

Master's Thesis

**The orchestration of verbal and non-verbal modes of communication
in EMI lectures' episodes of engagement: a comparison between
Technical and Social Sciences academics' performance**



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Abstract: The English language is well known for being the universal lingua franca. This has resulted in it being used as a medium of instruction to teach content subjects in tertiary education (EMI). The effectiveness of these lectures depends on the teachers and their orchestration of modes of communication, both verbal and non-verbal; that is, their multimodal competence. In this study, a comparison between two groups of academics' performances was made in order to look into the differences and similarities regarding the way they engage and interact with their audiences. For this purpose, eight mini-lessons from the AcqUA EMI microteaching corpus, four from the Technical Sciences branch (TS) and four from Social Sciences (SS), were analysed with ELAN, a multimodal annotating tool. In this study, the TS lecturers made greater use of episodes of engagement, had more questions, elicitations, and negotiation of meaning in their discourse. No striking differences were encountered in relation to multimodality. However, firm conclusions cannot be drawn due to the limitations of the study, thus further research on this matter is encouraged.

Keywords: English-Medium of Instruction (EMI), teaching, multimodality, questions, elicitations, negotiation of meaning.

Resumen: El inglés es conocido por ser la lengua franca universal por excelencia, lo que ha hecho que la lengua inglesa se use como medio de instrucción para impartir asignaturas de contenido en educación terciaria (EMI). La efectividad de estas clases depende del profesorado y de la forma en que combine los modos de comunicación, el verbal y el no verbal; es decir, su competencia multimodal. En este estudio se ha realizado una comparación entre las presentaciones de dos grupos de académicos para establecer, así, las diferencias y similitudes existentes en relación a la forma en la que interactúan con su audiencia. Para ello, ocho presentaciones del *AcqUA EMI microteaching corpus*, cuatro de la rama de Ciencias Tecnológicas (TS) y cuatro de la de Ciencias Sociales (SS), se analizaron con ELAN, una herramienta de anotación multimodal. En este estudio, los académicos pertenecientes a la rama de TS hicieron un mayor uso de los episodios de interacción, lanzaron más preguntas e intentaron estimular más a la audiencia durante sus discursos. No obstante, no se han encontrado diferencias significativas en relación con la multimodalidad. Es necesario mencionar que no se pueden extraer conclusiones firmes debido a las limitaciones del estudio, por lo que se anima a seguir investigando en este ámbito.

Palabras clave: Inglés como Medio de Instrucción (EMI), enseñanza, multimodalidad, preguntas, estimulación, negociación de significado.

ABBREVIATIONS USED IN THE TEXT

CEFR	Common European Framework of Reference
CLT	Communicative Language Teaching
EMI	English as a Medium of Instruction
FL	Foreign Language
HE	Higher Education
ICE	<i>Instituto de las Ciencias de la Educación</i>
L1	First language
L2	Second language
RAP	Reflection, Awareness, and Practice
SFL	Systemic Functional Linguistics
SLA	Second Language Acquisition
SS	Social Sciences
TS	Technical Sciences
UA	University of Alicante
ZPD	Zone of Proximal Development

TABLE OF CONTENTS

Introduction	7-8
--------------------	-----

PART I: THEORETICAL BACKGROUND

1. Sociocultural theory and Systemic Functional Linguistics	9-13
2. Communicative classroom talk: Teacher talk	13-15
2.1. Multimodality and its effects on students' attention	15-17
2.2. Strategies used to promote interaction in the classroom	18-20
2.2.1. Questions.....	20-21
2.2.2. Elicitations	22-24
2.2.3. Negotiation of meaning.....	24-25
3. English as a Medium of Instruction.....	25-26
3.1. English as a Medium of Instruction in Spain	26-27
3.2. English as a Medium of Instruction in Alicante.....	27-29
4. Research questions	29

PART II: THE ANALYSIS

1. Introduction	30-31
2. Methodology	
2.1. Context of the analysis	31-32
2.2. Subject of study	32-35
2.3. Instruments used in the study	36
3. Results and discussion.....	37-53

PART III: CONCLUSION

1. Conclusion.....	54
2. Pedagogical implications.....	55
3. Limitations and further research.....	56

BIBLIOGRAPHY57-61

APPENDIXES

Appendix 1. Key for the analysis 63

Appendix 2. Key for the transcriptions 64

Appendix 3. TS1 episodes of engagement’s transcription65-68

Appendix 4. TS2 episodes of engagement’s transcription69-73

Appendix 5. TS3 episodes of engagement’s transcription74-76

Appendix 6. TS4 episodes of engagement’s transcription77-81

Appendix 7. SS1 episode of engagement’s transcription 82

Appendix 8. SS2 episode of engagement’s transcription83-85

Appendix 9. SS3 episode of engagement’s transcription86-88

Appendix 10. SS4 episode of engagement’s transcription89-90

LIST OF FIGURES

Figure 1. Zone of Proximal Development. Adapted from Vygotsky (1978, p. 86) ... 11

Figure 2. How language shapes personality, from Halliday (1978, p. 15)..... 12

Figure 3. ELAN template 36

Figure 4. E-Clue in ELAN..... 44

Figure 5. SS2 teacher’s combination of modes when asking a referential question ..47

Figure 6. TS3 teacher’s combination of modes when asking a referential question ..48

Figure 7. TS4 teacher’s combination of modes when asking a display question49

Figure 8. TS1 teacher’s combination of modes when asking a display question49

Figure 9. SS2 teacher’s combination of modes when giving instructions and negotiating meaning (comprehension check) 50

Figure 10. TS2 teacher’s combination of modes when giving instructions and negotiating meaning (comprehension check) 51

Figure 11. SS3 teacher’s combination of modes when negotiating meaning (confirmation check)..... 51

Figure 12. TS1 teacher’s combination of modes when negotiating meaning (clarification request) 52

LIST OF TABLES

Table 1. EMI subjects taught at the UA, taken from <https://web.ua.es/es/vr-ric/historico-cursos-en-ingles.html> 28

Table 2. Teachers’ characteristics 33

Table 3. Mini-lesson’s topics and number of episodes of engagement in them..... 34

Table 4. TS episodes’ length 35

Table 5. SS episodes’ length 35

Table 6. Number of questions in TS episodes of engagement 38

Table 7. Number of questions in SS episodes of engagement 38

Table 8. Number of elicitations in TS mini-lessons 41

Table 9. Number of elicitations in SS mini-lessons 41

Table 10. Number of negotiation of meaning in TS mini-lessons..... 44

Table 11. Number of negotiation of meaning in SS mini-lessons..... 45

Introduction

Among the different social and cultural artifacts that human beings have developed throughout history, language is by far the most important one. Thanks to it, people are able to communicate, either verbally (i.e. spoken discourse) or non-verbally (i.e. gestures, gaze, body language, etc.). Lantolf *et al.* (2015) claimed that language is highly intertwined with the context, thus the way it is used is much determined by what surrounds speakers. In consequence, the language found at the theatre, at the supermarket or at the university will have striking differences.

This research studies communicative teacher talk in EMI lectures' episodes of engagement, which have been defined as the instances within the interactive lecture in which students take part in pair work, group work, web-based activities, games or debates (Morell *et al.*, forthcoming). The ultimate aim of the investigation is comparing how Technical Sciences (TS) and Social Sciences (SS) academics make use of multimodality as well as how they use strategies to promote interaction. To do so, eight mini-lessons from the AcqUA EMI microteaching corpus, four from the TS and four from SS, have been analysed with ELAN, an annotation software for multimodal analysis (Wittenburg, et al. 2006, Max Planck Institute for Psycholinguistics, The Language Archive, Nijmegen, The Netherlands. Available at: <https://archive.mpi.nl/tla/elan>), focusing on the characteristics that identify those episodes, namely questions, elicitations, and negotiation of meaning.

In response to further research claimed in studies such as Chang (2012) and Morell (2004, 2007, 2020, forthcoming), I have felt the need to analyse and research on good EMI teaching practices. Moreover, as claimed by Morell (2018, 2020) and as will be covered throughout this paper, multimodality and interaction are key elements in order to achieve a truly communicative and effective classroom.

Thanks to Teresa Morell, my supervisor, I had the opportunity to work on a research project conducted by the EMI-RAP (English-Medium Instruction: Reflection, Awareness, and Practice) network for Redes Innovaestica 2020. It was entitled "How do trained English-medium instruction (EMI) lecturers combine verbal and non-verbal modes of communication to engage their students?" and the oral presentation at the online conference was carried out by Teresa Morell and myself on behalf of the whole group.

The investigation carried out a macroanalysis of eight mini-lessons from the AcquUA EMI microteaching corpus in order to determine what characterised the episodes of engagement in EMI lectures, and a microanalysis of five of these videos to explore how lectures used and combined semiotic resources to engage their audience. From this research project (Morell *et al.*, forthcoming), I decided to investigate whether there were any differences or similarities between two fields of expertise, Technical Sciences (TS) and Social Sciences (SS), in terms of multimodality and interaction. In addition, I made use of the same corpus, since I had already worked with it, especially with the workshop held in June 2018.

In the following pages, the theoretical framework of the study is presented (Part I), paying attention to sociocultural theory and Systemic Functional Linguistics, communicative teacher talk, and the strategies to promote interaction, among other concepts. Afterwards, the study itself will be developed (Part II), taking into account the methodology, results and discussion. Finally, the conclusion, limitations and pedagogical implications can be found (Part III).

PART I: THEORETICAL BACKGROUND

1. Sociocultural theory and Systemic Functional Linguistics

Throughout history, human beings have been developing at first, in isolation, and gradually, socializing and interacting with their environment. Engeström (1987) states that most part of the individuals' growth takes place thanks to interaction in social and material contexts, since it is in collaboration when people make the greatest progress. Therefore, this idea puts interaction into a prominent position in reference to human evolution.

These conceptions are seconded by sociocultural theory, an approach to learning and mental development which has its origins in 18th and 19th German philosophy, sociological Marxist writings, and S. L. Vygotsky and his colleagues (Lantolf *et al.*, 2015). This theory, according to Ratner (2002), claims that “human mental functioning is fundamentally a mediated process that is organized by cultural artifacts, activities, and concepts”. In other words, to monitor their behaviour and attitudes, humans create and make use of different processes to intercede with the environment. Those procedures are highly influenced by the context which surrounds the individuals, thus developmental processes are likely to take place in cultural, linguistic, and historical settings such as family life, peer group interaction, and institutional contexts (Lantolf *et al.*, 2015).

If humans do have a special distinction between them and animals, that is the capacity to choose or to decide how to react in the face of natural instincts thanks to the use of language, rationality, logic, numeracy, etc.; symbolic artifacts which have been created throughout time as a product of historical accumulation of human development (Tomasello, 1999). Among all these artifacts, language is by far the most powerful invention used to mediate with the world. It has a twofold aim: to interact outwardly at the same time as inwardly (Lantolf *et al.*, 2015, p. 5).

In the context of Second Language Acquisition (SLA), sociocultural theory plays an important role. SLA is sometimes understood as a process different from the higher order mental processes which take place in our minds (Lantolf *et al.*, 2015). However, it is actually one of those processes and it should be conceived through the same theories and ideas. It is a practice in which learners develop their skills step by step, and as in the rest of processes, if they do it in collaboration with some partners, their growth will be

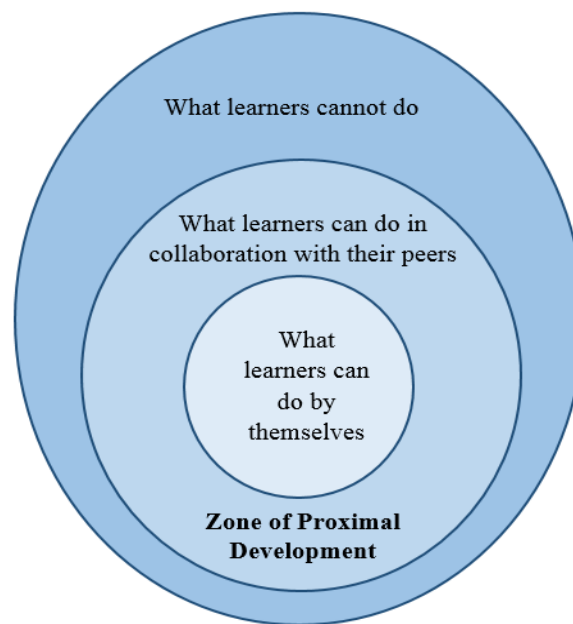
greater. Thorne and Tasker (2011) together with Vygotsky (1978) define development and Zone of Proximal Development, essential concepts to understand the connection that SLA has with sociocultural theory.

According to Thorne and Tasker (2011), development is “the process of gaining voluntary control over one’s capacity to think and act either by becoming more proficient in the use of mediational resources, or through a lessening or severed reliance on external mediational means”. That is, learners are experiencing the process of development if they are increasing their confidence in themselves by using artifacts or not. Going deeper into this concept, the Zone of Proximal Development (henceforth, ZPD) is a conceptual tool defined by Vygotsky (1978) as the difference between what individuals can accomplish by themselves and what they would be able to fulfil if the task was carried out with the supervision of adults or in cooperation with other peers (see Figure 1 below). In these lines, Ohta (2001) states that “when learners work together [...] strengths and weaknesses may be pooled, creating a greater expertise for the group than any of the individuals involved” (p. 76).

The previous paragraphs lead to the idea that interaction is key for students to develop to the maximum their abilities, as well as to make the most of their education, since as claimed by Vygotsky (1978), receiving instructions in educational contexts builds development for the future. It is worth highlighting that the basis in which sociocultural theory is built assumes the individual and the social as a whole. That is to say, individuals cannot be understood without interaction with their environment, so in educational contexts, a lecture, for instance, cannot be conceived without interaction nor without language, the main artifact by which meaning is constructed.

For the purpose of this study, the focus is going to be on the learning processes that take place in instructed environments, in particular, in university lectures in which students are told what they have to do (that is, they receive instructions). In this case, learners develop their higher mental processes in a special context where they mediate with their colleagues to come to certain conclusions. As claimed by Lantolf *et al.* (2015), mediation is the central construct of sociocultural theory, thereby the social world in general is the source of all learning in it.

Figure 1. Zone of Proximal Development. Adapted from Vygotsky (1978, p. 86).



As aforementioned, language is the main mean by which people communicate and interact. Nevertheless, depending on the context people are at and on the relationships among them, they will use language in a way or in another (Eggins, 2004). In consequence, language and context are highly intertwined (Gebhard and Accurso, 2020). Register or genre are some of the aspects that are necessary to take into account when communicating with someone, and Systemic Functional Linguistics is the theoretical approach that deals with these ideas.

Traditionally, language has been seen as a vehicle which gives voice to humans' thoughts. In the last years, it has been redefined and it is now conceived as a tool involved in the "negotiation, construction, organization, and reconstrual of human experiences" (Fang, 2004, p. 336). In Halliday's words, it is "a part of reality, a shaper of reality, and a metaphor for reality" (1993, p. 8). Systemic Functional Linguistics (henceforth, SFL) is a functional-semantic approach to language that looks into how people use language and how it achieves its main function: making meaning (Eggins, 2004; Gebhard and Accurso, 2020). To do so, it focuses on authentic texts, in everyday social interaction.

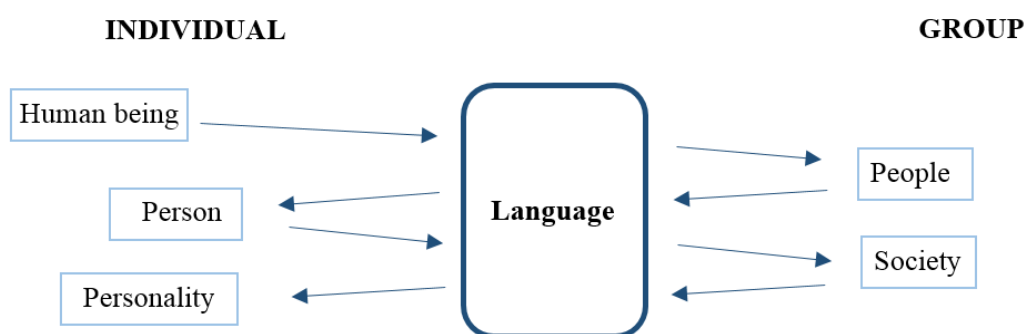
Going back to the basis of this theory, Halliday (1985) argues that language makes three kinds of meaning at the same time: ideational, interpersonal, and textual meanings. In addition, it involves three key dimensions of the situations: the field, tenor, and mode

(Eggins, 2004). According to Eggins (2004) and Gebhard and Accurso (2020), the ideational is concerned with the field, with the ideas and experiences that take place in a certain context; the interpersonal focuses on the tenor, on the social roles and the existent relationships between the participants; and finally, the textual pays attention to the mode, to the aspects of the channel of communication (spoken/written, monologic/dialogic, etc.).

In opposition to behavioural, cognitive, and psycholinguistic notions of grammar, SFL offers a renewed context-sensitive and multimodal perspective to it (Gebhard and Accurso, 2020). As mentioned before, language is understood as interrelated to the context, in consequence, as pointed by Halliday (1985), it cannot be interpreted without a sociocultural context. Nonetheless, this conception is not the same as the one which was taken for granted some decades ago. Eggins (2004) compares language to the clothing system, which began as a “natural” system and has evolved until being a potent semiotic code.

