Moodle and hand them in virtually, instead of handing in printed out copies.

They decided to create an elaborated online questionnaire using their Moodle space, using different kinds of questions according to the options that the Moodle

offered. The trainee-teachers wanted to exploit the resource and see to which extent it was useful for the EFL class.

Due to the lack of time, as they only had a couple of weeks to implement all the tasks, they decided to create a self-assessment key for the questionnaire, including suggested answers. This was meant to foster self-assessment in the unit. They decided to upload the key using Google docs <docs.google.com>, which they deemed quick and featured a user-friendly interface.

Another interesting resource they first had contact with was the digital whiteboard, which granted an interesting experience, even though they just used it in teacher-fronted explanations. It would have been interesting to use it interactively with students too, as it is an interesting approach and it would have introduced more diversity to the tasks.

Ultimately, facing the challenge of creating appropriate ICT tasks without much prior experience was one of the hardest parts of the Practicum1 for the trainee-teachers. They wanted to use plenty of new resources and integrate them effectively in the -already finished- unit. This time, they focused on exploiting several resources and find the best approach to use them in the EFL class.

7.4. An English teacher …designing a Science unit

Before starting their Practicum2, in a meeting between the Science and the English branches, they concluded that both braches were going to work together in a CLIL project. However, many aspects posed a difficulty which made the actual situation fairly different from the desirable one. To begin with, Science branch student-teachers and English branch student-teachers taught at different levels. The Science branch taught at 3rd of ESO and us at 4th of ESO. This meant inconsistencies in the curriculum that this unit was meant to be applied to. Students from 4th of ESO had already gone through that content during their previous course. As a consequence, they drew the conclusion that they would do different units with their different groups, which would converge at certain points

throughout the units. The content would supposedly come from the 'content' part (i.e. Science) and the approach and procedures would come from the English part. Their intention during that meeting was to avoid rushing and start working as soon as possible. From that meeting, trainee-teachers got the title of the unit that they intended to cover, turning it into a CLIL project: 'Chemistry in Everyday Life'.

However, due to many reasons, being the most important the pressure from other subjects, the trainee-teachers could not invest all the amount of time they would have liked to on designing the unit and reuniting with our Science peers. Only until they had finished handing in the amount of work from other subjects, could they fully dedicate to the creation of the unit. That meant they only had the week before starting Practicum2 to dedicate 100% to creating the materials.

Before starting, they had a set of guidelines and ideas that they wanted to apply to their unit. First, from all their meetings with their tutor at university, they gathered a set of attractive tasks that they wanted to develop. They basically wanted to include the following activities in their unit:

- an oral presentation
- a jigsaw activity
- a mute slide show and
- a synthesis board game at the end of the unit

They were excited about it and they were sure that these activities were going to work with their group.

Furthermore, they had had some meetings with their Science peers, who had their unit at a fairly advanced stage already, and they provided them with really appealing materials that they could use. However, the topic was really complicated for non-expert teachers, and they did not feel confident to teach science content on their own. Additionally, they were supposed to support them with their lessons and be in charge of three to four of their lessons, while, on the other hand, they had to face the challenge and introduce content by themselves.

The trainee-teachers decided to develop the set of activities gathered from their meetings with their tutor and Science peers. They had previously designed a

tentative planning and they decided to give priority to the first sessions first. They could not take advantage of the content from their Science peers unit because it was too narrow-focused and specific, being centered on the acid and alkalis classification of substances. They wanted to give more of a divulgatory dimension to their unit.

They had at their disposal the content from the Science peer's unit, and that content dealt with the presence of chemistry in four aspects from everyday life: food, medicine, housekeeping products and personal care products. Taking this as a starting point to develop the unit's content hard core, they started researching information on the Internet about these topics. At that point, both trainee-teachers felt desolated. There was a lot of work to do and they had the sensation that they were creating rushed, sub-par materials, with a wrong approach.

After much research and selection, they decided on some general aspects to teach from these topics and they built the PowerPoint presentation and the worksheets around them.

This way, they created the first version of the content presentation with its worksheets and the mute slide show worksheets, covering the first 3 to 4 sessions of the unit, which consisted in a total of 8 sessions. Afterwards, they designed the expert group activity worksheet and decided the topic for the oral presentation, taking into account that they would make the oral presentations in groups, with the group split in two halves.

Afterwards, they decided to look on the Internet for an authentic article which could be exploitable in order to create a critical reading activity revolving around it. To do so, they followed the same criteria as in the elaboration of their readings for their Practicum1, adding this time critical reading questions.

The Practicum2 eventually arrived. They had agreed with their mentor an approximate timing for their unit via e-mail. They had the first week to discuss about their unit together with their mentor, finish the rest of the materials for the unit and implement the new Science lessons for 3rd of ESO in their timetable.

Their Science peers had to start their unit right away and finish it before Easter, so they already had their lessons scheduled in 3rd of ESO.

A sample from the first version of the jigsaw activity.

Their mentor had not seen any of their materials for the unit yet, so she had to go all over the materials they had designed really quickly. Their mentor got actively involved and gave them plenty of feedback to improve their materials before implementing them.

Some of the tips she gave them:

- **Make it more visually attractive**: it is not the same designing materials for university than materials for secondary school. Their materials were mostly simple and sober, and that could discourage learners.

- **Short and clear instructions**: some of their instructions were too long and/or unclear.
- **If something is not useful, remove it:** there were some filler slides in the presentations and some activities of dubious interest.
- **Narrow it down:** instead of covering so many sub-topics, just focus on the four main ones.
- **Students have to be at the center:** some segments were too teacher-fronted.
- **Motivate students:** it is paramount to catch the students' attention. Relate the topic to their experiences and to concrete facts.

They revised their materials thoroughly before implementing them. On the other hand, they started with the Science lessons for their Science peers in 3rd of ESO, a group that they had not met before. During the first lesson, their role was meant to be just monitoring the class group and supporting them.

On the second session, it was the opposite. The trainee-teachers were in charge and had to teach them how to write a lab report in English. For this purpose, they created a worksheet with a set of exercises which covered the parts of a laboratory report and introduced purposeful language for their unit. The worksheet followed the 'apple browning experiment', were students were asked to explain why do cut apples turn brown.

Trainee-teachers were supposed to explain the whole process in the standard classroom and without actual materials (e.g. apples), so they resorted to prepare a detailed explanation and planned to use a lot of visual support by making drawings on the blackboard.

The other 3 session were designed so that they could be shared with their unit in 4th of ESO with the pertinent modifications. These were: 'how to write a formal e-mail', the critical reading activity and the synthesis board game in the last session. Besides these four days, the rest of the days the trainee-teacher's role was reduced to monitorizing the group and providing English support, together with some minor warmers and fillers.

WRITING A LAB REPORT

Title: *THE APPLE BROWNING EXPERIMENT*

Objective:
Choose the objective that you think is more adequate from these:

a) to observe the chemical reactions that an apple experiments when it browns.
b) to make an appetizing fruit salad.
c) to play with apples.
d) to analyze the quality of the apple

Materials:
Circle the material that you think are appropriate to make this experiment:

a plate   an apple   ½ lemon   a knife   a chronometer

a beaker with water   transparent film   a lettuce   some strawberries   a mobile phone

Procedures:
Fill in the gaps with the proper linker:

| Afterwards | Then | First | Later | To begin with |

In order to make this experiment we have to follow these steps:

........................, we write down the kind of apple that we are going to use to make this experiment (for example, *Granny Smith*).
.... we prepare the apple for the experiment:
.... we peel and slice the apple in two halves. We take to core out.
From the first half we make two slices: **A** and **B**.
From the second half we make 4 slices: **C, D, E** and **F**.
........................, we prepare the pieces as following:
Slice A is left in a corner of the plate.
Slice B is mashed with the knife.
Slice C is drowned in a beaker filled with water.
Slice D is left in another corner of the plate.
Slice E is added lemon juice all over its surface.
Slice F is wrapped in transparent film.
........................, we let all the slices rest for 20 minutes. During this time, we formulate hypotheses about what is going to happen.

Questions:
Match the sentences halved:

a)	Which changes do you	1) expect to see in these pieces?
b)	Are the results going to be similar	2) or different from each other?
c)	Is slice **A** going to	3) brown completely?
d)	Is slice **B** going to	4) brown quicker than slice A?
e)	Is slice **C** going to	5) remain yellow?
f)	Is slice **D** going to	6) brown a little?
g)	Is slice **E** going to	7) remain yellow?
h)	Is slice **F** going to	8) brown a little?
i)	Do the results	9) mach your expectations?

