Multimodality for comprehensive communication in the classroom: Questions in guest lectures

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Abstract

In recent years there have been many studies about the discourse of lectures (Pérez-Llantada & Ferguson, 2006; Csomay, 2007; Deroey & Taverniers, 2011). Lecturing is the most common speech event in most university classrooms in the world. Bamford (2005) defines lectures' styles as conversational, stressing the interactive nature of the lecture, the main goal of which is to establish contact with the students, and the co-option of the students into a discourse community. However, most of the studies published up to this moment have focused exclusively on the language used by the lecturer and little attention has been paid to the role of multimodality in this particular genre. In our research, we try to identify the non-verbal behaviour that can be of special relevance for the comprehensive communication in the classroom, focusing on questions in two guest lectures in English delivered for a group of Spanish students. Results indicate that both lecturers use different verbal and non-verbal strategies to foster interaction, adapting to the characteristics of their audience. The final objective of this study is twofold: i) to use the results in our courses for training Spanish lecturers on teaching in English; and ii) to use these results for EAP undergraduate courses, as it has been observed that body language needs awareness raising in order to facilitate transfer from mother tongue to another language.

Keywords: multimodality, lectures, questions, academic discourse.

Resumen

Multimodalidad para la comunicación completa en el aula: preguntas en clases magistrales invitadas

En los últimos años se han realizado muchos estudios sobre el discurso de las clases magistrales (Pérez-Llantada y Ferguson, 2006; Csomay, 2007; Deroey y

Taverniers, 2011). Las clases magistrales son el acto de comunicación más común en la docencia universitaria de todo el mundo. Bamford (2005) define el estilo de la clase magistral como conversacional, destacando el carácter interactivo de las clases, cuyo principal objetivo es establecer contacto con los estudiantes, y la integración de éstos en la comunidad discursiva. Sin embargo, la mayoría de los estudios publicados hasta ahora se han centrado exclusivamente en el lenguaje verbal utilizado por el profesor y se ha prestado muy poca atención al papel de la multimodalidad en este género en particular. En nuestra investigación, intentamos identificar el comportamiento no verbal que puede ser de especial relevancia para la comprensión completa en el aula, centrándonos en las preguntas que formula el profesor, a partir de un estudio de dos clases invitadas impartidas a un grupo de estudiantes españoles. Los resultados indican que los dos profesores utilizan diferentes estrategias verbales y no verbales para incentivar la interacción, adaptándose a las características de su público. El objetivo final de este estudio es doble: 1) utilizar los resultados en nuestros cursos de formación del profesorado para impartir docencia en ingles; y 2) para las asignaturas de las titulaciones de grado, ya que se ha observado que el lenguaje corporal necesita ser destacado y observado para facilitar la transferencia de la lengua materna a otra lengua

Palabras clave: multimodalidad, clases magistrales, preguntas, discurso académico.

1. Introduction

Lectures have been traditionally considered as the most prominent speech event in the classroom in higher education (Pérez-Llantada & Ferguson, 2006; Csomay, 2007; Deroey & Taverniers, 2011). Lectures can be defined as the specialized communicative practices of education that are concerned with the transmission and acquisition of knowledge in an academic context. The importance of understanding and defining the micro and macro structure of this genre has attracted the attention of researchers in academic discourse analysis who have pointed out the relevance of these studies for teacher training and for the creation of English language teaching materials (Pérez-Llantada & Ferguson, 2006; Crawford Camiciottoli, 2007; Smit, 2010). Along this line, Flowerdew (1994: 14) notices the importance of looking into "the linguistic and discoursal features learners need to be familiar with in order to understand a lecture and what, therefore, should be incorporated into ESL courses." He also focuses on the benefits research on university lectures could have for lecturers, since "knowledge of the

linguistic/discoursal structure of lectures will be of value to content lecturers in potentially enabling them to structure their own lectures in an optimally effective way."