The same phenomenon has occurred to language: it has developed until becoming into a tool which says much of the people who use it paying attention to how they use it. Just like clothing has codes depending on the situation in which people are, language has them as well. The way in which people use language defines them, as it can be observed in Figure 2 below. Depending on the environment people are surrounded by, their language will be in a way or in another, and as a result, their personality will be also different.

Figure 2. How language shapes personality, from Halliday (1978, p. 15).



Based on the contexts in which texts are constructed, they will have certain linguistic features, and they will involve different social functions (Cullen, 1998; Fang, 2004). In line with this, the language that is possible to find in an educational context, such as at a university lecture, is going to be quite dissimilar from the one found at the restaurant, for example. Classroom talk is marked by having certain characteristics which are not likely to be found outside this context. In the following section, communicative classroom talk, and specially, teacher talk, is going to be developed.

2. Communicative classroom talk: Teacher talk

Classroom talk has been object of study for half a decade now due to the appearance of a new approach which put communication into a prominent position in educational contexts: Communicative Language Teaching (CLT). Many researchers have studied the language found in this setting to shed light on the features that make a lecture be communicative or non-communicative. Nunan (1987), Kumaravadivelu (1993), Thornbury (1996), Cullen (1998) or Nurpahmi (2017) are some of the scholars who have carried out studies in relation to communicative classroom talk and, in particular, to teacher talk. In what follows, I will describe some teachers' beliefs, communicative features, and classroom strategies which, according to the authors aforementioned, can be put into practice in order to achieve a truly communicative classroom.

First of all, it is worth-noting the fact that being aware of the features that define a communicative classroom is a prerequisite in order to accomplish it (Thornbury, 1996). This is the reason why if teachers do not know which these features are, hardly will they be successful in creating one of these environments. Thornbury (1996) conducted research in which he gathered some teachers' opinion on their own talks. Analysing them, they noted their large number of display questions and their short wait time when they asked questions, features related to non-interactive classrooms.

Similarly, Morell (2004, 2007) shows in her studies some of the beliefs teachers have when talking about communicative classrooms. For instance, the researcher got a response by a teacher who stated that students were involved in the lessons only when participation was compulsory or rewarded (Morell, 2007). Nonetheless, which are the features that determine a communicative and interactive classroom? In the following

lines, some of the strategies or features that make teacher talk more communicative are presented.

According to Cullen (1998), the criteria by which features of communicative classroom talk are going to be assessed are the ones considered to be communicative in the outside world as well, since the main goal of CLT is achieving real communication, the one that takes place in the outside world. For this reason, teachers should try to recreate situations similar to the ones taking place outside the classroom, because most of the times real communication only occurs there (Thornbury, 1996).

Managing to create real communication opportunities is not an easy task, and even teachers who are committed to the communicative approach and to CLT sometimes fail to achieve it (Kumaravadivelu, 1993). That is why, going back to the beginning of this section, “awareness is a prerequisite for change” (Thornbury, 1996, p. 281). Teachers should be familiar with the features that define communicative classrooms in order to be able to incorporate them to their talks. Thornbury (1996) identifies some features that foster communicative talk:

- The use of referential over display questions. The first ones are those questions for which the person who asks does not know the answer, thus genuine communication takes place. In addition, they stimulate their schematic knowledge representations (Nunan, 1987). The second, display questions, are those which are usually asked to check if the students know or understand; that is, to display their knowledge. Referential questions are the commonest type of questions asked in real life, so the interaction that they provoke is authentic. Some background information about the use of questions in the classroom will be covered in section 2.2.1.
- Giving content feedback. It consists on not giving feedback on the linguistic realm, but on the content the student shared, showing interest on what he or she tells. Otherwise, the goal of creating real-life communication and interaction would fail.
- Increasing wait time when questioning. Thornbury (1996) indicates that teachers should wait longer before reformulating or answering their own questions, since students need time to think and build their answers. The longer teachers allow

their students to think of their responses, the longer and more elaborated their answers will be. Moreover, more students will interact and participate.

- Student-initiated talk. The author suggests that student-initiated talk, rather than teacher-initiated talk, is the one which is more fruitful when it comes to learning. Students are more likely to pay attention and remember those turns which are initiated by their peers.

On the other hand, as Cullen (1998) claims, developing the opposite behaviours mentioned before would lead teachers to be non-communicative (i.e., asking more display than referential questions, giving content on the form, echoing students responses, etc.). Apart from the features described above, Senior (2008) suggest that reacting positively to students' initiative, being inclusive, remembering students' names or revealing aspects of oneself are attitudes that are likely to create a good environment in the classroom.

Finally, as claimed by Morell (2000), some strategies that can lead to a truly communicative classroom are, for example: using discourse markers (macro and micro-markers) to structure the discourse, encouraging note-taking, asking referential questions, increasing wait time just like Thornbury (1996) notes, paying attention to students' feedback, or trying to make the content interesting and attractive to the audience. It is important for teachers to bear in mind that shorter but communicative teacher talk is preferable rather than longer and non-communicative (Gharbavi and Iravani, 2014). Furthermore, including multimodality in their lectures fosters interaction, comprehension and learning (Gharbavi and Iravani, 2014). In the following section multimodality and its effects on students' attention will be commented on.

2.1. Multimodality and its effects on students' attention

Within the recent past, it has been claimed by a number of scholars that the more modes of communication teachers make use of when lecturing, the better they will be understood by their audiences (Kress, 2010; Tang, 2013; Morell, 2018). That is to say, awareness of multimodality and a good multimodal communicative competence is likely to lead teachers' talks to be more engaging, interacting, and communicative; therefore, their students will feel more integrated and involved in the development of the class. However, there are teachers who are not familiar with multimodality or multimodal competence and, in consequence, do not make use of it. For that reason, the purpose of

this section is to shed light on these concepts so that this practice is spread and more teachers as well as students start benefiting from multimodality.

According to Kress (2010), multimodality is the social-semiotic theory which points out at the orchestration of at least two different modes of communication (i.e., verbal, written, visual, gestures, classroom space, etc.) to construct meaning. Additionally, a mode is a “socially shaped and culturally given semiotic resource for making meaning, such as image, layout, music, speech, gesture, 3D objects, etc.” (Kress, 2010, p. 79). Hence, it could be possible to assert that a person masters multimodal communicative competence when he or she is aware of the benefits that multimodality offers and is able to combine two or more modes of communication to make meaning. This orchestration of modes may take place simultaneously or consecutively (Morell, 2015, 2020).

Kress, in his book *Multimodality: A social semiotic approach to contemporary communication* (2010, pp. 1-3), gives an example to illustrate the power that multimodality has. He highlights how a sign combining colour, writing, and image is more effective due to the fact of mixing those three modes. If, on the contrary, the sign would lack one of the three modes, it would lose its powerfulness. In this case, this example applies for a sign in the street which drivers have to look at very quickly, but it is also possible to find examples that take place at educational contexts, which are the aim of this paper.

As stated in previous sections, language and context are highly interrelated (Gebhard and Accurso, 2020). On account of this, multimodality will occur in different ways depending on the context as well. In educational contexts such as university lectures, classroom talk can be multimodal if teachers know how to make a good use of multimodal competence. In addition, it offers a great number of benefits for the teacher as well as for their audience, since multimodal talks make audience to be more engaged and to be more likely to interact.

When teachers are lecturing, they can combine the spoken mode, the written mode, the non-verbal materials mode, and the body language mode (Morell, 2015, pp. 140-141). These four modes of communication are usually used simultaneously by teachers in order to construct meaning:

- The spoken mode is usually the prominent one in oral presentations. In it, it is possible to distinguish among linguistic and paralinguistic features. The first ones deal with words choice and order (that is, syntax), and the latter addresses the speaker's attitude, intention, or willingness to give emphasis to some part of the speech (Morell, 2015). Both realms are highly relevant in oral presentations, because it is not only important *what* it is said, but also *how* it is said (Morell, 2004).
- The written mode is likely to appear either on the screen or on the board. Just like the verbal mode, in the written the linguistic and paralinguistic features can be also taken into account. In this case, the paralinguistic features could be appreciated in the different types of lettering (bold, italics, etc.) or highlighting (Morell, 2015). Generally, according to Morell (2015), the written mode completes the spoken mode, and it may appear before, after or at the same time as the oral discourse (Morell, 2020).
- The non-verbal materials (NVMs) mode could be understood as similar to the written mode of communication; instead of constructing meaning with written words, it does it with images, tables, graphs, bar charts or videos, for example (Moreno and Mayer, 2007). This mode is especially useful for those students whose learning style is more visual than aural. It is worth noting that NVMs can entail illustrative, decorative or expository rhetorical functions (Morell, 2015).
- In the body language mode, kinesics and proxemics play an important role (Morell, 2015). Making gestures with their whole body (eyes, hands, arms, face...) and moving around the classroom (spatial position, movements in the space, etc.), teachers engage and interact with their audiences.

The orchestration of these four modes of communication is likely to have a positive impact on the students' attention and on their predisposition to interact. In addition, as claimed by Morell (2015) and Morell and Pastor (2018), a good combination of the different modes of communication can compensate for any linguistic deficiency that the speaker may have. Therefore, the more modes teachers combine, the higher would be the probability of being understood when lecturing. If apart from mastering multimodality and multimodal competence, teachers make use of some of the strategies to foster interaction that are going to be presented in the following section, teacher's performance will be engaging, interactive, and truly communicative.

2.2. Strategies to promote interaction in the classroom

Traditionally, lectures have been understood as speeches in which only one person (the teacher) had a place; that is to say, as monologues (Morell, 2007). Albeit, little by little they are beginning to be considered as a type of formal conversation in which two roles are exchanged at all times: the speaker and the listener. At some point of the class, both teacher and students are speakers and listeners. In consequence, both parties interact, they are more involved and both have a say in the lecture. That is why according to Morell (2004, 2007), lectures of this kind are also called given-and-take, participatory or interactive.

In Morell's words, "human communicative interaction refers to how two or more individuals convey their communicative and informative intentions and how they work jointly to arrive at negotiated meaning" (2000, p. 55). In a classroom, interaction should lay at the heart of it, since that is how everyday conversations occur and the aim of lectures, and above all language classrooms, is recreating real life situations in which people listen, speak, ask and answer questions, negotiate meaning, etc. In addition, the benefits of interaction have been claimed by a number of scholars and studies that have pointed out the positive effects it has on students' learning process (Long, 1981; Pica, Young & Doughty, 1987; Morell, 2002, 2020).

In line with the previous paragraph, teachers must make the most of their lectures and classes, since most of the times classrooms are the only environment in which students can practise their English communicative competence. Besides, bearing in mind that language proficiency is likely to be developed and enhanced through interactional practices should encourage teachers to carry out interactive lectures (Morell, 2000). Nonetheless, teachers sometimes lack of training and are not aware of what they should do to involve the audience in their lectures. Thus, to root out monologue lectures and turn them into interactive and participative practices, in the book *EFL Content Lectures: A discourse analysis of an interactive and a non-interactive style* (2000), Morell gathers fourteen possible strategies that may lead to more participatory and engaging lectures.

First of all, the author highlights the need for genuine interaction and communication in order that truly communicative and interactive class may take place. Moreover, she mentions some of the strategies that teacher could follow to promote

interaction in class. In what follows, a brief summary of them will be presented (see Morell, 2000, pp. 65-66).

1. Inform the students about the development of the class: students must know what to expect from the class, as well as how it is going to be organized, the different parts it will have, etc.
2. Use discourse markers (macro and micro-markers) when lecturing to structure your speech and to make the content easier for the students.
3. Adapt speech rate to the students' needs: using pauses when needed, adapting the pace, speaking louder and clearer...
4. Use visual materials (such as PowerPoint presentations) carefully to support verbal discourse.
5. Be conscious of the different modes of communication: what is written, what is shown, what is said... Teachers are conductors as musical instruments are to modes, thus they have to orchestrate their modes to construct powerful meanings.
6. Encourage and lead note-taking, repeating or rephrasing sentences when necessary.
7. Use more open-questions and referential questions, since they foster students' productivity, and generally, from this type of questions longer and more elaborated responses are expected. In the next section of this paper this point will be developed.
8. Reformulate questions when needed and wait longer before doing it. Increasing wait-time makes students respond and elaborate more their answers.
9. Formulate and make students negotiate meaning through confirmation checks, comprehension checks, and clarification requests. In section 2.2.3. negotiation of meaning will be dealt with.
10. Pay attention to students' feedback and provide constructive feedback.
11. Incorporate different dynamics in the class to motivate the students.
12. Create a non-inhibited environment to promote interaction and participation in the class and try to focus on the content instead on the form.
13. Try to make the content interesting for the students so as to make them participate more.

14. Make participation count in the final evaluation in order to motivate your students extrinsically.

If teachers put into practice some of the aforementioned strategies, their teaching practices will be interactive, participative and highly communicative, which will lead students to learn more and better, since they will see themselves directly involved in the learning process. In addition to that, if teachers are aware of how to use questions, elicitions, and negotiation of meaning in the class, they will be more likely to perform better in their classes. For this reason, in the following sections of this research these issues will be covered.

2.2.1. Questions

A question is a means of requesting information, and its chief motivation is to elicit knowledge (Athanasiadou, 1991). As part of the classroom interactional competence that teachers need to master in order to succeed in their teaching practices, questioning plays a prominent role, as claimed by Morell (2020). A large number of scholars have researched on the use of questions in educational contexts, and it seems that there is common agreement on the fact that the use of them may determine to a large extent the degree of interaction and participation found in the classroom (Brock, 1986; Chang, 2012; Fortanet-Gómez and Ruiz-Madrid, 2014; Morell, 2004, 2007, 2020).

According to Long (1981), opening conversations through questions may have a positive influence on the participants due to at least three reasons. In the first place, questions demand a response (Goody, 1978), thus, once the listener has been asked, he or she would feel the obligation or the need for answering it. Moreover, the syntax of questions (the subject-auxiliary inversion and sometimes their *wh*- morphology) together with their raising intonation facilitate their recognition. Finally, questions usually help the respondent to form their answers, since part of the structure or information they may need can be found in the question itself.

Thompson (1998) and, later, Crawford Camiciottoli (2008) divide questions in two categories: audience-oriented and content-oriented. The first group gathers those questions that allow the listeners to give a response. The types of functions that these questions accomplish are: eliciting responses, class management/engagement, soliciting

The orchestration of verbal and non-verbal modes of communication...

agreement, checking comprehension, or requesting information/clarification. On the other hand, content-oriented questions do not expect for responses, since their aim is making the audience focus on information or stimulating their thought (rhetorical questions).

However, for the purpose of this study, as well as in Morell *et al.* (forthcoming), the classification that is going to be considered is Bloom's taxonomy (1956), who divides questions in two groups as well: those which make the students think or recall factual information, and those which make them analyse, evaluate, judge, or synthesize information. The aim of the first ones, also known as display questions, is making the students display their knowledge, proving that they know or they understand what they are being asked. Furthermore, the second group, referential questions, implies that the students analyse and process the information at a higher level; thus, high order thinking skills are involved (Brock, 1986; Lindenmeyer, 1990; Chang, 2012; Morell, 2004).

In line with what was stated in the previous section, in strategy 7: "Use more open/general questions and referential questions to promote greater productivity and more meaningful communication" (Morell, 2000, p. 66), the author claims that teachers must try to ask more referential than display questions, since the first ones promote interaction and make students produce longer and more elaborated responses (Brock, 1986; Nunan, 1987; Lindenmeyer, 1990; Chang, 2012; Affandi, 2016; Morell, 2004, 2007, 2020). In spite of this fact, Brock (1986) stated that ESL teachers asked more display than referential questions in the classroom, and Long and Sato (1983) pointed out that referential ones are the most frequently used outside the classroom. Taking into consideration that the goal of communicative competence and, in extension, of second language classes is recreating real life communication, scholars have highlighted the use of referential over display questions in educational contexts.

According to Affandi (2016), display questions are commonly used as ice breakers or warmers in a lesson, and afterwards, they would give the floor to referential questions, which are likely to occur during discussion activities. In the classroom, teachers should make an intelligent use of questions, since depending on their performance, their students would have a better or a worse communicative competence (Brock, 1986; Rohmah, 2002; Affandi, 2016). The key in order to achieve a truly communicative classroom is that communication is reciprocal, and that happens when "teachers offer questions and students respond" (Affandi, 2016, p. 66).

2.2.2. Elicitations

The main goal of interactive and communicative lessons is eliciting knowledge from the students, since in this way they will be participating and taking part in the development of the lecture. One way of doing it is through elicitations, which according to Morell *et al.* (forthcoming), allow teachers to give instructions, encourage participation, or give clues that may be directed to the class, pairs or individuals. They can be in the form of expository sentences, either positive or negative, or in interrogative form. As stated by Mehan (1979) elicitations expect a response from the audience, either explicit or implicit; that is to say, students can respond verbally or carrying out an order or action. Mehan (1979) distinguished four categories of teacher's elicitations:

- Choice elicitations make students choose between several options, to agree or disagree. Moreover, they contain the information that the student needs to form his or her answer. In the following example taken from Mehan (1979, p. 44), it can be appreciated how a student chooses between two options which are written on the board:

T: Now which one is that one?