Conclusions:
Choose the appropriate prompt for each sentence:

| I have observed that | I have learnt that | I found interesting that | I have found out that |

In today's experiment, ... that apples suffer chemical reactions.
.... when apples are peeled, enzymes in the plant tissue are exposed to the air. The enzyme *polyphenol oxidase* (phenolase), in contact with oxygen, causes the apple to brown. This reaction is known as *enzymatic browning*.
.... this reaction is speeded up by the presence of iron (such as a knife) or slowed down if we preserve the apple with film. I have found out that lemon juice is a good preservative.

'*How to write a lab report*', designed for the unit 'Living without chemistry?' for the Science branch peers.

The most challenging situation for the trainee-teacher was constantly trying new resources and learning by messing around with the programs interface. It meant doing things from scratch and learning by exploring the opportunities that a resource offered.

It is also very relevant the constant revision that their documents went through. They came up with ideas to improve their documents almost day by day, so their documents were in constant, perpetual update until implementation.

Moreover, the amount of materials they designed that were dramatically changed or finally not implemented was really notorious. Their mentor remarked on how, if they had invested all the energy and time they had spent on generating versions and versions of their materials into creating materials with a clear idea in mind of what they wanted to do from the beginning, they would not have felt so stressed, highlighting the importance of pondering what the aim of each activity is before generating the documents.

7.5. Implementing materials

In this section it is described the trainee-teacher reflections on his successes, difficulties and opportunities in the implementation of selected materials from Practicum 1, his unit 'Chemistry in Everyday life' and his sessions in their Science branch peers' unit 'Living without chemistry?', focusing on his professional development. These will be supported by data collected from students, mentors and peer student-teachers.

Project on Migration – Practicum1

BBC NEWS - Desperation of those at the Haiti quake's epicenter

The activity was overall successful. Students loved the use of authentic material from the BBC and their level of achievement after completing the tasks was high. They implemented this activity on 4th ESO C on 18th January and on 4th ESO B on 19th January. Group C showed a better grasp of the video and were quick to react. They found the activity accessible for their level and were very involved. They wanted to participate and share knowledge on the topic, which was all over the news.

However, they suffered technical difficulties, which dragged the activity longer than they expected. They had problems with the Internet, so the video did not load properly the first time and they had to wait for quite a while until all worked.

They had to resort to the 'B Plan', and they ended up advancing information on the first word that they had to recognize in the video (outsiders). Besides that bit at the beginning, the rest of the procedures went smoothly.

On the next day, they had the same activity scheduled for Group B, first time in the morning (8:15 AM). Knowing the trouble they had with the Internet the day before, they decided not to take that risk again, and they proceeded to rip the video from the BBC website and bring it to the classroom in a memory stick, together with a video player, in case Windows Media Player would not work properly.

The whole activity worked smooth. However, students were not as involved as the ones from the day before (maybe because they were still half asleep?). Their mentor commented that they rushed a bit and that Group B needed more reinforcement and working at a slower pace than Group C.

Project on Migration – Practicum1

ICT Activity: Questionnaire on Migration

Trainee-teachers had the impression that it was a really elaborated activity. To begin with, the first challenge was to meddle with new ICT resources that they were not familiar with. Moodle was a quite complicated an un-intuitive resource for them. Even though they had read the whole manual they had been given, they still had many problems that, luckily, were soon solved.

As soon as they mentioned the word 'Moodle', students started complaining in class. It seems that students, who were already familiar with Moodle in other subjects, such as Mathematics, had grown tired of the activities uploaded there, as they represent extra amount of work. That rejection towards Moodle was also patent when they saw that, after the assignment had reached its deadline (they had over a weekend complete it), only 12 students from the group of almost 30 had done it. They had to scold them for not doing the activity and extend the deadline for one more day so that most of them took it seriously. Most students

completed the task successfully. Students in the other group were they implemented the activity had a much restricted amount of time to do it: from Monday to Tuesday. However, most of the students completed the task successfully and even some of them who were unable to upload it made the effort to bring the file on a memory stick.

Students reportedly loved the videos and liked the fact that they were subtitled, so they could follow them easily. Moreover, from the results of the auto-assessment quiz, most students seemed quite confident of their work. Definitely, they considered that the self-assessment bit was great because it fitted with the development of students' autonomy as one of the transverse axis objectives.

For the second group were they implemented the activity, they chose to ask them to upload their answers in a file in Word format, so that it would be easier to correct. The grading system integrated in the Moodle was complex and lacked depth and possibilities, so they considered that it would be wise to grade the assignments parting from an uploaded text file.

The trainee-teacher's sense of achievement after preparing this activity was quite high, since they were dealing with lots of resources that they had never worked with. Ripping the videos, re-uploading them, transcribing them and subtitling them using Youtube Notes was really remarkable, but it really took them ages to finish and quite a lot of effort. However, this opportunity opens new paths, where trainee-teachers have grown much more knowledgeable using these resources.

Chemistry in everyday life, Session 1

This was the mute-slide show session. They implemented it in 4th of ESO groups B and C. Group C was first. They followed their tutor's guidelines and opened the unit with this activity, which took up the whole hour. They chose Ludovico Einaudi's music –*Divenire*– <to contribute to the creation of an inspiring ambient.

In Group C, the whole procedure went overall smooth. The group remained interested in the activity and they expressed their enjoyment openly. Some

students wrote a lot, while other not much. Students praised the photos and the music choice.

In Group B, things did not go that well. Students were less motivated. They kept on talking during the silent part activity and the even requested them to turn the music off because they found it annoying. The trainee-teacher believes that he should have been stricter and emphasize the fact that it was an individual activity and they had to remain silent. Moreover, the activity was more challenging for them since they had an overall lower level than Group C. That led students to get discouraged really fast, because they did not know what to write. Maybe students should have had some sort of scaffolding task before, so they had more vocabulary to write about.

Students report mixed feelings towards this session. Some think it was the best session, while others think it was the most boring.

Some of their comments on this session were the following:

- [I liked] the slideshow of candy with slow music [the most].
- [I liked] the first and last activity [the most]. The one's they try to descrive photos related with chemical. Because then they know what they learn this unit and they revise all.
- [I liked] the first and last activity [the most], because I see what I've learnt.
- [The most boring part was] the 10 slides.
- [The most boring part was] the activity of the imatges of the PowerPoint.

Chemistry in everyday life, Session 2

This was the video and advertisement session. They implemented it in 4th of ESO groups B and C. This session was originally designed by their Science branch peers, and was their opening session for their unit "Living without chemistry?" When they saw them implement their session, they thought that they could exploit their resources and create their own version of that session, adapting it to their 4th of ESO group.

The focus of the session was for students to approach the information critically and detect the underlying motives and the contrast between both advertisements. This objective was accomplished for the most part in both groups.

By their mentor's initiative, they invited the Science trainee-teachers to come to their class, just as observers and supporters.

In group B the session was overall smooth. It was an improvement from the previous day. Their mentor pointed out how students on that group felt more comfortable with that procedure, which was closer to what they are more familiar with in the English session.

In group C, the session was a success too. They found the video a lot of fun and were able to detect and found interesting the contrast with the advertisement.

Our Science branch peers praised the good reaction of both groups towards the materials and how the main objectives of the session were met. As an observer, I noticed how the same activity was harder for the 3rd of ESO group. I think one of the reasons why that happened was because the tasks, while being the same at core as what they did, they mostly high-level and relatively demanding, and many students were lost,

Students report overall positive feedback towards this session. Some of their comments on this session were the following:

- I think I remember everything, specially the video where all disappear because it's done with chemistry.
- [I remember the video they saw about chemistry the most] where things disappeared if they were involved with chemistry.

Chemistry in everyday life, Sessions 3 and 4

These sessions involve the hard core of the unit, where they introduced most of the content and target language. They implemented these sessions in 4th of ESO

groups B and C. To manage the amount of data, they prepared a very visual presentation, together with a set of worksheets, one per topic (being 4 in total).

Originally, these two sessions should have covered the whole content, with 2 topics per session. However, it took them much, much longer to introduce the topic than they had expected, and that resulted in a much more teacher-fronted session than they desired. Ultimately, they only got to introduce 3 of the 4 topics in both sessions, so they had the last content topic remaining for a third heavy content session.

The trainee-teacher got the impression that he spoke way too much during those sessions and that many students were lost. Some students expressed their frustration openly with comments like "*Això és massa per a nosaltres*" or "*Això no ho se fer*". I had to stress the point of the topic and why it was important to know the presence of chemistry in their everyday lives many times and in many ways.

