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From the Guest Editor

THE WAY AHEAD IN LANGUAGES FOR SPECIFIC PURPOSES

The processes of globalisation, the increasing dominance of English in academic and professional spheres, and the ongoing changes in higher education worldwide have destabilised the role of specialised language teaching at university level. Like many situations of instability, the current panorama presents those involved with both opportunities and threats. On the positive side, the increase in international contact in most areas of social, academic and economic life means that the need for specialised language education is probably greater than ever before. No one leaves school with excellent professional communication skills in a second language – and so precisely those skills should be the focus of new generation Languages for Specific Purposes (LSP) courses. But unfortunately many institutions have been slow to understand the vital role that language training for specific purposes has in equipping students for their future professions. The teachers and departments responsible for LSP teaching also urgently need to update their own knowledge and competences, redesign their courses, and seize this opportunity to become experts in professional communication. As linguists, LSP practitioners are uniquely positioned to conduct principled inquiry into specialised language domains, to map the specific features of professional genres, and to build a robust understanding of how different discourse communities use them. Such research will allow LSP teachers to adopt a critical attitude to material that is available (Jiang and Hyland 2020), and to devise courses and resources that match more closely with what their students need.

Against this background, this special issue of *Language Value* brings together a number of papers that sketch out new routes for LSP teaching in the next ten years. As we would expect in LSP, these papers all presuppose a solid underpinning in genre and sound knowledge of how language is used in specialised discourse communities. But they are also forward-looking in different ways, characterised by a special emphasis on aspects such as the importance of digital technologies, our growing awareness of

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multimodality, and the need to cultivate pluriliteracies in complex multilingual settings (Meyer 2015).

In the first article, **Ignacio Guillén Galve** and **Miguel Ángel Vela Tafalla** show how the application of technology to digital genres can inject new dynamism into our understanding of English intonation and its rhetorical functions in professional language. Their research brings further insights into promotional aspects of scientific discourse, and has practical applications for those of us involved in supporting students on the road to becoming scientists on the international academic stage. Also focusing on spoken language, in the next paper **Bojan Prosenjak** and **Iva Lučev** address the importance of helping students to develop presentation skills in International Relations, proposing pedagogical innovations designed to make students take responsibility for their own learning in a collaborative and reflective way. In their course design, peer assessment plays a key role in sensitising students to the different aspects of their performance.

In our changing scenario it is not always easy to negotiate the relationship between language experts and other university teachers, or between teachers specialising in different languages. In the third article, **Teresa Morell** takes on the essential issue of how LSP experts should cooperate with teachers involved in English Medium Instruction (EMI), analysing ways of optimising preparation for EMI in the Spanish context. After this, situated in the very different context of a university on the border between the USA and Mexico, **Theresa Donovan**, **Isabel Baca** and **Teresa Quezada** add a new dimension to the discussion of LSP in the age of globalisation by approaching the need for students to develop pluriliteracies. The idea of developing professional and academic literacy in two languages in a way that is affirmative and mutually complementary is epitomised in their design for a cross-disciplinary certificate program in Bilingual Professional Writing. Their paper also points to the increasing importance of languages other than English as targets for LSP, and the growing need for students to develop linguistic mediation skills, biliteracies and bicultural competences. The last paper in this selection, by **Enrique Sologuren Insúa**, helps to expand this plural approach to LSP by addressing the need for principled research on LSP in languages other than English. Sologuren's article provides a detailed account of the

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creation of a map of student genres from a Spanish learner corpus in engineering, which should provide a starting point for developing a focused writing programme for engineering students in his university, and in similar contexts.

Finally, I would like to thank all the people who have helped with this special issue of Language Value. My thanks go particularly to the two editors, Begoña Bellés Fortuño and Carmen Sancho Guinda, and to Lucía Bellés Calvera. I am also grateful to all those who took part in the AELFE conference in Pamplona in 2019, which was the starting point for this special issue. My special gratitude goes to Larissa D'Angelo, Marcelino Arrosagaray, Sally Burgess, Miguel García Yeste, Christoph Hafner, Ana Halbach, Matthew Johnson, Mark Krzanowski, María José Luzón, Gerrard Mugford, Barry Pennock, Joan Ploettner, Hanne Roothooft, Davinia Sánchez and Ekrem Simsek for their guidance, comments and advice on the papers in this issue.

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New research genres and English prosody: an exploratory analysis of academic English intonation in Video Methods Articles in experimental biology

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ABSTRACT

The digital multimedia environment where research communication develops nowadays has important consequences for EAP course design (Pérez-Llantada 2016), since speaking and visuals are ever more decisive for communicative success (Crawford-Camiciottoli and Fortanet-Gómez 2015). However, intonation manuals have remained virtually unchanged for decades, reflecting a time of limited access to actual academic intonation in use. To countervail this situation, we draw on Hafner's (2018) multimodal analysis of experimental biology Video Methods Articles by examining the intonation used in an exploratory corpus of the Researcher's Introduction section, identified as the most hybrid in generic nature. Our analysis suggests that traditional Hallidayan intonation explained in handbooks like Hewings (2007) and Brazil (1994) fails to capture phenomena observed in our corpus. These intonational phenomena (mostly deviations from traditional tonicity) have been found to be consistent with genre-specific factors like communicative purpose and move structure. Consequently, a broader revision of academic intonation materials is proposed.

Keywords: *English for Academic Purposes; digital research genres; English intonation; English pronunciation teaching*

I. INTRODUCTION

I.1. Background

Today more than ever, research communication and science dissemination are mainly digital multimedia activities. This communicative environment shapes the practices of both producers and consumers of scientific texts, which is discernible in the emergence of new academic genres and the adaptation of more traditional ones to the new contexts. Consequently, in the interest of providing appropriate frameworks and pedagogical insights for English for Academic Purposes, the study of academic and professional genres in recent years has been concerned with genre change and innovation (Hyon 2018, Pérez-Llantada 2016, Tardy 2016) as well as intertextuality and interdiscursivity (Bhatia 2017, Hafner and Miller 2019).

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After the journal article and its orbiting part genres (see Pérez-Llantada 2013), the academic blog stands as the most widely studied digital research genre, with studies (Luzón 2013a, 2013b, Zou and Hyland 2019, 2020) focusing on the linguistic strategies deployed by academic blog writers to adapt scientific discourse to a hybrid, highly interactional genre with a wider, diversified audience. In writing, other digital research genres that have been explored include web-based texts for crowdfunding science (Mehlenbacher 2017), online conference announcements (Lorés 2018), virtual special issue introductions (Mur-Dueñas 2018), and graphical abstracts (Sancho-Guinda 2016). Some relevant studies addressing oral digital research genres cover work on research dissemination videos (Luzón 2019), video methods articles (Hafner 2018), webinars (Ruiz-Madrid and Fortanet-Gómez 2017), and online poster sessions (D'Angelo 2012). Interestingly, all these studies but the last make use of Multimodal Discourse Analysis (cf. Kress and van Leeuwen 2001). This analytical framework, common in the study of other oral academic (i.e. not online or research) genres (see Morell 2018, Querol-Julián and Fortanet-Gómez 2012, Valeiras-Jurado et al. 2018), is highly convenient to capture the combination of semiotic resources that the digital medium affords and provide valuable insight into the synergies achieved by the different modes of scholarly communication online. This presentation, if succinct, is enough to gain an impression of how rich and diverse the present-day repertoire is when new digital research genres are added to the existing pool of academic genres.

Adding to studies that address the genres of interest directly, there is also increasing scholarly interest in understanding the contexts of generic practices and the different constellations of genres that arise, which is mainly achieved by researching intertextuality and interdiscursivity (Bhatia 2017, Hafner and Miller 2019) and especially by implementing ethnographic methodologies (Paltridge et al. 2016, Swales 2019).

All in all, this situation of growing scholarly interest in new forms of research communication appears to favour studies which highlight the hybridity and interdiscursivity of texts in new contexts, as well as the exploitation of the multimodal resources of the digital environment. However, to the best of our knowledge, no research has tackled intonation in these investigations. We argue that intonation can contribute to the exploration of both types of phenomena, as a linguistic resource subject to contextual constraints and as a mode contributing to the meaning-making process of multimodal expression. Consequently, this paper presents an initial approach to the study of intonation in relation to digital research genres and discusses the pedagogical implications of some preliminary yet valuable findings.

I.2. Aim and rationale

Previous research with a similar topic is scarce and usually different from the research interests of this project. Crystal and Davy's (1969) famous work on stylistics, featuring mainly prosodic analysis, considers a "modality" dimension corresponding to what has been defined as genre in ESP/EAP since Swales (1990). However, this dimension is just a minor part of a proposed framework for stylistics studies. Johns-Lewis (1986b) presents a different problem in exploring prosodic characteristics of "discourse modes". These "modes" are reading aloud, acting, and conversation, so this study also falls short of linking intonation to generic configuration. Cheng et al. (2008) present a valuable corpus-driven study of intonation in discourse including an academic sub-corpus with a variety of non-research-related text types like the student presentation or lecture. Nevertheless, their selection does not strive for genre representativity, as their interests lie in other factors. Indeed, their text labels are reminiscent of MICASE (Simpson et al. 2002) which refers to "speech event types" rather than genres. Something similar happens with the few studies of intonation related to genre from the systemic-functional perspective (e.g. Rivas and Germani 2016), since genre conceptualization in Systemic-Functional Linguistics (Martin et al. 1987) departs from our research interests. Finally, O'Grady (2020) has recently argued for register studies to incorporate prosodic analysis. Reviewing these studies shows that there is scholarly interest in the study of intonation in discourse, even if ESP/EAP research has yet to address genre in connection with intonation.