In response to this growing awareness of the lecture comprehension needs of second language learners and lecturers, over the last two decades a great amount of research (Dudley-Evans, 1994; Thompson, 1994; Young, 1994; Flowerdew & Miller, 1995; Pérez-Llantada & Ferguson, 2006; Csomay, 2007; Deroey & Taverniers, 2011) has been dedicated to understanding the global structure of the lecture as a genre and the discourse features that characterise it. One of the models proposed for lecture organization is based on the problem-solution pattern (Olsen & Huckin, 1990; Dudley-Evans, 1994; Flowerdew & Miller, 1995). However, results from research showed that this is a simple structure and that lecture structure is frequently influenced by the nature of the discipline (Dudley-Evans, 1994; Flowerdew & Miller, 1995). Thompson (2003) and Young (1994) analysed lectures from a rhetorical perspective. In this sense, Thompson (2003) identified a series of moves in lectures introductions and Young (1994) from a more comprehensive perspective describes this particular genre as a series of interweaving phases which do not occur in any particular order and can be recurrent throughout the lecture. In addition to the content phase and the example phase, he also defines three metadiscursive phases functioning to ensure the successful transmission of the information: "discourse structuring", "conclusion" and "evaluation". Young (1994) also identifies "interaction phases", where the lecturer establishes a relationship with the audience by means of interactive metadiscursive features such as questions, imperatives and comprehension checks and it is these interactive phases what draws our attention in this paper since, according to Hyland (2005: 11), making the participants aware of the discourse devices used in this particular phase can help "[s]peakers (…) seek to ensure that the information they present is not only distinct and intelligible, but also understood, accepted and, in many cases, acted upon". Hyland (2005) focused on the metadiscursive devices that result in interaction. According to him, in this sense, speakers should learn that "[a]ddressees have to be drawn in, engaged, motivated to follow along, participate, and perhaps be influenced or persuaded by a discourse" (Hyland, 2005: 11).

In our case, we need to view guest lectures as interactive means and therefore we must examine their interactive metadiscursive features in terms of the lecturer's projection of the target audience's perceptions, interests and needs.

In this sense, Hyland's (2005: 50) model recognizes two dimensions of interaction, on the one hand, the "interactive dimension", which concerns the lecturer's awareness of a participating audience and the way he or she seeks to accommodate its previous knowledge, interests and expectations. The use of resources in this category focuses on ways of organizing discourse in order to respond to the audience's needs. Within this dimension, we find:

i) transition markers – that is, conjunctions and adverbials phrases which help the audience interpret pragmatic connections between steps in an argument;

ii) endophonic markers – that is, expressions which refer to other part of the speech); and

iii) evidentials – that is, attribution to a reliable source which establishes an authorial command of the subject and provides support for arguments.

On the other hand, the "interactional dimension", which concerns the way lecturers conduct interaction by making his or her views explicit and involving the audience by allowing them to respond to the unfolding text. Metadiscourse here is essentially evaluative and engaging, clearly revealing the extent to which the writer seeks to construct the discourse with the audience. The discourse features included in this dimension are:

i) hedges – these are features which allow the lecturer to emphasize the subjectivity of a position by allowing presenting information as an opinion rather than a fact and therefore open to negotiation;

ii) boosters – these are features that emphasize certainty and construct rapport by marking involvement with the topic and solidarity with the audience;

iii) attitude markers – that is, they convey surprise, agreement, importance, obligation and so on;

iv) self-mention – it refers to the degree of explicit presence in the text measured by the frequency of first-person pronouns and possessive adjectives); and

v) engagement markers – these are devices that explicitly address the audience, either to focus their attention or include them as discourse participants.

In sum, interactive devices address the audience's expectations on genre by means of recognisable patterns, whereas, the interactional devices focus more directly on the participants in the interaction seeking a more active role of the audience.

In this research, we pay attention to the lecturers' discourse and the way they adapt it to the audience – "interactive dimension", in terms of Hyland (2005: 49). Previous studies have focused on the analysis of the interactive metadiscourse devices (Pérez-Llantada, 2005; Bowker, 2012) looking into the function they have within the different phases of the lecture. Yet, such analyses were widely thought as being primarily verbal, and therefore only the words uttered were analysed as seen above. However, with the introduction of the video and the dramatic evolution of multimodal web resources, this idea needs to be revisited. Indeed, it has become increasingly evident to researchers (O'Halloran, 2004; Baldry & Thibault, 2006; Querol-Julián & Fortanet, 2012) that to understand communication patterns, the analysis of language alone is not enough, since attention is most of the times drawn to the visual information derived from some of the most commonly recognized aspects of non-verbal behaviour, notably facial expression, and perhaps certain gestures that, in many cases, are essential to the communication process. Indeed, it is especially important to make students and lecturers aware of verbal and non-verbal characteristics of classroom discourse, since as mentioned in the introduction, it is fundamental for the field of teacher training and creation of English language teaching materials.