Their mentor reported that there were many students which did not follow the lessons at all and that the trainee-teacher did not get them to talk enough. Moreover, the trainee-teacher believes that he barraged them with information and that he rushed a lot, putting them a lot of pressure due to the timing.

The trainee-teacher realized that it is important to have certain pauses during the class, allowing students to breathe, and that rushing is not something desirable for the class, as students who get lost just give up and take for granted that the level of the session is way over their head. However, some students praised the visual support and the attractive presentation and valued the effort elaborated by the trainee-teachers

Interestingly, they invited the Science trainee-teachers and encouraged them to support their explanation, as they are experts on the topic but they are not. Therefore, the Science trainee-teachers would attend to their classes as guests and contribute spontaneously during the class. Students found their contributions enormously interesting but, as they did not prepare those interventions together, the trainee-teacher was left with the impression that they could have got much more advantage of it.

Their mentor also agreed that having the Science trainee-teachers in the classroom could contribute to boost the interest of the groups towards the unit.

Overall, the trainee-teacher is left with the impression that he lacked the ability to change the activity on the spot, and that he became some sort of "slave" to the planning and the planned time allotment.

The trainee-teacher personally thinks that the pressure took a toll on me and I did not dare to change the pacing or modify the activities from the original plan. Failing to adapt the plan to the circumstances caused some members of the group just to disconnect and chat among themselves.

However, this part of trial and error became a really worthy experience, because that helped the trainee-teacher realize that the planning is not set in stone and everything must be flexible according to the students needs. The way the trainee-teacher treated materials in this sessions was as if the most important goal was completing the tasks, even if they had to rush through them to meet the schedule requirements, when the trainee-teacher should have prioritized the development of the students.

Students highlight the following aspects of these sessions:

- [I remember the Power Points the most] it was easy to understand, because of the pictures and the teachers was easy to understand too.
- [I liked The Power Point presentation the most]. Because the explanation it's very good.
- I liked all but the form that it was explained… I think it was in a hurry and stressing.

On Science trainee-teacher's spontaneous interventions:

- [The most interesting was] the things that Esther give us. Like her wise intervencions.
- I loved when one of the teachers explained them chemistry more detailed because she studied it because of this it was more interesting. I learn more with her.

- [The most interesting was] the teacher of quimics.

Chemistry in everyday life, Session 5

This was the critical reading session that they implemented during the weekly 'B Hour', where they had the group split in two. They implemented this session in 4th of ESO groups B and C.

The trainee-teacher personally thinks that the activity was a success because they managed to catch the students' attention and they enjoyed collaborative work. Students managed to resolve the questions together and they did a good job at connecting the content to their personal experiences.

It was interesting how the session managed to convey a message to their students about the fact that any person can suffer an allergic reactions and it is something completely normal, which does not mean the end of the world for anybody. This was originally not intended, but, as it turned out like this, they decided to exploit the situation. It was an interesting educational opportunity beyond the boundaries of the topic, but which still was linked to the main topic regarding how certain chemical reactions can alter their body.

However, students do not mention that session at all in the feedback forms.

Chemistry in everyday life, Session 6

This was the third and final heavy content session, introduced because of an extension in the unit. By that time, they had realized that they could not possibly introduce any other session like sessions 3 and 4. They needed something much more dynamic and interactive. They decided to extend the whole class. They introduced a cartoon video as a warmer and a jigsaw activity on chemical hazard labels to be completed in pairs.

We had originally designed that activity for the Science branch trainee-teachers mentor. She told them she had been unable to implement an activity on 3rd of

ESO regarding this topic and that they could prepare something with it if they felt like it. They gladly accepted the opportunity.

The trainee-teachers deemed that activity suitable for the topic they were covering and proceeded to implement it in the English class. Students felt at first a bit perplex about doing an activity like that in the English class. However, the activity was a success overall.

In group C, the trainee-teacher's partner introduced an extra activity in order to reinforce the link between the concepts of 'chemistry' and 'everyday life' and proceeded to make lots of photos from labels at the supermarket, in order to introduce the labels more effectively in class.

The activity was a success, but they exceeded the time allotment and were unable to give proper closure to the activity. However, the overall objectives of the class were clearer and their mentor was happy with the result.

The trainee-teacher personally thinks that the change of direction was for the best and that the improved dynamic helped students relieve stress and feel more comfortable with the unit overall.

One of the most important features of a competent teacher is being able to successfully change the path of the class if the students are getting blocked or discouraged. This time, the intervention of their mentor was crucial, but Trainee-teachers were up to the situation and managed to deliver the heavy content class in a much more attractive way. They also decided to cut down the amount of information and dedicate more time to each activity to make sure that students could understand.

Another improvement is that they managed to make all students participate in the activities, as they featured measures that catered for the diversity of the group, which is key point when designing materials.

Students showed mixed feelings towards this session, as some of them were a bit puzzled by having to work with chemical hazard labels in the EFL class. Moreover, some of them had already worked with those labels in 3rd of ESO.
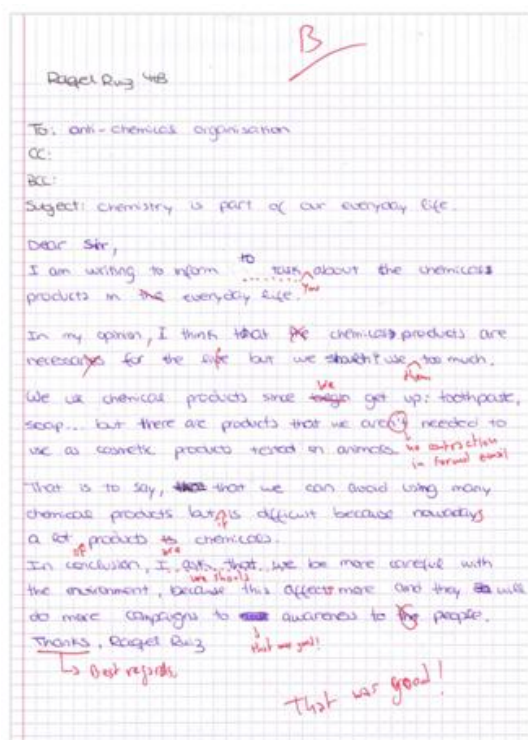
Chemistry in everyday life, Session 7 / Living without chemistry?, Session 3

This is the formal e-mail writing session. Trainee-teachers originally designed these materials to implement them in 3rd of ESO for their Science branch peer's unit. However, they found convenient to introduce this materials in the 4th of ESO unit.

They implemented this session in 4th of ESO group B and in 3rd of ESO group C. In 4th of ESO, the trainee-teacher ended up extending the instructions too much and consequently making the class much, much more teacher-fronted than it should have been. This had a negative effect on the class, which reportedly got bored of the lesson.

When they implemented the activity in 3rd of ESO, as they already had the experience from implementing it in 4th of ESO, they managed to make a much more interactive explanation, introducing the advice that their mentor gave them from her feedback.

However, students in 3rd of ESO also felt quite stressed because after their activity the Science student-teacher had a revision activity, in the light of the upcoming test that they were taking on the following session. Therefore, instead of dedicating part of the time to start writing, the task was given directly as homework and the session continued in a completely different direction.

A sample production from a 4th of ESO student.

Chemistry in everyday life, Sessions 8 and 11

Session 8 was created in the light of the difficulty that preparing an oral presentation posed for many students. It was only implemented in 4th of ESO group B. Inserting this session was a suggestion from their mentor. When their mentor told them about this idea, the trainee-teacher reports that he felt a bit skeptical at first, because he did not know to which extent that session would be profitable.

However, he realized that he was completely wrong, as students really brought their materials and started preparing the content. This session had the purpose to clarifying their doubts and motivating them, which were accomplished. Moreover, it allowed them to see if all the members of the groups were working equally and how the process of their final product was developing. The trainee-teacher got the impression that students during that session enjoyed working collaboratively and overall worked hard. It also made them feel more relieved to see that they were taking the work seriously and they were solving the tasks.

Regarding session 11, they split the group in two different rooms and they held all the oral presentations simultaneously, taking into account that 6 presentations had to be held during one hour.

The trainee-teachers implemented this session in 4th of ESO groups B and C with varying degrees of success.

Both trainee-teachers had predicted that students from group C, which displayed an overall higher level of English, would make it and that many students from group B, which displayed a more average level of English, would struggle considerably to produce the oral presentation, taking into account that the activity was quite demanding and involved research, creating a poster on a certain chemical reaction and delivering an explanation of how such a phenomenon occurs and why is it related to everyday life.