Genre studies that include intonation are mainly restricted to multimodal analyses, as in the above-mentioned work. Understandably, these analyses cannot afford to dwell on intonation for too long, considering it together with other semiotic modes. We also understand that general studies of oral discourse usually overlook the spoken component and investigate transcripts of spoken events. This is often due to the sheer nature of the research design since many methodologies were devised and refined to investigate the wording component of discourse.

Therefore, this paper presents the first steps into intonation analysis of digital research genres. Our central thesis is that the English intonation system is used rhetorically like any other linguistic system: genre restricts or permits the available choices according to the purpose of the speaker, the intended audience, and the formal constraints of rhetorical structure. Accordingly, we want to contribute to current research by answering these research questions: What is the interplay between intonation and genre? Is a general English intonation framework appropriate to analyse digital research English? And consequently, are English intonation manuals appropriate for the teaching of academic oral skills?

In the following sections, the analytical approach, some preliminary results, and an original proposal for the adaptation of intonation manuals to the teaching of Academic Spoken English (ASE) for digital research genres will be presented.

II. CORPUS AND METHODS

II.1. Text selection and move analysis

Owing to the exploratory nature of this study, it takes a qualitative approach in order to gain insight as to how to proceed with the analysis of more data in future research. Therefore, we have close-analysed a small-scale ad-hoc corpus of five texts so as to observe with detail the interaction between genre and intonation.

These texts are clips from Video Methods Articles (VMAs) published by the *Journal of Visualized Experiments*. VMAs are online videos featuring on camera the demonstration of methodological procedures of different disciplines within the broad fields of biology, medicine, or engineering. The production of the video, controlled by the journal itself, follows the acceptance of a double-blind peer-reviewed manuscript proposal. Hafner (2018) analysed VMAs for generic integrity, rhetorical structure and multimodal expression. Thus, they constitute an optimal object of inquiry to start delving into intonation analysis, as a digital research genre that is emergent but sufficiently established in its discourse practices to be analysed for a stabilized-for-now rhetorical structure.

Hafner (2018: 27) identifies, between the Video Intro and final Closing Credits, the possible moves for five possible sections in VMAs. An initial Overview presents the viewer with a straightforward summary of the procedure, followed by the Researcher's Introduction, which highlights its advantages, applications, and innovative value. The procedure is performed in the main section, Demonstration, while a voiceover gives recipe-like instructions. Then, the Representative Results section shows interesting application. The video concludes with the Researcher's Conclusion, recapitulating the previous information. This rhetorical analysis is convenient to explore the meanings of intonation, as it provides an understanding of what each section is trying to accomplish.

In his study, Hafner (2018) chooses to exemplify multimodal analysis in the Demonstration section, as it exploits visual resources to communicate procedural knowledge. Likewise, we have focused our analysis on the Researcher's Introduction (RI) section, where researchers face the camera and make statements about their research. This interesting hybridization of promotional and scientific discourse makes it attractive for intonation analysis to investigate what strategies researchers deploy for the particular purposes of the genre. Indeed, the other sections consist of voice-over explanations which are usually read by the journal's professional voice actors.

Out of Hafner's (2018) corpus of 11 VMAs in experimental biology, 7 of them are open-access. We have analysed the RI sections of the five most recent of these, in order to avoid considerations of genre change over time, which is beyond the scope of this project. The videos were extracted from the source code of the webpage. Each VMA's section of interest was clipped, its audio track was extracted for later intonation analysis, and it was transcribed manually. Each clip was coded as VMA-RI plus numbers one to five (e.g. VMA-RI1), as shown in Table 1 with information about the year of publication, size, length, original times, and reference.

Table 1. Corpus items.

Item	Year	Words	Length	Time	Reference
VMA-RI1	2011	46	20’’	00:56-01:16	https://doi.org/10.3791/2638
VMA-RI2	2012	34	14’’	01:06-01:20	https://doi.org/10.3791/3037

VMA-RI3	2013	63	22''	01:17-01:39	https://doi.org/10.3791/50762
VMA-RI4	2015	96	35''	01:10-01:45	https://doi.org/10.3791/50974
VMA-RI5	2016	110	43''	00:21-01:05	https://doi.org/10.3791/54112
Total		349	2'14''		

Hafner's (2018: 27) possible rhetorical moves for the RI section are:

1) Introducing Self,
2) Forecasting the Demonstration,
3) Explaining Significance,
4) Introducing Additional Researchers,
5) Inviting the Audience.

In Moves 1 and 4 the speaker simply presents the researchers involved, usually by providing their name and credentials. Move 2 anticipates the procedure to be demonstrated, while Move 3 focuses on the implications and novelty of the technique. Finally, Move 5 serves as a link to the next section, asking for the viewer's involvement. Each move was assigned a colour code for analysis with Microsoft Word's highlight tool.

II.2. Intonation analysis

Intonation is the linguistic apparatus which manipulates pitch in speaking for different semiotic purposes. This exploratory study approaches intonation analysis from the phonological model described in Tench (1996), which continues Halliday's (1963, 1967) identification of three systems that combine for intonational meaning. First, tonality refers to the division of the utterance of spoken discourse into successive Intonation Units (IUs). Second, tonicity refers to IU-internal analysis by identifying the tonic syllable, defined as the last pitch-prominent syllable. Third, tone refers to the selection of pitch movements associated with the tonic. This model has been influential for other models and is adapted in intonation manuals without making reference to its terminology (Hewings 2007, Mott 2011).

Our methodology combines instrumental and acoustic observations of intonational phenomena (Wichmann 2013). In short, instrumental pitch visualization software has informed and validated manual acoustic coding. Therefore, intonation analysis has followed a three-stage process: first, acoustic analysis marking up the text; second, instrumental observation with the Praat computer program (Boersma and Weenink 2019); lastly, modification of the initial acoustic mark-up.

Tonality is mainly concerned with the identification of boundaries between IUs, which are typically thought to correspond to pauses in speech. However, since these are phonological categories and not physical/phonetic incidents, boundaries are in practice more difficult to recognize (Roach 2009): speakers may make IU-internal pauses or proceed to the next IU without making a pause. Therefore, we have followed Cruttenden's (1997) and Tench's (1996) cues to boundary identification, marking them with a vertical line (|). As an illustration, we have not assigned a boundary to the filled pause "er" in (1), as it would create a boundary at an odd grammatical juncture and as the first part of the unit does not include a tonic syllable. Conversely, in (2), despite the absence of a pause between "solution" and "and", pitch and rhythm are clearly distinct to signal a boundary.

(1) | and the two people that will er present that | are my two PhD students | (VMA-RI2)

(2) | as the solution | and the setting | for each prepared exosome solution | has to be performed individually | (VMA-RI4)

Tonicity is mainly concerned with the identification of the tonic syllable, i.e. the last prominent syllable of IUs. The tonic syllable has also been referred to as the nucleus of the IU (Cruttenden 1997), so that the syllables preceding it are called pre-tonic or pre-nuclear. In turn, these syllables can be described as head and pre-head, the former being the syllables from the first stress to the tonic and the latter being the unstressed syllables before the start of the head. Tonicity analysis is therefore implicated in the internal structure of the IU. Consequently, we identify two types of tonic phenomena. First, the tonic syllable is marked with the associated tone explained below. Second, other prominent elements in the pre-nuclear segment are identified, mainly the phenomenon of having an acoustically perceptible jump from a relatively low pitch to a higher one in a non-tonic syllable. We refer to this phenomenon as a step-up in pitch, marking it with a caret (^). We did not find other relevant variations in the head in our exploratory corpus.

Finally, tone is the movement of pitch in the tonic syllable. Focusing on the tonic syllable, only primary tones (Tench 1996) have been identified: the fall, marked with a backslash (\); the rise, marked with a forward slash (/); and the fall-rise, marked with a combination of both (\/). An example of text with the whole mark-up system can be seen in (3).

(3) | the demon^stration of this method is \critical | as the so/lution | and the /setting | for each prepared \exosome so/lution | has to be performed indi\vidually | (VMA-RI4)

Here, there are five IUs (tonality) delineated by boundaries (|). Tonic syllables (tonicity) can be identified by the preceding tone mark (tone). And the tonic phenomenon of step-up in pitch can be seen in "demonstration", marked with a caret before the stepped-up syllable. Note too that the fall-rise is a compound tone and the rise may be realized at a point later than the tonic syllable, as in "exosome solution", where the tonic syllable is the first syllable of "exosome" despite the rise taking place in the second syllable of "solution".

III. PRELIMINARY RESULTS

III.1. Rhetorical structure

The most common move configuration in our corpus (three of five) is a two-move section consisting of Move 3 (Explaining Significance) followed by Move 4 (Introducing Additional Researchers). VMA-RI1 consists of Move 3 alone and VMA-RI2 is dissimilar, having Move 2 (Forecasting the Demonstration), then Move 4 and a final Move 5 (Inviting the Audience). These two are the shortest and also the oldest, suggesting that the rhetorical configuration of the section has gained stability with time. Moreover, the most frequent moves found are arguably the most promotional and interactional, which suits the overall communicative purpose of the section to highlight the advantages, applications, and innovative value of the technique in question.

III.2. Intonation and degree

Tonality analysis in VMAs reveals a total of 63 IUs: 22.2% consist of whole clauses, and 47.6% higher-order clause constituents (19.0% subjects, 15.9% adverbials, and 12.7% predicates). Large IUs are typical of scripted/prepared speech and, more interestingly, fulfil the expectations of the genre, as boundaries are found at junctures that are critical for showcasing what they are presenting. For instance, (4) shows whole pieces of information with only one idea per IU and a final prepositional phrase with its own IU, "in a single analysis", which is the main asset of their presentation, thus enacting Move 3 (Explaining Significance).