The present study follows a Multimodal Discourse Analysis (MDA) perspective (Querol-Julián, 2010; Querol-Julián & Fortanet, 2012). MDA argues that as all discourse is inherently multimodal, it is not possible to achieve a complete understanding of spoken discourse unless both linguistic and non-linguistic features are jointly analysed. MDA has been applied to a considerable number of modes and discourses. Multimodal studies embrace two main areas: i) multimodality in language and language systems; and ii) multimodality in other systems. The present study focuses on language systems, on human-to-human-interaction (Norris, 2004) taking place in guest lectures through the combination of questions and gestures. In this area, the use of two or more of the five senses for the exchange of information is fundamental in order to convey a comprehensive communication process.

The main objective of this paper is, thus, to analyse non-verbal elements, especially gestures as a complement and often as a key factor in the

interpretation of the function of questions in guest lectures as interactive or interactional metadiscourse devices. As already remarked, lectures are prominent speech events in academic spoken discourse and therefore they have attracted the attention of researchers in academic discourse analysis. However, very few of them have paid attention to non-verbal material such as intonation, stress, pauses and gestures. To our knowledge, only Thompson (2003), who deals with intonation, and Crawford Camiciottoli (2007), who looks into non-verbal behaviour of the lecturers, have taken this perspective. In this paper, we intend to complement their work by analysing how speakers use non-verbal strategies, in order to complete the meaning of their discourse.

Two most commonly analysed functions of discourse in lectures have been "structuring", that is the metadiscourse used to give a coherent structure to these speech events (Thompson, 2003; Crawford Camiciottoli, 2004; Redeker, 2006), and "interaction", the language used to establish a relationship between the lecturer and the audience (Fortanet, 2004; Morell, 2004; Pérez-Llantada, 2005; Crawford Camiciottoli, 2005, 2007 & 2008). Both functions can be performed by questions in lectures. Thompson (2003: 10) points out that metadiscourse markers "can come in the form of a question which is immediately answered by the lecturer". Other researchers, such as Redeker (2006: 342), go further and identify markers like "okay?" as "interactional (cross-speaker) realizations of end-of-segment markers".

On the other hand, Crawford Camiciottoli (2008: 1217) focuses the interactive function of lectures on the use of questions and adds a second interactional function to them, "[q]uestions are therefore *interactional* as they draw readers into the argument and ethos of a text. Yet, at the same time, they may also be *interactive* when used to manage the flow of information and guide readers through the text".[1]

Following the analysis of previous research on lecture discourse, we decided to analyse the use of questions and the functions they may have in specific classroom monologues, namely guest lectures. In addition to the publications already revised, three articles were especially illustrative for this study, those by Bamford (2005), Querol-Julián (2008) and Chang (2012). Bamford (2005) analysed adjacency pairs and series of questions in lectures. However, as we will see below, the results she obtains and the conclusions she reaches are not coincident with our results, even though

she also includes in her corpus guest lectures but for Italian students. Querol-Julián (2008) and Chang (2012) pose very exhaustive classifications of question types in lectures, which will be of great interest for the elaboration of the taxonomy to be used in this paper. Both authors take as a point of departure Thompson (1998) and Crawford Camiciottoli's (2008) classification of questions in two categories: "content-oriented" and "audience-oriented". These groups relate questions to the two main functions of the discourse of lectures, as explained above, structuring content and interaction with the audience. Within these two categories, they propose a specific taxonomy of subtypes:

1) Content-oriented questions

- Focusing information: It is a question posed and immediately answered by the lecturer. The speaker is structuring content and calling the attention of the audience.

- Stimulating thought: These are frequently rhetorical questions which do not have an answer. The aim is to encourage the student to reflect about the question.

- Examples: Questions used by the lecturer as examples of what s/he is exposing, as they may be more stimulating than mere statements.

2) Audience-oriented questions

- Eliciting response: The lecturer asks the audience a question expecting their immediate response.

- Invitation to formulate a question: The lecturer invites the audience to participate by asking questions.

- Class management: These questions are part of the metadiscourse the teacher has to use to manage the elements of the speech event (written and visual materials, the physical space of the classroom, time, etc.)

- Seeking agreement: The lecturer needs to confirm that the students agree with her/him in the arguments presented.

- Requesting confirmation or clarification: It is usually found after students' interventions when the lecturer needs to check if s/he has understood correctly what the student meant.

- • Confirmation checks: The lecturer needs to confirm the students have correctly understood the information presented. They may be, or not, answered verbally or nonverbally by the students.