However, the results were quite different. In my part of a split group C, only 4 presentations were held, and 2 of these 4 were held by just one student. Some students could not attend the session, but most of them were missing for

"unknown reasons". On the other hand, the presentations from my spit part of group B proceeded rather smoothly and all 6 presentations were delivered by the members.

The trainee-teacher's overall impression of that session is that, even though at first He had thought that the activity was far too difficult for students to make it, in group B, they worked really hard and all of them did their best on their presentation, while in group C some of them decided to drop the presentation or abandon their partner with the whole weight of the presentation at the last moment.

Another important aspect of the activity was creating a suitable poster, which had to be used as visual support for their explanation. They stressed the importance of it having to be a poster, instead of a PowerPoint presentation taking into account that the room where they were holding the oral presentations did not have a computer. At first, they thought that students would not be interested in creating a poster and that it would be more of a burden for them than considered as a motivational part of the activity.

However, students focused in creating really elaborated posters and they were really proud of their results. Said posters are now decorating one of the main corridors of the school, being exposed for everybody's pleasure.

The level of the posters and involvement of many students in the oral presentations was beyond my expectations. Even students who do not normally get involved and fail many subjects made an effort and created noticeably elaborated products.

It was also interesting to see how each group adapted the activity to their level and all of them felt successful in their own way. Moreover, once the presentations were finished, students had to ask the 'experts' and complete a worksheet about everybody's presentation.

It was also a success since all of them cooperated in completing the task and that helped them understand all the content better. All the students from group B

passed the oral presentation, even the ones who usually fail the subject, and some overall weak students got B marks.

From the C group, 4 of 6 presentations were held and got an average of B marks. Overall, from the whole group B, which was the one that the trainee-teacher was in charge of, only 2 students failed the unit. Many students improved their marks taking into account the previous project on migration and this unit. Students really seem to get more motivated and involved in content-based units, which diverge from the traditional, grammar-centered units.

This activity was very rewarding in the short term, fostering their self-esteem and proving themselves that they are capable of accomplishing their goals

Students unanimously point out this activity as one of the most interesting:

- [I liked the oral presentation the most] because they have to search information on their own.
- [I liked the oral presentation the most] because I've learnt a lot of curious chemical reactions of daily life.
- [I liked the oral presentation the most] because they learn doing a poster and explain to the class and then they explain to the class with their posters.
- [I liked] the "mini" recerc project [the most] and the exposition in pairs.

These are some screen captures from session 11:

Topic: Why is smoking harmful for our body?

Topic: Why do cut onions make us cry?

Topic: Why is the sky blue?

Chemistry in everyday life, Sessions 9 and 10

These were the two sessions were they implemented the expert group activity. This activity became the *heart* of the unit. They decided to use the expert group to revise the topics that they had already been working with during sessions 3, 4 and 6 and introduce some new information, instead of introducing completely new topics.

They decided to split the group in two again to optimize the results. This activity is meant to be implemented in just one session, but they decided to split the activity in two sessions because of the length of the texts. they carefully studied the classroom management possibilities in order to control as many variables as

possible and they created two versions of the test taking into account the possibility that only 3 of the 4 topics could be done.

Taking into account the importance of students knowing the procedure, they dedicated the last ten minutes of the previous session to explain what would be done in the two following sessions, which were the objectives and to which room each half of the group had to go.

The way they decided to implement it suffered many deviations from the original procedure. They allowed students to write up to 5 words to support their explanation and they allowed each group to take notes of theirs members explanation.

Moreover, at the beginning of the second day, they reunited the experts again with a set of questions about the text they had studied and then went back to their home groups to make sure everybody knew that information.

Another worth mentioning point is that there were tape recorders in each table, thus recording their production from start to finish. At first, students were a bit shy around the fact that the tape recorder was recording their voice, but soon afterwards they started treating the tape recorder as a toy and it boosted their motivation and pressured them to talk in English.

The activity was a success because all students got very involved and they were positive about the activity. They contributed to create a nice working atmosphere and they gave them stickers with the icons used in activity and a prize for the winner group.

Using sweets as a prize worked better that the trainee-teacher expected and students openly expressed their wish to win to get the prize. It boosted their motivations considerably.

Overall, this activity worked really well and contributed to change the concept they had about their unit to a more fun and enjoyable one.

On session 9 they received the visit from their tutor who, besides helping them with all the tape recorders management, took some photos of the session.

Beginning of session 9: after going through the procedure once again –notice the Power Point presentation on the whiteboard-, the activity starts. Students sit in groups and are given a set of stickers to determine which topic they are going to work with.

Students with the same sticker reunite and prepare a text together. They know that they will have to explain it to their classmates later. They are allowed to write up to five words to support their explanation. Notice the tape recorder on the table.

Afterwards, students reunite again in their 'home' group that they sit at first with and explain to their classmates all what they have learnt. We allow students to take notes of their group members' explanation, taking into account that the quiz will be next session.

In the meeting with their tutor afterwards, they expressed how they all felt that the activity had been a success and how the way they implemented it opens interesting possibilities of study. Trainee-teachers are using the recorded data they got from this activity as a data corpus for research purposes.

Many students reported that this had been their favorite activity, receiving unanimous positive feedback:

- [I liked the expert group the most] because they read and learn and after they explain to their friends is a opportunity to learn and understand the things. But they need more time.
- [I liked] the expert groups [the most] because I learn a lot of things and it was different than the other activities.
- [I remember the most] a concret part the experts group but I remember a lot of vocabulary.
- [I liked] the expert groups [the most]. It was nice, and I learned some different things, and now, I'm able to explain, more or less, more things in english.
- [I liked] the competition because if you win, you would have a price.
- [I liked] the competition [the most] because it was the most didactic.

Chemistry in everyday life, Session 12 / Living without chemistry?, Session 2

This is the last session of the unit, which concluded with a second go at the mute slide-show from the first day and the synthesis game, a board game with questions about the unit for 4 players. They implemented the synthesis game both in 4th of ESO groups B and C and in 3rd of ESO group C in their Science branch peers' unit, with a different set of questions.

Regarding the second mute slide-show, the activity was a success and it worked much better in 4th of ESO group B than it did on the first time. I managed to keep the group much more silent and this time they enjoyed the activity and the music much more. The trainee-teacher believes that it has to do with the fact that now

they are able write something about each slide, while in the first session they were unable, thus decided to give up.

Regarding the consolidation game, students overall enjoyed it a lot, talked in English and became very competitive. This was a very noisy activity, as it involves the whole group talking at the same time. Moreover, as they get more involved, the start raising their volume until the point where the teacher usually has to end up interfering them and ask them to lower their voice.

A couple of students mentioned the synthesis game as their favorite part from the unit. It was a very nice way for making them review the content and they managed to review a little bit of everything just in one activity. Moreover, it managed to connect with the students' motivation and really ended the unit on a cheerful note.

Regarding their implementation in 3rd of ESO, one of their Science branch peers states the following in her report:

"El joc ha funcionat molt bé, i els alumnes han parlat en anglès. Mentre jugaven se'ls ha retornat la feina que van fer en els equips base (les fitxes 6-9) que juntament amb els dossiers d'experts són el material d'estudi per l'examen."

The trainee-teacher found it is striking that they decided to implement the consolidation game in the middle of their unit instead of at its end, but anyways, the activity was pretty much a success, as students got really involved. However, students eventually got pretty hectic and the activity became so noisy that even the principal, who happened to pass by, entered the classroom to check why there was so much noise in there. Their mentor did not seem to care, though, as she saw that the activity worked really well.

Living without chemistry?, Session 1

As can be seen, they only ended up implementing 3 days in the unit from their Science branch peers. Their first day was the only on which involved original content not used in their unit, which was the "How to write a lab report". For this

session, they had prepared their first CLIL materials and they felt really proud of it. Their morale was pretty high, so they entered the room with lots of energy.

The main challenge was the fact that they did not know the group and that they did not even have the roll with the student's names. However, they managed to implement the activity successfully and the group was REALLY nice with us. They participated a lot and they got really involved. The trainee-teacher was personally really happy with the outcome and he considers the objectives of the session were met. Every time the English branch trainee-teachers would nominate someone, they would ask the student for his/her name. They managed to make all the students participate. The room management was under control all the time without much difficulty, taking into account that they were up to 5 teachers in one room.