(4) | the ^main ad\vantage of this /technique | is that by ^using mass spectrometry-based prote\/omics | we can simul^taneously quantify most of the known PTMs on histone \/proteins | in a single a\nalysis | (VMA-RI5)

The selection of tonic syllables is related to boundary placement, as boundaries follow the words which have been made prominent. Thus, in (4), "proteomics", "proteins", and "analysis" are nuclear. Instead, "advantage" is prominent even if not IU-final, for "technique" has been de-accented as a context-predictable lexical item. This usage of tonicity also corresponds to the purpose of the section within the VMA genre: as an opening section, the main ideas are presented in an unmarked way by accenting the relevant technical words; as a persuasive section foregrounding the rest of the VMA, the emphasis is on the benefits of the methodology explained.

Tone choices are quite straightforward and respond to general English usage of intonation. Rises (15.9%) are used to indicate shared knowledge; falls (55.6%) to introduce new information, and fall-rises (28.6%) to introduce new information while indicating sharedness or incompleteness. The greater incidence of falls relates to the act of introducing a new technique, while rises and fall-rises together (44.4%) can be expected in a digital research genre, where the audience has some familiarity with the content.

The use of appositions in Move 4 (Introducing Additional Researchers) shows how these explicative devices mirror the tone selection of their antecedents. This reinforces the identification of the noun phrases by assigning them the same tone and contributes to the function of introducing the researchers and providing their credentials, as seen in (5) and (6):

(5) | Natarajan \/Bhanu | a \research /specialist | and Kelly \Karch | a graduate \student | (VMA-RI5)

(6) | as^sisting the procedure will be Clare \Hayes | a research a\ssistant in our group | (VMA-RI3)

In sum, an initial three-system analysis of the data in our small-scale corpus would corroborate the idea that intonation plays a specific role in the social action carried out by the genre, considering its communicative purposes and its situational context.

III.3. Step-ups

Even if pre-tonic intonational phenomena were not considered in the initial design of the study, as a first approach to the study of intonation in relation to generic configuration, we have allowed for the data to yield relevant results outside our pre-conceived framework. Thus, from a data-driven perspective, we have found step-ups (i.e. jumps to a higher pitch in non-tonic syllables) to be sufficiently present in our corpus and discourse-relevant to merit scholarly discussion even in this early stage research.

In (4), three examples are indicated by the caret symbol (^). The stressed syllables in "main", "using", and "simultaneously" are made prominent by receiving an acoustically perceptible higher pitch. This is confirmed by instrumental measurement, showing respectively a 79%, 87%, and 80% pitch increment, as opposed to "single" in the same utterance, which is just initial in the IU head without a step-up and presents a 48% higher pitch than its preceding syllable.

Interestingly, intonation manuals conceive of step-ups as phenomena that occur in two positions: the beginning of the head, i.e. the first stressed syllable, creating what has been variously called "high key" (Brazil 1994: 97), "onset" (Collins and Mees 2013: 145), or "stepping head" (Mott 2011: 242, Tench 1996: 132); or the tonic syllable itself, e.g. in Brazil (1994) and Hewings (2007). However, our results show occurrences of step-ups at stressed syllables other than the first in the IU or the tonic. The only reference we have come across mentioning such possibility is a brief notice to dismiss "anomalous tone units" in Roach (2009: 142). Consequently, we refer to occurrences considered in textbooks as "canonical", meaning they are officially recognized, while occurrences of step-ups at other places will be called “non-canonical”. In a count of 63 IUs in our corpus, 31.8% (n=20) have a step-up of either type, 19.0% (n=14) being canonical and 12.7% (n=8) non-canonical. Canonical step-ups are present in (4) and (6); non-canonical step-ups in (7):

(7) | this method can help answer ^key questions in RNA bi\ology | such as how the interplay of ^different RNA binding \proteins | regulates RNA \processing | (VMA-RI1)

Exploration of the functions of this intonational device suggests, first, the introduction of new topics in Move-initial IUs, and second, contrast or highlight, which corresponds to the function of Move 3 (Explaining Significance) itself. Our exploratory data did not reveal functional differences between canonical and non-canonical step-ups.

IV. DISCUSSION

The data suggest that relating intonation usage to genre is not only possible but perhaps necessary, as the general English intonation framework would only partially account for the intonational functions observed. Therefore, manuals covering features of this type require a few significant modifications for the teaching of those English intonational strategies that contribute to the development of academic oral skills. This section discusses these points against the backdrop of current theoretical and methodological reflections in EAP. Lastly, Section V delineates a pedagogy of the step-up as a genre-driven phenomenon.

The approach to spoken academic language does not seem to need to differ from the approach to rhetorical choices such as hedging in academic writing. Paltridge et al. (2009: 37-41) explain that creating an appropriate academic-sounding text involves not only linguistic choices (e.g. active vs passive voice) but also rhetorical choices (e.g. “whether to express oneself diffidently”). Good command of the academic language at a linguistic and rhetorical level is thus said to ensure the use of a communicatively adequate academic style.

However, while stylistic features of academic writing have been extensively documented in the field of EAP (e.g. Hinkel or Swales and Feak mentioned by Paltridge et al. 2009), generic features of spoken academic style have received much less attention, except within the field of English pronunciation. Very little work investigates Academic Speaking, whereas Academic Writing has a repertoire of well-known publications covering a wide range of aspects (e.g. English 2011, Lillis and Curry 2010, Paltridge et al. 2009, Ravelli and Ellis 2004).

On the other hand, Academic Spoken English (ASE) seems to have generated two types of materials: guide-like books, such as Reinhart (2013) or Blanpain and Lafutt (2009), which may deal with spoken genres and discuss intonation but adopt a skills perspective in connection with general features of oral production; and text corpora such as BASE (Thompson and Nesi 2001) or MICASE (Simpson et al. 2002), driven by the notion of speech events and only covering traditional ones. Consequently, multimodal, digital genres such as VMAs do not fall within the scope of coursebooks and corpora. Indeed, only less academic/formal publications (e.g. Thaine 2018) have considered English pronunciation and EAP. Still, these approaches seem underpinned by theoretical and methodological reflections similar to those in introductory EAP textbooks such as Charles and Pecorari (2016).

All these ASE materials and theories foreground skills, lexico-grammar and rhetorical structure, although pronunciation is known to have an impact on efficient communication in academic spoken genres:

> The skill of listening involves activating several sources of knowledge, including the phonology, syntax, semantics and pragmatics of the language, along with body language such as eye contact and gesture. In order to understand speech, listeners must decode auditory and visual signals (often referred to as 'bottom-up processing') and must also construct meaning from the input (often called 'top-down processing'). (Charles and Pecorari 2016: 154)

However, despite the limited role of pronunciation for general ASE (as one of several "sources of knowledge" in "bottom-up processing"), the concept of *genre* can be used to highlight the rhetorical, communicative importance of pronunciation. When Charles and Pecorari (2016: 156) address "listening comprehension in lectures", phonology emerges as meaningful precisely because of 'delivery', a genre-related aspect: "In terms of delivery, students often have problems due to speech rate, accent and pronunciation, and it has been suggested that lecturers should slow their speech rate". This perspective implies the possibility of presenting certain aspects of pronunciation as genre-driven teaching/learning topics (even if considered a "difficulty"). It also allows these authors to invite the EAP practitioner to provide input to "lecturers" as a way of raising "awareness of good practice" while underscoring that "it is clearly necessary to teach students to cope with these difficulties" (ibid.). Step-ups can thus be viewed both as a type of generic input and as a type of generic difficulty.

We also argue that the pedagogy of the VMA genre, like the lecture, requires us to take account of both sides of the process: the producers of the genre and their typically academic audience. As we see it, the VMA is part of an academic context demanding "not just listening, but also making a spoken contribution to the discourse" (Charles and Pecorari 2016: 161).

Nevertheless, VMAs are not general, spontaneous spoken discourse; rather, we view them closer to genres like the conference presentation, as the type of "academic speech event" which Charles and Pecorari (2016) call "monologue", which "can be rehearsed and even scripted to some extent". Interestingly, this EAP-manual description of academic monologue as a rehearsed and somewhat scripted product contains elements that link it to the description of "prepared speech" given in, for example, Hewings' (2007: 114) pronunciation-centred coursebook *English Pronunciation in Use Advanced*:

> In most contexts, when we speak we are making up what we say as we go along. However, many people at times need to plan and prepare speech more formally, and read this aloud from a written text or develop it from notes. For example, students and academics may have to give presentations or lectures in class or at a conference.

Hewings (2007) already mentions and connects the same genres ("presentations"), type of user ("students and academics"), and setting ("conference"), with similar pedagogic purposes.

Hewings' analysis characterizes 'prepared speech' by a number of "features of pronunciation" which include Step-ups. In Unit 57 (Hewings 2007: 120), the author explains that we can use "a step-up to a relatively high pitch" to show (i) that information contrasts with previous information or what was expected, or (ii) that we are starting a new topic. One of the examples of the 'contrast' function is "Although many people think of ants as a nuisance, they play // a $\boxed{\uparrow}$ VItal ROLE // in many ecosystems". The step-up on 'vital' expresses a contrast between the common belief that they are a nuisance and their actual vital role.