It should be pointed out that some researchers do not consider comprehension checks (for example, "okay?", "right?") in their analysis of questions in lectures. The reason given is that "they are not true questions, but primarily manifestations of individual speaking habits as lecturers do not really engage with students or wait for their reaction" (Crawford Camiciottoli, 2008: 1221). However, as will be seen in section 3, this is not always the case, and we have decided to include them in our taxonomy as confirmation checks.

Another fundamental aspect to be analysed in this paper is the role of gestures in the interpretation of the function of questions. Several studies have focused on the relationships of the body movements to the speech production process (Birdwhistell, 1970; Kendon, 1980; Querol-Julián, 2008). The MDA model to analyse non-verbal resources that co-occur with linguistic evaluation considers the analysis of two aspects: "kinesics" and "paralanguage". Kinesics include the study of "gestures" (Kendon, 1980 & 2004; McNeill, 1992), "head movements" (Goodwin & Goodwin, 1987; Schegloff, 1987; McClave, 2000; Kendon, 2002), "facial expression" (Ekman & Friesen, 1969; Kendon, 1981), and "gaze" (Kendon, 1967; Argyle et al., 1981), and can be catalogued as "iconic", "metaphoric", "beats" and "deictics". These gestures can accomplish different functions in discourse, that is, they can be considered as referential, cohesive, interactive or pragmatic discourse elements (Morris, 1977; Bavelas et al. 1992; Kendon, 2004) and they can interact with the speech by showing synchrony, adding meaning or going beyond (McNeill, 1992). As for paralanguage, Poyatos (2002) distinguishes three categories: "voice qualities" – for example, "loudness" and "syllabic duration"; "qualifiers" or "voice types" – such as "breathing control"; and "differentiators" – like, "laughter"; as well as the functions they accomplish in the discourse.

The main objective of this paper is to analyse non-verbal elements, especially gestures as a complement and often as a key factor in the interpretation of the function of questions. In order to illustrate the importance of these non-verbal elements, two guest lectures are analysed and the most outstanding elements are identified and interpreted. The hypotheses that we pose in this research are the following:

H1: Most questions in lectures have an interactive function.

H2: Non-verbal behaviour is essential for a comprehensive communication in the classroom.

2. Method

In order to prove our hypotheses, in a preliminary study we analysed two guest lectures delivered in 2007 and 2008 at Universitat Jaume I to students of the bachelor degree of English Studies[2]. These belonged to a larger corpus called MASC (Multimodal Academic Spoken Corpus) compiled by the research group GRAPE. Table 1 summarizes the characteristics of both lectures.

Lecture	Lecturer	Audience	No. of words	Length	Words per min. (wpm)
Lec-1	- English native speaker - Used to teaching native speakers	- 3rd year students - compulsory English grammar theory subject - 30 students	7.985	50m	159.7
Lec-2	- Non-native speaker of English - Used to teaching non-native speakers	- 1st year students - optional ESP subject - 60 students	4.716	47 m	100.3

Table 1. Characteristics of the guest lectures analysed.

The lectures were video-recorded and transcribed. Both lectures were delivered in the context of particular subjects and the audience consisted of the students attending that class. In both cases, the students had been told that they had to report on the lecture in their next class. It should be pointed out that students in Spanish universities are not used to pose questions, especially in their first courses, as there is no tradition of interactive lectures in secondary education. Interaction is much more frequent in graduate courses.

2.1. Analysis

Both lectures were first watched by the researchers to have a first impression of the similarities and differences. Only the monologue by the speaker was analysed, so the introduction by the hosting professor and the question and answer section were not considered. The reason is the time for questions was

much shorter in the second lecture, and what we were really interested in was the monologue by the teacher. Aspects such as speech rate, use of visuals, posture and attitude of the speaker were closely observed and compared. Then, the transcriptions of the lectures were manually analysed to search interrogation marks. The number of occurrences was counted and the questions were classified with regard to their function and according to the following taxonomy based on Thompson (1998), Crawford Camiciottoli (2008), Querol-Julián (2008) and Chang (2012):

Audience-oriented questions (A-O)

      1. Eliciting response (E.R.)

      2. Class-management /engagement (C.M.)

      3. Soliciting agreement (S.A.)

      4. Confirmation checks (C.C)

      5. Requesting confirmation / clarification (R.C.)

Content-oriented questions (C-O)

      1. Focusing information (F.I.)

      2. Stimulating thought (S.T.)

      3. Examples (Ex)

The gestures and other types of non-verbal behaviour, such as stress and pauses, accompanying the main types of gestures, regarding gaze, head, hand and arm movements, were analysed according to Querol-Julián's taxonomy (2010). Verbal and non-verbal discourse was interpreted in relation to how lecturers adapt to the audience they have. Finally, in order to obtain further qualitative information concerning their intention each lecturer was asked to provide their opinion about the interpretation we had given to their own performance in the examples analysed.

