Looking into English-medium instruction teachers' metadiscourse: An ELF perspective

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A B S T R A C T

Metadiscourse plays a key role in teachers' attempts to ease and maximize knowledge transmission. This role is particularly important in the context of English-medium instruction (EMI), where teachers face the challenge of transmitting knowledge to students via a foreign language in an accessible way and students tend to find their lectures difficult to understand.

The present study addresses the use of *spoken* interactive metadiscourse markers by EMI non-native teachers from an English as a lingua franca perspective (ELF), an innovative approach in contrast to previous studies that tended to include native English as the reference language and model. The study compares Chinese and Spanish lecturers, and aims to analyze how teachers organize and construct knowledge through interactive metadiscourse in their classes so that it becomes accessible for their students. Four history teachers at a Spanish university were video-recorded and their use of interactive metadiscourse resources compared following the same procedure used by Zhang and Lo (2021) in the Chinese context. Our study revealed that the teachers followed a similar general trend in the use of metadiscourse patterns regardless of the context. However, noticeable differences in the specific linguistic realizations were also attested depending on the teachers' L1.

1. Introduction

The widespread use of English as vehicular language in English-medium instruction (EMI) as part of the internationalization process of higher education the world all over has brought new issues onto researchers' agenda and content learning processes in the L2 (Breeze & Dafouz, 2017). One such issue is understanding the means employed by EMI teachers to make the transmission of knowledge accessible to students who are learning it in an L2. Understanding university lectures delivered in English is a highly demanding task and teachers should reflect on the important role they play in this process. In fact, studies (Doiz & Lasagabaster, 2018) indicate that students find it hard to understand EMI lectures and demand support from their teachers.

It is at this stage when metadiscourse comes to the fore. According to Dahl (2004), it has often been vaguely ("wrongly", according to Hyland & Tse, 2004, p. 156) characterized as discourse about discourse, communication about communication, or talk about talk. Metadiscourse has to do with the discussion of those aspects of oral or written texts that mediate the relation between the speaker/writer and the listener/reader, as the nature of texts is "fundamentally interactional" (Mauranen, 2010, p. 14). Since research on metadiscourse in EMI settings is scant (Zhang & Lo, 2021), this study aims to shed some light on how teachers organize and construct

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knowledge through interactive metadiscourse when English is used as a *lingua franca* by non-native speakers. In this vein, it has been observed that metadiscourse markers are indicators of cultural differences between English-speaking and Spanish-speaking academics (Neff-Van Aertselaer & Dafouz, 2008) and that Anglo-American academics use more metatext –or text about text– than their Finnish counterparts (Mauranen, 1993), which indicates that cross-cultural comparisons are a promising venue of research. At any rate, unlike in the two aforementioned studies where native English speakers were involved in the contrast, we intend to weigh the use of metadiscoursal features by two different non-native groups of speakers, as both parallelisms and discrepancies are expected. This English as a lingua franca (ELF) approach is rather innovative, as few studies have hitherto analyzed metadiscourse from an ELF perspective, above all oral metadiscourse (Mauranen, 2010). With this in mind, we first review the relevant literature in the field, then outline the study and the methodology followed. We discuss our findings in the Spanish context and compare them with those obtained by Zhang and Lo (2021) in China. Our conclusions are set out at the end of the paper.

2. Metadiscourse

In this study the concept of metadiscourse used is based on Hyland (2005), because it helps to narrow down an otherwise wide-ranging and diverse field of research. In particular, our approach to metadiscourse has to do with EMI teachers' awareness of students' need for guidance, clarification, elaboration and interaction in the content learning process, since the use academics make of metadiscourse is "as important as the information they present" (Hyland & Tse, 2004, p. 174).

As Lee and Subtirelu (2015) point out, metadiscourse was initially constrained to the linguistic resources used to organize discourse, but the concept currently goes beyond text organization to also include linguistic features used "both to organize and evaluate the propositional content" (p. 53). Hyland (2005, p. 3) underscores that metadiscourse reveals "how writers and speakers intrude into their unfolding text to influence their interlocutor's reception of it." For this article we define metadiscourse as the linguistic resources that EMI teachers use to organize their discourse and express their viewpoint or attitude towards the content or material while endeavouring to engage students. Metadiscourse therefore encompasses the means that EMI teachers use to facilitate communication, to support their stance and to build rapport with their students (Hyland & Tse, 2004).

A distinction has traditionally been made between interactive and interactional metadiscourse resources. According to Thompson (2001), 'interactive resources' refer to the writer's management of information to guide readers through the text by anticipating their reactions and needs, which makes the text reader-friendly, whereas 'interactional resources' have to do with the comments and evaluation of the material and involve the reader/hearer in the development of the text. Interactive resources help structure the organization of the text, for example by means of sentence level conjunctions (*therefore*, *however*) and markers used to sequence material (*first, second, third, lastly*), whereas interactional resources aim to build relationship with the reader (*note that, you can see that*), express the writer's or speaker's attitude to the text (*I agree, unfortunately*) or withhold their commitment to a proposition (*perhaps, might*). Hyland and Tse (2004) and Hyland (2005) rely on a wider approach and regard as interactive resources those features that have to do with the organization of the discourse and the writer's assessment of the text. The resources included in the interactive dimension address ways of organizing discourse "with the readers' needs in mind" (Hyland, 2005, p. 49). Such features include 'transition markers' (internal devices that mark contrastive, additive and sequential steps in discourse: *but, thus, and*), 'frame markers' (items aimed at sequencing, announcing discourse goals, and signaling topic shifts: *finally, to conclude*), or 'code glosses' (elements that add information by rephrasing or elaborating what has been said: *namely,* e.g.*, in other words*). Although both transition markers and frame markers can have sequential functions, the former express semantic relation between main clauses (e.g. *in addition*, *but*, *thus*), while the latter refer to discourse acts, sequences, or text stages (e.g. *finally*, *to conclude*) (Hyland & Tse, 2004: 169).