As regards the 'new topic' function, one of the examples provided in the book is a step-up on the word 'that' in a sentence-initial phrase like "With that in mind". The step-up occurs between a paragraph about the general topic of the impact of business and industry on the environment, and another about a proposal for making the production of environmentally-friendly cars the joint endeavour of scientists and manufacturers. The text is put in the voice of a senior manager from an imaginary car manufacturer, who uses the step-up on 'that' to separate the claim that her company is already aware of their impact on the environment from the claim for a joint effort as a new topic. The step-up indicates that the new topic, the manager's proposal for a joint effort, must be interpreted as following on from her statement of industrial awareness, that is, 'with $\boxed{\uparrow}$ THAT in mind'.

Not unlike Hewings (2007), Charles and Pecorari (2016: 163) also use the term 'feature' to distinguish "the features that are typical of successful presentations", and they do so as a prior step to considering "how to teach presentation skills"; among other features, "varying pitch and speech rate" are said to "contribute to interesting and lively talks".

Step-ups can thus be viewed as instances of "varying pitch", although they have a far more precise definition in the context of English Phonology. For instance, Hewings (2007: 100) explains that "the symbol $\boxed{\uparrow}$ is used to show a step up in pitch. In other words, the voice moves up to a noticeably higher level than it was at before". Later, as shown above, the Step-up is re-defined *functionally* in the context of 'prepared speech' (Hewings 2007: 120). Accordingly, as expected from the nature of Hewings' book, the function of intonation (here, Step-ups as a linguistic feature relevant to developing presentation skills) is narrowed down from Charles and Pecorari's (2016: 163) general function of contributing to "interesting and lively talks" to very specific communicative functions such as signalling "contrasts" and "new topics".

Reinhart (2013) seems to consciously strive to bridge the gap between English Phonology and EAP. For instance, Reinhart assigns functions to stress and intonation as used in a given genre (the 'oral presentation') even if, owing to the aims of the book, those functions boil down to the essentials of tonicity. See e.g. the analysis on Reinhart (2013: 86):

> Notice that in this example [Then after this step, // the cooled vapor travels to a condenser.///], rising intonation does not occur on the last word before the pause (*step*) but on *this*. This is probably because the speaker wants to distinguish this step from other steps in the process.

Yet, Reinhart seems to be open to considering deviations from the norm, as a later remark indicates: "no matter what the general guidelines are, rising intonation can occur on any word that the speaker chooses to highlight" (Reinhart 2003: 126). This admitted variability in the placement of 'highlighting' (displacing it from the last word of the unit to a previous word) always seems functional in the genre, just as the function of "distinguishing" above is one of several indicated (e.g. "reassuring the listener" or "clarifying"). This perspective is particularly relevant to the interpretation of the co-existence of canonical and non-canonical Step-ups in VMAs.

Evidently, because Reinhart's (2013) work focuses on ASE, she does not stop to consider or determine the range or degrees characterizing, for example, the 'rising' of intonation —this is rather a phonetician's task. Nevertheless, her remarks suggest that it is well worth examining the communicative potential of pitch modification in genres with a strong ASE component and, subsequently, that different functions can be assigned to the complex constituted by the voice moving up to various degrees of "higher level in pitch than it was at before" (Hewings 2007: 100) and the position inside the IU in which the phenomenon takes place.

V. PEDAGOGICAL PROPOSAL

V.1. The adaptation of Bradford's (1988) Intonation in Context to the teaching and learning needs originating from the occurrence of Step-ups in VMAs

Concerning the *practical* delimitation of a Step-up pedagogy, we propose to adapt materials from the theory of Discourse Intonation (DI) to the EAP needs exemplified by VMAs. Brazil (1975, 1994) developed DI from Halliday's three-system approach as in this paper. However, his focus on the communicative and informational use of intonation soon became a pedagogical drive to make intonation more accountable to communication, Brazil's (1994) *Pronunciation for Advanced Learners of English (PALE)* being the most prominent example. *PALE* is well known for including several interactive contexts such as instruction giving or taking control of discourse. These contexts are likely to be relevant to learners who, for example, need to make oral presentations.

Before Brazil's *PALE*, Coulthard (1985) had already underscored this pedagogical drive when he made it clear that, in DI, intonation choices depend on context and that, consequently, generalizations about the intonational meanings of isolated stretches of speech without their context should be avoided. Halliday's system is, conversely, more analytical, more tied to detail, with an emphasis on IU-structure description (tonicity). Even if Brazil's IU has a structure, DI attaches more importance to the existence of IU-associated "options" (see Coulthard 1985 for a summary) than to the thorough delineation of a system as Halliday's (for a summary of work on English intonation in the Hallidayan tradition Bloor and Bloor (2013: 15) suggest consulting Greaves 2007, Halliday and Greaves 2008, or Tench 1996).

Originating from Brazil's school, Bradford's (1988) *Intonation in Context* is still geared to conversational situations (typical of DI), while presenting intonation as a system with important communicative functions in any speaker-listener interaction. Adding to its display of DI put into practice, what we value most from the book is the internal organization of its units, allowing the learner to explore the meaning conveyed by intonation before production exercises.

Therefore, our pedagogical contribution in this exploratory study is the adaptation of Bradford's system to the teaching and learning needs originating from the occurrence of Step-ups in VMAs. Another great asset in Bradford's approach is its in-context nature, since this approach is sustained by the DI claim that intonation choices are bound up with their context of occurrence. For this study, VMAs constitute the context in which Step-ups occur; to be precise, their Move 3 ('Explaining significance'), a rhetorical stage with a clear communicative function.

Despite the advantages in Bradford's method, we are aware that our pedagogical proposal must address Charles and Pecorari's (2016: 81) warning concerning the adaptation of materials for EAP, given that "published materials are written to cater to a wide, often global, audience and it is therefore highly unlikely that they will meet all the needs of your specific group of students". Accordingly, our adaptation of Bradford's method will reorganize its parts as 'tasks' in line with Charles and Pecorari's (2016: 74) definition of EAP materials as comprising "both texts and the tasks designed to exploit them for language learning purposes". Our "texts" will be extracts from our corpus. Our "tasks" will result from the recasting of Bradford's method. Our "specific group of students" will be related to the notion of academic discourse community in terms of Swales (1990: 24-27). In this model, discourse communities are characterized as having mechanisms of intercommunication among their members, and utilizing and possessing one or more genres in the communicative furtherance of its aims, which is where VMAs come in handy. As our pedagogical proposal is constrained by genre considerations, it is geared to learners who are also advanced level researchers, which implies that our instructional strategy would have to be modified for use with novice researchers unaware of the existence and communicative advantages of new genres like the VMA.

Bradford's (1988: 3) five-step method starts with a "sensitisation" task presenting one feature of English intonation so learners "become aware of the choices a speaker can make and how they sound". Then, "explanation" describes the feature and the *meanings* of the choices available. "Imitation" and "practice activities" follow, for learners to *recognize* the feature and practice *production*. A final "communication activity" provides the opportunity "to *think about* the feature" and use it in a freer situation.

The Step-up is our intonation feature of interest, particularly as detected acoustically and instrumentally in the IUs from our corpus. We propose to present it as a linguistic choice and demonstrate how it sounds. For this latter purpose, we suggest using the Praat software, as Nagy (2014: 101) has shown that "[v]isualization tools and Computer-Assisted Language Learning (CALL) provide new possibilities for the study of suprasegmental features by enabling learners to connect the perceived auditory signal with its visual representation". Following this argument, we believe that Praat provides "adequate visual feedback" because pitch tracings are easily interpretable, unlike, e.g., spectrograms. Accordingly, we suggest extracting pitch tracings from our corpus together with their transcript (see Figure 1), thus incorporating speech visualization into Bradford's method as a pedagogical tool for sensitization purposes.

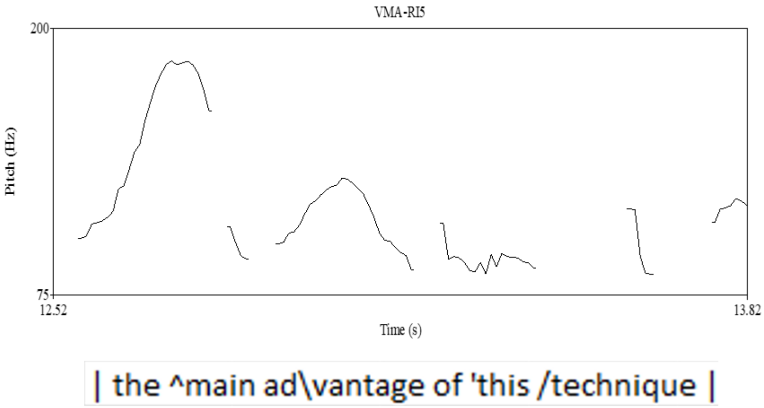

Figure 1. Praat pitch tracings with the marked-up transcription

It is indeed possible to adapt a *whole* unit to the requirements of Step-ups in the specific genre of VMAs. Bradford's Unit 7, on "Contrasts" (39-45), displays the closest topic and aims to Hewings' unit on "Step-ups", whose title highlights the phonetic phenomenon instead of the basic function. Combining its fully-fledged structure with similarity of topic and aims, Bradford's type of unit stands out as a very suitable starting point for adaptation.

Bradford's (1988) "explanation" section uses DI's "High Key", not "Step-up", with the function of expressing contrast to hearers' expectations. We use Hewings' term for its metaphorical, more intuitive nature, close to the process type of meaning of the general-English verb 'to step something up', whereas Brazil's 'key' comes from the specialized field of music.