Regarding this session, one of their Science branch peers states the following in her report:

 "L'activitat ha estat més llarga del que es pretenia, ja que la fitxa que havien preparat els professors d'anglès ha ocupat tota la resta de la classe després de la introducció que hem fet per situar la temàtica de l'exercici. (…) La sessió ha tingut un detall prou important: tots els alumnes han participat. Per contra, com ja s'ha dit, hem anat a poc a poc, però valorem molt positivament que s'hagi aconseguit implicar a tothom. (…) Hi ha un grupet de nois que seuen al fons de la classe i sembla que tenen molta afició a parlar i riure a classe. (…) Un d'ells s'ha excusat de la seva distracció amb una sortida sorprenent: això és massa elevat pel nostre coeficient!"

This exemplifies how the Science trainee-teachers experienced in their group more or less the same reactions as the English trainee-teachers did in 4th of ESO. However, the trainee-teachers want to emphasize the Science branch mentor's encouraging words when they finished their session:

"Ja m'agradaria a mi que, quan ho vaig aprendre jo, m'ho haguessin ensenyat així."

7.6. Assessing students

When it comes to assessment, there is much more than meets the eye. The trainee-teachers think that they were traditional when it came to assessing their students. They developed a large grid where they marked the students that had done the homework every day. That meant that at the beginning of every lesson, the trainee-teacher would spend around five minutes calling the roll and asking students to show me their homework. Their mentor remarked how that was not a method to abuse from, and that, at times, it was better and quicker just to go around and check who had done the homework and who had not.

The trainee-students bestowed a small percentage of the final mark to every activity they implemented (e.g. a 5%), and that resulted in a humongous calculation for every student's final mark, which was really time-consuming and complicated.

Their tutor also thought that, despite being a decent way of assessment, it was one of the main aspects of their unit that could be improved, so they decided to update the assessment system of their unit after the implementation.

Firstly, they revised the concepts and the outcomes. They had mixed up the concepts of 'rubrics' and 'checklists', and their assessment in general had plenty of room for improvement.

They started by revising the set of can-do statements. Both trainee-teachers met and spent many hours trying to design a better assessment criterion. Luckily, they had the opportunity of triangulating their material with their tutor at university, which gave them many guidelines and supported them by revising their outcomes again and again.

They got rid of the percentages and focused on a much more simplistic and synthetic assessment form. They updated the unit including the new assessment in the day-by-day lesson planning and emphasized the fact that the assessment criteria are designed to be shared with students and be shown in advance. The assessment objectives became directly related to the objectives of the unit and

the assessment got much clearer and concise, featuring a combination of rubrics and checklists.

The unit also features a new participation student self-assessment form, which helps students realizing on what are they going to be assessed on and stresses the importance of participation in the classroom. This is especially relevant for the unit they developed, which relies heavily in students' participation and involvement.

7.7. Getting integrated to the secondary school

Obviously, the Practicum modules did not only intend to make the trainee-teachers implement a unit, but also about working in the secondary school and experiencing what the day by day is like there. Working hand in hand with not only our mentor, but also with our Science branch peers and the rest of the department represented a fundamental aspect in the trainee-teacher's experience.

It can never be stressed enough how important feeling comfortable at a workplace is. It is paramount. If a person does not feel good at his workplace, nothing good will come out of it.

It is something that plays a little bit at random, someone can never anticipate how he/she will fit at a workplace. In addition, working as a teacher has very special conditions as a job in those terms. It involves constant communications with other teachers, students and parents, so anybody willing to become a teacher has to take into account all these facts.

The trainee-teacher's experience in that sense was really intense. Both trainee-teachers were really like two more teachers in the department, and they report how everybody treated them really well. They got to see how the everyday on that secondary school was like for an EFL teacher. They eventually grew closer not only to their mentor, but also to the rest of teachers of the department. It was really rewarding in that sense. They got to see a really active department, with experience and the capacity of working collaboratively and cohesively. Both

trainee-teachers agree in that it was really a kind of group to look forward to. The trainee-teachers remark how all the members had their own initiatives and it was a peaceful workplace which contributed to work.

All of them had their own teaching style which worked according to their personality. One of the key elements to teaching is doing it with each own personal style. It is no good imitating patterns and adopting ways of working that someone does not feel indentified with. It is important to be coherent with oneself and improve learning from one's mistakes, together with adapting the input sources in order to exploit in a personal way.

Definitely, remaining sane is already half of the job, if not all, at times. The trainee-teacher reports that he was happy to have the opportunity to see a group that was really efficient, decisive, proactive, experienced and with a human category which allowed them to manage and solve all the incidences with impressive skills. The trainee-teacher reports how, in his opinion, the management was exemplary all the time.

Regarding the rest of the teachers that they met, some of them looked much more tired of the profession than others. Some of them were really active and involved in all kinds of projects, which was impressive. Other just chose to switch the automatic pilot on and just did their job and left, without getting much involved. The trainee-teacher would like to mention how everybody was always really nice to them and made them feel like that was their place, too.

Trainee-teachers were also in very good terms with the Science department, since they were working together in the joint project with Science branch trainee-teachers. Regarding them, both English trainee-teachers agree in that they were really lucky, as both Science trainee-teachers were really hard workers, and they helped them with the content all the time.

Moreover, the trainee-teacher highlights the figure of the language assistant who was working at Institut Garona with them. He was a teacher with an incredible potential and all trainee-teachers agree in that he was really helpful.

7.8. Observing teachers of the secondary school

At Institut Garona, trainee-teachers were offered the opportunity not only to teach, but also to observe many sessions from other teachers at the school.

The trainee-teacher believes that it was an incredible opportunity for him because it allowed him to analyze the classroom from another perspective and realize of many aspects. He found it especially useful, taking into account that he could see how the content was delivered in other subjects, and also in special contexts such as the open classroom.

It was really interesting for him to see how different methodologies converge and each teacher exploits his own subject's resources. Furthermore, the fact that the approach to deal with content in EFL is so different from other the approach taken by subjects made it very motivating. Observing how different teachers deal with problems in the classroom is very revealing. Classroom management itself is one of the issues that the trainee-teacher wanted to get the most of it. During his lessons, there were no significant problems of disruptive behavior in the classroom. However, the trainee-teacher expresses that he does not know to which extent is it positive or negative, as dealing with disruptive behavior is one of the big challenges of education, and he believes that one can never know enough about it. This is why he personally thinks that the most interesting lessons he observed, besides the EFL ones, were the ones from the open classroom.

Students in the open classroom share complicated profiles which make them more suitable for working in a reduced group with curricular adaptation. The trainee-teacher found how the teacher dealt with students in the classroom really useful. That teacher was very accessible to students, but firm. Students in the open classroom worked with laptops, taking into account the new 1x1 programs, and they really seemed to appreciate the teacher's skills and mastery of the ICT.

The open classroom teacher made an effort to give a real context to the content, so they could relate it to their everyday life. For instance, the trainee-teachers attended a session where students were trying to calculate the amount of alcohol they can consume before their blood alcohol level surpasses the legal limits. The

whole procedure was managed using a digital whiteboard. All the explanations were really interactive and the teacher made his best to make the infer data and think for themselves.

The trainee-teacher believes that it was overall a very fulfilling experience and it made him reflect on the extra difficulties that teaching students with special needs suppose and what the role of a teacher is.

7.9. Visiting a primary school

To begin with, it must be pointed out that the trainee-teacher had been working with children for 4 years at a language school, so he was a little bit familiar on how to work with children. However, the visit to the primary school was very revealing for him.

For a first impression, the amount of students was vastly superior to the maximum number of students he had ever worked with. He had always worked with a maximum of 12 students from 6 to 12 years old, and had little problems with the group throughout the whole course. Having around 30 students around those ages in the classroom and being aware that the teacher is in charge of their education is quite stunning for a trainee-teacher.

There, the trainee-teacher had the opportunity to observe lessons in most of the levels and he was amazed by the amount of resources that the teacher used to maintain the students on-task and the intricateness of the students' relation with the teacher. It was completely different from what working as a secondary school teacher represented.

The trainee-teacher got the impression that the teachers used so many strategies that it would be impossible for him to discern everything the primary school teachers used during our visits. From classroom management to the way to deliver speech, absolutely every detail was carefully prepared in the light of the students and the goals of the session. It was also relevant how the teachers had a very close relationship with students and how they knew everything from their

personal situation, information which they took into account when addressing to them or assessing them.

Many students displayed quite a decent level of English for their age. This made the trainee-teacher ponder how certain approaches are suitable for different ages and stages of maturity, and how the transition between methods and approaches should be like.

The trainee-teacher openly expresses how he thought that working as an EFL teacher at a primary school was really tough. Actually, he deemed it much tougher than teaching at a secondary school. Working in a primary school requires impressive classroom management skills and the capacity to motivate and retain the interest of students of that age.