Hyland and Tse (2004) define interactional resources as those that "involve readers in the argument by alerting them to the author's perspective towards both propositional information and readers themselves" (p. 168). In this dimension the writers/speakers make their view explicit and allow readers/listeners to respond to the argument (Hyland, 2005). Interactional resources include the linguistic means used to express particular kinds of modality and variations in the confidence with which arguments are deployed. They thus include 'hedges' (show the writer's or speaker's reluctance by discussing the propositions: *probably, may, might, fairly, perhaps*), 'boosters' (emphasize the writer's or speaker's certainty: *definitely, certainly, it is clear that*), 'attitudes markers' (express writer's or speaker's attitude: *fortunately, surprisingly*) or 'engagement markers' (stress the relationship with the reader/hearer: *consider, note that*).

Although much attention has been paid to written metadiscourse (Hyland, 2005), Mauranen (2010) underscores the importance of spoken metadiscourse because interactions take place in real time, in opposition to written discourse where the writer has time to think over what needs to be said and how it has to be written. Whereas the analysis of research articles predominates in the field (Mu, Zhang, Ehrich, & Hong, 2015; Zarei & Mansoori, 2011), classroom interaction has received much less attention and teachers' use of metadiscourse has not been systematically examined (Tang, 2017).

In university lectures the content of the classes is habitually very demanding and, if it is delivered in a foreign language, the challenge becomes even greater. Research studies indicate that metadiscoursal features play a paramount role, especially in university classes in which complex content is provided in real time (Mauranen, 2010; Ädel, 2010). Students thus need to work twice as hard in order to deal with both content and language and this demands linguistic scaffolding, which is why how EMI teachers tackle oral metadiscourse deserves further attention.

It is also interesting to note that metadiscourse may vary between disciplines. The linguistic practices of the members of a particular discipline are deeply seated within the discourse conventions and the specialized form of literacy of their specialization. Hyland and Tse (2004) analyzed the use of metadiscourse in 240 postgraduate dissertations from six different disciplines and found that more metadiscourse was employed in humanities and social science disciplines than in the hard sciences. Whereas interactive resources were

balanced across disciplines, interactional forms were more commonplace in humanities and social sciences. In another study Bruce (2010) compared the resources used in essay genres in sociology and English and observed that sociology essays contained more metadiscoursal mapping, whilst English essays assumed greater reader responsibility. In addition, 'frame markers' were more evident in sociology (found in four out of ten essays) but still relatively infrequent. The conclusion to be drawn is that metadiscourse is sensitive to the way in which disciplines frame and carry out their academic practices (Hyland, 2005).

3. Metadiscourse and ELF

As mentioned above, the vast majority of the investigation on language groups' differences has hitherto focused on written academic texts (Clyne, 1987; Dahl, 2004; Mu et al., 2015; Neff-Van Aertselaer & Dafouz, 2008). Mauranen (1993) detected that native speakers of Finnish use less connectives in economic texts in Finnish than native speakers of English in the same type of texts in their language. Dahl (2004) observed that English and Norwegian scholars employ more metadiscourse features and favour more visible and direct authorial presence in their writings than their French counterparts. In her study on how academic writers with different mother tongues express volition by means of modal verbs, Carrió-Pastor (2014) observed that native speakers mainly use 'can', 'may' and 'might' to express possibility, whilst Spanish ELF writers tend to prefer 'can'. Spanish writers were also more assertive, which the author attributed to the different rhetorical tradition in academic writing in Spanish.

After contrasting the function of metadiscourse in knowledge construction in Chinese and English research articles, Mu et al. (2015) found similarities regarding the use of metadiscourse features such as 'transitions', 'evidentials' and 'hedges' in both languages as a result of the unique characteristics of this particular genre. Similarly, both English and Chinese research articles featured more interactive than interactional metadiscourse elements. However, they also detected differences and concluded that English research articles tend to involve the audience in the text to a greater extent, whereas Chinese texts paid more attention to citing sources and used 'boosters' more often to convey authority. Chinese authors also tended to refer to themselves as 'we' rather than 'I' as a result of the cultural influence of Chinese collectivism.

Therefore, it can be affirmed that metadiscourse usage varies in different languages (Dahl, 2004; Hirano, 2009; Hu & Cao, 2011; Hyland, 2005; Mauranen, 1993; Mu et al., 2015; Neff-Van Aertselaer & Dafouz, 2008; Soler, 2011; Vergaro, 2011). However, the aforementioned studies have always included native English as the reference language and model. From an ELF perspective, there is a growing interest in the use of English as a means of instruction between speakers from different first languages. The increasing amount of research into academic ELF has "demonstrated numerous ways in which English is used effectively by its (majority) non-native lingua franca speakers but often differently from ways in which it is used among native English speakers" (Jenkins, 2014, p. 2). At a time when English has become the *de facto* language of international higher education, ELF advocates argue that it is inappropriate and unrealistic to expect EMI teachers to deliver their lectures in the English used by Australian, British or North American academics. In fact, ELF speakers manage to communicate successfully without complying to native English-speaking norms (Galloway & Rose, 2018) and contrastive studies as ours may help EMI teachers avert the danger of being subsumed and trapped in Anglophone cultural ethnocentrism (Hyland, 2005). With this ELF perspective in mind, much remains to be done as regards how national culture and language influence ELF in general and academic ELF in EMI settings in particular. Nonetheless, it needs to be acknowledged that 'small cultures' such as the discipline, the classroom, the institution or the participants' age may interact with national cultures and exert their influence on ELF metadiscourse (Hyland, 2005).