3. Results and discussion

The first general observation of the lectures immediately showed differences between the two lectures. Lect-2 had a slower speech rate (see wpm in Table 1), the lecturer was much more visual dependent (both written paper and

slides) and frequently stopped to check comprehension and observe the attitude of the audience. She was also static and sitting down. In Lect-1 the lecturer was standing and moving along the front part of the classroom sometimes pointing and looking at the screen. His speech rate was quicker; his speech was informal and independent from any visual support and did not stop so often to confirm comprehension. There was an evident difference of lecturer's attitude in front of the audience.

In order to accurately analyse the results, we estimated the frequency of questions for every 1,000 words in both lectures for the total number of questions, "audience-oriented" and "content-oriented" questions, as well as those "eliciting response" and "confirmation checks", which were the most frequent functions. Table 2 summarizes the results.

	Total Lect-1	Qs per 1,000 words Lect-1	Total Lect-2	Qs per 1,000 words Lect-2
A-O	73	9.1 (80.2%)	73	15.5 (85%)
A-O (E.R.)	28	3.5	16	3.4
A-O (C.C.)	31	3.9	37	7.8
C-O	18	2.2 (19.8%)	13	2.7 (15%)
TOTAL	91	11.3	86	18.2

Table 2. Numbers and frequency rates of questions (Qs) in lectures 1 and 2.

The first finding to stand out is the total number of questions which, after the estimation of frequency, seems significantly higher in Lect-2 (n=86, rate=18.2). Regarding "audience-oriented" questions, we see that even though the number of occurrences coincides in both lectures, when estimating the frequency for every thousand words, there is a significant difference, 15.5 for Lect-2, as compared to 9.1 for Lect-1. The frequency in the case of "content-oriented" questions is not so significant, however.

We have also checked the distribution of "audience-oriented" and "content-oriented" questions in both lectures and the results show that whereas the former represent 80.2% of the total in Lect-1 (n=73; rate=9.1), they are 85% in Lect-2 (n=73; rate=15.5). All findings show that, if compared to Lect-1, Lect-2 focuses on the audience rather than on the content. Moreover, when observing the two main functions of "audience-oriented" questions, that is, "eliciting response" (E.R.) and "confirmation checks" (C.C.), the frequency appears to be similar for the former in both lectures, but the latter are twice as frequent in Lect-2 (n=37; rate=7.8). "Confirmation checks" are usually declarative clauses followed by tag words such as "okay", "right" or "yes",

which carry on the interrogation intonation; questions "eliciting response" are most often *wh*-questions (more common in Lect-1) or "yes/no" questions (more common in Lect-2), as illustrated in the following examples:

(1) So, how many of you are familiar already with corpus linguistics? (Lect-1) (E-R)

(2) This is why hedges are also ways of being more precise, yes? (Lect-2) (C-C)

Once the classification of questions had been analysed, we watched the recordings again to check on non-verbal behaviour. Two aspects in particular called our attention. First, the use lecturers make of "okay?", which had already been noticed due to the difference in frequency observed in both lectures. The second aspect was the use of a series of questions (clusters), which could be observed when looking at the complete transcripts. This latter aspect was made more evident when watching the videos, in which we could see the non-verbal behaviour of the speakers.

3.1. The use of "okay?"

The tag "okay?" is very frequent in both lectures. In Lect-1, it is used 19 times, and in Lect-2, 34 times. Following Crawford Camiciottoli (2008: 1221) we had decided not to consider comprehension checks in the questions taxonomy, since "they are not true questions, but primarily manifestations of individual speaking habits as lecturers do not really engage with students or wait for their reactions". She even states that as "the lecturers continue to speak after "okay?" without pausing for audience response", "[t]his raises doubts about whether these items are actually comprehension checks or simply manifestations of the habits of individual lecturers" (Crawford Camiciottoli, 2007: 108). However, a close observation of the lecturer's non-verbal behaviour accompanying the 34 tokens of "okay?" in Lect-2 made us change our minds. While Crawford Camiciottoli's objections could perfectly apply to Lect-1, in Lect-2 we find these comprehension checks with their true function, as can be observed in the following examples.