He also found interesting how they were very involved with ICT, making students record their voice on the computer in one of the sessions we attended to, in order to later create a video with their voices together. Teaching children in primary school is an edifying opportunity which can make the teacher aware of the implications of the transition to secondary school.

7.10. Visiting another secondary school

Before finishing their Practicum 2, trainee-teachers at Institut Garona paid a visit to their fellow trainee-teachers at Insitut Emily Brönte, set in metropolitan Barcelona. Even though it was for just one morning, they managed to see lots of activities and they had the opportunity to have a tour around the school with their mentor.

As it was their last sessions, students were showed a very sophisticated video with bits of the Emily Brönte trainee-teacher's recordings, together with nice music. Students loved it and Institut Garona trainee-teacher's got an interesting overview of what their experience at Emily Brönte had been like.

Next, trainee-teachers had a tour around, where their mentor told them about the story of the secondary school and its characteristics. It was interesting to compare and contrast the situation between Institut Emily Brönte and Institut Garona.

Finally, they observed and participated in the gymkhana they had prepared as a consolidation activity. The gymkhana involved the 5 trainee-teachers working at the same time at different places around the school. The "corners" involved a word search, a listening activity, a total physical response activity and two different speaking activities. It all ended with the whole group at the school library, where all students were taken a photo together. It was an excellent conclusion to the activity, which contributed to the nice atmosphere they created.

The trainee-teacher believes that visiting them made him broaden my vision about what working at a secondary school is like and the implications of the general school's students profile. Student shape, to a certain extent, the way a secondary school develops. In these terms, Garona and Emily Brönte show a nice adaptation, which responds to their environment and their student's need. The feedback from their fellow trainee-teachers was also very valuable, as they got to see how Emily Brönte trainee-teachers were living the Practicum and what their impression and conclusions were. Incidentally, trainee-teachers from Emily Brönte also visited Garona and the trainee-teachers got to show them the school and their classes. The trainee-teacher reports how he thinks that it was a pity not getting to visit any other school, since it was a very enriching experience.

8. Conclusions

This dissertation conveys several aspects that an EFL teacher must be aware of and take into account. One of the aspects which were of uttermost importance for the trainee-teacher, and he was aware of it, is the teacher's talk. Trying his best to get his instructions across, he had the tendency to monopolize the classroom talk, providing little opportunity for students to take over and manage the flow of the conversation.

Through self-observation 1, the trainee-teacher grew aware of the risks of monopolizing the classroom talk and the benefits of allowing students to talk beyond the classic IRF sequences. Growing aware of this fact had a positive impact on the trainee-teacher, who became less restrictive and learned to treasure and exploit the precious moments of spontaneous intervention by students, and put into practice alternatives to IRF sequences in the classroom in order to create a richer oral environment.

Another vital aspect, which in this case the trainee-teacher was unaware of, was the scope of cooperative learning in the EFL classroom and the insights to social constructivism. Doubting the possibilities of cooperative learning, the trainee-teacher had always opted for a teacher-led model, which ensured that the group was always following the right path the he wanted them to follow.

However, through self-observation 2, the trainee-teacher discovered how students construct their knowledge in groups and use a set of strategies which can be as effective to that of the teacher and even better at times. Through close analysis of the data corpus and the use of a solid theoretical framework, he realized of the benefits of cooperative learning, which were completely out of his pattern of teaching before. Now that the trainee-teacher has discovered this technique, he is willing to investigate other cooperative learning methods and discover the benefits that it can bring to his teaching.

Regarding the experience gained, the teacher-trainee considers that the TED master has been an incredible opportunity. Before starting the master, he did not think that this experience would be so powerful. Looking back, he realizes that so many things have changed for him and he has grown both as a teacher and as a person.

There has been so much effort invested in each and every single bit of his unit and the rest of the lessons. He has tried and done his best when it came to producing the finest learning opportunities for students.

In his opinion, he believes that the most important challenge has been creating Science materials and teaching Science in English. Creating a unit almost out of thin air, without having previous experience, and teaching giving a 100% without any previous experience at all has been remarkably intense.

It has been an impressive opportunity, but the trainee-teacher reports that he would feel far more comfortable working in area of content that is closer to his area of studies (English Philology) and interests like, for instance, Humanities, History or Literature.

One of the objectives of the master, and specifically of the Practicum, was for the student to realize whether he really wanted to become a teacher or not. It is a tough job, which requires plenty of involvement and a strong personality.

In this case, the trainee-teacher concludes that he is really looking forward to working as a teacher in a secondary school. He is aware that it is hard, but the experience has been really rewarding for him. He has seen that he is capable of doing it, and that he can improve and become a better teacher with time. He deems it a good start, and he claims that he treasures every bit of experience that he has gained.

Even though it has been hard, it has also been very enjoyable. Both him and his partner have participated actively in the school's activities and have really been implicated with the school, as if the two of them were actual teachers working there. They were equals to everybody. This incredible experience has also been possible thanks to the excellent quality of Institut Garona and the involvement of

both from teachers and managers and thanks to the professors at UAB TED'S Master Degree, who delivered in terms of providing activities and resources and were really accessible and helpful.

Improvement proposals

As the trainee-teachers had the chance to work with a group of professionals, they managed to receive plenty of feedback, which was really instructive. To begin with, the trainee-teacher believes that experience is a key factor when it comes to improvement. At the moment of finishing the master, everything still remains new to the trainee-teacher, he considers that this is why he may feel dizzy at moments, with such a barrage of input coming from everywhere. However, he is sure that he will get better and better as he works as a teacher.

The trainee teacher considers that one of the main points that he needs to improve in the light of working as a teacher are his nerves. He got really nervous at times, and he needs to learn to take it easy. He felt a lot of pressure from the situation, but he is sure that, when he manages his own groups, that pressure will fade out, and will deliver his speech with much more calmly and clearly.

Another important aspect is the fact that at times he feels that he talked way too much and way too fast. Moreover, he was prone to use complicated vocabulary, which may not be the most appropriate in class. He had to learn to adapt himself to the level of his students, and to give synthetic and extra-clear instructions. He is sure that he will improve on that aspect with time.

Also, there is the fact that, at times, he used too much energy in the class and he simply could not stop talking and moving around. This may make his students nervous at times. He admits openly that he needs to learn to control that aspect better.

Moreover, he ponders how paramount is it to prepare the lessons properly. There was one occasion where he did not prepare one segment enough, and,

consequently, it went completely wrong. He believes that this is really basic aspect and really worth mentioning.

Furthermore, he think that the theoretical classes have been an incredibly interesting source of information and that it has helped me understand learning behaviors, language learning and acquisition methods, assessment and many pedagogical and sociological aspects that, now that he is aware of them, he is willing to research at his pace and apply them to his teaching. In that sense, the master really delivered.

Finally, the trainee-teacher also wants to improve at becoming a better person, so he is able to cope with the situation and do not give up and suffer from burn out. He admits that he has to become better at releasing his stress and having sense of humor. He considers that this is a key point of improvement, be it working as a teacher or as whatever job he may end up taking up on the future.

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Appendixes

10.1. Appendix 1 – Transcription symbols key

Adapted from Richards and Seedhouse (2007).

=	indicates latching between turns
(1.0)	an interval between utterances (1 second in this case)
(.)	a very short untimed pause
<u>word</u>	relatively high pitch
word	italics indicate code switch to Catalan
word	bold text indicates code switch to Spanish
CAPITALS	relatively high volume
a::	the colon indicates lengthening of the vowel
/	rising intonation, not necessarily a question
\	falling intonation
!	animated or emphatic tone
[word]	relatively quiet volume
w o r d	lengthening of the word
(xxx)	unclear talk