V.2. Tasks and sub-tasks of the pedagogical proposal

V.2.1. Sensitization

V.2.1.a. Task

After adopting speech visualization as a pedagogical tool, and 'Step-up' as more pedagogical terminology, our adaptation of Bradford's sensitization substructure entails deciding on texts to replace conversation for the listening-for-gist task and on questions for learners to discuss those texts. Our choice is an extract from our corpus, accompanied by a transcript (8) with this type of heading (adapted from Bradford's

Task 1.2, and Hewings' description of Step-up): 'The parts in which the voice moves up to a noticeably higher level than it was at before are shown below':

(8) | this method can help answer ^key questions in RNA bi\ology | such as how the interplay of ^different RNA-binding \proteins | regulates RNA \processing | the main ad/vantage of this technique | is that we in\crease both | the per/formance | and the reso/lution | of our \transcriptome-wide /maps | of protein RNA inter r\actions | (VMA-RI1)

V.2.1.b. Sub-tasks

As we view Step-ups as resulting from the formal constraints of the rhetorical structure of VMAs, the learner can discuss what constitutes the reasons for the Step-ups occurring in the audio as a first sub-task. Comments elicited would be along the lines of '*communicative function*' as relates to the Move where the extract with Step-ups occurs. The next sub-task for sensitization involves listening again with pitch tracing and transcript in front, first to show the occurrence of canonical Step-ups, then for non-canonical ones. The final sub-task involves *finding* other places where speakers do Step-ups.

V.2.2. Explanation

V.2.2.a. Task

The second task, 'Explanation', describes the functions of our taxonomy of Step-ups. The strong correlation between Step-ups and Move 3 in our corpus indicates that their function is basically to provide emphasis and contrast (Hewings 2007: 120). 'Explaining significance' sometimes involves highlighting the new characteristics of the method or technique described in VMAs, and alternatively, contrasting the characteristics with those of traditional/conventional procedures. This genre-driven function is performed by placing the Step-up either "in the first prominent word of [the] speech unit" (Hewings 2007: 120; our 'canonical Step-up'), or later in the IU (hence, 'non-canonical Step-up'), since the most appropriate word for emphasis or contrast may not be the first prominent one in the unit.

V.2.2.b. Sub-tasks

For example, in VMA-RI4, "the demon^stration of this method is \critical", there is a canonical step-up for emphasis on the Theme, at the start of the IU, because the notion of 'demonstration' is likely to be key to the goal of a Video Methods Article, since the "method" proper, not its *demonstration*, will simply be 'known' information for the practitioners of this genre. Consequently, the new information (the evaluative adjective "critical", *demonstration = critical*) occurs at the unmarked position for this type of information, which is the last lexical word of an IU, and with an unmarked tone choice (falling). Later in VMA-RI4, there is also an instance of a non-canonical Step-up: "to find the ^optimal sensi\tivity /range". Emphasizing the idea of 'finding a range' (i.e. using the first prominent word) makes no communicative sense in terms of explaining significance, as the researchers want to convey that the "optimal" range is the only one that matters for their technique. Accordingly, it must be explained to learners that more than one position is communicatively available for Step-ups, that the lexico-grammar influences the position, but that the communicative function is invariable regardless: indicating what is really significant (the demonstration and, later, the optimal range) can be carried out both by a canonical step-up and by a non-canonical one.

V.2.3. Imitation

V.2.3.a. Task

This third task represents the first stage of production, which does not require sub-tasks. Having described the types of Step-ups in VMAs, repetition will not amount to mere drilling: the learner imitates the phenomenon with a conscious communicative aim in mind. Using (9) below as textual support, the learner repeats only from "by" to "vivo" (Step-ups on "vitro" and "emulates"). Knowing that the two Step-ups in these units occur in Move 3 enhances the value of repetition as a drill, since the Step-ups highlight that there are two E-coli environments but the VMA is centred around the "in vitro" one and, moreover, that, if the choice raises issues of validity, the researchers are conscious that the in-vitro environment is an emulation; it is imitation, hence, of the emphasis/contrast function described in the 'Explanation' task. Finally, imitating a non-canonical Step-up shows that a delayed Step-up may also respond to the position of the lexical items used to shape the lexico-grammar of the function (see, in (9), the phrases "in vitro" and "in vivo", with the former occurring after an initial stress).

(9) | this method can help test \/circuits | in the field of syn\thetic bi/ology | by providing an in ^vitro e-coli en\/vironment | which ^emulates that in \vivo | (VMA-RI3)

V.2.4. Practice activity

V.2.4.a. Task

The fourth task pivots on learners as likely VMA 'practitioners'. With an upper-intermediate or higher level of English, they are expected to determine which words from (10) below (given without mark-up) are candidates for a Step-up, especially since they have been exposed to the 'Explanation' and 'Imitation' tasks proposed. The tonicity of the message in our example derives from the notion that the technique the VMA reports leads to an *increase* in speed because *prototyping* is no longer necessary, and is, therefore, more efficient than other techniques, a very relevant question to a 'methods' genre. "Increasing" (or "speed" itself) and "prototyping" become suitable words for stepping up.

(10) | the implications of this /technique | extend towards in^creasing the speed of synthetic biological de\/sign | by removing the need to conduct all ^prototyping steps in \vivo | (VMA-RI3)

V.2.5. Communication activity

V.2.5.a. Task

Finally, the adaptation of Bradford's 'Communication activity' is based on the genre itself. Therefore, learners start by looking for the information needed to respond to *JoVE*'s goal (https://www.jove.com/about/) of allowing scientists, educators and students "to see the intricate details of cutting-edge experiments" rather than read them in text articles.

V.2.1.b. Sub-tasks

Therefore, the first step in this task entails thinking of a lexico-grammar (i.e. making vocabulary and grammar choices) capable of sustaining a video demonstration aimed at facilitating scientific reproducibility; in other words, a text meant to be read aloud, i.e. a "scripted" or "prepared speech" text. Learners may be invited to access a VMA of their discipline, e.g. biology, and use it as a model. They can watch the video, which contains both voice-over and speech from one of the authors and then they can reflect on the reasons for the occurrence, in either the voice-over or the researcher's introduction, of any Step-ups they identify, especially by relating them to the function of the Move where they take place. With help from the instructor, they may also use visualization software to verify the Step-ups. Then, as a second sub-task, they can use their own research and write a VMA script which emulates the intonation in the model, i.e. its communicative purposes for the genre.

VI. CONCLUSION

Despite its exploratory nature, the present study illustrates how to account for the interplay between intonation and genre. For this purpose, we analysed a small-scale corpus of five clips from Video Methods Articles (VMAs) published by the *Journal of Visualized Experiments*. VMAs are thus dealt with as an instance of genre. We focused on their Researcher's Introduction (RI) section where researchers face the camera and make statements about their research. It is the hybridization of promotional and scientific discourse occurring in this section that made us consider the analysis of intonation as a very suitable procedure for the investigation of the strategies which researchers deploy for the particular purposes of a genre. As explained above, this approach to the study of genre is justified because a growing scholarly interest in new forms of research communication has not yet generated enough research into the communicative impact of intonation.

This said, we decided to examine the communicative potential of the changes in pitch (whether in terms of direction or relative height) shown by some intonation units in VMAs. The exact object of study was the complex phenomenon constituted by the voice moving up to various degrees of higher level in pitch and the position inside the intonation unit in which the rise to higher pitch takes place. In our study, the phenomenon is presented as an intonational device to be referred to with the term ‘Step-up’.

The main asset of the present study is that it adopts a data-driven perspective. As our main goal was to explain how the study of intonation can contribute to the exploration of the multimodal resources of the digital environment, corpus size was not considered an overriding factor for a study aimed at that type of setting. With this in mind, the preliminary results presented in this paper suggest that the general English intonation framework is not appropriate to analyse digital research English. Accordingly, as a data-driven decision, we also present a pedagogical proposal for the adaptation of intonation manuals to the teaching of Step-ups in an Academic Spoken English (ASE) genre. Our data reveal that intonation can be viewed as a linguistic resource subject to contextual constraints and as a mode contributing to the meaning-making process. In VMAs, Step-ups are used to introduce new topics in Move-initial intonation units, and also to contrast or highlight as depending on the function of a specific Move in the rhetorical structure, “Explaining Significance”. On the other hand, our data do not reveal functional differences between canonical and non-canonical Step-ups.

In conclusion, our study indicates that it is not only possible to relate intonation usage to genre but that it is necessary to do so, and that, as a result, English intonation manuals dealing with these types of features should be modified to teach intonational strategies, the Step-up being a case in point. While in EAP literature the role of pronunciation for ASE is generally judged to be rather limited (as one of several “sources of knowledge” in “bottom-up processing”), in this paper the concept of *genre* has been used to highlight the rhetorical, communicative importance of pronunciation, since it examines and discusses the Step-up as a genre-driven teaching/learning topic which results from the formal constraints of the rhetorical structure of VMAs.

For this reason, we have complemented our study with a pedagogical proposal for the Step-up based on the adaptation of Barbara Bradford’s (1988) method in *Intonation in Context* to the generic factors described above. The most important characteristic of our proposal is the adoption of speech visualization as a pedagogical tool, the use of ‘Step-up’ as a more pedagogical terminology than ‘High Key’, ‘Onset’, or ‘Stepping Head’, and a set of tasks in which the type of response to be elicited from the learner is based on the notion of *communicative function* as determined by the Move where Step-ups tend to occur. This type of analysis and subsequent pedagogy is in its initial stage, and it remains to be seen whether its results, or the pedagogical proposal itself, are sustained by the analysis of a larger corpus compiled from texts similar to VMAs, or can be extended to other intonational phenomena or strategies in the genre.