The ELF perspective led us to compare our results from the Spanish university context with those obtained by Zhang and Lo (2021) in China, as this will allow us to "perceive and understand how people from diverse linguacultural backgrounds appropriate and adapt English for their own needs" (Seidlhofer, 2011, p. 364). The objective is thus not to compare non-native metadiscourse with native speakers' use of it, but rather between two groups of L2 users in a very particular setting, EMI at a university level, because as Mauranen (2010, p. 15) bluntly puts it, "to understand academic speaking it is necessary to rid ourselves of the baggage of native English practices."

Taking into account the parallelisms and divergences found in the literature when different languages were compared, and since interactive features in particular communities (such as EMI non-native teachers) and genres (such as the lecture genre) among diverse first language groups (such as Chinese *versus* Spanish lecturers) have not been researched in the literature (Hyland, 2005), in this study we address the following research questions:

What are the main interactive metadiscourse expressions used by Spanish EMI teachers? And do they follow different metadiscourse patterns when compared to their Chinese colleagues?

In order to answer these questions, we address the Spanish data first in the results section (section 5) and undertake the comparison between the two contexts in section 6, the discussion.

4. The study

The present study took place at the Department of History of the University of the Basque Country (UBC) in Spain and is part of a longitudinal research project on collaboration between content and language teachers in an EMI context. In this collaboration, language teachers recorded the lectures and were present to answer any linguistic question that may arise. In addition, language teachers identified students' language problems in written and oral production, and addressed them in short 15-min explanations in class every two weeks.

Our results will be compared with those obtained by Zhang and Lo (2021). In the latter study the participants were four male teachers who taught teacher-centered classes and whose L1 was Chinese. The same amount of classes was analyzed (four) in both

studies. Therefore, all these variables were constant in both contexts. However, Zhang and Lo recorded science lectures, whereas ours were history lectures.

4.1. The participants and the courses

Once the study received the approval of the UBC's ethical committee, all the EMI teachers of the Department of History at the UBC were contacted to request their participation in the present study. They were informed about the study's objective, namely, the implementation of specific tools to foster the collaboration between language and content teachers at the UBC. Out of the five lecturers who expressed their willingness to participate in the project, one was excluded because his classes consisted of student interventions mainly, which were not appropriate for this paper's object of study. Table 1 contains information on the subject the lecturers taught, their teaching experience in general and teaching experience in EMI. Table 1 also includes the 12 lectures analyzed for this study (three per lecturer), randomly selected from a pool of 29 observed lectures. Like the rest of the lecturers observed, the lectures analyzed here were mainly teacher-fronted. Each of the lectures was assigned a code number, provided in the second to last column to the right, and the total number of words of the lessons per teacher is given in the last column.

The four participants had an equivalent of the C1 level of the Common European Framework required to teach in English at the UBC under the Multilingualism Program (MP), a program in which teaching in a foreign language, primarily English, is fostered. However, based on the criteria specified in UCLES (2011) –see below–, teacher 3's and, especially, teacher 4's level of proficiency was lower than the other two teachers'. Teacher 3 relied on his written notes and, like teacher 4, repeated sentences or words frequently, had a narrower range of vocabulary and of grammatical constructions than the other two teachers and his speech contained language-related hesitations.

4.2. The theoretical framework: the interactive metadiscourse model

Lectures habitually represent "the prototypical genre of information transfer" (Hyland, 2005, p. 10) and 75% of lecture time is spent listening to the lecturer, according to data gathered among teachers and students (Dafouz, Núñez, & Sancho, 2007). With this classroom reality in mind, our analysis focuses on the teachers' metadiscourse in this teacher-fronted lecture approach, that is, the academic lecture genre.

Since metadiscourse is a multifunctional concept that can be realized via different linguistic forms (Dahl, 2004), we followed Hyland's (2005) theoretical framework as adopted by Zhang and Lo (2021), as this would allow us to compare EMI teachers' use of interactive metadiscourse resources in two different contexts, China and Spain. Following Zhang and Lo's suit, we focused on the following (Hyland, 2005, p. 50–53):

(i) 'Transition markers.' These are conjunctions and adverbial phrases which help readers interpret pragmatic connections between steps in an argument (e.g. *furthermore, in addition, however, on the other hand, because, therefore*).

(ii) 'Frame markers,' whose role is to signal text boundaries or elements of schematic discourse structure. They function to sequence arguments/statements, label the stages of the discourse, announce goals and shift topics, thereby making the discourse clear to listeners (e.g. *first, then, at the same time, now, to summarize, in sum, well, let us return to*). Some markers (e.g. *furthermore, then, now*) can be coded as both transition and frame markers. As mentioned above, when they expressed relation between main clauses they were classified as transition markers (e.g. *in addition, but, thus*), whereas when they referred to sequences or text stages (e.g. *finally, to conclude*), they were included within frame markers (Hyland & Tse, 2004).

(iii) 'Reminders.' These are expressions that facilitate comprehension and support arguments by referring to other parts of the discourse – earlier material or anticipating something yet to come (e.g. *see Figure 1, in the previous section, as noted before, in the next class*).

(iv) 'Code glosses.' That is to say, those expressions whose function is to supply additional information, by rephrasing, explaining or elaborating what has been said in order to ensure that the listener is able to recover the speaker's intended meaning (e.g. *namely, this is called, in other words, that is, for example, it can be defined as*).

Table 1
The participants.