S1: The middle one.

T: The middle ones?

S1: (shakes head yes)

- Product elicitations try to make the students to produce a response, such as a name, a place, an object, a colour, etc. The following extract from Mehan (1979, p. 45) illustrates how the teacher guides the student to get the right answer:

T: And then it says (points to fourth line)...

SS: (no response)

T: See the...

S1: Slide.

T: It starts with that "ss" sound we were talking about yesterday.

S2: Snake

T: See the...

S4: Road.

- Process elicitations encourage students to interpret or give opinions about a certain fact. In this instance from Mehan (1979, p. 45), the teacher is asking for a student's opinion:

T: Why do you like the middle one?

S1: Cause they could take their own.

- Metaprocess elicitations look for the explanation of the students' arguments or responses. An example from Mehan (1979, p. 46) is illustrated below:

T: And Carolyn, how did you remember where it was? It's kind of in the middle of the country and hard to find out.

C: Cuz, cuz, all three of the grandmothers (pause) cuz, cuz, Ms. Coles told us to find it and she said it started with an a and I said there (pointing) and it was right there.

For the purpose of this research, the types of elicitations that are going to be considered are the ones used in the research carried out by Morell *et al.* (2020), which are: giving clues, encouraging participation, giving instructions, individual elicitation or pair elicitation. A brief definition and some examples taken from the Appendixes section are reflected below:

- Giving clues. The teacher gives explicit or implicit hints in order to lead the students to the ideas he or she wants them to arrive. They usually occur after giving instructions. For example: "T: I beg you please to think of some sort of applications from this multifunctional concrete (E-Inst). How could we use it? (E-Clue) For what purposes? (E-Clue)" (TS1, Appendix 3, p. 67).
- Encouraging participation. To foster interaction and communication in the class, the teacher usually asks questions in order to make the students' participation easier. For instance: "T: Anything else? (E-Enc)" (SS3, Appendix 9, p. 88).
- Giving instructions. Teachers usually explain what they want their students to do in the form of polite requests following the structure "I would like you to...". An instance of this type of elicitations can be found in TS2 (Appendix 4, p. 69): "T: I'd like you to work in groups of... You're quite a few so in groups of two, in pairs (E-Inst), ok? (Comp) Just for... a couple of minutes and think about that (E-Inst), ok? (Comp)".
- Individual elicitations. They take place when teachers elicit information only from a student. For example: "T: Ok, perfect. The environment, that's important. And you Borja? (E-Ind)" (TS2, Appendix 4, p. 73).

- Pair elicitations. In line with the previous type, pair elicitations occur when the elicitation is directed towards a pair of students who are working together. For instance: “T: Ok, this is the principle of inertia. We have one. Good. Then, second group? (E-Pair)” (TS4, Appendix 6, p. 78).

2.2.3. Negotiation of meaning

According to Pica (1992) and Morell (2004), when two or more participants have trouble understanding themselves or following a conversation, special interactions or turns occur in order to solve those problems. These “problem-solving” interactions are gathered under the term “negotiation of meaning”, and are characterised by being formed by repetitions, extensions, adjustments, modifications or clarifications made in order to arrive at mutual understanding among the participants (Pica, 1994; Foster and Ohta, 2005). In addition, it is possible to distinguish three groups of negotiation of meaning depending on their function: comprehension checks, confirmation checks, and clarification requests (Long, 1981).

In the first place, comprehension checks are expressions produced by the speakers in order to make sure that the listeners have understood them (Long, 1981; Morell, 2000, 2004, 2005). These expressions can be formed by repetitions of part of the previous utterance with rising question intonation, tag questions, or sentences like “Do you understand?” (Long, 1981). Secondly, as stated by the same author (1981), confirmation checks are expressions that speakers pronounce after an utterance with the objective of eliciting confirmation from the listener. These phrases can be identified by their rising intonation and their repetition of the previous utterance, totally or partially (Long, 1981; Morell, 2000, 2004). For instance, a speaker says that she is cooking pasta and the listener repeats “Pasta?” so as to confirm what she said. Finally, clarification requests are moves or expressions by which a person asks for repetition or clarification. They are frequently formed by wh- or yes-no questions (Long, 1980), since new information is required. An example of a clarification request would be “What did you say?” (Morell, 2004, p. 329).

The concept of negotiation of meaning is founded upon Krashen’s Input Hypothesis (1985), since he claims that language acquisition takes place when learners receive input which is one step beyond of their current state of knowledge ($i + 1$). In line with this fact, negotiation of meaning will inevitably occur when solving

The orchestration of verbal and non-verbal modes of communication...

misunderstandings or when trying to understand what at first seemed incomprehensible input (Pica, 1991). In consequence, according to Long (1996), if negotiation of meaning (i.e. comprehension checks, confirmation checks, and clarification requests) occurs, it would be possible to assume that the learner is progressing in his or her SLA process.

3. English as a Medium of Instruction

All around the world, English is well known for being the universal lingua franca (Tibategeza, 2019). It is the second most spoken language worldwide after Chinese, and it is a language with more non-native speakers (NNS) than native ones (NS). The privilege position that nowadays English has is due to a process that started some decades ago, when English began to be used beyond its frontiers: in the business industry, economics, entertainment, and mainly, in the Internet (Guo & Beckett, 2007). The net, apart from spreading news and information quickly, also spreads language itself, making it arrive at every corner of the globe.

For this reason, and as a response to internationalization just as Chang (2012) and Morell *et al.* (2014) claim, universities from around the world are implementing content courses to be taught in English; using English as a Medium of Instruction (EMI). The introduction of content courses taught with English being the vehicular language opens the university to the world, and puts the institution in higher positions when it comes to global rankings rating global education and internationalization (Tibategeza, 2019). It is noticeable how the number of EMI subjects is increasing swiftly; according to Wächter and Maiworm (2014), in a period of barely 15 years (2001 – 2014) it has passed from f, a rise of more than a tenfold.

This teaching practice (EMI) was first analysed by Graddol (1997), who noticed that it was one of the most popular trends in education internationally at the time. His words were subsequently seconded by Dearden (2015) and Wächter and Maiworm (2014), authors who claimed that EMI practices had been thriving throughout the years, and they pointed out at the bright future that it lay ahead. Nevertheless, the description of EMI and its goals did not seem to be clear among the academics. To shed light on this issue, Dearden (2015) proposed a definition in which she described EMI as “the use of the English language to teach academic subjects in countries or jurisdictions where the first language (L1) of the majority of the population is not English” (p. 6). Besides, its

goal has been determined to be content mastery, leaving out any linguistic objectives (Unterberger & Wilhelmer, 2011).

Along these lines, the definition provided in the previous paragraph fits into the linguistic context of Spain, where the L1 is Spanish and English is mostly treated as a foreign language (FL). In the following sections the EMI situation in Spain, and, in particular, at the University of Alicante, will be presented and commented on in order to contextualise the research.

3.1. English as a Medium of Instruction in Spain

Spain is a western European country in which almost a third of its population is bilingual due to the existence of an official (Spanish) and a co-official language (Fortanet, 2012). Depending on the territory, this language can be Catalan, Valencian, Basque or Galician. Apart from this coexistence of languages in some regions, nowadays English is gaining prominence all around the country, and in consequence, it is becoming highly important in education. For the purpose of this study, in this section the situation of EMI in Spain will be discussed.

According to Hontoria *et al.* (2013), English is increasing its presence as well as its significance in tertiary education. This fact is due to its position as the global lingua franca that it currently occupies (Tibategeza, 2019); thus, as a consequence, offering teaching in English opens the borders of education to the world. Because of this need of internationalization, Spanish universities, promoted also by the Spanish government, are teaching content subjects using English as the medium of instruction (EMI). In this way, mobility and exchanges are enhanced and fostered among university students. Actually, in line with the statistics shown in its webpage ([Erasmus+](#), 2018), the number of Erasmus students who go abroad to accomplish part of their education grows year by year. In this website it also indicates that Spain is the country which receives more international students annually.

In relation to EMI training in Spain, as stated by Hernández-Nanclares and Jiménez-Muñoz (2016), there were not many degrees available to be studied entirely using EMI four years ago. There were particular subjects or modules, but not entire degrees. Nonetheless, this number has been growing in the last years in spite of the

The orchestration of verbal and non-verbal modes of communication...

challenges and difficulties that this teaching practice may entail for those who are not familiar with it, either teachers or students.

In Spain, one of the major challenges that students have to face when it comes to EMI classes is that they are not properly trained to receive this kind of education (Hernández-Nanclares & Jiménez-Muñoz, 2016). Secondary students usually finish their schooling with an intermediate level of proficiency in English. However, their true competence is linguistic; they do not usually master communicative competence. For this reason, EMI teachers should be prepared to face those challenges and they should bear in mind that it is not enough being linguistically competent in English. They have to be aware of the orchestration of the different modes of communication in order to be able to make the most of their teaching practices, since a good combination of the verbal and non-verbal modes can counterbalance any linguistic deficiency the lecturer may have and, thus, this would facilitate the students' learning process (Morell, 2020).

For this reason, as it will be expanded on in the following part, at the University of Alicante some studies have been carried out to look into the needs and challenges that teachers may have to cope with when facing EMI classes (Morell *et al.*, 2014).

3.2. English as a Medium of Instruction in Alicante

The University of Alicante (UA), as a Spanish institution, is specially interested in opening its education to the world. One of the ways to do so is teaching EMI courses in order to facilitate foreign students' approachability; no matter what their mother tongue is, they have the chance of receiving training in which English is used as the lingua franca or as the medium of instruction.

In the UA website it is possible to find the relation of the different subjects that have been taught in English in the last few years: they have been registered since the 2014/2015 academic year (<https://web.ua.es/es/vr-ric/historico-cursos-en-ingles.html>). In Table 1 (below), the number of EMI subjects taught in both academic years, 2014/2015 and 2019/2020, can be appreciated: the oldest record and the most recent one.

Table 1. EMI subjects taught at the UA, taken from <https://web.ua.es/es/vr-ric/historico-cursos-en-ingles.html>.

-	2014/2015	2019/2020	Difference
Arts & Humanities	71	73	+2
Social Sciences & Law	46	56	+10
Sciences	23	24	+1
Engineering & Architecture	80	76	-4
Health Sciences	8	11	+3
Education	8	16	+8
Total	236	256	+20

As indicated on Table 1, the number of EMI subjects has increased. In the 2014/2015 course, a total of 236 subjects were taught in English, whereas at present that number has increased up to 256. It can be observed that the branches of knowledge which offer more subjects using English as the medium of instructions are Arts & Humanities, in which many of them are those taught in English Studies and Translation; and Engineering & Architecture ($n = 73$ and $n = 76$). However, it is worth mentioning that while all the fields have increased their number of EMI courses, Engineering & Architecture have decreased by four.

According to Morell *et al.* (2014), the UA offers EMI classes in several ways. One of them are English content courses, degree subjects that are partially or entirely taught using English as the vehicular language for communication. These subjects are found in the different faculties (i.e., Architecture, Law, Education, Health Sciences, etc.). Moreover, there are ARA groups (*Alto Rendimiento Académico*), which receive at least half of their degree in English. Finally, other events or courses held at the university are performed using EMI as well.

As previously mentioned, a large amount of subjects, courses or events are held using English as the medium of instruction at the University of Alicante. For this reason, studies on this matter have been conducted in order to look into this teaching practice. In their study, Morell *et al.* (2014) point to the need of training in successful EMI practices, since most teachers are not aware of the attitudes or competences that this way of teaching entails, such as multimodal competence. In line with this, the UA along with the ICE

The orchestration of verbal and non-verbal modes of communication...

(*Instituto de las Ciencias de la Educación*) offer seminars where EMI reflection, awareness and practice are considered and dealt with.

4. Research questions

The gap intended to be filled with this investigation gives answer to the following research questions, which find their theoretical basis in the previous sections:

1. Are there any differences or similarities between the two groups of academics (i.e., TS and SS) in relation to the use of questions, elicitations, and negotiation of meaning?
2. Are there any differences or similarities between the way in which academics combine the different modes of communication, both verbal and non-verbal, in relation to the field of study they belong to (i.e., TS and SS); that is, in the context of multimodality?

In order to try to respond to these questions, in the forthcoming parts of this research the analysis will be presented.

PART II: THE ANALYSIS

1. Introduction

Once the theoretical framework of this study has been presented, special attention will be paid to the analysis part. In it, the methodology followed to carry out the research and to gather the data is going to be covered, taking into account the context, the subject, and the instruments used. Thereupon, the findings obtained from that analysis and the discussion of them will be dealt with in order to be able to come to a conclusion.

As it has been mentioned before, studies on the use of questions in the language classroom have been developed in the last decades (Long and Sato, 1983; Brock, 1986; Morell, 2004). The overall results these researchers found were that most teachers asked display questions while lecturing, which provoked students' shorter and less elaborated responses than referential questions. However, it seems to be that this kind of studies has not been recently replicated for the sake of comparing the findings to the ones obtained nowadays, nor carried out in content classrooms, such as in EMI classes.

In addition, as it is claimed by Morell *et al.* (forthcoming), no attention has been paid to examine the differences in relation to the orchestration of the different modes of communication (i.e., verbal and non-verbal) – multimodality – in relation to the teachers' fields of study. Consequently, the gap I intend to fill with my research covers the ideas just addressed.

In summary, the focus of this study is divided into two main research questions. The first one deals with the differences among the two main fields of study, Technical Sciences (TS from now on) and Social Sciences (SS from now on), in reference to the use of questions, elicitations, and negotiation of meaning; the three main features that characterise episodes of engagement. The second research question has to do with the way in which teachers combine their modes when engaging and interacting with their audience (multimodality).

To do so, I have chosen to carry out a qualitative study by analysing eight mini-lessons belonging to the June 2018 English Medium Instruction: Reflections, Awareness, and Practice (EMI RAP) workshop, which is the second module of the [Prof-Teaching EMI training programme](#) (*Programa de Formación para la Enseñanza en Inglés*), held every year at the University of Alicante thanks to the *Instituto de las Ciencias de la*

The orchestration of verbal and non-verbal modes of communication...

Educación (ICE). It is aimed at university teachers with the objective of learning how to give more interactive talks and how to orchestrate their modes of communication when lecturing.

In the following sections I will expand on the methodology I have followed to obtain the data I am going to work with: the context of the analysis, the subject of study and the instruments used. Moreover, in the last section of this part I will consider the results I have gathered from it and its respective discussion.

2. Methodology

2.1. Context of the analysis

English as a Medium of Instruction is becoming an increasing practice in Higher Education (HE) as a response to internationalization in Europe (Knight, 2013; Morell *et al.*, 2014; Dearden, 2015). It is a relatively new procedure unknown for some teachers who lack training to perform EMI lectures properly, whether it be due to their insecurities in relation to their linguistic competence in the vehicular language of the lectures (English), or to the attitudes the teacher has to embrace during the lecture. For that reason, and in response to the findings and pedagogical implications claimed in Morell *et al.* (2014), the University of Alicante along with the *Instituto de las Ciencias de la Educación* (ICE) hold workshops to promote EMI reflection, awareness, and practice every year.

These workshops have been offered to the UA staff for some years now, and, as mentioned previously, are meant to train academics in successful EMI teaching practices. As described in [ENGLISH MEDIUM INSTRUCTION \(EMI\): REFLECTIONS, AWARENESS AND PRACTICE \(RAP\)](#). *Instituto de Ciencias de la Educación*, a maximum of 20 participants at a time may enrol for this 30 hour course (20h. on-site, 10h. distance-learning), and pursue the following objectives: to reflect and consider the main ideas of EMI, the strategies and obstacles teachers may overcome and how to do it; to be familiar with multimodality, interaction, and engagement in EMI classes; and to perform an EMI mini-lesson of the lecturer's field.

The seminar has four main parts or modules. However, for the purpose of this study I am going to focus on the last one: the participants' performance of a mini-lesson. In these final mini-lessons, teachers have to carry out a lesson of their own branch of

knowledge to put into practice everything they have learnt in the workshop: how to engage with the audience, formulate questions, orchestrate the different modes of communication, etc. These mini-lessons are usually recorded and, thanks to that, it has been possible to compose the AcqUA EMI microteaching corpus, the resource I have made use of to obtain the data I intend to work with.

2.2. Subject of study

The AcqUA EMI microteaching corpus is a developing database composed of a total of 119 videos of the mini-lessons carried out at the end of the EMI RAP workshops at the UA. Overall, they are from 15 to 20 minutes long, and contain from one to three episodes of engagement, which, at the same time, have three main moves in them: the setting up move, the supervising move, and the eliciting move (Morell, 2018). The parts of the videos focused on for this analysis are the episodes of engagement, since they are the main focus of the workshops as well: those instances in which students are involved in pair work, group work, debates or web-based activities (Morell *et al.*, forthcoming).