10.2. Appendix 2 - Study 1 Full transcript

00001	Teacher:	like someone <u>pushing</u> (0.2) that is to say <u>push</u> factors are the factors	((makes a pushing movement))
00002		that make YOU want to leave the place you are living in OKEY/	
00003		so: : push factors are the ones that PUSH you away from your country	((makes a pushing movement))
00004		let's see what you have here (.) you had this for homework and	((points at the handout))
00005		you have even extra ones that we have been working with now OKEY/	
00006		so for example (.) over here (.) can you tell me:/ u:h	((approaches student))
00007		one of uh the important push factors/	
00008	Student1 ♂:	ehrm poverty	
00009	**Teacher:**	poverty (0.2) GOOD	
00010		do you agree over there/ (0.2) Is this an	((writes 'poverty' on the

		important (0.2) push factor/	blackboard))
00011	Students:	yes	
00012	Teacher:	okey (0.2) would you like to live in a: : in a poor country:/	((points at the blackboard))
00013	Students:	no: :	
00014	Teacher:	definitely not\ no: :/ (0.4) very good	
00015		over here (.) another push factor please/	((approaches student))
00016	Student2 ♀:	war	
00017	Teacher:	WARS (0.2) what do you think about wars/ would you like to: :	
00018		live in a: : country where there is war/	
00019		(2.0)	
00020	Students:	[no]	
00021	Teacher:	would you for example/ [you don't seem like]-	
00022		GOOD\ war\ an important push factor (0.2) good	((writes 'war' on the blackboard))
00023		over here at the centre okey:/ please tell me another push factor	((approaches student))
00024		that you think it is important	
00025	Student3 ♂:	natural catastrophes	
00026	Teacher:	okey natural catastrophes okey/ would you like to live	
00027		in a country like that too/	
00028	Students:	[no]	
00029		okey/ definitely not (.) okey/ so: : n a t u r a: l c a t a s t r o p h e: : s	((writes down 'natural catastrophes'))
00030		(4.0)	
00031		good (.) an important one	
00032		over here [at the]	((approaches student))
00033	Student4 ♀:	economic problems	
00034	Teacher:	economic problems (.) do you agree/ is it an important one/	((nods head))
00035	Students:	yes	
00036	Teacher:	OKEY good so: : economic problems	((writes down 'economic problems'))
00037		MORE (.) okey (.) over here/	((points at student))
00038	Student5 ♀:	mmmh discrimination	
00039	Teacher:	DISCRIMINATION (0.4) goo: :d very good	
00040		so if you are discriminated against (0.4) in your country (0.3)	((points at himself during 'against'))
00041		would you like to live there/	
00042	Students:	no	
00043	Teacher:	oke:y (0.2) would you like to live	
00044		in a country where you are discriminated against/	
00045	Students:	no.	
00046	Teacher:	definitely not (0.2) okey/ oke: :y discrimination okey/	((writes down 'discrimination'))
00047		good (.) okey (.) erhmmm (0,4) over here (.) another one please/	((approaches student))

00048	Student6 ♂:	ehrm… fa:: fa famine	pronounced as /fæˈmiːn/
00049	Teacher:	FAMINE (.) exa:ctly (0.2) what is famine again/	
00050	Students:	*fam fam*	((Catalan for 'famine'))
00051	Teacher:	can you tell me what-	
00052	Student7 ♀:	*quan tens gana*	((Catalan for 'when you are hungry'))
00053	Teacher:	oke:y so: : can you tell me in English/	
00054	Student4 ♀:	when they are hungry	
00055	Teacher:	okey when you are <u>really really</u> hungry and you can't eat (.)	((makes gesture during 'really really'))
00056		that is famine (.)okey/	
00057	Student4 ♀:	starve sta: :rving	
00058	Teacher:	when you are <u>starving</u> EXCELLENT (.) do you know what to starve is/	((points at student))
00059	Students:	xxxxx	
00060	Teacher:	okey\ very good\ okey (.) okey (.)	
00061		to starve is to be <u>really really</u> hungry (.)okey/	((makes gesture during 'really really'))
00062		so: : food shortage (.) okey/	((writes down 'food shortage'))
00063		can somebody tell me a push factor that isn't listed/ okey	
00064		in the handout that you have been given/	((points at the handout))

10.3. Appendix 3 - Video recording for Study 1

Available by request at miquelangel.fuentes@gmail.com

10.4. Appendix 4 - Study 2 Full transcript

List of Participants:

NAME	ROLE	GENDER
Marc	Trainee-teacher	Male
May	Teacher	Female
Mar	Student	Female
Pau	Student	Male
Carles	Student	Male
Eva	Student	Female
Laia	Student	Female
Oscar	Student	Male

EXPERTS GROUP 15th April - Mar, Carles, Oscar, Pau

00001	Oscar:	me tengo que memorizar todo eso/
00002	Oscar:	y porqué/
00003	Pau:	yo que sé\
00004	Oscar:	me tengo que memorizar todo eso/
00005	Oscar:	y para cuando/
00006	Carles:	para ahora\
00007	Oscar:	y que (.) lo tenemos que decir sin papel/
00008	Oscar:	pero qué me dices tio/
00009	Mar:	ehrm… *hem d'apendre això*/
00010	MAY:	you have to understand\ and then you have to try and explain the others in your own words\ YES/ (.) I don't know if you will be able to write down [some words]
00011	Pau:	*jo no m'entero de res*
00012	Oscar:	yo no me entero de nada
00013	MARC:	okey (.) so you will have to help each other\
00014	Pau:	*no no (.) això és impossible*
00015	MARC:	if you read it aloud maybe it will help you (.) but it's up to you (.) okey/
00016	Oscar:	yo si quieres me apendro una linea
00017	Pau:	food additives are substancesss (0.5)
00018		added to food\ (.) ya está\
00019	Oscar:	yo la primera!
00020	Mar:	*pero tio que no t'has d'apendre*(.) *ho has d'entendre i ja està*
00021	MARC:	YES
00022	Pau:	*jo només memoritzo les paraules en negreta*
00023	Oscar:	*si (.) jo també*
00024	MARC:	it's okey to use Spanish or Catalan
00025	Mar:	a:: oke::y
00026	Mar:	*diu que:: que:: els* foods additives *es posen al menjar* (.) *per conservar el sabor*(.) *o l'aroma:: o que:: o sigui* (.) *que es vegin millor* (.) *saps*/
00027	Pau:	*per l'olor també*(.) *veritat*/
00028	Mar:	*si* (.) *perque tinguin millor aparença*\
00029	Carles:	*ah val*\
00030	Mar:	*i que s'ha usat durant molts anys* (.) *i que això es va introduir fa vint anys* (.) **o sea** (.) *s'han fet lleis*\ (.) *per poder reconeixe'ls*\ (.) *els* food additives\
00031	Mar:	*i que cada aditiu te un nombre asignat*\ (.) *que comença per la E*\ (.) *i el nombre només a Europa*\ (.) *a Europa es posa la e*\ (.) *als altres paisos només el nombre*\
00032	Pau:	ah vale \
00033	Mar:	*i llavors* (.) *aquí diu que* (.) *hi ha polèmica sobre si els aditius aquests* (.) *són bons o dolents perque alguns han-*
00034	Pau:	=*perque alguns han donat problemes*\ (.) *no*/
00035	Mar:	*SI* (.) *maleltiesss i coses d'aquestes* (.) *com obesitat* (.) *i problemes de cor*\ (.)
00036	Mar:	ehrm…

00037	Mar:	*i que no és bo consumir un gran nombre d'aditius* (.) *pero si* (.) *si no consumeixes gaires també és bo* (.) *perque nosaltres també estem formats de químics*
00038	Pau:	*boníssims* ee:::
:		
00039	Mar:	food additivess are substancesss added to food to preserve the taste (.) or the flavour (.) and make it look better\ (.) this process has been used for years\
00040		and it's u:sed (.) like preserving sweets o::r
00041	MAY:	=in food (.) in general
00042	MAY:	if you do it in Catalan it's okey\
00044	Carles:	=a::nd to regulate each additive is assigned an e number
00045	Mar:	no\ vamos por aquí\
00046	Carles:	*pero si aixo ja ho has dit*
00047	Carles:	this is used only in Europe\
00048	MAY:	=what is it used just in Europe/
00049	Carles:	the e number\
00050	MAY:	a::nd in the rest of the world/
00051	Carles:	just numbers\
00052	Pau:	food additivesss *què vol dir/*
00053	Mar:	*eh/*
00054	Pau:	food additives
00055	Mar:	*són substàncies*
00056	Pau:	a:: substances
00057	Mar:	food additives
00058	Pau:	[*són substancies*]
00059	Mar:	*com colorants*
00060	Pau:	a::: *d'acord\ d'acord*

Home group - Laia, Pau, Carles, Eva

00061	Eva:	the personal ca::re
00062	Pau:	=*de què parlaves/*
00063	Eva:	*de* cosmetics
00064	Pau:	[*de* cosmetics]
00065	Eva:	the personal care is the industry that is used for change the appearance (.) okey/ fo::r fo::r
00066	Laia:	=very good\ (.) ya está\ (.)
00067	Eva:	*no*:::
00068	Eva:	to look beauty\
00069	Carles:	to *què/*
00070	Eva:	to look beauty\
00071	Laia:	to look very pretty\ (.) *no/*
00072	Eva:	the personal products use soaps (.) sunscreen (.) fragancesss
00073	Pau:	=*com la meva*! *custo Barcelona*!/
00074	Laia:	I'm talking about chemistry in medicine\ (.) or about medicine in chemistry!\ I don't remember!\
00075	Pau:	chemistry *què/*
00076	Laia:	okey\ (.) blood analysis\