	Subject	Years of teaching experience	Years of teaching in EMI	Lectures observed and recorded	Number of words recorded
Teacher 1	World economic history	21	5	3, 6, 10	27,155
Teacher 2	America in the modern age	25	7	1, 4, 16	27,105
Teacher 3	Early modern history I	16	2	2, 8, 9	21,027
Teacher 4	Contemporary history of the Basque Country	30	2	11, 13, 15	16,617

4.3. Data collection and coding process

The co-authors of the paper approached the four lecturers and the students and explained the aim of the research. Permission to video record their classes was requested and granted to us. The data thus gathered consisted of naturally occurring interactions (Hynninen, 2012) during EMI history courses. The recordings of the 12 2-h lessons were carried out by the team of researchers involved in the project and were later transcribed by a research assistant.

The transcriptions were revised by one of the co-authors to check their accuracy. The excerpts we have included in this paper are verbatim transcriptions of the participants' utterances, hence, ungrammaticalities, inaccuracies and repetitions have not been eliminated or resolved. The symbol # indicates a pause, xx that it is not clear what the speaker said, and […] is used to note that a part of the lecturer's production which is not relevant for the purpose of this study has been eliminated for space constraints. T1, T2, T3 and T4 stand for teacher 1, teacher 2, teacher 3 and teacher 4, respectively, and S for student (since the students were not the focus of this study, all the students were referred to as S). The metadiscourse markers are provided in bold in the examples in order to facilitate their identification.

As stated above, the specific instances of metadiscourse markers analyzed in this study were based on those provided for the categories of code glosses, frame markers, transitions markers and reminders as in Zhang and Lo (2021). In addition, other linguistic instantiations of the targeted metadiscourse functions were considered in order to provide a richer account of the lecturers' discourse. We proceeded as follows. First, the research assistant searched the metadiscourse markers in the transcripts using the word engine and categorized them into one of the four metadiscourse categories. Although researchers normally use some text analysis software such as AntConc (e.g., Zhang & Lo, 2021), then they need to retrieve each instance manually to confirm that it performed a particular interactive function –sometimes they may be coded in more than one– in the context where it was expressed, which is why the manual option was believed to be as useful and valid as the one based on a software programme (in fact, the inter-code agreement was satisfactory; see below). Then one of the authors of this paper analyzed each instance manually to verify that it performed the interactive metadiscourse function assigned. The second author of the paper coded 10% of the markers to check for accuracy of the identification and the classification of the markers. The inter-code agreement was 92% initially. Then, the two researchers discussed the remaining 8% until an agreement was reached. Part of the disagreement was caused by the overlap between some transition and frame markers. The patterns and tendencies are presented in the Results section below.

The data was quantified in number of tokens for each metadiscourse category. When comparing the use in the Chinese and the Spanish contexts t-tests were performed and the effect size of the differences was calculated.

5. Results

Fig. 1 presents the distribution patterns of interactive metadiscourse markers in the four courses at the UBC. In order to facilitate the comparison of the general distribution patterns of the targeted expressions between the Spanish and the Chinese contexts in the discussion section, we followed the practice adopted in Zhang and Lo (2021, p. 61) to normalize "[t]he raw frequency of each sub-category of interactive metadiscourse markers at a 1,000 base." That is to say, the data in Fig. 1 show the occurrences of the interactive metadiscourse expressions per 1,000 words on the basis of the total number of words in each lecture. The total number of words refers to actual words, including repetitions of the same word. Unfinished words were not taken into account.

The results showed that the four lecturers followed the same general trend characterized by the greater use of transition markers in comparison with the markers of the other three categories. The second most widely used category was code glosses, and, with the exception of lecturer 1, frame markers were used the least. We now turn to the analysis of the results for each of the categories.

Interactive metadiscourse (per 1,000 words)

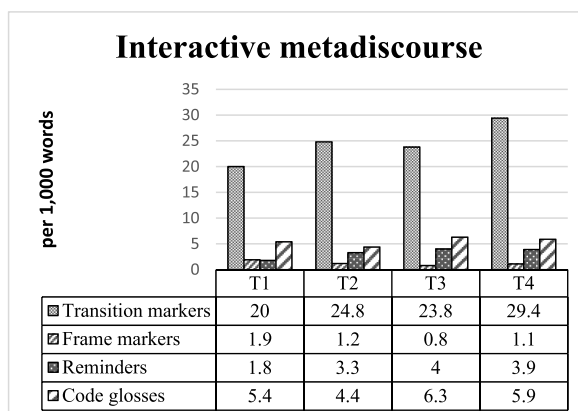|	T1	T2	T3	T4
Transition markers	20	24.8	23.8	29.4
Frame markers	1.9	1.2	0.8	1.1
Reminders	1.8	3.3	4	3.9
Code glosses	5.4	4.4	6.3	5.9

Fig. 1. Interactive metadiscourse markers used at the UBC (per 1,000 words).

5.1. Transition markers

As stated above, transition markers signal the relationship between statements and provide coherence and cohesion to the discourse (Hyland, 2005; Zhang & Lo, 2021). Table 2 contains the results for the Spanish context. For each teacher, the total number of the most frequently used transition markers is provided first, after which the markers are sorted in order of frequency. Having the total number of tokens allows us to interpret the weight of the markers for each of the teachers individually and in relation to the other teachers.

Table 2 shows that among the transition markers, *because, but, so,* and *also* (the latter with considerably fewer cases than the other three markers) stood out for being the more recurrently used. Other markers such as *again, as a result, at the same time, however* and *still* were also used but were clearly less frequent. The markers, *because, so,* on the one hand, and but, on the other hand, deserve special consideration due to their preponderance in the history lectures. *Because* and *so* overtly indicate the causes and the reasons of the phenomena under discussion. They are used to explain and are therefore an important part of knowledge creation and organization in the classroom instruction (Zhang & Lo, 2021). The occurrences of the adversative marker *but* in our data had the five different functions described by Halliday & Hasan (2001, cited in Zhang & Lo, 2021). In particular, it served to convey the denial of expectation in a general sense (1a), highlight the contrast of two entities (1b), introduce a reminder in the but-clause (1c), introduce additional information (1d) or a new condition (1e), as illustrated in example 1.