The different videos are classified according to the year and month when they were recorded; that is to say, according to the workshop they belong to (2018, 2019, 2020...). Furthermore, they are also tagged according to the faculty of the University of Alicante they pertain, i.e., Economics and Business (ECO), Polytechnic School (PSC), Health Science (HSC), Science (SCI), Humanities and Arts (HUA), Education (EDU) or Law (LAW). The eight mini-lessons focused on in this study are taken from the workshop held in June 2018. The reason for this choice is mainly due to the quality of both the videos and audios: they were professionally recorded, and the image as well as the audio are of a great quality.

I have chosen to analyse four videos of each major field of study in order to, afterwards, be able to make a comparison between the results in relation to the branch of knowledge they belong to. That is, a total of eight mini-lessons: four from Technical Sciences (PSC and SCI), and four from Social Sciences (HUA and LAW). For the purpose of this study, I have transcribed the videos in order to have an easier and quicker access to the scripts and, thus, being able to analyse the verbal discourse. The different mini-lessons will be named by the two initials of the branch they are associated with (i.e., TS or SS) and an identifiable number (TS1, TS2, TS3, TS4, SS1, SS2, SS3, and SS4).

These mini-lessons were carried out by teachers or professors teaching at the University of Alicante (UA) participating in the June 2018 EMI RAP workshop. It is worth noting that they have diverse characteristics, and most of them have no experience teaching in EMI (see Table 2 below). The attendance to these workshops is voluntary, so it may be assumed that teachers who enrol tend to be motivated to improve their teaching practices. In the following table some important data about the teachers are shown, such as their sex, their experience teaching in Spanish, their experience teaching using English as a Medium of Instruction, and their level of English according to the Common European Framework of Reference (CEFR).

Table 2. Teachers' characteristics.

Mini-lesson	Sex	Experience teaching in Spanish	Experience teaching in EMI	Level of English CEFR
TS1	M	3-10 years	Yes	B2-C1
TS2	F	3-10 years	No	C1
TS3	F	0-1 year	No	C1
TS4	M	10-20 years	No	B2-C1
SS1	M	1-3 years	No	B1-B2
SS2	F	>20 years	No	B2
SS3	F	>20 years	No	B2-C1
SS4	F	10-20 years	Yes	C1

As it can be observed in Table 2, the teachers performing the mini-lessons are five women and three men. Two men and two women for the TS mini-lessons, and one man and three women for the SS ones. In relation to their experience teaching in Spanish, four of them were experienced academics, having taught for more than a decade or two; two of them had taught for less than ten years; and the last two teachers were beginning to teach then, having taught for less than three years. In reference to EMI teaching, only two of them had experience, one from each field of study, which balances the sample. Finally, according to their level of English, it is noticeable that TS teachers have a better level of language proficiency, ranging from B2 to C1 according to the CEFR. The SS levels are lower, two of them between B1-B2, and two between B2-C1.

In relation to the mini-lessons these teachers performed, in the following table (Table 3) the topic, the length, and the number of episodes of engagement identified for each of the videos can be observed. Apart from the frequency of the episodes, an important factor to take into account to carry out this study is their length. In the subsequent tables, the number of episodes (Table 3) and the moments in which they begin and they end can be appreciated (Tables 4 and 5). In addition, the total amount of time they take can also be observed. Since among the purposes of this study is finding out if there is any difference among the two fields (TS and SS), the times are presented in two different tables, Table 4 for TS episodes and Table 5 for SS episodes.

Table 3. Mini-lesson's topics and number of episodes of engagement in them.

Mini-lesson	Topic	Length	Number of episodes of engagement
TS1	Multifunctional concrete	16'50''	3
TS2	Perception	18'49''	1
TS3	Urban sprawl	12'56''	2
TS4	The principles of dynamics	14'49''	3
SS1	The European crisis	12'13''	1
SS2	Academic Spanish	15'32''	1
SS3	The concept of contract	18'36''	1
SS4	Sustainability and tourism	15'17''	1

The total amount of time that TS videos (TS1 + TS2 + TS3 + TS4) add up to is 1 hour, 3 minutes, and 24 seconds; and SS videos (SS1 + SS2 + SS3 + SS4) equal a total of 1 hour, 1 minute, and 28 seconds.

Table 4. TS episodes' length.

Mini-lesson	Episode 1	Episode 2	Episode 3	Total
TS1	0'50'' – 5'43'' = 4'53''	8'13'' – 9'44'' = 1'31''	10'26'' – 13'00'' = 2'33''	8'57''
TS2	1'52'' – 9'39'' = 7'47''	-	-	7'47''
TS3	0'39'' – 3'27'' = 2'47''	3'28'' – 10'26'' = 6'58''	-	9'45''
TS4	0'08'' – 5'29'' = 5'21''	5'29'' – 11'12'' = 5'43''	11'12'' – 14'13'' = 2'51''	13'54''
				40'23''

Table 5. SS episodes' length.

Mini-lesson	Episode 1	Episode 2	Episode 3	Total
SS1	8'24'' – 12'00'' = 3'36''	-	-	3'36''
SS2	6'11'' – 11'32'' = 5'21''	-	-	5'21''
SS3	9'08'' – 15'37'' = 6'28''	-	-	6'28''
SS4	7'49'' – 13'24'' = 5'35''	-	-	5'35''
				21'00''

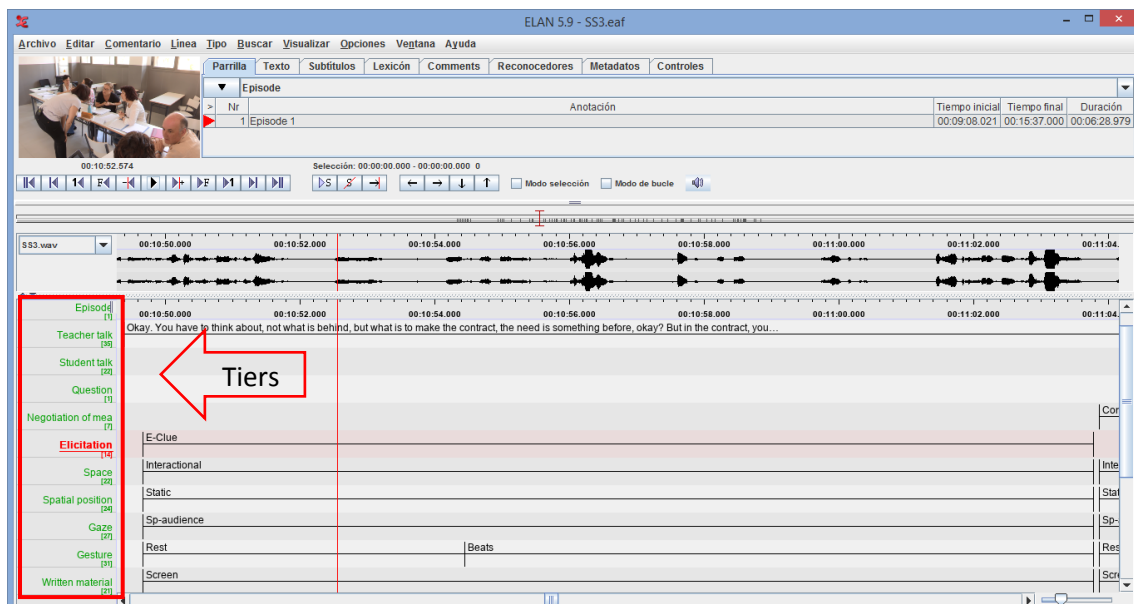
Both the number of episodes and their length are data which go hand in hand and seem to respond directly to the information displayed in Table 2: those teachers with a higher language proficiency (mostly TS teachers) involve their students in more and longer episodes of engagement. The total amount of time that TS devote to episodes of engagement is 40 min. 23 sec., whereas SS teachers engage and interact with their students a total amount of 21 min. 0 sec.

2.3. Instruments used in the study

The instruments I have made use of to carry out this study has been ELAN, an annotation software for multimodal analysis (Wittenburg *et al.*, 2006, Max Planck Institute for Psycholinguistics, The Language Archive, Nijmegen, The Netherlands. Available at: <https://archive.mpi.nl/tla/elan>) for the development of the multimodal discourse analysis.

The ELAN template (see Figure 3 below) used to develop this research is the same as the one used in Morell *et al.* (forthcoming), a research project carried out by the EMI-RAP network for Redes Innovaestic 2020. The tiers that can be found there are: episode, teacher talk, student talk, question (display, referential low, and referential high), negotiation of meaning (comprehension check, confirmation check, and clarification request), elicitation (giving clues, encouraging participation, giving instructions, individual, and pair), space (personal, authoritative, and interactional), spatial position (static, and dynamic), gaze (audience, board, computer, screen, and specific audience), gesture (action, beats, deictic, iconic, metaphoric, and rest), and written material (board, screen, and board and screen).

Figure 3. ELAN template.



3. Results and discussion

In this section I will present and comment on the results obtained from the analysis of the data gathered through the instruments aforementioned, ELAN and the verbatim transcription of the mini-lessons (available in the Appendixes 3-10, pp. 63-90). In the first place, the amount of questions asked in both branches of study – TS and SS – will be taken into account. Afterwards, special attention will be paid to elicitations and negotiation of meaning. These three components of verbal discourse (questions, elicitations, and negotiation of meaning) are important elements of the episodes of engagement, as it has been already explained in the theoretical framework. Once this part of the analysis is covered, the multimodal analysis will be presented to deal with the way teachers combine their modes when asking those questions, eliciting or negotiating meaning with their audiences.

Before approaching to the results themselves, it is worth noting that the length of the total episodes of engagement is longer for the TS videos than for the SS ones (TS = 40'23'' and SS = 21'; see Tables 4 and 5 above). As it has been mentioned before, TS teachers' English level is higher than the SS ones, and maybe that could be the reason why there are more TS episodes of engagement that take longer time than those of the SS academics. Due to their high level of competence, it might be the case that TS teachers may feel more comfortable and confident speaking in English in front of an audience than SS teachers, who at times appeared to be doubtful and somewhat insecure. This insecurity may be appreciated in both, the verbal and the multimodal analysis, since teachers sometimes make more linguistic mistakes and tend to look for support from their non-verbal materials, such as the slides or their notes, which has a positive effect on the students' understanding (Morell, 2020).

In the following tables (Table 6 and 7) the different kind of questions found in the mini-lessons' episodes of engagement are classified. To do so, two main type of questions have been taken into account: display and referential ones. In addition, I have considered a third type: rhetorical questions. Display questions are the typical classroom questions, asked to check if the students know or if they are following the class; teachers know the answer to these questions. On the other hand, referential questions are those questions that activate the students' critical thinking skills; they make them think, evaluate, analyse, or synthesize. Rhetorical questions are those which are not intended to be responded by

the audience, since teachers themselves answer them. This last type of questions is easily recognised because of the lack of wait time: teachers answer these questions relatively quickly, since they are not intended to be responded (Quirk *et al.*, 1985; Athanasiadou, 1991).

Table 6. Number of questions in TS episodes of engagement. D = Display question, R = Referential question, Rh = Rhetorical question.

Mini-lesson	D	R	Rh	Total
TS1	3	1	1	5
TS2	-	5	-	5
TS3	3	7	1	11
TS4	17	8	-	25
Total	23	21	2	46

In Table 6, it is possible to observe the amount of questions and their types that teachers from the Technical Sciences branch asked during their mini-lessons' episodes of engagement. TS4 lecturer stands out as the participant who asks the most questions (n = 25), since his entire mini-lesson was based on what the students knew about its topic, the Principles of Dynamics. His intention was to elicit from the students rather than to inform them.

Table 7. Number of questions in SS episodes of engagement. D = Display question, R = Referential question, Rh = Rhetorical question.

Mini-lesson	D	R	Rh	Total
SS1	-	2	-	2
SS2	-	2	-	2
SS3	-	-	1	1
SS4	-	2	-	2
Total	-	6	1	7

As it can be noticed in the two tables above (Table 6 and 7), the findings in relation to the number of questions asked are very dissimilar between the two groups. TS episodes of engagement have a total of 46 questions (D = 23, R = 21, Rh = 2), whereas SS episodes add up to an amount of 7 questions (R = 6, Rh = 1). If these numbers were added as a

The orchestration of verbal and non-verbal modes of communication...

total, the results would be 23 display, 27 referential, and 3 rhetorical questions. The most often asked type of questions are referential ones, which is coherent and responds to the goals of the workshop, since according to Brock (1986), asking referential questions makes students respond more and to produce longer responses.

Comparing these results between the two different fields, in the TS mini-lessons it is possible to observe a similar amount of both display and referential questions (D = 23 and R = 21); nonetheless, TS4 teacher is the one who has made this number to be so great, since he asked 17 display questions during his episodes of engagement. He was trying to elicit from the students through display questions, with the support of the slides he was showing to the audience. This teacher was carrying out an activity similar to a debate among the participants, making them think and eliciting responses from them at all times. In the following extract taken from TS4 transcription (Appendix 6, p. 80), it can be observed how the teacher tries to elicit from the students using display questions, trying to enhance the debate:

T: There is only one person, the earth and one ball. It's okay like this? (Conf) Okay even if majorities do not always are right, in this case it's correct, and the correct answer is A. Why is A? (D) Now it's the, the other question why A? (D) No, no, no, why B? (D)

S9: Because you make force...

S2: He was staying at the top of...

S1: In fact, B and A are correct.

S9: Yes

S1: Because first B, but later A.

SS: Yes

T: We are talking about the force.

SS: [Discussing]

T: Any justification? Why are a few of you thinking about the B? Is the correct one? Any justification for that? (D)

S9: Yes, because the person is throwing the ball to the top, so it's that kind of force for me.

S1: Maybe it's correct at this microsecond forces are balanced at the top.

S2: It is written and highlighted at the top.

SS: XXX.

T: And what about the C people? (E-Enc)

S7: You have the imbalance of forces at the very top at that moment

T: What forces? (D)

S: Gravity, you have the XXX forces.

In relation to SS mini-lessons, no display questions are found, being by far the majority of them referential ones ($R = 6$; $R_h = 1$). In the following example taken from SS2 (Appendix 8, p. 81), the teacher asked her students to think about what they thought foreign students needed to know before the beginning of the course at the University of Alicante. To do so, they worked in pairs during a few minutes, and then, the teacher elicited from them the ideas they had come up with:

T: So, I want to... to ask you to put yourself in their shoes and I want to work in pairs to eh... (E-Inst) Answer that question: What do you think they need to know about academic subjects, academic matters before the beginning of the course? (R)

In as far as rhetorical questions are concerned, they are only found in 3 mini-lessons (TS1, TS3, and SS3). They are characterised by the lack of wait time that teachers allow the students to think of an answer, since they do not expect a real response. The questioner asks to put emphasis on some points (Athanasiadou, 1991). Some examples are: “**T:** How could we transform something that is dielectric to electronic purposes? (Rh) Well, electricity or what we call conductivity. Okay? Sounds simple, and it is.” (TS1, Appendix 3, p. 67); “**T:** Yes, the engagement! Good! We agree, and if we agree, what is the consequence? You have to do something, and I have to do something: an engagement.” (SS3, Appendix 8, p. 88).

Moving on now to elicitation, they are very typical of episodes of engagement and interactive activities in the classroom. They are indirect ways of asking students to do something (Mehan, 1979). For instance, as we can observe in TS2, the teacher is giving instructions about what she wants her students to do: “**T:** I’d like you to think about your

own personal experience, about a building or place you've visited that had an impact on you" (Appendix 4, p. 69). In this way, she is eliciting certain knowledge from them, since she will probably obtain what she wants.

In the following tables, the number and types of elicitations that have been found in the analysis of both the TS and SS episodes of engagement are shown. Table 8 shows the results for TS episodes, and Table 9 for the SS ones:

Table 8. Number of elicitations in TS mini-lessons. E-Clue = giving clues, E-Enc = encouraging participation, E-Inst = giving instructions, E-Ind = individual elicitation, E-Pair = pair elicitation.

Mini-lesson	E-Clue	E-Enc	E-Inst	E-Ind	E-Pair	Total
TS1	2	4	5	1	1	13
TS2	2	8	10	4	-	24
TS3	-	1	7	-	-	8
TS4	-	3	6	-	5	14
Total	4	16	28	5	6	59

Table 9. Number of elicitations in SS mini-lessons. E-Clue = giving clues, E-Enc = encouraging participation, E-Inst = giving instructions, E-Ind = individual elicitation, E-Pair = pair elicitation.

Mini-lesson	E-Clue	E-Enc	E-Inst	E-Ind	E-Pair	Total
SS1	-	1	1	-	-	2
SS2	2	1	2	-	6	11
SS3	4	8	1	-	1	14
SS4	-	3	2	-	-	5
Total	6	13	6	-	7	32

In relation to what has been presented in the previous paragraphs dealing with questions, it is not surprising to find more elicitations in TS episodes (n = 59) than in SS ones (n = 31). The same reasons given for the questions' frequency could be applied to

elicitations: the episodes' length and teachers' language proficiency may have played an important role here.