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The impact of peer assessment on the attainment level of oral presentations skills

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ABSTRACT

The aim of contemporary language for specific purposes (LSP) is to prepare students for independent and competent performance in the globalised world of English as a lingua franca, with oral presentations as an indispensable element. Recognising that many students experience anxiety when faced with public speaking, teachers need to boost their self-confidence and improve their oral presentation skills, which can be achieved by promoting team-work and collaborative learning. The aim of this paper is to explore whether peer assessment of oral presentations influences the level of students' attainment of oral presentation skills. The research was conducted at the Dag Hammarskjöld University College of International Relations and Diplomacy in Zagreb. The participants assessed their colleagues' presentations at the beginning and the end of the semester by using rubrics. They appeared to have improved after receiving peer feedback, at least according to their peers' comments and slightly higher rating on the rubric. Additionally, the analysis of the participants' attitudes toward peer assessment complements the quantitative findings, demonstrating that participants recognise its importance and are able to self-reflect more efficiently on their own and their colleagues' work.

Keywords: *ESP, oral presentation skills, peer assessment, peer assessment tool, attitude towards peer assessment*

I. INTRODUCTION

I.1. Peer assessment

One of the aims of education is to enable students to function independently in the labour market where they will be required to assess their colleagues' strong and weak points, as pointed out by Nortcliffe (2012). Teachers of English in LSP courses are in an advantageous position as they can assist their students in achieving that goal by helping them develop three indispensable sets of skills – oral presentation skills in English, teamwork and collaborative learning, and active participation in learning together with taking responsibility for their own learning – thereby increasing their autonomy (Everhard and Murphy 2015). One method that teachers of English have at their disposal is peer assessment, a tool that learners use in order to reflect on and specify the level, value, and quality of their peers' performance (Topping 2009). Since peer assessment has been shown to result in improvements in the effectiveness and quality of learning (Topping 2009), we decided to explore whether peer assessment of oral presentations influences the level of students' attainment of oral presentation skills.

I.2. Benefits of peer assessment

Peer assessment can be generally regarded as an active agent in stimulating engaged and substantial involvement of students in the overall learning process, by which they become more independent in setting and evaluating their own learning criteria. In addition, peer assessment provides an objective and functional tool for making detached and informed decisions concerning the assessment of one's peers, as well as self-assessment (De Grez, Valcke and Roozen 2012).

On the one hand, peer assessment activities in today's pedagogical practices are favoured because they decrease the central role of the teacher in the classroom (De Grez, Valcke and Roozen 2012), which is especially important given the unrelenting reality that teachers often lack the time to provide their students with individual, timely, and quality feedback on their work (Andrade and Valtcheva 2009).

On the other hand, peer assessment is a crucial element of observational learning. Observational learning, according to Bandura (1997), can help students comprehend more explicitly the learning outcomes, or goals, that they are attempting to achieve, both by observing their peers and by receiving meaningful feedback from them. In that way, they can compare their performance to the performance of their peers sustained by a defined measurement tool, or standard. As research has suggested (e.g. Murillo-Zamorano and Montanero 2017), peer feedback aimed at improving the presentations or the process that was used to prepare them, structured around precisely defined and pre-explained rubrics, may well improve the students' perception and reflection upon their performance in the role of speakers. As they strive towards improving their presentation skills – the goal they have set for themselves – the desired level of performance ceases to be an abstract ideal and becomes much more comparable, compatible, and attainable (De Grez, Valcke and Roozen 2012).

I.3. Peer assessment vs. teacher feedback

Another argument for the implementation of peer (and self-) assessment in the language classroom, as already suggested, is that its application can positively unburden the role of teachers in assessment, as well as allow for the more beneficial inclusion of students as active participants in self- and peer evaluation, and in the broader process of formative assessment (De Grez, Valcke and Roozen 2012). Formative assessment in this context, as suggested in Ozogul and Sullivan (2007), refers to the evaluation of student work that is not yet in its final form, and can thus be exploited for its potential for subsequent learning. In this way students become more involved in the language acquisition process because they assess the quality of each other's progress formatively and estimate the level up to which they have fulfilled the set criteria or goals, thus assessing for revision and improvement of results, and not for grades (Andrade and Valtcheva 2009).

More to the point, peer feedback is richer in both volume and immediacy (Topping 2009), while an increased number of assessors decreases subjectivity and increases reliability, as stated by Falchikov (2004). Nortcliffe (2012) mentions further advantages of peer assessment, namely that more assessors provide more sources of feedback, which in turn leads to better self-reflection and enables those assessed to apply the feedback they have received in their subsequent work, e.g. oral presentations. Equally important is the possibility of an ensuing discussion in which the student who received the feedback has the opportunity to request clarification and communicate directly with the assessor, especially when the whole process of peer assessment is part of a repetitive process which allows the student present their work, demonstrating the improvements or defending their initial positions (Murillo-Zamorano and Montanero 2017). In this way, students become partners in the teaching-learning process, their self-esteem is raised, they become more self-critical and proactive learners, and they focus on their future learning goals, which they see as set by themselves, not externally (Lindsay and Clarke 2001).

The complexity of the issue at hand could be summarised as a "caveat" to both researchers and practitioners (Topping 2009: 26):

> Providing effective feedback is a cognitively complex task requiring understanding of the goals of the task and the criteria for success, and the ability to make judgments about the relationship of the product or performance to these goals. […] Do not assume the teachers are any more reliable than the peers! You might want to match yours against the average of several peer assessments.

I.4. Efficient peer assessment

Teachers still play a crucial role in peer feedback activities. They must teach students how to give efficient feedback because without it such activities are futile. Comparable results have been achieved by other researchers as well (Murillo-Zamorano and Montanero 2017): participation in traditional assessment methods, based on the teachers' immediate feedback in the classroom, produces favourable outcomes. The feedback with which students provide one another on their oral presentations, on the other hand, should be useful and accompanied by non-judgmental comments in order to show the presenters where improvements can be made for their subsequent presentations (Harlen 2006). Hodgson and Pyle (2010) add that feedback should not be given only as points but should be accompanied by comments which are to be discussed both by the assessors and the presenter after the presentation. The results of their research show that the students experienced the greatest learning gain when feedback is given as comments only.

According to Falchikov (2004), feedback should be given in three stages – first, student-assessors should start with some good points regarding the presentation, as this boosts the presenter's self-confidence; second, they should move onto advice for improvement, since the presenters will then be more willing to accept criticism; third, feedback should end with other good points, thus embedding constructive feedback within positive feedback (the so-called "sandwich method").

I.5. Possible problems with peer assessment

Peer assessment has some potential downsides that are not to be disregarded when teachers consider using it in their teaching practice. Its strengths and weaknesses have to be weighed against each other, and teachers should decide for themselves whether such an approach is the best option in their LSP classes. Ross (2006) and Falchikov (2004) list several disadvantages of peer assessment activities for students. The results of their research show that some students objected to doing the teacher's job, lacked the confidence to mark fairly, took these activities as an opportunity to embellish their grades, feared retaliation in response to awarding low grades to their peers, misunderstood the data from assessment sheets, and let friendship and hostility influence peer assessment outcomes. Jelaska (2005) add that peer assessment is also dependent on different learner types, namely that collaborative learners are the ones most likely to fully participate in such activities and thus fully benefit from them; that participant learners may participate in them and benefit from them to some extent; and that independent, dependent, avoidant and competitive learners will not participate in them nor fully benefit from them.

Falchikov (2004) and Lavrysh (2016) also list several disadvantages of peer assessment from the teachers' perspective: some did not comprehend its benefit, some were afraid to include it in their classes, some experienced difficulty in building a positive environment focused on improving, some believed that students lacked the necessary experience for these activities, some thought that students would collude and award each other over-inflated grades, and finally some felt uncomfortable with the change of role and giving students control.

II. RESEARCH AIMS AND QUESTIONS

After teaching ESP to university students of international relations for several years, we have come to recognise that many of them experience anxiety, nervousness and stage fright when they are given the task of delivering an oral PowerPoint presentation in front of their peers, a task which will be everyday practice in their professional career. It was felt that using only teacher assessment contributed to their anxiety, so we wanted to investigate whether the advantages of efficient peer assessment observed by previous researchers would influence the level of our students' attainment of oral presentation skills, i.e. improve their results. In other words, we aimed to see whether pre-instructed and pre-structured feedback from peers might provide a positive stimulus in the sense that the students begin to recognise and appreciate consequential feedback coming from someone in the same position. Furthermore, we were interested in gaining insights into our students' attitudes towards peer assessment and examining whether its previously researched shortcomings would be outweighed by its benefits.

In our research, we wanted to explore whether the students' level of oral presentation skills would be measurably higher in their second presentation after having received peer feedback on their first presentation and whether their attitude towards peer assessment would change after the second presentation. Therefore, we asked ourselves the following research questions (RQ):

(i) RQ1: Will there be any difference in the students' attainment of oral presentation skills between the first and the second presentation based on peer assessment?

(ii) RQ2: Will there be any difference in the attainment of oral presentation skills in the second presentation between first-year and second-year students based on peer assessment?

(iii) RQ3: Will there be any difference in attitude towards peer assessment after the second presentation?

(iv) RQ4: Will there be any difference in attitude towards peer assessment between first-year and second-year students?

III. RESEARCH METHODOLOGY

Our study was conducted at the Dag Hammarskjöld University College of International Relations and Diplomacy in Zagreb in the summer semester of the academic year 2018/2019. All students in Year 1 and Year 2 were included in it – 36 participants in the peer assessment of oral presentations (17 participants from Year 1 and 19 from Year 2) and 28 participants in the evaluation of peer assessment activities via a questionnaire (13 participants from Year 1 and 15 from Year 2). The data used in this study was collected using the two instruments – the peer assessment table (Figure 1) and the questionnaire (Figure 2).