Example 1

(a) and the third element # element ### is true that during the # sixteen and seventeen centuries # the Spanish official language # the Spanish official language # administrative official language # didn't use the term empire. **But** it was because at the moment no one used the term empire. (T2, lecture1)
(b) **but** # that's not very common # during the medieval period. (T1, lecture3)
(c) **but** this is surprising # because during the early modern period # in the fifteen century # the sixteen century # Yang Nam # was ## a twenty million ## mm ### a twenty # thirty million people # region # eh? (T1, lecture3)
(d) this map has only # has one thing to comment # eh how this knowledge spread out not only within the European continent **but** # **but** also reach # eh other eh eh # civilisations. (T2, lecture4)
(e) **but** suppose # that # mm you are hiding # a British ship #and at the same time # the insurance # is yours … (T1, lecture10)

The data also revealed the existence of some individual differences between the lecturers. For example, teacher 2's courses contained the highest number of transition markers, however, a single marker, *so,* was responsible for almost half of them (49%), which might indicate a personal stylistic trait in his speech. Teacher 1 and teacher 2 used the markers *because*, *but* and *so* the most, and teacher 3 *but, also, so*. It should be noted that teacher 4 mainly employed two markers, *but* (52%) and *because* (32%) which could be related to his lower level of competence in English in comparison to the other lecturers, based on the criteria specified in UCLES (2011) which follows the European Framework of Reference for Languages at the C1 level and awards marks for five individual criteria: grammatical resource, lexical resource, discourse management, pronunciation and interactive communication. In particular teacher 4's speech contained higher number of repeated sentences or words, hesitations, narrower range of vocabulary and of grammatical constructions.

5.2. Frame markers

Frame markers fulfil four distinct functions, namely, to refer to a sequence (e.g., *first, second, lastly*), to label a stage (e.g., *to summarize*), to announce a goal (e.g., *intent to, in this class*) and to shift topic (e.g., *with regard to, turn to*), illustrated in the extracts in example 2, where example (2a) codes a shift of topic, (2b) announces a goal, and (2c) provides the last stage in a sequence.

Example 2

(a) well # eeem # **well** # **let's** move # to # expansion times. (T3, lecture8)
(b) we will # **we will speak** about # Goikoetxea # during the civil war # because # he is very important. (T4, lecture13)
(c) and **finally** there's eh eh # the map by Ortellius # that is more or less the same. (T2, lecture3)

Table 2
The most frequently used Transition markers in the lectures.

	T1		T2		T3		T4	
	525		671		483		478	
	marker	raw frq.	marker	raw frq.	marker	raw frq.	marker	raw frq.
Total transition markers	because	170	so	330	but	144	but	253
	but	158	but	148	also	135	because	153
	so	104	because	126	so	104	also	41
	also	41	also	29	because	49	at the same time	19
	at the same time	28	again	20	as a result	33	still	12
	however	14	still	18	at the same time	18		
	although	10						

Table 3 contains all the teachers' uses of frame markers categorized according to their four functions. Overall, we can see that, with just 125 total occurrences, frame markers were infrequent (see also Fig. 1). In fact, teacher 3 and teacher 4 hardly ever used them as evidenced by the fact that only 17 and 19 tokens were found in the 3 2-h classes we analyzed. Among the four functions, the functions of shifting topic and sequencing were the most common among the markers, whilst labelling and announcing the goal of the discourse were rare.

Table 4 shows the raw frequencies of the most frequently used expressions among the lecturers. In comparison with transition markers, the range of the most frequent frame markers that were used is small and varied from lecturer to lecturer. In particular we recorded *firstly, secondly, then, later, next, class,* and *finally,* all of which were used to establish the linear sequencing of the information. The expressions indicating a shift of topic were *by the way, anyway, so, let's (return to, move on to)* and *now*. Among those indicating the stage of the lecture we found *the idea is that, to conclude* and *basically*. *Focus* and *want* were used to announce the goal of the forthcoming discourse. With the exception of the marker *anyway* which was used repeatedly by teacher 2, there is no clear preference for a set of frame markers, thereby indicating the influence of each teacher's individual preferences or style to refer to the macrostructure of the discourse.

5.3. Reminders

As stated above, "reminders are expressions referring to other parts of the lecture (subject content previously mentioned or to be anticipated), or expressions facilitating the recovery of students' memory of prior knowledge" (Zhang & Lo, 2021, p 67). Table 5 shows the expressions most frequently used by the 4 lecturers at the UBC.

The Spanish lecturers used reminders marginally. In addition, a substantial difference regarding the use of reminders among the teachers was recorded: teacher 2 and teacher 3 used reminders the most (with a total of 79 and 81 tokens, respectively, of the most frequently used markers), while teacher 1 employed just 45.

As regards the linguistic realization of the markers, markers such as *remember, see/saw* and *last* were used by all the teachers, but *remember* was the most widely used form by each of the lecturers at the UBC. This form was used to refer to general knowledge (3a), past knowledge acquired in other courses, or previous lectures given by the same lecturer (3b). In the case of teacher 2's lectures, it was frequently preceded by the conditional conjunction if (3b), to avoid placing too much pressure on what the students should remember. The same teacher, however, used the deontic modal *must* next to *remember* when he deemed some idea to be important (3c). The activation of previous knowledge acquired via multimodality (e.g., movies, songs, documentaries) also took place as illustrated in example (3d) where reference is made to a video watched in class.