00077	Pau:	*de què parlaves/*
00078	Laia:	do you know anything about blood analyses/
00079	Eva:	yeah\
00080	Laia:	yes\
00081	Laia:	blood analyses te:st te:st (.) amount the potassium and sodiumm ehemmm (.) **no se qué**\
00082	Laia:	*a::\ clar\ sí\ sí\ sí*
00083	Laia:	blood analyses te:st te:st (.) amount te:st te:st
00084	Eva:	okey mister teacher!
00085	Laia:	I don't know *si és* test *o* tests
00086	Carles:	=és igual!
00087	Pau:	=és igual!
00088	Laia:	test among potassium and sodium of our blood\ (.) okey/
00089	Carles:	no\
00090	Laia:	very difficult e:/
00091	Eva:	the banana contains potassium
00092	Carles:	about those *què/*
00093	Pau:	sodium\
00094	Eva:	of our body\ (.) **vale**\
00095	Pau:	we are taking about/
00096	Carles:	=we are taking about/
00097	Pau:	=food additives\
00098	Carles:	=food additives\
00099	Pau:	*tu què\ (.) et el eco/*
00100	Carles:	food additives are things to preserve the flavour (.) the texture
00101	Carles:	=the texture (.) the [textúre] and these *coses*\ (.) *saps/* (.)
00102		additives
00103	Pau:	=to have a better look to the products\
00104	Pau:	it gives a better look\
00105	Eva:	yeah\
00106	Pau:	it's like make-up\ bu:t (.) a:nd (.) **ya tu sabes**
00107	Pau:	the e number\ *saps/*
00108	Laia:	can you spell that/
00109	Pau:	yes yes!\ e\ (.) **guión**\ (.) number
00110		[laughs]
00111	Carles:	e number\ (.) okey/
00112	Pau:	**una cosa** (.) **eso de la e** (.) **qué era/**
00113	Pau:	**que no me acuerdo**\
00114	Eva:	*és per lo que esta regulat el producte* (.) *no/*
00115	Pau:	*què volia dir allò de la e/ ens ho ha explicat abans* (xxx)\
00116	Eva:	=*edulcorants*\
00117	Mar:	*és el numero que sel's hi assigna als products*\
00118	Pau:	=**pos ya está**\
00119	Laia:	it's the number tha::t/
00120	Pau:	=it's the number that they assign to the products\
00121	Carles:	=it's a number they assign to the products to recognize them\
00122	Carles:	=to recognize them\ (.) to recognize them\
00123	Pau:	=*qui ho està fent company* (.) *tu o jo/*
00124	Carles:	*els dos*\

00125	Pau:	*un moment\ (.) un moment\ (.) que això és el que ser fer\ (.)deixaré el llistó alt* (0.5)
00126	Pau:	the letter e me:ans the: the: Europe\ *saps/*
00127	Eva:	yes/
00128	Pau:	yes\
00129	Eva:	and the number/
00130	Pau:	the number just the products\
00131	Eva:	<u>very</u> goo:d!
00132	Pau:	ye::ah!

EXPERTS   19th April (Mar, Carles, Oscar, Pau)

00133	MARC:	just try to remember\ (.) e::hmm (.) you were in the same group\ (.) so you all know how to answer this\ (0.4) what are the <u>e numbers</u>/ give some examples of natural food additives\
00134	Pau:	=*això ja*::
00135	MARC:	=and you will have to make sure that you know how to you explain this to your partners when you go back\ OKEY/ so you will have to make an extra effort\
00136	Mar:	bu::t (.) ehmm:: (.) natural food additives (.) sugar <u>is</u>/
00137	MARC:	=try to make sure that everybody knows it\
00138	Mar:	*ja ja però*:: sugar, <u>isn't it</u>?
00139	MARC:	yes\
00140	Mar:	yes/
00141	Pau:	yes\ (.) yes\
00142	Mar:	**vale tío**\ (.) *no ho sé*\
00143	Carles:	=**ahora qué hemos de hacer teóricamente**/
00144	Pau:	*es que* I am an [**empollón**]!
00145	Mar:	[laughs]
00146	Carles:	[*sí*]\ (.) *per això ha repetit* (.) *perquè és <u>empollón</u>* (.) *per l'actitud company*!
00147	Mar:	*ei* (.) <u>*va*</u>\
00148	Carles:	*va*\
00149	Mar:	what are the e numbers/ <u>**venga**</u>\
00150	Mar:	*un tros cada un diem*(.) *no/ tu dius* the e numbers (.) the e numbers are the:: (.) *aviam* (.) *com t'ho dic* (.) the e numbers i::s (.) e::h an Europe:: (.) *saps el que et vull dir/*
00151	Carles:	*explica-ho <u>tu</u>*\
00152	Pau:	only Europe (.) OKEY/
00153	Mar:	humm::
00154	Pau:	=and the only number:::
00155	Carles:	**tío**\ (.) **venga**\ (.) **que nos van a suspender**\
00156	Mar:	*no:: no*:: (.) *va* <u>**explícalo**</u> **que tu lo has explicado bien**!
00157	Pau:	*ja*\ (.) *però més o menys*\ (.) *més o menys*\ (.) the e number [are the name of]
00158	Mar:	=<u>is</u> the name (.) IS or ARE the names/
00159	Pau:	is the name used to the products to identify
00160	Carles:	=<u>ahora</u>!
00161	Pau:	to identify the products (.) and the E is only used in Europe

00162	Mar:	=*molt bé*!
00163	Pau:	in the rest of the world they don't use any letter\ (.) just numbers\
00164	Mar:	very good!

10.5. Appendix 5 - Study 2 Jigsaw materials

Chemistry in everyday life

Name: **the quiz** (3 topics ed.)

1. Choose the correct statement: (1 point)
   a) E numbers are only used in Europe.
   b) E numbers are used all over the world but outside Europe they do not use the "E".
   c) E numbers are used all over the world. They use the "E" outside Europe, too.

2. Is this statement true or false? (1 point)
   "Additives from natural products can never be harmful for our body."

   TRUE   FALSE

3. Fill in the gaps of the text with some of the words from the box: (2 points)
   "The first archaeological evidence of cosmetics usage is found in .... around
   4000 BC. The .... and .... also used cosmetics."

   Ancient Egypt   Spanish   Ancient Italy   Greeks   Romans   Ancient China   English

4. Choose the correct statement: (1 point)
   a) Only feminist organizations have criticised the use of toxic products in cosmetics.
   b) Only animal rights activists have criticised the use of toxic products in cosmetics.
   c) Both feminists and animal rights activists have criticised the use of toxic products in cosmetics.

5. Match the common name of these substances to their scientific name: (1 point)

   Bicarbonate of Soda   Sodium citrate
   Vitamin C   Sodium bicarbonate
   Enos salts   Ascorbic acid

6. Choose the correct statement: (1 point)
   a) Blood analyses check the amount of uranium and mercury in your blood.
   b) Blood analyses check the amount of lithium and zinc in your blood.
   c) Blood analyses check the amount of sodium and potassium in your blood.

7. Is this statement true or false? (1 point)
   "Some artificial food additives have been linked with cancer and heart disease."

   TRUE   FALSE

8. Finish the following statement: (1 point)

   In order to treat all kinds of diseases, in Prehistoric medicine they used...

9. Write down 5 items that are considered personal care products: (1 point)

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Chemistry in everyday life

CHEMISTRY IN ACTION COMPETITION
Experts group instructions

STEP 1: Find new partners

Four students sit together. They form a team.
They choose an icon. Each icon represents a topic.

STEP 2: Find new partners

Students with the same icon join in groups.

STEP 3: Become an expert

Together read and understand your topic's text.

Together learn the content and try to memorize as much as you can.

Practice saying the content out loud. Ask your partner if they have any question or doubt!

Give your text to your teacher and go back to your place.

STEP 4: Teach and learn

Students come back to their home teams.

The objective is that all of you learn the information contained in all 4 texts. You can take notes.

Teach to your teammates all that you have learned.

Listen and learn all that your teammates have learned.

STEP 4: The competition!

Your teacher will test you and your team to make sure that you have been working hard!

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Materials available at: http://grupsderecerca.uab.cat/clilsi/

10.6. Appendix 6 - Audio recordings

Available by request at miquelangel.fuentes@gmail.com