The most often used kind of elicitation in the TS mini-lessons was the one used for giving instructions (n = 28), followed by the one used for encouraging the audience to participate or to go on with their responses. In SS videos, elicitations used to encourage the audience are the most frequently used (n = 13), meanwhile the second most regularly used is to elicit from a pair (n = 7). Looking at the videos and their transcriptions, it is noticeable that these TS teachers repeat or explain more in detail the activities they want to carry out with their audiences. In the following instances from TS mini-lessons it can be appreciated how both TS1 and TS2 teachers explain in detail what their students have to do to accomplish the activities:

T: So, I beg you please to work for just two minutes, in pairs or groups (E-Inst). Ah... I don't want you to find a proper definition, I only want you to try to find some key words, the main key words that could be used to explain what a smart city is (E-Inst). So you two please, you two... Ah... You three guys, and of course... (E-Inst) (TS1, Appendix 3, p. 65).

T: I would like you to... think about, in a very intuitive way, about your own per-personal experience in architecture to give me an example (E-Inst). An example about a building or place you've visited that had an impact on you (E-Inst), ok? An impact can be, because, some, you know, some spaces can make you feel comfortable, can make you feel stressed, relaxed, peace... Think about an example, it-it doesn't have to be like a very important, eh, building, it can be something quite personal (E-Inst), ok? And try to explain why (E-Inst) (TS2, Appendix 4, p. 69).

It is worth highlighting that both the number of elicitations used to give clues and to elicit from a pair are slightly higher in SS episodes than in TS ones (TS: E-Clue = 4 and E-Pair = 6; SS: E-Clue = 6 and E-Pair = 7; see Table 9). This fact might be due to, although these TS teachers explain deeper and more in detail what their students have to do, the SS teachers seemed to be more attentive to the development of the activity itself: they moved around the classroom monitoring and checking that everyone understood what they had to do. This could be the reason why the number of elicitations to give clues and to elicit from pairs was greater in SS videos. In the following extract from SS3

The orchestration of verbal and non-verbal modes of communication...

(Appendix 8, p. 86), in which the audience is trying to come up with a definition of “contract”, it can be appreciated how the teacher is giving clues while the students are discussing. The teacher has already given the instructions to be followed and she is now monitoring the development of the activity:

T: Think about... I want to buy... He wants to sell... He offers... Yes... I want to buy... You want to sell... And you say yes, I want! (E-Clue)

SS: [Discussing]

T: Perfect!

S9: Has there to be in a contract something written?

T: Not always.

S9: It has to be an exchange, no? (Conf)

T: Okay. You have to think about, not what is behind, but what is to make the contract, the need is something before (E-Clue), okay? (Comp) But in the contract, you... (E-Clue)

S9: We need an exchange, we need a...

S8: An offer, an acceptance.

T: Yes, yes. An offer, an acceptance, about what? (E-Enc)

In the multimodal analysis carried out with ELAN it is easy to observe how this teacher moves around the classroom while monitoring the activities. In Figure 4 (below), which corresponds to the previous example from SS3, it is noticeable that the teacher is giving clues to a specific audience, in this case, to a pair of students, while moving around the U-shaped classroom:

Figure 4. E-Clue in ELAN.

The screenshot displays the ELAN 5.9 software interface. At the top, there is a menu bar (File, Edit, Annotation, Tier, Type, Search, View, Options, Window, Help) and a toolbar. The main window is divided into several sections. On the left, a video window shows a classroom scene. To the right of the video is a 'Grid' window containing a table of annotations for 'Teacher talk'. The table has columns for 'Nr', 'Annotation', 'Begin Time', 'End Time', and 'Duration'. Below the grid is a timeline with various tracks. The 'Negotiation of meaning' track is highlighted in green. The 'Elicitation' track is highlighted in red and contains a bar labeled 'E-Clue'. Other tracks include 'Space', 'Spatial position', 'Gaze', 'Gesture', 'Written material', and 'Written material-scr'. The 'Beats' track shows 'Rest' and 'Beats' segments.

Nr	Annotation	Begin Time	End Time	Duration
1	So the second task is to find about the four elements needed for a contract to exist. Four elements. Think abo...	00:09:08.239	00:09:43.190	00:00:34.951
2	Think about... I want to buy... He wants to sell... He offers... Yes...	00:09:56.925	00:10:08.680	00:00:11.655
3	I want to buy... You want to sell... And you say yes, I want!	00:10:13.890	00:10:19.890	00:00:06.000
4	Perfect!	00:10:27.310	00:10:28.230	00:00:00.920
5	Not always.	00:10:41.620	00:10:42.670	00:00:01.050
6	Okay, You have to think about, not what is behind, but what is to make the contract, the need is something be...	00:10:49.390	00:11:08.690	00:00:19.290
7	Yes, yes.	00:11:12.720	00:11:13.700	00:00:00.980
8	An offer, an acceptance, about what?	00:11:16.860	00:11:19.290	00:00:02.430
9	Three? Okay.	00:11:22.045	00:11:22.935	00:00:00.890
10	This is the result, okay? The offer and the acceptance join together, and we have one element to the agreem...	00:11:28.910	00:11:39.080	00:00:10.170

As it can be observed in the examples already given, elicitation is usually followed by negotiation of meaning (i.e., comprehension checks, confirmation checks or clarification requests). Thus, this type of phrases are usually expected after explanations, instructions, or any piece of new information that the teachers share with their students. Their main goal is to check if the content previously explained has been understood (Long, 1981; Morell, 2000, 2004).

In line with what was mentioned before, once elicitation has been analysed and commented on, a similar amount of negotiation of meaning is expected. In the tables shown below, the number of negotiation of meaning encountered in both TS episodes of engagement (Table 10), and SS episodes of engagement (Table 11) is reflected.

Table 10. Number of negotiation of meaning in TS mini-lessons. *Comp* = comprehension checks, *Conf* = confirmation checks, *Clar* = clarification requests.

Mini-lesson	Comp	Conf	Clar	Total
TS1	1	-	3	4
TS2	8	9	2	19
TS3	8	1	-	9
TS4	5	7	4	16
Total	22	17	9	48

Table 11. Number of negotiation of meaning in SS mini-lessons. *Comp* = Comprehension checks, *Conf* = Confirmation checks, *Clar* = Clarification requests.

Mini-lesson	Comp	Conf	Clar	Total
SS1	-	-	-	-
SS2	4	-	1	5
SS3	5	1	1	7
SS4	3	-	-	3
Total	12	1	2	15

Once again, the amount of negotiation of meaning found in the TS branch is higher than the one found in the SS branch, results that coincide with what was pointed out for questions and elicitation. In both branches, the most often used form of negotiation of meaning are comprehension checks (TS = 22; SS = 12), such as “Ok?”, “Do you understand?”, or “Do you have any doubts?”. In relation to confirmation checks, only half of the teachers utilize them in their mini-lessons (TS2, TS3, TS4, and SS3), and five of them (TS1, TS2, TS4, SS2, and SS3) use clarification requests.

Some examples extracted from the appendixes are presented below. In the first one, there is a misunderstanding in communication: the teacher does not understand what the student is saying. To solve that problem, the teacher uses a clarification request (i.e., “Sorry?”):

T: Okay, ready? (5 sec.) Are we ready? (9 sec.) I’m glad, it’s quite interesting as you see. (Laugh) Okay, so could you please let me know some of your keywords? (E-Pair)

S1: ITs (/ai tis/).

T: Sorry? (Clarification request)

S1: ITs.

T: I what? IT? (Clarification request)

S1: Information Technology.

T: Okay, that’s perfect. That’s great.

(TS1, Appendix 3, p. 65)

In the following case, a confirmation check is used by the teacher in order to make sure that she has understood correctly what the student said. Therefore, the teacher repeats what the student has said in a higher pitch: “The light?”.

T: Yes. And... yes, sure. And this sacred architecture you're talking about, eh... Why was...? Why it is-it's special for you? Why? (R-Low)

S5: I don't know, it's for... It was for the mix of styles the-the light that we can perceive into.

T: The light? (Conf)

S5: Yes.

T: Ok, perfect.

(TS2, Appendix 3, p. 71)

It could also be noted that those lecturers with lower level of proficiency in English and less teaching experience did not make use of some of the strategies previously mentioned, such as including negotiation of meaning in their talks. However, they did rely more on the visual mode of communication, for example, making the most of the visuals and non-verbal materials.

On the whole, the overall results of the number of questions, elicitations, and negotiation of meaning that have been dealt with above let us come to the conclusion that these TS teachers seemed to carry out more interactive and engaging lectures than the SS teachers. However, these results may be influenced by the factors that have been displayed throughout this section. Even though the four mini-lessons of each branch add up a similar amount of time (TS = 1h. 3 min. 24 sec., and SS = 1h. 1 min. 38 sec.), the length of the episodes of engagement belonging to the TS branch is longer than the SS one: 40'23'' for the first group, and 21'00'' for the second. This could be one of the reasons why a greater number of examples have been found for the TS field.

Notwithstanding, how do teachers perform when eliciting content from their students? Does multimodality play a prominent role in these episodes of engagement? To research on this matter, the multimodal analysis carried out with ELAN will be useful. As it has been covered in the previous sections of this research, multimodality does play an important role in classroom environments; it fosters interaction, communication, and

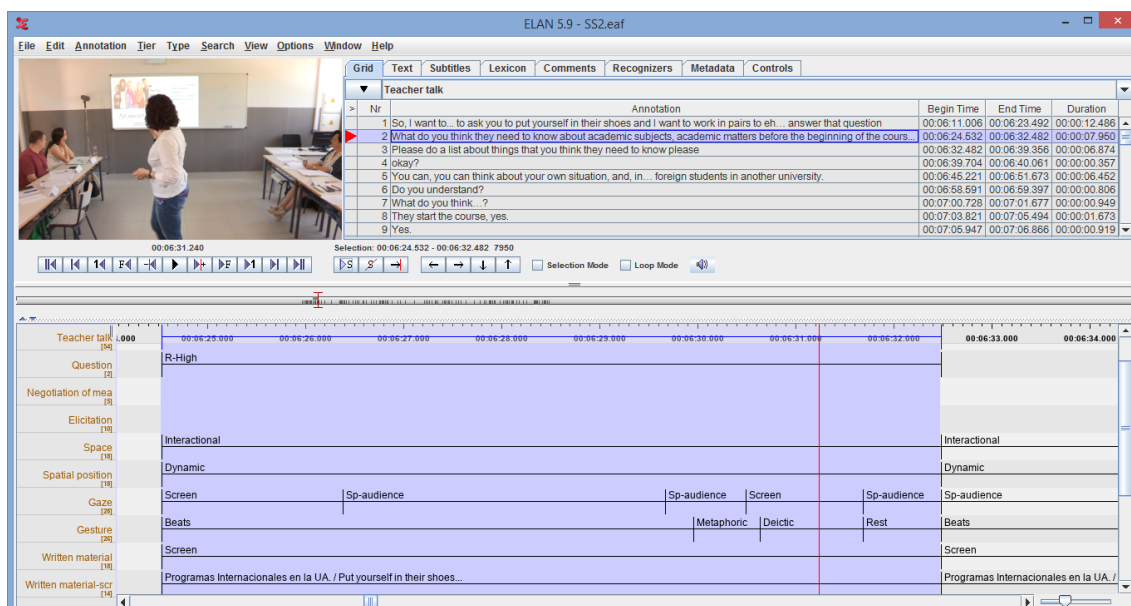
The orchestration of verbal and non-verbal modes of communication...

a better understanding of the class as a whole (Kress, 2010; Morell, 2018). In the previous pages, several screenshots taken from ELAN have been presented to exemplify some of the ideas commented on before. In what follows, the ELAN figures will be useful to focus on multimodality, on how teachers combine their different modes of communication when questioning, eliciting or negotiating meaning with their audiences.

In the first place, in relation to the way teachers orchestrate their verbal and non-verbal modes of communication when asking questions, it is possible to find different trends. Some teachers prefer helping themselves by reading the questions they want to ask from the slides they prepared, while others go for connecting directly with the audience and taking more advantage of multimodality: shifting their gaze from the audience to the screen, moving around the classroom, or making different hand gestures (beats, iconic, deictic...). These attitudes may have a connection with their self-confidence with the medium of instruction (the language), the subject, their moods, etc.

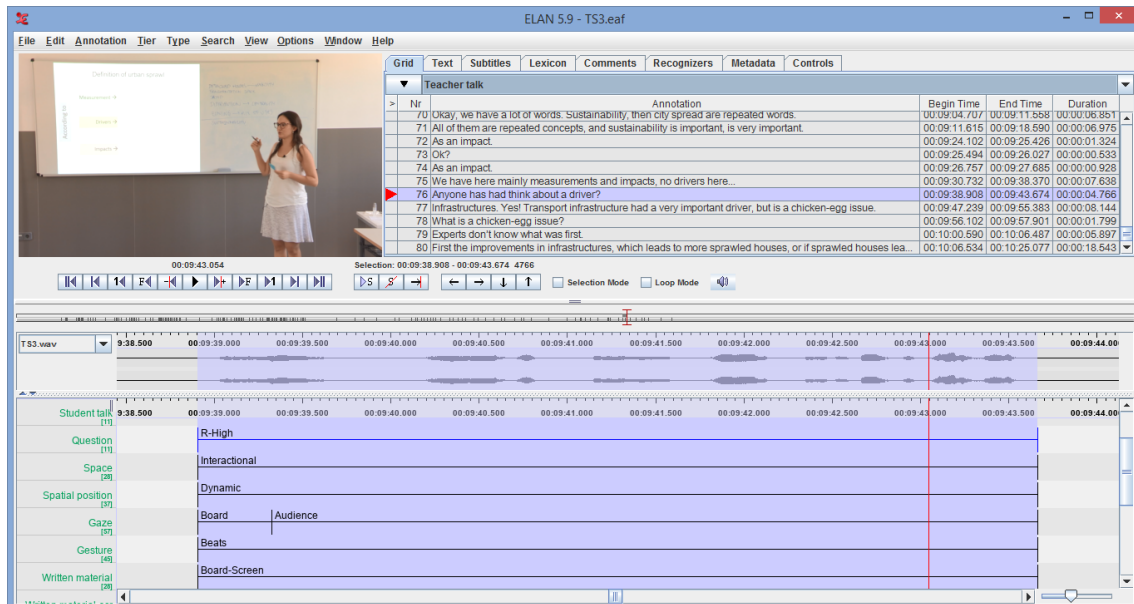
In Figure 5 (below) it is noticeable how SS2 teacher is highly multimodal when asking a referential question: “**T**: What do you think they need to know about academic subjects, academic matters before the beginning of the course?” (SS2, Appendix 6, p. 83). She combines the different modes of communication in several ways, alternating different gestures and looking at different parts of the classroom. In doing so, she is giving a multimodal talk, which may help the audience to follow the lecture.

Figure 5. SS2 teacher's combination of modes when asking a referential question.



In order to compare the way in which teachers put multimodality into practice while interacting with their audience, it is necessary to analyse how TS teachers perform when asking questions as well. For that purpose, Figure 6 (below) has been chosen. In it, it can be noted how the teacher is asking a referential question: “T: Anyone has thought about a driver?” (TS3, Appendix 5, p. 76), since she does not know the answer. While raising this question, she is moving around the classroom and looks at the board and the audience. To accompany her speech and give some emphasis, she is beating with her hands at the same time.

Figure 6. TS3 teacher’s combination of modes when asking a referential question.



Nevertheless, by comparing Figure 5 and 6 no striking differences can be found. Both teachers, from TS and SS, make use of the different modes of communication; they benefit from non-verbal aids, such as PowerPoint presentations; and they stare at the audience as well as at the screen, supporting their talk by combining various gestures to construct meaning.

Paying attention to display questions now, it is worthy of attention the fact that TS4 (Figure 7) and TS1 (Figure 8) teachers are highly multimodal as well when asking display questions. They both utilize the screen (in this case, their PowerPoint presentations) and look at it to back up their explanations. Moreover, they make several gestures with their hands while speaking: shifting from beats, deictic, and rest position.

The orchestration of verbal and non-verbal modes of communication...

Due to the fact that no display questions have been found in the TS mini-lessons, no comparison to the SS group can be made.

Figure 7. TS4 teacher's combination of modes when asking a display question.