Example 3

(a) eer # at the same time # at the same time # we should mention here # for instance # canals, #**remember** # the famous # Suez canal # in 1869. (T1, lecture 10)
(b) if you **remember** # eh # eh two # two days ago we looked something about # immigration (T2, lecture1)
(c) You **must remember** that # there were conquered. (T2, lecture1)
(d) **remember** the scene of the cemetery? (T4, lecture11)

5.4. Code glosses

The code glosses analyzed in the courses were used to fulfil three main general functions, namely, (i) to provide definitions of new terms and concepts, (ii) to clarify by giving examples, explanations or rephrasing, and (iii) to self-repair, that is to say, when the teacher realizes the word he chose or the phrase he constructed did not capture the idea he wanted to express and therefore reformulated the expression in question. At the UBC the most frequent linguistic realization of the code glosses was *or* as shown in Table 6.

This marker was used to provide examples (4a), introduce a specialized term (4b), paraphrase (4c), provide a synonym (4d), or self-repair (4e). Among its five functions, paraphrasing (with 61 cases out of a total of 203 occurrences), provision of examples (53/203) and self-correction (42/203) were recurrent, which means that the teachers were concerned about clarity and getting their message across to the students via the use of paraphrasing or exemplification.

Example (4).

(a) natural fibres # such as # linen # silk # **or** wool # and of course # cotton (T1, lecture6)

Table 3
The functions of Frame markers in the lectures.

	T1		T2		T3		T4	
	54		35		17		19	
	marker	raw frq.	marker	raw frq.	marker	raw frq.	marker	raw frq.
Total functions of frame markers	Shift topic	24	Label stage	7	Sequencing	11	Shift topic	7
	Sequencing	19	Shift topic	14	Shift topic	5	Sequencing	6
	Label stage	8	Sequencing	10	Announce goal	1	Label stage	3
	Announce goal	3	Announce goal	4			Announce goal	3

Table 4
The most frequently used Frame markers in the lectures.

	T1		T2		T3		T4	
	36		24		12		13	
	marker	raw frq.	marker	raw frq.	marker	raw frq.	marker	raw frq.
Total Frame markers	By the way	10	anyway	13	Finally	7	then	6
	now	8	firstly	4	So/well, let's	5	By the way	4
	class	7	secondly	4			want	3
	So, let's (…)	6	The idea is	3				
	The idea is	5						

Table 5
The most frequently used Reminders in the lectures.

	T1		T2		T3		T4	
	45		79		81		66	
	marker	raw frq.	marker	raw frq.	marker	raw frq.	marker	raw frq.
Total Reminders	remember	22	remember	41	remember	56	remember	26
	see/saw	6	see/saw	16	mentioned	12	as you know	18
	talk about	6	as you know	9	as you know	6	see/saw	10
	as I have told	5	last	8	speak	3	speak	6
	next/will speak	3	speak	5	last	2	next/will speak	3
	last	3			see/saw	2	last	3

Table 6
The most frequently used Code glosses in the lectures.

	T1		T2		T3		T4	
	137		117		132		97	
	marker	raw frq.	marker	raw frq.	marker	raw frq.	marker	raw frq.
Total Code glosses	or	47	or	63	or	73	for example	59
	for instance	42	called	31	for instance	26	or	20
	say	10	for instance	16	called	14	I mean	18
	such as	10	this/that means	4	in fact	7		
	in fact	9	I mean	2	I mean	6		
	this/that means	8						
	called	5						
	for example	3						
	I mean	3						

(b) the corregidores **or** # chief eeeh # chief ## chief magister # eh # chief magister (writing on the board) # in English. (T3, lecture2)

(c) probably # this day in Bilbao # eh probably # we don't know the # exact figures # but probably # eeeeeh # more people eh died in Bilbao **or** were killed in Bilbao # this day # than # in the bombing of Gernika. (T4, lecture15)

(d) suppose you have to define globalisation # what would you say then ## in your view # what's globalisation? How would you define that? **or** what do you mean by globalisation? (T1, lecture10)

(e) who are # **or** #w # what are the # the indirect # ta # taxes? (T3, lecture2)

The second most frequently used markers were the expressions *for instance* and *for example*. Hence, the teachers' second highest use of code glosses was to exemplify their claims and illustrate their statements. In third place was the marker *called,* which was used to provide clarify, to introduce a term either in the students' L1 or in English as in example (5), or to provide a paraphrase. *I mean* was used to clarify, rephrase, explain and to self-repair. *In fact* made a previous statement more precise, introduced a different stance on a matter or elaborated an idea.

Example (5).

In this case # eer if you remember # the transformation of fortresses # and the use of bastions # was # **called** # polyorthetic ### polyorthetic revolution # okay? (T3, lecture8).

When the lecturers' performance was compared, we saw that there were significant differences among them. Lecturer 1 had the highest number of code gloss markers as well as the broader array of markers, some of which were not included here (e.g., *in other words, specifically, say*). This could be due to the fact that teacher 1 was the most proficient and articulate of the 4 teachers in English, which would allow him to reformulate the same idea in different ways and to have more linguistic resources to provide additional

explanations, for instance. On the other hand, lecturer 4's lower level of competence in English may have conditioned his ability to restate ideas and provide explanations in different terms, which would account for the less frequent use of the marker *or,* for instance. In order to address the research question regarding the parallelisms and divergences in the use of interactive discourse markers in two EMI contexts with two different L1, we now turn to the comparison of the Spanish results and the Chinese results.

6. Discussion

Table 7 below shows the use of interactive metadiscourse markers in both the Spanish (history) and the Chinese (science) contexts. Broadly speaking, a similar trend is observed in the strategies used to make content knowledge accessible to students in both settings.