(3) So, if – if we look at all of the verbs that occur with that-clauses, okay? So, taking only that-clauses right now, it turns out there are – there are over 200 different verbs that occur with that-clauses. So, that's overwhelming if we want to think about teaching

[Unintelligible] students, but if we look at the frequency of information, it turns out that only four verbs are extremely common and those are think, say, know, and guess. And here's the frequencies, okay? So, think, say, know, and guess. So, it turns out that while this is – it could be regarded as a complex syntactic construction, (Lect-1) (50'38"-51'04")

Figure 1. Body-language of the lecturer after "okay?" in Lect-1.

In this excerpt of Lect-1 "okay?" occurs twice. The first one is almost unnoticeable, since the speaker lowers his voice when saying it. The second one can be heard but does not add anything to the speech nor to the interaction between speaker and audience. He does not make any gesture to focus his attention towards the audience, nor does he stop and wait for a reaction. He is even looking at the slides with his back towards the audience as shown in Figure 1.

If we look now at example (4) from Lect-2, we observe how different the non-verbal behaviour is in terms of stress of the tag word "okay", the pause that follows it, and the attitude of the speaker waiting for a reply from the audience.

(4) (…) to send, to submit your results and your claims and your conclusions to the scientific community at large, okay? So you want, the other scientists to accept, or to agree with you. (…). So hedges also help scientists to present themselves as cautious, coy, coy significa lo mismo, no lo sé lo puse para que supieran la palabra, significa también este cauteloso, okay? Humble and modest servants of the discipline, (…) you want to be diplomatic and humble, hedges are also used to anticipate peers' criticism what I was referring to before as the boomerang phenomenon, okay? If you hit you can expect to be hit back and they also allow researchers to take (rhetoric) precautions, all this is intimately related okay? (Lect 2) (44'52"-46'12")

Figure 2. Body language of the lecturer after "okay?" in Lect-2.

As Figure 2 shows, after saying the first "okay?" the lecturer stops, looks at the audience and waits for their reaction, trying to find out if they have understood her argument. This also occurs in 3 out of the 4 occurrences in this excerpt. Actually, only one occurrence of "okay?" in Lect-1 seems to provoke a reaction by the audience, laughter, but it is not the comprehension check they react to but the previous comment by the speaker "since nobody raised their hand anyway, you won't tell me if you're sad, okay?" (Lect-1). On the contrary, in Lect-2, 3 out of 4 occurrences of "okay?" have an answer by the audience. Moreover, the function of "okay?" is made more relevant at the end of the lecture, when 8 occurrences are found in 440 words, emphasizing so the willingness of the speaker to check whether the audience has understood the key ideas of the lecture, as she tries to summarize them. Actually, the concern of the speaker about the comprehension of the audience is also emphasized in this excerpt when she introduces an explanation in Spanish of a term she assumes the students may not know.

Thus, the joint analysis of verbal and non-verbal behaviour has provided a more comprehensive interpretation of the use of "okay?" in these two lectures, though further research will be needed in order to corroborate if the uses observed in this research are generalised or respond to an individual choice.

3.2. Clusters

Another outstanding feature of the lectures analysed is the use of clusters. Clusters or series of questions had already been noticed by Bamford (2005), who gives them two possible functions: to elicit an answer by means of reformulations of the first question, and to underline the problematic aspects of the discussion and the lack of an answer, stimulating thought. The first function seems to be the most commonly found in Lect-1 where 38 out of 102 questions are involved in clusters. The speaker finds it very difficult to elicit

responses from the audience, and tries to make them reply by repeating the same question or a reformulation several times (see example 5).

> (5) So, how many of you feel like you need an introduction to corpus linguistics or how many of you are familiar already? So, how many of you are familiar already with corpus linguistics? Okay, let me ask the question, the other one, we'll see if still nobody raises their hand. So, how many of you [laughter] – which – which way [will I be] asking? I don't remember. How many of you uhm, don't know anything about corpus linguistics? (Lect-1) (5'59"-6'28")

Figure 3. Body language of the lecturer when using clusters of questions in Lect-1

If we observe the video frames in Figure 3, we see that the speaker is looking at the audience, waiting for their reply, he raises his arm and moves his hand to attract the audience's attention. He even laughs and says as for himself "which way will I be asking?", which provokes the audience's laugh, but apparently no clear reply.