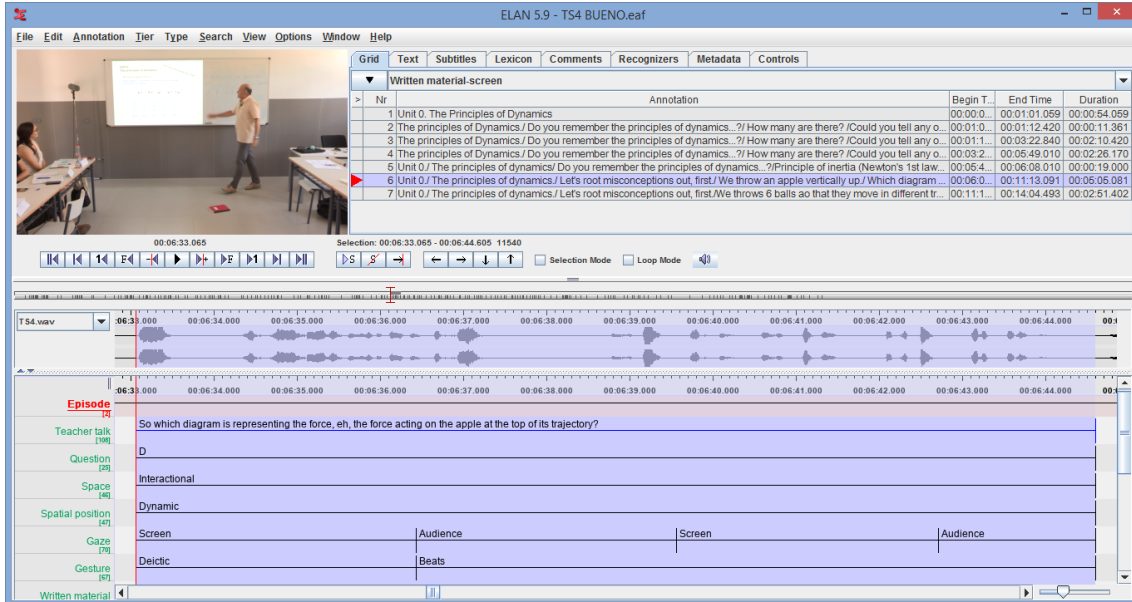
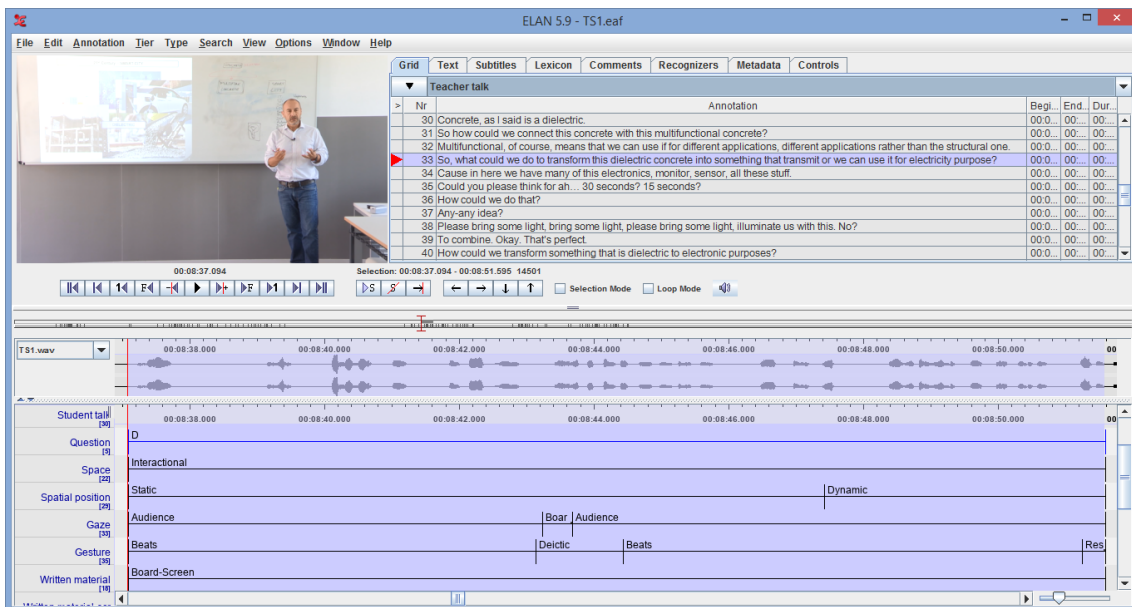


Figure 8. TS1 teacher's combination of modes when asking a display question.



Finally, elicitation and negotiation of meaning are going to be considered together, since they typically follow one another respectively. As it can be appreciated in Figure 9 (below), SS2 teacher gives an instruction which goes immediately followed by a comprehension check: "T: Please, do a list about things that you think they need to

know, please (E-Inst), okay? (Comp)” (Appendix 8, p. 83). In doing so, she is moving around the classroom and looking at a specific audience. At the same time, she is making gestures with her hands: during the elicitation, beating, and during the comprehension check, pointing at the screen.

Figure 9. SS2 teacher’s combination of modes when giving instructions and negotiating meaning (comprehension check).

The screenshot displays the ELAN 5.9 software interface. The top window shows a video of a teacher in a classroom. Below the video is a table with the following columns: Nr, Annotation, Begin Time, End Time, and Duration. The table contains 9 rows of data:

Nr	Annotation	Begin Time	End Time	Duration
1	E-Inst	00:06:11.006	00:06:23.492	00:00:12.486
2	E-Inst	00:06:32.482	00:06:39.366	00:00:06.874
3	E-Clue	00:06:45.221	00:06:51.673	00:00:06.452
4	E-Pair	00:07:00.728	00:07:01.677	00:00:00.949
5	E-Clue	00:07:13.609	00:07:19.028	00:00:05.419
6	E-Pair	00:08:50.749	00:08:51.963	00:00:01.214
7	E-Pair	00:08:56.529	00:08:56.478	00:00:00.949
8	E-Pair	00:09:03.349	00:09:04.509	00:00:01.160
9	E-Enc	00:10:17.204	00:10:17.790	00:00:00.586

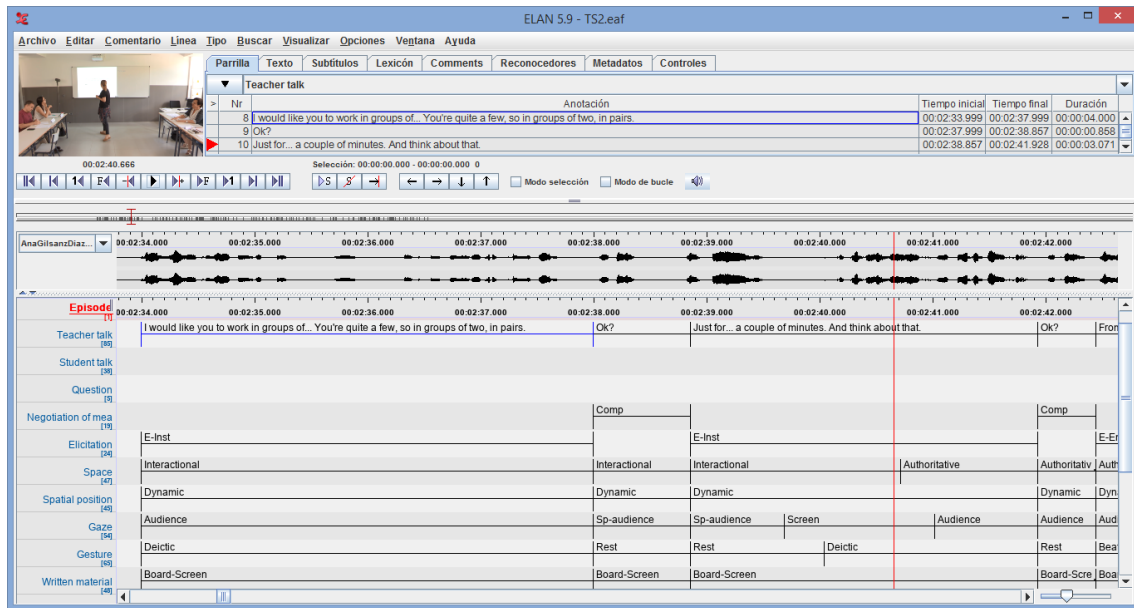
Below the table is a timeline with various linguistic and interactional categories. The categories and their corresponding values are:

- Episode: 11
- Teacher talk: [D4]
- Question: [R]
- Negotiation of mea: [R]
- Elicitation: [11]
- Space: [R]
- Spatial position: [R]
- Gaze: [R]
- Gesture: [R]
- Written material: [R]

The same attitudes are embraced by TS2 teacher when eliciting and negotiating meaning with her audience (see Figure 10 below). In this case, she gives instructions and checks that everyone understands her at the end of each direction: “T: I’d like you to work in groups of... You’re quite a few so in groups of two, in pairs (E-Inst), ok? (Comp) Just for... a couple of minutes and think about that (E-Inst), ok? (Comp)” (Appendix 4, p. 69). She keeps moving all the time while speaking, and looks at the audience and at the screen, where her visual aids are presented. In this case, the teacher combines two main hand positions: deictic and rest. To emphasize her speech, she points at the screen, even though she is not always looking at it; and she rest her hands by joining them together.

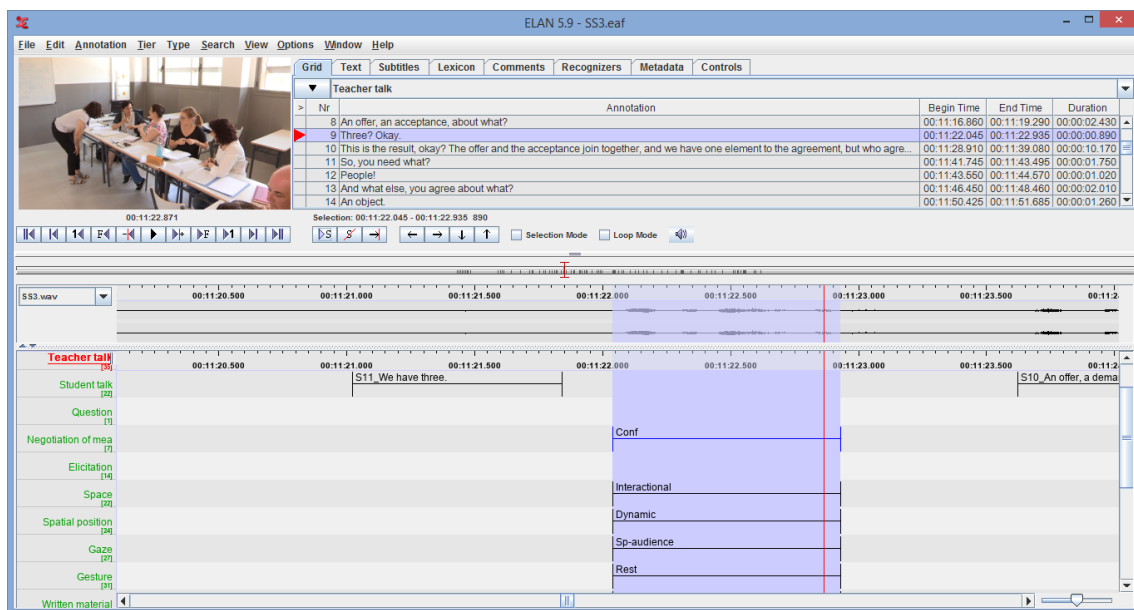
The orchestration of verbal and non-verbal modes of communication...

Figure 10. TS2 teacher's combination of modes when giving instructions and negotiating meaning (comprehension check).



In relation to confirmation checks and clarification requests, similar behaviours can be appreciated for both TS and SS teachers. In the following figures it is possible to observe how SS3 teacher combines her modes while confirming what she has understood: “T: Three?” (Appendix 9, p. 86). In so doing, she is speaking with a group of students who are working together, thus she is looking at a specific audience while moving around.

Figure 11. SS3 teacher's combination of modes when negotiating meaning (confirmation check).



Finally, in Figure 12 it can be observed the way in which TS1 teacher combines his modes of communication when trying to clarify a student's intervention. In this case, he wants to make sure about what a student has just said, so he elaborates on the student's response so that the student is able to confirm or not what the teacher is saying:

T: Illuminate us, please.

S9: No, no... I was thinking in the road for example.

T: The road, fantastic, fantastic.

S9: To, to... That they can be sensitive, no? To the rain or to the light to give some information.

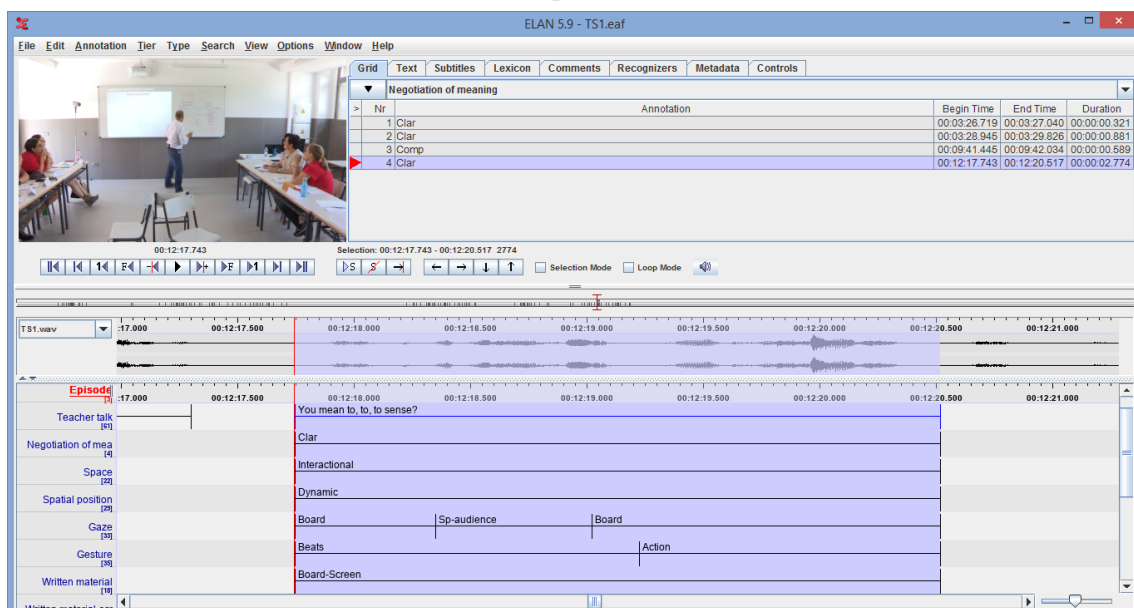
T: Well, that's fantastic. You mean to, to, to sense? (Clarification)

S9: Yes, the materials, they can be sensitive.

(TS1, Appendix 3, p. 67)

While TS1 teacher negotiates meaning with the student, he makes use of the different modes of communication, both verbal and non-verbal. He is in the eliciting move of the mini-lesson, so he is writing down on the board what the students are saying. For that reason, he looks at the board, at the students, at the specific student... Besides, when he is not writing on the board, he accompanies his speech with beats.

Figure 12. TS1 teacher's combination of modes when negotiating meaning (clarification request).



The orchestration of verbal and non-verbal modes of communication...

To sum up, it could be assumed that no remarkable differences in relation to multimodality have been observed between the two different fields, Technical and Social Sciences. After having taken part in the EMI RAP workshops, the teachers seem to have a great multimodal awareness and know how to combine the different modes of communication to construct meaning and engage with their audience. In the following section, the conclusions that can be drawn from these findings will be covered.

PART III: CONCLUSION

1. Conclusion

“Tell me and I forget, teach me and I may remember, involve me and I learn”
(Benjamin Franklin)

According to Kress (2010) and Morell (2020), multimodality, interaction, and engagement are key factors in the communicative classroom. Moreover, one element involves the other ones in one way or another. This investigation was intended to compare two groups of academics’ performances in relation to their EMI teaching practices. Once the study has been carried out, it seems that no striking differences have been found in relation to multimodality. In terms of interaction, the TS teachers of this study made a greater use of some strategies to promote it in the classroom, such as questions, elicitations, and negotiation of meaning. In general, they devoted more time to pair work, group work, web-based activities or debates – periods of time known as episodes of engagement (Morell *et al.*, forthcoming)– in comparison with the specific SS teachers chosen for this study.

The use of questions (especially referential ones) in classroom teacher talk has been proved as beneficial by some researchers (Long and Sato, 1983; Brock, 1986; Nunan, 1987; Lindenmeyer, 1990; Morell, 2004, 2007, 2020; Wright, 2006). It makes students to be more involved and active in the class, thus the learning process is much more effective and long-lasting (Morell, 2020). Additionally, including elicitations and negotiation of meaning fosters communication and interaction in the class, since, in the same way as questions, they give the chance to students to practice their communicative competence.

In this particular study, TS teachers seemed to ask more questions, paying special attention to referential ones; they tried to elicit information from their students using different kinds of elicitations (giving clues, encouraging participation, giving instructions, or eliciting from individuals or pairs); and usually made use of phrases to negotiate meaning with their audiences (comprehension checks, confirmation checks, and clarification requests). Nevertheless, these results cannot be considered without taking

The orchestration of verbal and non-verbal modes of communication...

into account the limitations of the study, which will be dealt with in the following sections.

2. Pedagogical implications

After having carried out this investigation, I can support other researchers' studies in which it has been found that referential questions produce longer and more elaborated responses from the students. For that reason, a greater use of this type of questions together with elicitations and negotiation of meaning would increase interaction and engagement in the classroom; students would feel more integrated in the development of the class and, in consequence, they would learn more and better. As it has been proved that including referential questions while lecturing provokes a good effect on students' attention, it would be a good idea if teachers would include techniques such as the ones presented in section 2.2. in their lectures.

Furthermore, not only questions, but an increase in the use of elicitations and negotiation of meaning would contribute as well to make the lessons more interactive and engaging, making the students participate in the development of the lectures. Nowadays, teacher talk is rather different from how it was conceived a decade ago. As aforementioned, Thornbury (1996) points out to the characteristics that define interactive classroom teacher talk, such as the use of pronouns, discourse markers, the use of referential questions, etc. (Morell, 2004).