	Student:			
	Title:			
Category	**Element**	**Explanation**	**Points (1-5)**	**Comments**
Organisation	Introduction	introduction and hook		
	Development	clearly structured parts		
	Conclusion	summary and food for thought; Q&A invitation		
	Length	appropriate time management		
	Visual impression	text-image ratio and layout		
Language	Fluency	clarity of expression		
	Range	vocabulary variety: words, expressions, etc.		
	Accuracy	correct language, no language errors		
	Appropriateness	language appropriate to the audience and topic		
	Written language	lexical variety, grammar and spelling accuracy		
Non-verbal communication	Body	posture, movement, facial expression, gestures		
	Eyes	eye contact with the audience		
	Voice	loudness, intonation, speed, pauses, emphasis		
	Persuasiveness	topic knowledge, no visible nervousness		
	Interaction	pointing, referring, using appropriate expressions		

Figure 1. Peer assessment table

VISOKA ŠKOLA
MEĐUNARODNIH ODNOSA
I DIPLOMACIJE
DAG HAMMARSKJÖLD

PEER ASSESSMENT/
PRESENTATION SKILLS
ASSESSMENT QUESTIONNAIRE

Dear colleagues

We would kindly ask you to take a few minutes to evaluate the success and usefulness of peer assessment in the context of presentation skills.

1) How did the evaluation elements in the table contribute to the preparation of my own presentation?
2) How did the evaluation elements in the table help in assessing my colleagues' presentations?
3) What have I learnt from this assignment?
4) How will I prepare for future/upcoming presentations?
5) How will I evaluate/assess my colleagues' presentations from now on?

Figure 2. Peer assessment questionnaire

Rubrics were used in the peer assessment table as students understand assessment criteria better if they use rubrics, and they become more realistic judges of their own performance since they monitor their own learning, without having to rely on their teacher's feedback (Thomas, Martin and Pleasants 2011). There are fifteen elements in the table, divided into three categories with five elements in each – four for assessing the presenters themselves, and the fifth one for assessing the PowerPoint elements (shaded grey in the table). Before the participants saw the table for the first time, they mentioned all the elements in the discussion on what constitutes a good presentation, guided by the researchers; thus, nothing in the table, once presented, was new or unclear to them. Responses from the questionnaire about participants' self-perception of potential learning values when engaging in peer feedback activities are also found and tested in other recent studies (Rodríguez-González and Castañeda 2016).

An almost identical peer assessment table and the questionnaire had been used in a pilot study in the Private High School for the Arts in Zagreb several months prior to this study. On the one hand, the rubrics in the peer assessment table had been designed by the researchers and high school students together, and they were almost identical to the ones in this study – they only lacked the three elements related to the PowerPoint, as the presentations were only oral, without any visual aids. On the other hand, the items in the questionnaire, which had been designed by the researchers, were identical to the ones used in this study. As the answers to these five questions given by high school students had proved very useful in the pilot study, and as the questions had been fully understood by the students, the same questions were used in this study.

For the purposes of this study, the answers to open-ended questions in the questionnaire were classified into three categories – positive, negative and neutral. Such rubrics completed by participants who examined their peers' presentations were used by other researchers as well (Rodríguez-González and Castañeda 2016).

Firstly, positive answers included comments which stated that the rubrics helped the students, that they were useful for the preparation of both their own presentations and the assessment of their peers', specifying at least one helpful element they had learnt from this assignment which they would implement in future presentations as well as peer assessment assignments. Secondly, in their negative answers the participants said that the rubrics had not helped them during the preparation of their own or the assessment of their peers' presentations, that they had not learnt anything from this assignment, and that they would not prepare differently for their future presentations, nor would they assess their peers differently. Finally, the neutral answers were those which did not give clearly negative or positive answers to the questions asked.

The data was collected in eight stages as described below.

1) In the introductory lesson, the study was presented to the participants, and they were given an opportunity to give their consent to participate in it; then, the elements of oral presentations were presented and discussed with the participants.

2) The benefits and potential disadvantages of peer assessment were discussed.

3) The peer assessment table was presented to the participants and its elements were discussed, drawing parallels to the same elements discussed in Stage 1 above.

4) A video of a student giving an oral presentation was shown to the participants, and they used the peer assessment table to assess the presenter in the video, followed by a discussion regarding their points and comments.

5) The participants took the peer assessment tables home in order to prepare their first presentation. The topic that they presented was very closely related to the material covered in their classes – Year 1 presented on chosen countries and Year 2 on chosen (sub)cultures. They later gave their presentations in class and other participants assessed them using the same peer assessment tables, after which a discussion on the given feedback followed.

6) After the first round of presentations, all the participants completed a questionnaire in which they commented on their peer assessment experience.

7) The presenters took all the completed peer assessment tables home in order to study their peers' feedback and prepare for their second presentation, which was on the same topic.

8) Towards the end of the semester, two months after the first round of presentations, the participants gave their presentation for the second time, after having studied their colleagues' feedback given in the peer assessment tables. This presentation was once again also followed by the peer assessment activity, then by a discussion. Finally, the participants were asked to comment on the peer assessment experience using the same questionnaires.

The data collected was then entered into Microsoft Excel, followed by a t-test in SPSS which calculated whether there was a statistically significant difference between the analysed sets of data.

IV. RESULTS AND DISCUSSION

IV.1. The difference in the students' attainment of oral presentation skills between the first and the second presentation

The primary focus of macrostructure analysis is on major forms and structures. These major forms and structures refer to the semantic structures. The results of our study showed that, out of maximum 75 points, the total average peer assessment points were 68.17 for the first presentation and 71.01 for the second presentation (Figure 3), indicating that the participants awarded their peers higher points for the second presentation than for the first one. Looking more closely at the average peer assessment points for each of the three categories (organisation, language and non-verbal communication), it is also evident that the participants awarded their peers higher points for the second presentation in all three categories (Figure 4).

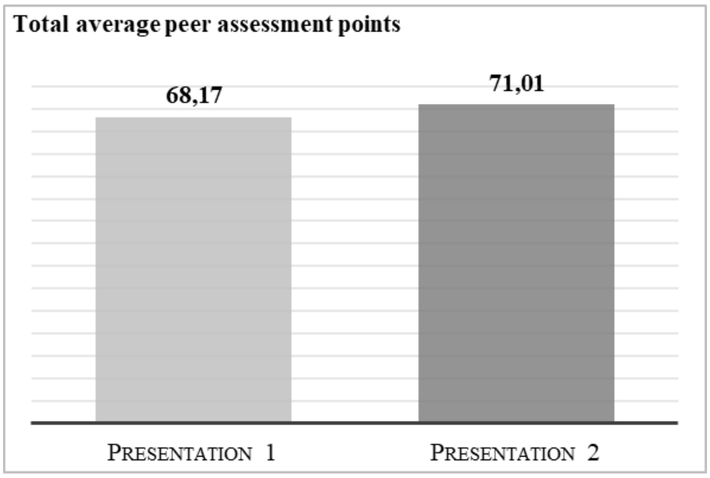

Figure 3. Total average peer assessment points

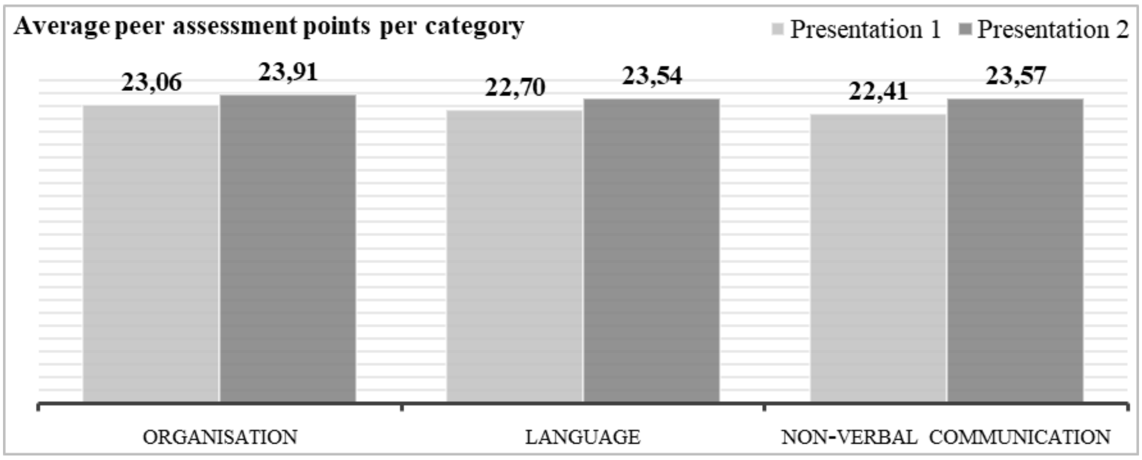

Figure 4. Average peer assessment points per category

However, even though there is a difference between the average points for the two presentations overall, as well as in each individual category, those differences were not proven to be statistically significant (Table 1).

Table 1. The difference in the peer assessment points between the first and the second presentation.

Variable	**Round**	**N**	**M**	**SD**	**t**	**p**
Organisation	1	36	23.0558	1.38821	-3.059	.063
	2	36	23.9051	.92076		
Language	1	36	22.7029	1.93269	-1.981	.250

	2	36	23.5399	1.64098		
Non-verbal communication	1	36	22.4084	1.52894	-3.693	.266
	2	36	23.5694	1.10509		
TOTAL	1	36	68.1672	4.19630	-3.223	.294
	2	36	71.0144	3.23813		

When looking at the peer assessment points awarded for each of the fifteen constituent elements of presentation skills as set out in the peer assessment table (Figure 5), it can be observed that the participants were constantly awarded higher points by their peers in their second presentation. The lowest average points in the first presentation were awarded for the element of eye contact (4.25 points out of maximum 5.00), followed by accuracy (4.34 points). Furthermore, the biggest differences between the first and the second presentation were observed in the categories of eye contact (0.31 points), voice (0.28 points) and persuasiveness (0.27 points), all of which pertain to the category of non-verbal communication.