A second function is also present in Lect-1, although it is not stimulating thought, as sustained by Bamford (2005). Instead, the lecturer is inviting the audience to focus on the information he is trying to transmit, as we can see in example (6), although this second function is much less frequent than the first one. In this case, the speaker poses a question and then answers it himself.

> (6) Well, why is that? What's going on here that would cause this difference? (Lect-1)

What we see here is that the speaker finds it very difficult to check if the audience is following his line of argument and he tries to elicit answers from the audience that confirm they understand. However, there is a large number of students in the classroom, a factor which greatly conditions students' contribution (Hansen & Jensen, 1994). He is a native English-speaker and an

expert in his field (two aspects that can be intimidating for the students), and there is no tradition of frequent interaction between teacher and students in Spanish universities, especially in undergraduate studies.

Concerning Lect-2, the presence of clusters is not significant in comparison to Lect-1. Clusters in Lect-2 do not have a significant interactive role in the discourse. As "content-oriented" questions, they are used to structure the speech and stimulate thought. Their function is clearly to focus on the information she is trying to transmit as can be seen in example (7):

> (7) Why do scientists hedge this discourse, that is, what is the rationale what is – what are the motivations for hedging, why do we hedge? Ok? Basically there are four reasons for hedging. (Lect-2)

All in all, we have observed how these two lecturers make use of different resources, either verbal or non-verbal, in order to draw the attention of the audience. Lect-1 prefers clusters of questions accompanied by gestures, whereas Lect-2 opts to use the confirmation check "okay?" followed by a pause. The joint analysis of verbal and non-verbal behaviour has paved the way for a more effective understanding of the communication value of these discursive resources.

The subjects of this research, the lecturers acting as speakers, were asked about their opinions on the results obtained and our interpretations. They corroborated our explanations, indicating the relevance of the audience in their choice of verbal and non-verbal behaviour, and added some more points. Lect-1 is used to teaching North American students, who are more prone to asking questions if they do not understand or want to get more information about a certain point. He tries to elicit a response from the audience by means of reformulating his questions and calling the audience's attention with gestures. However, Lect-2 believed that some of the gestures she uses may be due to the fact that she is French, and "French speak a lot with their hands, so to speak"[3], and even though her English is native-like she cannot speak so spontaneously and naturally as an English-native speaker. She also has a good knowledge of the Spanish-speaking undergraduate students, and acts accordingly since she has been living in a Latin American country for over 35 years. These students are not used to participating in the class and therefore the lecturer needs to check their comprehension more intently.

4. Conclusions and pedagogical implications

In this paper we have analysed the use of questions in guest lectures from a multimodal perspective, following the classifications of Querol-Julián (2008) and Chang (2012). Most of the conclusions drawn would not have been possible by looking just at the words, the transcriptions of the lectures. Though this can be considered a preliminary study whose results need to be corroborated with a larger corpus, we think there is enough evidence to state that discourse analysis cannot be complete unless there is a joint study of verbal and non-verbal behaviour.

We illustrated the importance of non-verbal behaviour with an analysis of two guest lectures delivered for an audience of English Studies students in a Spanish university. We have interpreted the results presented in this paper as closely related to the characteristics of the speakers and the audience they were speaking for (see again Table 1). The first observation made was that Lect-2 was delivered at a slower pace than Lect-1, it had frequent pauses and was much more visual dependent.

Concerning genre definition, our joint analysis of verbal and non-verbal elements confirm the interactive nature of guest lectures in the line of previous studies, whose focus was mainly verbal (Hyland, 2005; Pérez-Llantada, 2005; Bowker, 2012). Our first hypothesis "most questions in lectures have an interactive function" is confirmed by the results which prove that most questions in guest lectures are "audience-oriented", mainly trying to check comprehension and to elicit a response from the audience. "Comprehension checks" were especially common in Lect-2, where the speaker made a constant effort to confirm that the audience had understood the lecture and could follow her argument. These results are in line with those obtained by Pérez-Llantada (2005) and Bowker (2012), who highlight the lectures' use of questions as interactive metadiscourse devices that pave the way for a more asymmetrical relationship between lecturers and audience and that afford a more fluent negotiation of understanding and meaning of the content delivered, particularly when lecturers and audience do not share the same linguistic or cultural background as it is the case in the present study. However, further research with a larger corpus will add some more information about the use, classification and role of questions in lectures in both dimensions, interactive and interactional.