As it has been claimed by Morell and Pastor (2018), awareness about the combination of the different modes of communication (multimodality) can compensate for any verbal deficiency in relation to language proficiency. A good orchestration and performance of multimodality increases the understanding and the clarity of the teacher when lecturing. Therefore, multimodal competence is not only important in the language classroom or in the EMI ones, but it is related to teaching and education overall.

From my point of view, this competence is not well known by teachers in general, thus I would consider a good idea to spread multimodality awareness among academics, either at workshops like the one involved in this study, at seminars, at lectures, etc. Teachers should be conscious about the advantages that multimodality can bring to the classroom, for them as teachers and for their audiences.

3. Limitations and further research

Going back to the results obtained from the analysis, they suggest that the academics from the Technical Sciences branch of this study seem to make a greater use of questions, elicitations, and negotiation of meaning than the Social Sciences ones. In the same way, it is important to take into account that the episodes of engagement of this first field of study (TS) are longer than those of the second group (SS): maybe that is the reason why TS teachers asked more questions and interacted more with their audiences. For further research, it would be a good idea having similar quantities of time in relation to the episodes of engagement, since as can be observed in Table X, TS episodes of engagement last for 40 min. 30 sec., while SS episodes last for 30 min. 54 sec.

The mini-lessons analysed in this research belong to the AcqUA EMI microteaching corpus, a data base formed by the presentations performed by the teachers attending to the EMI-RAP workshops, held annually at the UA. Although they are performed in a very natural way, it is undeniable that teachers are not in natural conditions. The observer's paradox can be one factor that could influence the results, since a video camera and the instructor of the workshop were in class while the teachers performed their mini-lesson.

Although the amount of videos has been homogeneous for the TS branch as well as for the SS branch, the length and the frequency of their episodes of engagement are not the same for both groups. However, the most important limitation of the investigation is the small corpus. We must keep in mind that only four mini-lessons of each field have been explored. In addition, each teacher has their own characteristics. To come to any firm conclusions, we would need to examine a greater number of mini-lessons. For further research, it would be a good idea taking into account the length of the episodes in order to be able to make clearer assumptions about the data and the results obtained.

Finally, in order to have a general idea about how the academics felt while performing their mini-lessons, for further studies it would be interesting to interview the teachers before and after their lessons. Taking into account their feelings, emotions, anxiety, etc., could open the doors to new investigations, such as teacher anxiety in EMI lectures.

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APPENDIXES

Appendix 1

Key for the transcriptions:

T = Teacher

S = Student

SS = Students

/ = Pause

(x sec.) = Pause in seconds

XXX = Inaudible

Appendix 2

Key for the analysis:

- Questions

D = Display question

R = Referential question

R-High = Referential high question (analyse, synthesize, evaluate) (High Order Thinking Skills)

R-Low = Referential low question (remember, know, understand, apply) (Low Order Thinking Skills)

Rh = Rhetorical question

- Elicitations

E = Elicitation

E-Inst = Giving instructions

E-Clue = Giving clues

E-Enc = Encouraging elicitation

E-Ind = Individual elicitation

E-Pair = Pair elicitation

- Negotiation of meaning

Conf = Confirmation check

Comp = Comprehension check

Clar = Clarification request

Appendix 3

TS1 episodes of engagement's transcription

First episode: 0'50''-5'43''

T: But before we start with that, let me please ask you if you are also involved in the “smart city” concept. **Have you heard? Have you heard of that concept? (R-Low) Have you? (E-Ind)**

S1: Smart house, but smart city, is it something similar?

T: Something similar. So, **I beg you please to work for just two minutes, in pairs or groups (E-Inst).** Ah... I don't want you to find a proper definition, **I only want you to try to find some key words, the main key words that could be used to explain what a smart city is (E-Inst).** So you two please, you two... Ah... You three guys, and of course...

SS: [Discussing]

T: That's correct, quite interesting.

SS: [Discussing]

T: Okay, ready? (5 sec.) Are we ready? (9 sec.) I'm glad, it's quite interesting as you see. (Laugh) Okay, **so could you please let me know some of your keywords? (E-Pair)**

S1: ITs (/ai tis/).

T: **Sorry? (Clar)**

S1: ITs.

T: **I what? IT? (Clar)**

S1: Information Technology.

T: Okay, that's perfect. That's great.

S1: Efficiency.

S2: Sustainability.

T: That's right.

S2: Connection, and resilience.

T: That... Wow. Okay, thank you. **Anything else? (E-Enc)**

S4: Eh... Big home?

T: Big home.

S4: I think environment is the same... Information? Mobility, but we use the keyword happiness.

T: That's great. Happiness?

S4: Happiness. Sustainability I think it's the same.

T: It's already. Okay, thank you. You two, guys.

S5: Ecologic.

T: Well, it has something to do with sustainability.

S5: Automatic.

T: Okay.

S7: Intelligent.

T: Intelligent.

S7: Auto-sufficient?

T: Self-sufficient.

S7: Self-sufficient.

T: Okay, quite, quite a lot. That's great.

S9: We've said sustainability too, technology, resources, no? All kind of resources. And more or less...

T: I think you've done a great job.

Second episode: 8'13''-9'44''

T: Concrete, as I said is a dielectric, so **how could we connect this concrete with this multifunctional concrete? (D)** Multifunctional, of course, means that we can use it for different applications, different applications rather than the structural one. So, **what could we do to transform this dielectric concrete into something that transmit or we can use it for electricity purpose? (D)** Cause in here we have many of this electronics, monitor, sensor, all these stuff. **Could you please think for ah... 30 seconds? 15 seconds? (E-Inst)**

The orchestration of verbal and non-verbal modes of communication...

How could we do that? (D) (3 sec.) **Any idea? (E-Enc)** Please bring some light, bring some light, please bring some light, illuminate us with this. No?

S9: To combine.

T: To combine. Okay. That's perfect.

S9: To combine how the technology resources, the research, in order...

T: **How could we transform something that is dielectric to electronic purposes? (Rh)** Well, electricity or what we call conductivity. **Okay? (Comp)** Sounds simple, and it is.

Third episode: 10'27''-13'00''

T: Now that we have all this information about the smart city, we now what it is, we know how to transform concrete into multifunctional concrete... I beg you, and this is the last time, I promise, **I beg you please to think of some sort of applications from this multifunctional concrete (E-Inst).** **How could we use it? (E-Clue)** **For what purposes? (E-Clue)** I know it's difficult but try to think for, again, ten seconds. (3 sec.) **I'm asking for applications (E-Inst).**

S3: In pairs?

T: Yes, yes, in pairs, same groups.

SS: [Discussing]

T: Okay, okay. (11 sec.) Quite controversial, I know, I know it's difficult. It's, it's hard.

S10: She has ideas.

T: Illuminate us, please.

S9: No, no... I was thinking in the road for example.

T: The road, fantastic, fantastic.

S9: To, to... That they can be sensitive, no? To the rain or to the light to give some information.

T: Well, that's fantastic. **You mean to, to, to sense? (Clar)**

S9: Yes, the materials, they can be sensitive.

T: All what we call self-sensing, and that is great. Very well thought out. Fantastic. Any other ideas? (E-Enc) You know, of course.

S3: Yes, we've thought about also for example, heating.

T: Thank you, Borja.

SS: Heating?

T: Anything else? (E-Enc)

S6: Light.

T: Light. Well, fantastic. I *drawed* something like a, I tried to draw a bulb. It's not exactly... Well, something like that. But ah...

S7: The traffic?

T: Traffic, fantastic!

Appendix 4

TS2 episodes of engagement's transcription

First episode: 1'52''-9'39''

T: I would like you to... think about, in a very intuitive way, about your own per-personal experience in architecture to give me an example (E-Inst). An example about a building or place you've visited that had an impact on you (E-Inst), ok? (Comp) An impact can be, because, some, you know, some spaces can make you feel comfortable, can make you feel stressed, relaxed, peace... Think about an example, it-it doesn't have to be like a very important, eh, building, it can be something quite personal (E-Inst), ok? (Comp) And try to explain why (E-Inst). This why is some reasons, it's just some concepts, some words you can relate to this experience you had in architecture (E-Clue), ok? (Comp) I'd like you to work in groups of... You're quite a few so in groups of two, in pairs (E-Inst), ok? (Comp) Just for... a couple of minutes and think about that (E-Inst), ok? (Comp) From your own personal experience. It's very intuitive, there is nothing wrong or right, it's just your personal experience (E-Enc), ok? (Comp) You have any doubts? (Comp)

SS: No.

T: Ok. Perfect.

SS: XXX.

T: Yes, please.

SS: [Discussing]

T: Ok.

S1: It was really impressive for me.

S2: You could imagine how the people live there so repressed.

S1: Yes, and also the sound of the... *Sirena*?

T: Siren. That's important. Think about tho-those concepts. How, remember, try to remember how you felt there and try to-to explain why (E-Inst). It's-it's quite complex but it's very intuitive because it's something that we-we should be coming because we are also rounded by architecture, we live, you know, this class is architecture. So, think about that (E-Enc). Ok? (Comp)

T: Any...? (E-Enc)

S3: How can I say *reitorado*? Eh... the building of *Reitorado*.

T: Eh... well, the... I don't know, the main... administrative building.

S3: The main administration building.

T: I think. Something. It's ok. (Laugh)

S3: By Álvaro Siza?

T: Yes! You know, I know you have a husband in *reitorado*. That's important. (Laughter). Ok.

T: More or less? Any ideas? (E-Enc)

S4: Yes.

T: Ok. You've written-written down some...? (R-Low) Oh, yes? (Conf) You have to tell me because I want to write them down and create some concepts with your... (E-Inst) Ok? (Conf) With your support (E-Inst). Ok (Conf).

T: You finished more or less? (R-Low) (2 sec.) Ok (Conf). Have you finished, some, around here? (R-Low) Yes? (Conf) (2 sec.) You've done, more or less? (R-Low) Ok (Conf). Em, first, well, you, now I want you to tell me these-these examples you have and I'll afterwards tell, I'll tell you what's my favourite building related to perception (E-Inst). Ok? (Conf) So who wants to start, anyone? (E-Enc) Ok, thank you. (Laughter).

S5: Ok, em... For me, seems em... A very good building the cathedral of Palma.

T: Ok. Perfect.

S5: Because this cathedral mixes different styles, because this cathedral is baroque and at the same time has additions of neomodernist style.

T: Yes, of course.

S5: And I don't remember what... Don't remember...

T: Ok. But...

S5: XXX.

T: Yes. And... yes, sure. (Chuckles) And this sacred architecture you're talking about, eh... Why was...? Why it is-it's special for you? Why? (R-Low)

The orchestration of verbal and non-verbal modes of communication...

S5: I don't know, it's for... It was for the mix of styles the-the light that we can perceive into.

T: The light? (Conf)

S5: Yes.

T: Ok, perfect.

T: What else? Any other example? (E-Enc) Susana? (E-Ind)

S3: My experience is a negative experience.

T: Ok.

S3: With the main building, administrative building here.

T: The rectorado? (Conf)

S3: The rectorado.

T: Ok.

S3: Because, although it is made by an important architect, Alvaro Siza...

T: Yes.

S3: ...And probably I don't know the prize, architectural prize, I think it is a very claustrophobic building...

T: Ok.

S3: ... And it needs, for example, eh... Artificial light, electrical light, even in Alicante...

T: Yes...

S3: ...With that light we have. So, I think that it is minimalist, but in the negative sense.

T: Ok, perfect. Any other building? (E-Enc)

S1: Ah, yes. For me it was a war shelter.

T: Ok, like a bunker or something like that? (Clar) Well.

S1: It was in Alcoy.

T: Ah, I know which one is this, I know it, I know it.

S1: Ah... So, it was also negative because it was, you could feel the... The pressure, the war and the bombs near you, and also there was some sound inside the sound...

T: That has to be with your perception about the sound, no? Specially. Ok. Any other example, Teresa? (E-Ind)

S2: I have also chosen la *Sagrada Familia* in Barcelona.

T: Ok. Sacred XXX.

S2: I was just amazed at the beauty. I could never imagine architecture or a building to be so unique and so great to look at. It was a fantastic experience just looking around.

T: And this beauty you-you've experienced, it was because of what? But because of the space? It was big? It was small? It was... There was some special light? (E-Clue)

S2: It was because it was so different and the light coming in is something that I could not imagine XXX.

T: Light.

S6: Yeah.

T: Ok, perfect. Another example of architecture or building you've visited or place? (E-Ind)

S6: Em... Yeah, the XXX my first option was XXX France

T: Oh, yes.

S6: Paris.

T: The arch? (Clar)

S6: Yeah, the arch XXX the Minister of Transport.

T: Yes, the building that is arch.

S6: Yeah.

T: Ok.

S6: Because is very big, very impressive, and you... you can see at the other edge of the city...

T: Yeah, the Triumph Arch.

S6: The Triumph Arch.

T: Is like the connection.

S6: Is very impressive, everything...

The orchestration of verbal and non-verbal modes of communication...

T: Ok, in your opinion it was what about of the size or the scale or the proportion maybe, no? (E-Clue)

S6: Yeah, and the context as well because all the quarter XXX France is very... I don't know, is modernism or no?

T: Well.

S6: The environment.

T: Ok, perfect. The environment, that's important. And you Borja? (E-Ind)

S4: I have a problem because I have chosen the same as Susana.

T: That's not a problem, that's a good thing (E-Enc).

S4: And I have worked in that building for one year and I find it very, eh, depressing.

T: Ok, perfect.

S4: And even some of the facilities in the building are uncomfortable or, at least, I perceive them as uncomfortable.

T: Ok. Pefect.

Appendix 5

TS3 episodes of engagement's transcription

First episode: 0'40''-3'27''

T: And first of all I want you to answer a question which is: "What type of housing do you prefer?" (R-Low). We are going to do an analogical Kahoot like yesterday, as yesterday, and we are going to choose one of these four types of housing (E-Inst), ok? (Comp) Now, please raise your hands if your preferred type of housing is a flat with more than 4 stories (E-Inst).

SS: [They raise their hands]

T: One, two, three. One, two, three, okay. One, two, three. This is two, four, six... Ok. So, here we have four, more than four. Okay, number three. A flat up to three stories? (R-Low) Nobody. Nobody wants to live there, okay. Semi-detached house, which are houses put together, okay? (Comp) A detached-house? (R-Low)

SS: [They raise their hands]

T: Everybody wants to live?! (Rh) Yes?! (Conf) One, two, three, four, five, six, seven, eight. Eight?! Two, three, four, five. Eight?! Oh my God. Eight people! It's amazing. Now, who could guess what is this city? (E-Enc) Which city is it? (D) Do you know it? (D)

SS: Mexico?

T: Mexico no.

SS: The US? Chicago?

T: Chicago... No. I'm sorry.

SS: Toronto?

T: No, Toronto no.

SS: *Los Angeles?*

T: Yep! This is *Los Angeles* City, and here you have an example of two urban patterns, two very different urban patterns which are a compact city model, and the sprawled one,

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the sprawled urban pattern or urban model. Now, please, **how many people come from the branch of knowledge, for instance, Geography? (R-Low) Economics? (R-Low) Or Architecture? (R-Low)** Okay, you are very sprawled, no problem.

Second episode: 3'40''-10'25''

T: And **please, take a piece of paper in pairs, in pairs, for instance, a ver... Three, three, three. Three, three. In groups of three... Your colour is pink. You, you three? Or may... No, maybe you two, you two, you three. Your colour is blue. You three. And you three? Not in pairs, but in groups of three (E-Inst). Please think about three words and write on the paper from your own perspective what is urban sprawl (E-Inst), and according to an image, a local image with two very different of urban patterns in the province of Alicante, Benidorm, and Orihuela Costa, for instance (E-Inst), okay? (Comp) Two very different urban patterns and we need three words. Two minutes. Think (E-Inst).**

SS: [Discussing]

T: That's a good point.

SS: [Discussing]

S8: [Inaudible]

T: Yes. It's a compound concept, so we need more than one thing. One. More than one factor to analyse. One is this.

S7: [Inaudible]

T: Yes, this is one factor. On the space.

SS: [Discussing]

T: Yes, only three words, only three. Only three, please. (12 sec.) Time is over... I'm sorry, time is over. Please, **could you give me the papers? (E-Inst)** Thank you. Thank you. Thank you. And the last one, thank you. Ok. There are very interesting words here. We have... We could distribute your ideas into three groups. For instance, words related to measurement of the process of urban sprawl, related to drivers or impacts. For instance we have, related to measurement, detached houses, **ok? (Comp)** Detached houses. Big spaces, this is interesting. Big spaces or big plots. Big spaces maybe fragmentation, **ok? (Comp)** Of the space. Spread, spread, the sprawl spread fragmentation, spread. Spread.

Distr... The spatial distribution. Distribution. Distribution is important, because it's not the same to be in the centre of the city or in the outskirts, on the outskirts of the city, **ok? (Comp)** So, we could say centrality. And dispersion, spread, sprawled... Skyline, skyline and density, and zoning. Zoning it's important and I would like to link this concept with another one which is mixed of uses, because zoning could be a place with houses or a place with retail, with offices, with equipments, municipal equipments. And, there is another concept which is mix of these different type of uses, skyline and density. Density is a very important concept which is related with the type of housing. **Ok? (Comp)** Density, density. **Ok? (Comp)** We have a lot of words. Sustainability, then city spread are repeated words. All of them are repeated concepts, and sustainability is important, is very important as an impact. **Ok? (Comp)** As an impact. We have here mainly measurements and impacts, no drivers here, **anyone has had think about a driver? (R-High)**

SS: We have thought about infrastructures.