However, two main similarities and two main differences emerge if our attention is focused on the means of the two contexts. Firstly, transition markers were the markers most frequently used by all the teachers. The predominance of the use of transition markers over other markers in university lectures was also corroborated in Lee and Subtirelu (2015, p. 57), who argued that the use of these markers responds to the lecturers' need "to maintain coherence and cohesion," and they do so by "show [ing] students relationships between different stages of a lecture as they carefully guide students through a cognitively demanding task of staying 'in-tune' with dense subject content over a lengthy period of time." Interestingly, a similar trend is observed in other genres, such as in CEOs' letters where it is of paramount importance to reinforce clarity of exposition and ensure that the readers follow the writers' reasoning (Hyland, 2010).

Secondly, code glosses, reminders and frame markers were used considerably less frequently. This trend was more marked in the Spanish corpus, since the number of occurrences of these markers per 1000 words was even lower than in the Chinese corpus in the case of frame markers and code glosses (while the mean for reminders is very similar in both groups). As for the differences, it is worth noting first that, whereas code glosses were the second most used marker by the Spanish lecturers, frame markers came second for the Chinese lecturers. Finally, the second difference has to do with the fact that, while frame markers were the least frequently used category in the Spanish data, the least frequently used category in the case of the Chinese data was that of reminders.

More interestingly, the differences in the use of transition markers and reminders between the Chinese and the Spanish contexts do not reach statistically significant differences, whereas the use of frame markers (with a large effect size: $\eta^2 = 0.787$) and code glosses (with a large effect size: $\eta^2 = 0.696$) is significantly more common among the Chinese participants.

Hence we conclude that the lecturers' L1 does not seem to have an effect on the teachers' metadiscourse strategies in general. They tend to focus on the same aspects of the organization of the discourse and with similar intensity. In particular, a key feature of our lecturers' discourse is the high use of transition markers to represent internal connections (they even share the same mean, 24.50, which is well above that of the other three categories), a characteristic of academic arguments (Hyland, 2005, p.55), and then the focus on vocabulary issues through their use of code glosses, a tendency that may be specifically related to language challenges posed by the EMI context, in which specialized language plays a paramount role.

The comparison of the specific transition markers used in the Spanish data and the Chinese data reported in Zhang and Lo (2021, p. 63) revealed that the same transition markers were used by all the lecturers, namely, *because, so, but* (for the comparison of arguments as being different) and *also,* which is not surprising since these markers are commonly found in conversational discourse (for similar results see Lee & Subtirelu, 2015). Hence, EMI teachers of a different L1 primarily focused on the establishment of the relations of consequence, comparison and addition and employed the same or similar linguistic means to do so.

Frame markers, which serve to signal text boundaries or elements of the discourse structure, were not very much used by the Spanish and the Chinese lecturers, a trend that was more marked in the case of the former (with a large effect size). Thus, the lecturers, and especially the Spanish teachers, did not probably deem it necessary to help students navigate through the lessons.

Unlike in the case of transition markers whose linguistic realizations were very similar, the choice of the linguistic expressions of frame markers differed in the two contexts. More than half of the markers were different (see Table 3.3 from Zhang & Lo, 2021, p. 66), although a few markers were reported in both contexts (e.g., *now, first/ly, second/ly, then, class, want, then*). Hence, we can conclude that when it comes to the expression of text boundaries and reference to the structure of the class, there are important differences between both settings. For example, the Spanish teachers use markers such as *by the way, anyway, the idea is, finally, so* or *let's* that were not present in the Chinese data. A question that needs to be addressed is whether the specialization has an impact on these differences, although intuitively it could be argued that the markers used by the Spanish teachers in history classes could have also been used by the Chinese teachers in their science lectures.

Like their Chinese colleagues, the Spanish lecturers used reminders marginally (see Table 7). It appears that lecturers did not feel

Table 7
Interactive metadiscourse used in both the Spanish and the Chinese contexts (*p < 0.01).

	Context	Mean	SD	T-value	Eta-squared
Transition markers	Spain	24.50	3.86	0.000	
	China	24.50	1.83		
Frame markers	Spain	1.25	0.46	−4.717*	0.787
	China	10.40	3.85		
Reminders	Spain	3.25	1.01	0.067	
	China	3.17	1.98		
Code glosses	Spain	5.50	0.82	−3.707*	0.696
	China	9.60	2.05		

the need to refer to other parts of the lecture or to the students' prior knowledge very frequently. This behavior may be attributable to the linear fashion of classroom instruction, which renders these markers unnecessary (Lee & Subtirelu, 2015). It could also result from the teachers' (un)familiarity with what students may know from other courses. Another explanation could be found in Zhang (2017), who considers that this could be due to the content being new and therefore students had little prior knowledge that teachers could activate. At any rate, the teachers made different linguistic choices and, furthermore, the frequency of the markers they used varied considerably. Thus, no general trend was found here, other than the fact that reminders were not very much used, as stated above.

As regards the linguistic realization of the reminders, similar markers were used, e.g., *mentioned, remember* and *last* (Zhang & Lo, 2021, p. 67), although occurrences of other forms were also recorded. In the Chinese context, expressions such as *before, learned, discussed* were quite common, but not among the Spanish teachers.

Code glosses are "metadiscourse signals that work to clarify what the writer assumes may be an unfamiliar term or usage" (Hyland, 2005, p. 97). In a setting in which the medium of instruction is a foreign language, as is the case of EMI, these markers serve an important function which would account for the fact that code glosses are the most frequently used type of markers in the Spanish setting after transition markers. In any case, the presence in the speech of both the Spanish and Chinese teachers is rather limited (M = 5.50 and M = 9.60 per 1000 words respectively).