The second hypothesis "non-verbal behaviour is essential for a comprehensive communication in the classroom" also seems to be

confirmed by means of the analysis of two outstanding features in the two guest lectures: the use of "okay?" and of clusters of questions. Though some previous authors such as Crawford Camiciottoli (2008) had disregarded "okay?" and other confirmation checks when analysing questions in lectures, a close analysis of non-verbal behaviour has disclosed their relevance when they are used with the appropriate stress, gestures and pauses which complete their verbal meaning. Our results are, thus, in contrast to those obtained by Crawford Camiciottoli (2008). In her corpus of British and American lectures, half of them delivered as guest lectures, she observed that, in general, questions were more scarce in comparison with our corpus (4.9 per 1,000 words; vs 13.9 questions per 1,000 words in our corpus) and that "content-oriented" *wh*-questions were more frequent than "audience-oriented" "yes/no" questions. This researcher, as indicated above, disregarded in this study "comprehension checks" such as "okay?" Notwithstanding, in another of her research publications (Crawford Camiciottoli, 2007), she acknowledged the presence of "okay?" with a frequency of 2.1 per 1,000 words in a multidisciplinary corpus of lectures, similar to our results for Lect-1, but far from those obtained for Lect-2 (7.2 per 1,000 words).

Gestures also support the use of clusters. These clusters are repetitions or reformulations of questions accompanied by gestures and intonation which try to call the audience's attention in order to elicit a response (see Figure 3). In this sense, results from the non-verbal analysis seem to be in line with previous studies (Csomay, 2006) that related the use of *wh*-constructions with a more conversational style of lectures, in which lecturers often expand on and elaborate ideas. In the case of Lect-1, the speaker, an experienced lecturer used to teaching North American students, tries to adapt his lecture to third-year students in a class of Linguistics, considering they already have a good knowledge of the language and, therefore, he does not need to speak at a slower pace and can explain informally and without too much visual support. However, he tries to elicit some responses from the audience to check their understanding. When he does not obtain a reply, he tries to reformulate his questions by using clusters trying to re-elaborate and expand on the original idea, even introducing some funny comments, to confirm the audience is following his arguments. His language is accompanied by gestures such as extending his arms, raising them towards the audience with movements from one side to the other to invite all the audience to respond. He also raises his voice and stops talking waiting for a reply.

In the case of Lect-2, the speaker is an experienced non-native English-speaking lecturer used to teaching English to non-native English-speaking students. Her audience consists of first year students and the lecture is inserted in a subject dealing with English specific discourse. She tries to make her speech easily understandable by slowing down and asking very often about their comprehension by means of declaratives followed by comprehension checks, mainly "okay?" Her comprehension checks are accompanied by gestures such as looking at the audience, pointing at them, and creating silence in order to invite their response.

The opinions of the lecturers, the subjects of this research, have corroborated our interpretation of the results. This small scale study provides a qualitative analysis of the functionality of the guest lecturers' questions. However, we have to recognise its limitations especially due to the reduced number of lectures. In the future and as further research, it will be interesting to cross-check or compare these results with a larger corpus in order to corroborate the findings. Among the variables to check in this wider study could be gender, age, academic background and experience, or discipline.

The conclusions drawn from this study lead us to reflect on some pedagogical implications closely related to the use of the English language as a medium of instruction where it is learned as a foreign language. Indeed, in some higher education settings students have to deal with complex discourses from both a disciplinary and a linguistic (foreign language) perspective, and therefore it is interesting to focus on the features of the teacher discourse and how it is adapted by experienced lecturers to the characteristics of the audience. How to do this adaptation is not something usually taught to novice teachers, especially those who have to use English as a language of instruction. In line with what other researchers have suggested about the pedagogical applications of their research results, (Pérez-Llantada & Ferguson, 2006; Crawford Camiciottoli, 2007; Querol-Julián, 2010; Smit, 2010), we think the findings presented here could contribute on the one hand to a better design of teacher training in this context, considering not only what to say but also how to express linguistic and non-verbal meaning. On the other hand, these findings could enhance students' learning process, since paying attention to gestures when lecturers ask questions can help in their understanding and thus facilitate learners' knowledge construction.

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NOTES

[1] In her paper, Crawford Camiciottoli talks about "text" since she looks at written texts comparing them to lectures, though this word could perfectly be replaced by "speech".

[2] The authors asked for the two lecturers' permission which was granted to them for the analysis and for the publication of the images that appear in this paper.

[3] Personal communication by email (30/03/2013)