T: Infrastructures. Yes! Transport infrastructure had a very important driver, but is a chicken-egg issue. **What is a chicken-egg issue? (D)**

SS: What came first?

T: Experts don't know what was first. First the improvements in infrastructures, which leads to more sprawled houses, or if sprawled houses leads to more car ownership and more negative impacts to environment. **Ok? (Comp)**

Appendix 6

TS4 episodes of engagement's transcription

First episode: 0'08''-5'29''

T: Okay, good morning and welcome to this Physics class on the principles of dynamics. So, **who is this guy? (D)**

SS: Newton.

T: Sir Isaac Newton, right. **And what is he doing, apart from tweeting? (D)**

S11: He is receiving apples on his head.

T: Yes, he's observing nature, **yes? (Conf)** He was observing the same phenomenon like this, because Physics and Science is about observing nature, taking measurements and build a theory that is in agreement with those measurements. So, coming back to the... To the topic of this lesson, **does any of you remember the principles of dynamics? (R-Low)** **How many? (D)** **Could you tell any? (E-Enc)**

S1: Three.

T: **Why don't you try and gather in groups, in groups of two. Maybe Borja and Patricia, Ana and I don't... Raquel, you two, Susana and... And you two. The principles of dynamics. We have, you have one minute (E-Inst).**

SS: [Discussing]

T: Be careful the principles of dynamics, not their physical magnitudes. Gravity is not a principle.

S9: I don't know what is dynamics.

T: The way, the explanation of why things move the way they move. It's not physical quantities, not physical magnitudes, principles that make things work.

SS: [Discussing]

T: No, yes, there are three, right?

S6: XXX.

T: No, that's physical magnitudes.

SS: [Discussing]

T: What about here? (E-Pair) The literate, the Geography people.

S1: I don't remember the third one.

T: Oh, you have two already. That's great!

SS: [Discussing]

T: All that? Ah, no, only these ones. Well, I think time is over (E-Inst). So, okay, let's start with this first group (E-Pair).

S11: Everything, everything is always in motion

T: So the principles of dynamics is everything is in motion.

S11: Or inertia? Is inertia having doing anything with it?

T: Ok, this is the principle of inertia. We have one. Good. Then, second group? (E-Pair)

S9: We have spoken about energy or forces.

T: The forces are there, but this is not a principle...

S8: The general and the specific relativity...

T: That's a theory. That's beyond the principles of dynamics...

S2: Material, the mass, *la masa*?

T: The mass is a physical magnitude. And, eh...

S6: Apart from that, action-reaction...

T: Action-reaction...

S4: Or the consequence of gravity, the attraction between...

T: So, the principle of action and reaction. What about you? (E-Pair)

S3: We talked about the Newton XXX, and this is the second law it was that the force is proportional with the acceleration XXX, the force, the mass, and the acceleration.

T: That's good.

S3: So, the force is proportional to the mass.

T: That's good. So it's this one: force is mass, time, acceleration, ok. Anything else? (E-Pair)

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SS: The same, the same as our colleagues.

T: The same, right. You got it everything. Okay, good, good.

Second episode: 5'29''-11'12''

T: So in fact these are the three principles of dynamics or Newton's laws. This is the first, this is the second, and this is the third. Here they are. Okay? (Conf) So, before you go through the, the three principles of, of dynamics, let's do something. Let's root out misconceptions in dynamics (E-Inst). So, I ask you the following question. We have, we have a, a guy here with an apple. I have the world instead of an apple, and he's doing this, something as simple as this. Did you observe nature? (R-Low) Okay, now you can think about nature (E-Inst). So which diagram is representing the force, eh, the force acting on the apple at the top of its trajectory? (D) Or on this small world, when it was up? (D) Just think for 10 seconds or something. Don't say the first thing you whatever and I will try to elicit from you information (E-Inst). A, b, c, d, e.

SS: Is just one answer?

T: You can one answer, you can give one answer, two answer, five answers... It's up to you (E-Inst).

SS: (Saying letters)

T: So how many people is up, is, agrees with the first? (R-High) One, two, three, four, five, six, seven, eight. How many with B? (R-High) (6 sec.) I don't know if there is someone. C? C? (R-High) Three with C, and there is not. No more people to, to count.

SS: And E?

T: You change your mind? (Clar)

S7: I don't know which first but the air is moving around...

S9: The wind.

T: Just forget about, just forget about the, the, the air.

SS: XXX

T: There is only one person, the earth and one ball. **It's okay like this? (Conf)** Okay even if majorities do not always are right, in this case it's correct, and the correct answer is A.

Why is A? (D) Now it's the, **the other question why A? (D)** No, no, no, **why B? (D)**

S9: Because you make force...

S2: He was saying at the top of...

S1: In fact, B and A are correct.

S9: Yes

S1: Because first B, but later A.

SS: Yes

T: We are talking about the force.

SS: [Discussing]

T: **Any justification? Why are a few of you thinking about the B? Is the correct one? Any justification for that? (D)**

S9: Yes, because the person is throwing the ball to the top, so it's that kind of force for me.

S1: Maybe it's correct at this microsecond forces are balanced at the top.

S2: It is written and highlighted at the top.

SS: XXX.

T: **And what about the C people? (E-Enc)**

S7: You have the imbalance of forces at the very top at that moment

T: **What forces? (D)**

S: Gravity, you have the XXX forces.

T: According to your interpretation the book should be, should be moving up again because there is there is a force continuing that is pushing it up.

S6: XXX gravity, that is why it doesn't move downwards.

T: Yeah, but now you have two forces. One is the contact force between the book and the ground, **okay? (Comp)** That is reacting due to the third principles to the gravity force, and that's why the book is in the floor on the floor at rest.

Third episode: 11'12''-14'03''

T: Okay, that's nice, but not enough, let's do another one. So here we have, we throw six balls, six balls with different trajectories, one is going up, one is rest, standing here, well, for a moment and then this is a small parabola and another parabola, larger parabola and this is going down, this is going up again. So, **which one, what are the forces that are acting on each of the balls when they are in the position described in the picture, even if they have different velocities? (D)** Here the velocities going up, here is zero, is going right, is going down, right, down and up again, of course F is the same than A. So, **how are the forces that are acting on these balls? (D)** **Are all different or all the same? (D)** Or maybe there are some the same and some different.

SS: [Discussing] (10 sec.)

T: **Who believes that all the forces, all the forces are all different? (R-Low)** **Raise your hand, if you dare (E-Inst).** **And who thinks that the forces are all the same? (R-Low)** One, two, three, three. **And who thinks that sometimes are the same and sometimes are different? (R-Low)** One, two, three, four, five. So the majority in this case is saying that some are different and some of the same. **So what forces, again? (D)**

S10: But you said that they are not, that they are the same type, but they have different velocities, so that's the key, no? They have different velocities and it's related to the force.

T: That's a misconception. Forget about it

S10: Ok.

T: **What's the force that is acting on the ball when is over there? (D)**

SS: Gravity.

T: Gravity, all the time is gravity. We only have one force, and in this case is not a contact force.

S2: What about the force that keep the ball...?

S3: Once the ball leaves your hand, I mean, you impulse your ball up. The moment that the ball is no longer in contact with your hand, there is no other force than gravity.

T: In fact, you are acting on the ball when you are in contact with the ball, **okay? (Comp)**

Appendix 7

SS1 episodes of engagement's transcription

First episode: 8'24''-12'02''

T: Today, I would like to... That you... Eh... Work in pairs or work together making a dis-discussion if you understand that ac-actually Europe are living a new, a new, a period of political changes XXX that the context is totally different, and what could be the responsibility of the 2000 crisis in it (E-Inst).

S1: What is the question?

T: Are Europe living now a period of political changings? (R-High)

SS: No, no.

T: If you, if you, if you follow the news we can see how Europe are changing quickly.

SS: Ah... okay, okay.

S8: So, we discuss it?

T: Yes, we can talk about it.

SS: [Discussing]

T: Okay, it's enough. (5 sec.) Okay, quickly, what do you think? (R-High) Tell me some ideas (E-Enc).

S7: Yes, we are living a moment of changes, of course. One of the ideas is that the idea of Europe Union has decreased, has... It's not so... We are not so happy than when the Union was beginning, for example.

T: And besides I think another important thing is that the principles of the European Union, the principles of the modern society are changing now. People calling to question, I don't know, emigration, equality, and all of these things, are changing right now.

Appendix 8

SS2 episodes of engagement's transcription

First episode: 6'11''-11'32''

T: So, I want to... to ask you to put yourself in their shoes and I want to work in pairs to eh... Answer that question (E-Inst): What do you think they need to know about academic subjects, academic matters before the beginning of the course? (R-High) Please do a list about things that you think they need to know please (E-Inst), okay? (Comp) You can think about your own situation, and, in... Foreign students in another university (E-Clue).

T: Do you understand? (Comp)

S1: Yes, but...

T: What do you think...? (E-Pair)

S3: Before the beginning of the course or the day they start the course?

T: They start the course, yes.

S4: So before.

T: Before... Or during. The time they are here in Alicante, what they need to know about our class, our way of teaching? (E-Clue) And so on.

T: Do you understand the...? (Comp)

S5: Yes.

T: Okay... (4 sec.) Do you understand the question? (Comp)

S2: I think so.

T: So if they need some information for a good...

S2: We are thinking about for example basic things for example spoken language in a class...

T: Okay.

S2: Or for example if an institution is going to support with some courses or help for them... I mean that's...

T: Okay, okay.

S9: You already teach in English?

S7: No, I don't.

S9: So you do receive foreign students

S7: Yes,

S9: You could've told her...

S7: No but I never haven't problems with them.

S9: No?

S7: No, because in my case for example like the texts, the texts, the documents I use they are always like they give them the opportunity to have them in their native language because...

T: Probably is not necessary to have a problem, only the experience, **what is the experience with students with foreign students? (R-High)** Okay....

S9: I remember in my case with foreign students in English I find that many times they don't know how things work at the University of Alicante and so I tell them okay work in groups, and they stay with no groups because they have no friends and sometimes teachers have to orient them.

T: Okay, **have you some ideas? (E-Pair)** **Have you some ideas? (E-Pair)** Okay... For example in that case... **Borja and Patricia? (E-Pair)** How do you...

S2: First we think that they should know whether the courses are going to be... the language, whether Spanish or English... Also we think that they should have they should know whether they have any support from the institution, at least linguistic support by the institutions in order to advance with the Spanish language and so on. We think that they should also know basic things like for example where do... where they must apply for the Wi-Fi connection, how to acces UAcloud materials, and also which are the usual, I mean the customs in this university with the periods of examination...

T: Okay.

S4: And festivities... The academic schedule.

T: **Can we speak about academic culture? (Clar)**

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S4: Academic culture yeah.

T: Okay, more things? (E-Enc) In your case? (E-Pair)

S6: Okay, we think that it's important especially for the foreign students (/students/) that they know eh... how the teacher want to organize the class, the structure of the class, the objective...

T: The lessons.

S6: Yes, the lessons. And how you would evaluate them.

T: Assessment, yes.

S6: At the end of the course.

T: Yes, very important for the consequences. And in your case? (E-Pair)

S7: More or less we were talking about the same. In our case is very important to see if the content the topic is the same in their country, in their university and in the university of Alicante to avoid any conflict between these *convalidation* or whatever.

T: Assessment, *convalidations*...

S7: And the way also, the level of the class what...

T: The content

S7: The content, yes

T: The level of the content...

S7: And the language, too.

T: Okay, very interesting.

Appendix 9

SS3 episodes of engagement's transcription

First episode: 9'09''-15'37''

T: So the second task is to find about the four elements needed for a contract to exist. Four elements. Think about the sequence I've explained to you (E-Inst), okay? (Comp) And I want you to work in pairs for two minutes. So, Patricia and Borja please; Ana, okay, you three, Ana, Luis, and Jonathan; Adriano and Jose; Susana, Ana; Ester and Teresa, okay, thank you.

SS: [Discussing]

T: Think about... I want to buy... He wants to sell... He offers... Yes... I want to buy... You want to sell... And you say yes, I want! (E-Clue)

SS: [Discussing]

T: Perfect!

S9: Has there to be in a contract something written?

T: Not always.

S9: It has to be an exchange, no? (Conf)

T: Okay. You have to think about, not what is behind, but what is to make the contract, the need is something before (E-Clue), okay? (Comp) But in the contract, you... (E-Clue)

S9: We need an exchange, we need a...

S8: An offer, an acceptance.

T: Yes, yes. An offer, an acceptance, about what? (E-Enc)

S11: We have three.

T: Three? (Conf)

S10: An offer, a demand, an exchange...

T: This is the result, okay? (Comp) The offer and the acceptance join together, and we have one element to the agreement, but who agrees? (E-Enc)

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S10: People.

T: So you need, what? (E-Enc) People. And what else, you agree about what? (E-Enc)

S10: A product.

T: An object. And if you agree... You become engaged. So are we ready? More or less? (E-Enc) Okay, more or less, so... Let's start with Borja and Patricia (E-Pair).

S2: We think one of the parts is the agents.

T: The agents, okay. People.

S2: Yes.

T: People, one or more people, which are called in contract law, the parties. Okay, what else? (E-Enc)

S2: Am, we think that an object, maybe a good or service.

T: Object or service.

S2: Consent, also, agreement.

T: Consent from both parties, so an agreement. That's interesting.

S2: And we haven't agreed on the fourth one, we thought maybe the offer, but...

T: No, This is the more difficult because the offer is a part of the agreement. I offer, you accept: agreement. Okay, one, two, three... We need one more... (E-Enc)

S3: Currency?

T: Sorry? (Clar)

S3: The currency?

T: The currency is the object. Ah, no, yes, it's the object, because good and service in exchange of a payment. Not always, but the currency is an instrument, not an element that we need it, okay? (Comp)

S6: But I think that the rules or laws determines, no? (Conf)

T: Determine the contract? Yes. This is the... Inside the agreement. Okay? Consent with the rules, of course. What else? (E-Enc)

S7: The compensation, the money and everything...

T: Yes, this is part of the object. Mm... Payment or... or another good or services. I can change a book for another book. Anything else? (E-Enc)

S9: But the exchange is also there, in the agreement?

T: Yes, yes.

S6: The intentionality?

T: The intentionality is part of the agreement.

S2: The space?

S3: The type?

S11: The engagement?

T: Yes, the engagement! Good! We agree, and if we agree, what is the consequence? (Rh)
You have to do something, and I have to do something, an engagement. Okay? (Comp)

Appendix 10

SS4 episodes of engagement's transcription

First episode: 7'49''-13'23''

T: I would like you to think about a definition of what means sustainability in the tourism industry (E-Inst). Right? (Comp) So you can work in pairs as we have been doing these days. Ahm... Just try to get the most accurate definition of the... Of sustainable tourism. So just for this one or two minutes (E-Inst).

SS: In the tourism?

T: Yes, in the tourism industry. (...) So...

S5: A definition? To look for ways to reduce the impact of the tourism industry in the environment.

T: Uh-hu.

S7: XXX.

T: But Adriano, do you think that this is enough? Just to make aware the clients that they need to reuse towels? (R-High)

S7: Yes.

S6: We are talking about the... to be conscious that the impact that we could use when we are in another place.

T: Yes, in another place. Okay, did you finish? (R-Low)

SS: Yes, more or less.

T: Yes? Okay, so would you be able to try to share the definitions with the rest of the class, please? So this group first.

S9: We have thought about the... that is like the responsible use of the resources related to the environment, the social... No? The society and the economy.

T: So, responsible use...

S10: Of the environment.

S9: Of the environment, the society or the social...

T: Society, environment...

S9: Yes, and also like the economic structure, or I don't know...

S8: Cultural rules...

T: Of course, because when talking about tourism is not just the landscape, it's also about the people we are visiting, and if you see we always need to remember that we are guest in other people home, right? (Comp) That means that when we are visiting other places eh... this is the place where people and families are living, so we need to be really respectful with that, okay? (Comp) Something else? (E-Enc)

S7: Yes, I think... We think that you are doing sustainable tourism when your impact on the place you are visiting is not XXX.

T: We were talking about these footprints, so of course this is almost impossible, but we need to tend to, we need to think that eh... The impact should be the lowest one. Uh-uh. Something else? (E-Enc)

S5: Other, other ways? For example to fix a number of visitors in a city, eh...

T: To control, and plan...

S5: Yes. For example the...

T: That we need to control and plan the...

S5: A good example can be the laws or rules that are now are fixed. In Palma they want to control the renting cars, they want that, eh... The renting companies, eh... Sign a contract that in... I think in 2020 they always will use... Efficient renting cars.

T: Mm-mmh. Okay, so, being responsible of the impacts, and...? (E-Enc)

S3: We have more or less the first definition. Politics with the responsible use of natural resources, environment, culture...

T: Uh-hu.