Interestingly, when the two corpora are compared, three noticeable findings emerged. Firstly, with the exception of *for example,* the expressions used for code glosses differed in the two contexts. Thus, the markers *call/ed, mean/s, meaning, that is, name, how to say, that is, explain* predominated in the Chinese context (Zhang & Lo, 2021, p. 69), whereas *or, for instance,* for example were the most frequently used in the Spanish context (Table 6). Secondly, in both settings the gloss *(for) example* was very frequent, indicating the importance that the teachers in the courses attributed to exemplification. Thirdly, the most frequent linguistic realization of the code glosses at the UBC was *or,* a marker which was not noted in the Chinese case.

7. Conclusions

Given the lack of studies on spoken discourse, and in particular in EMI, we compared EMI teachers' use of interactive metadiscourse resources in two different contexts, China and Spain. In both cases the teachers have undertaken the task of teaching content in English, a language which is not their own or their students'. Three main conclusions can be reached from this comparative study based on an ELF perspective. Firstly, all the EMI lecturers followed a very similar general trend in the use of interactive metadiscourse markers regardless of context. In particular, transition markers were the most widely used metadiscourse markers in the two contexts, whereas frame markers, reminders and code glosses were less common in the two settings by far. Since the latter three categories play a paramount role in the transmission and construction of knowledge (Hyland, 2005; Zhang & Lo, 2021), EMI teacher trainers should pay particular attention to this issue and help teachers reflect on the need to incorporate them in their classroom talk. For example, we find it striking that the Spanish participants only use 1.25 frame markers per 1000 words. Since students would benefit from signals of text boundaries and text structure (Hyland, 2005; Zhang, 2017; Zhang & Lo, 2021), it can be affirmed that there is a dire need to draw EMI teachers' attention to their insufficient use of such resources. The pedagogical implication would be that teacher training sessions could include watching video footage of their lessons, and the subsequent discussion of the recorded classes should be aimed at encouraging a reflection process while making teachers aware of their imbalanced use of the different metadiscourse resources at their disposal. This reflective process would help them to ensure that they supply "sufficient cues to secure an understanding and acceptance of propositional content" by their students (Hyland, 2010: 141).

Secondly, with the exception of transition markers, the linguistic realization of specific metadiscourse markers differed widely in the two contexts. Thus, the lecturers in the two contexts generally used the same expressions in the case of the transition markers, namely, *but, because, so* and *also,* which reveals the importance of coding these relationships for the construction of the knowledge process in academia and the common linguistic repertoire used to do so. However, this was not the case for the other markers which varied greatly across the two contexts and across the lecturers, especially in the case of frame markers. The conclusion to be drawn is that, whereas the analysis of the EMI lectures in each country reveals "very similar patterns of interactive metadiscourse distribution" (Zhang & Lo, 2021, p. 75), when the two contexts are compared a wide range of markers and much variation are found. These results indicate that variation in spoken metadiscourse is likely to be found in different cultures and that the reasons behind such differences are well worth further investigation.

Finally, and closely linked to our previous conclusion, reminders were the least used markers in the Chinese context, and frame markers in the Spanish context. At this point we are unable to provide an explanation for these differences as they could be attributable to a number of factors, such as the differences in the disciplinary culture, differences in the culture, the L1 themselves, the lecturers' level of English competence or simply individual stylistic differences. From a theoretical perspective, further research should revolve around the influence that the teachers' L1 exerts on the use of interactive metadiscourse resources. It may be the case that L1 influence might help to explain the significant differences in the use of frame markers and code glosses, but a question is left unanswered as regards transition markers. Since the latter show an outstanding similar pattern in both contexts, the L1 may not be enough to explain the previous differences, which is why cultural issues and disciplinary culture may also be well worth examining (Bruce, 2010; Hyland & Tse, 2004). Cultural preconceptions can affect communication (Hyland, 2005) and this may be the reason for the differences found in metadiscourse use across languages in our study. Or it could also be the case, as mentioned above, that teachers are simply unaware of their lack of attention to some particular metadiscourse resources. We believe that future studies could help to delve into this issue by comparing the spoken metadiscourse used by the same teacher in their L1 and EMI classes, as this would contribute to shedding some light on the actual impact of the language used as means of instruction on spoken metadiscourse. In any case, discoursal analysis such as the one conducted here can be a valuable means of exploring academic spoken discourse, and may provide "teachers a useful way of assisting students towards control over

disciplinary-sensitive" speaking practices (Hyland, 2010, p. 141). This is crucial, as making sure that students grasp the content is essential in EMI because the students' understanding of the classes may be hampered by the use of a foreign language as means of instruction and even by the teachers' limited resources in the L2. A pedagogical implication to be drawn would be the need to foster collaboration between language teachers and content teachers to help the latter reflect upon their classroom discourse and foster an efficient use of metadiscourse markers. Previous studies (Lasagabaster, 2021) have shown that content teachers are willing to collaborate with language teachers, as they are usually aware of the importance of language matters but acknowledge that they lack training and time to tackle linguistic concerns.

One of the limitations of this study has to do with the relatively small size of the corpora, which leads us to invite future research to be carried out with a larger corpus. Future studies could focus on students' viewpoints, as they could pinpoint which metadiscourse markers they find easier and clearer to grasp and follow, and why. In this vein, Zhang and Lo (2021) point out that the inclusion of reminders was well received by students, despite the fact that they were the least used metadiscourse resource in their data. Ideally, other languages could also be included as transnational comparisons would help to underpin the main features of ELF in EMI settings (Galloway & Rose, 2018; Jenkins, 2014; Mauranen, 2010; Seidlhofer, 2011), while at the same time revealing how the national culture permeates EMI teachers' metadiscourse and distinguishes it from other national contexts. Finally, the teachers' reflections on their use of metadiscourse markers could also be gathered, as this would allow the triangulation of data with students' perspectives.

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