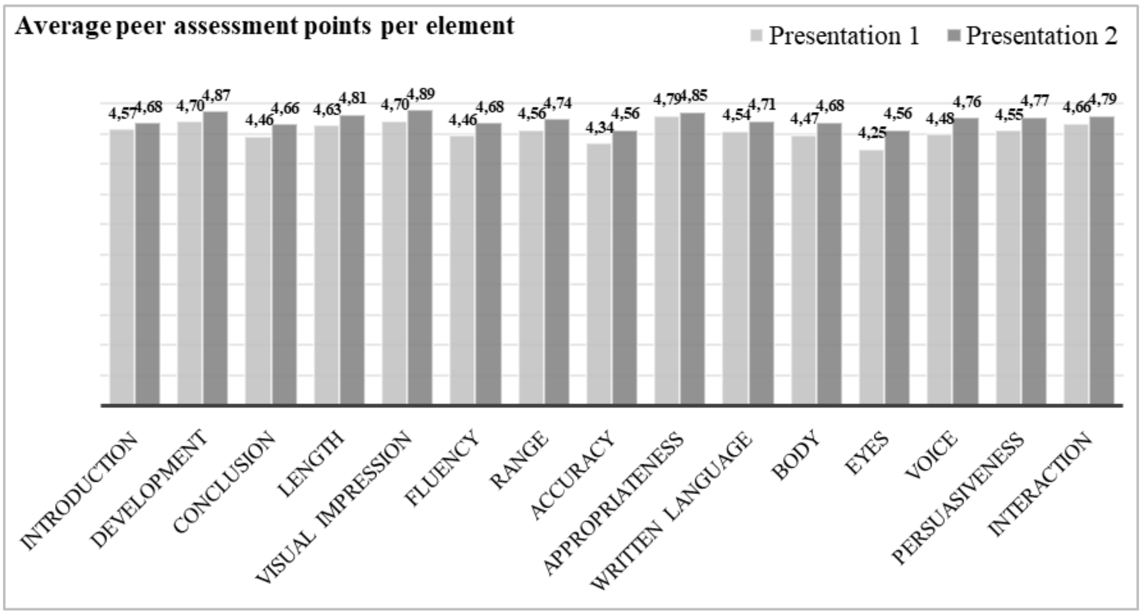

Figure 5. Average peer assessment points per element

This small and thus not statistically significant increase between the first and the second presentation could be attributed to a relatively small sample of participants (36), or to the fact that they were awarding high points to each other for the first presentation, so there was little room for measuring improvement in the second one. Moreover, the participants could have avoided giving each other low scores because their relationships affected their ability to assess objectively, or even because some of the rubrics might have been unclear to them.

However, this increase is seen as relevant to the aims of our study because it demonstrates that some improvement in the attainment of oral presentation skills did occur in the second presentation. The comments that the participants included in their assessment tables and in the discussion that followed after each peer assessment strengthen the relevance of this increase. The peer feedback after the first presentation was very constructive and objective, whereas the one following the second presentation, apart from also including advice on what to improve, contained comments on the progress in the second presentation – whether there had or had not been any. The level of the participants' oral presentation skills might have improved in their second presentation owing to the very feedback they had received after the first presentation, which was both discussed in class immediately after the presentation and studied at home in order to be comprehended more thoroughly and applied more competently in the subsequent presentation.

Given below are some examples of constructive feedback from the peer assessment tables after the first presentation for each of the fifteen constituent elements (the letter P with the number stands for the participant who was being assessed):

- introduction: P2: *No hook.* P12: *Her own story. Impressive*. P24: *Put something interesting*. P35: *I liked the hook.*
- development: P5: *Put contents and conclusion*. P6: *No structured parts at all*. P26: *Clearly structured parts*.
- conclusion: P6: *The end was quick*. P20: *The quote at the end was beautiful*. P24: *Very good ending with a famous person*.

- length: P2: *Too short*. P5: *On point*. P16: *It was more than 10 minutes*. P26: *Longish but interesting*.
- visual impression: P5: *Images are really good*. P16: *Small letters*. P21: *Just facts on slides. Not too much text*.
- fluency: P5: *Because of the reading, you didn't show your expression well*. P18: *Some stuttering*. P35: *I couldn't understand some word*.
- range: P23: *Work on extending your vocabulary*. P28: *No linking words*. P49: *Has a little problem with longer words*.
- accuracy: P1: *Some minor errors*. P5: *Some mistakes, but you can do it better*. P10: *Try to work on your pronunciation*. P21: *Indirect speech*.
- appropriateness: P31: *Too much information*. P35: *I understood everything*. P49: *Good language, but needs work*.
- written language: P2: *Misspelt words*. P16: *Little mistakes, overall really good*. P33: *A few spelling and grammar errors*. P34: *No mistakes found*.
- body: P13: *Too many gestures*. P23: *Work on your posture*. P42: *Crossed hands on chest*. P46: *A lot of smiling, which is very nice and cute*.
- eyes: P2: *No eye contact at all*. P6: *You are reading, no eye contact*. P34: *Try to make more eye contact*. P46: *Not facing the audience*.
- voice: P2: *He needs to speak louder*. P5: *She is too quiet, but not fast*. P16: *Maybe too slow*. P49: *Too many pauses*.
- persuasiveness: P21: *She was nervous a little bit, too many 'um's*. P23: *We can see you're nervous because you were playing with the pointer*.
- interaction: P42: *Not a lot of pointing, which was needed to explain all those pictures*. P43: *He showed everything in the presentation, pictures, etc*.

Below are some examples of the feedback for some of the elements of the peer assessment table following the second presentation in which the participants compare the results and assess whether the presenters made any progress in relation to the first presentation:

- development: P16: *Better than last time*.
- length: P22: *Much better than the last time*. P22: *Big improvement*.
- visual impression: P2: *Some new information*. P5: *Like always, nice to look due to all the pictures*. P16: *Better than last time*. P28: *I'm still impressed with the layout of your slides*.
- fluency; P5: *Great improvement in pronunciation*. P15: *Great pronunciation, big improvement*. P26: *Pronunciation has been improved*.
- range: P16: *Much better*.
- accuracy: P10: *Improvement*.
- body: P31: *Better than last time*. P35: *You have much more movement*.
- eyes: P6: *Much better*. P22: *More than usual, but still not enough*. P35: *More eye contact*. P49: *Better than last time*.
- voice: P17: *This time you smiled, love it!* P35: *Everything was at the same level*.
- persuasiveness: P5: *Great! More confident!* P10: *Little bit nervous, but much better than last time*. P20: *First*

IV.2. The difference in the attainment of oral presentation skills in the second presentation between first-year and second-year students

The points that participants in Year 1 were awarded by their peers for both presentations were compared to the points awarded to the participants in Year 2 (Figure 6). It is evident that Year 1 participants received slightly higher total average points for the first presentation than Year 2 participants: 68.47 compared to 67.89 out of 75.00 maximum points. The situation was, however, reversed in the second round of presentations –

Year 2 participants received slightly higher total average points than Year 1 participants: 71.04 compared to 70.04. The increase for Year 1 participants between the first and the second presentation equalled 2.51 points (or 3.35%), whereas the for Year 2 participants it was 3.15 points (or 4.20%).

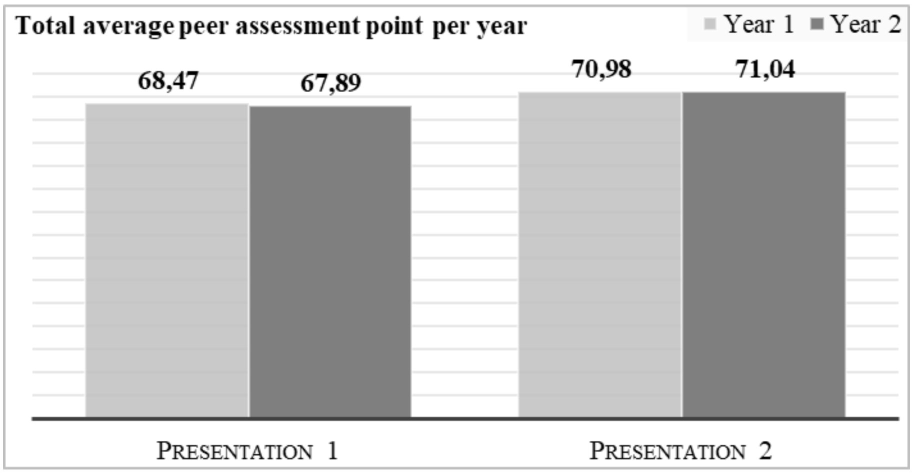

Figure 6. Total average peer assessment points per year

As the results above demonstrate, Year 2 participants attained a higher level of their oral presentation skills in their second presentation based on peer assessment than Year 1 participants. Although the difference might not seem categorical (71.04 points for Year 2 participants compared to 70.98 points for Year 1 participants), Year 2 participants increased their overall number of points in the second presentation by 4.20%, whereas in the case of Year 1 participants, the increase was only 3.35%. This goes to show that that Year 2 participants could be more successful in applying the received peer feedback in their subsequent presentation than Year 1 participants. The reasons for that might be that they have more experience in giving presentations and had already been given feedback in the past, which is corroborated by their responses in the questionnaire. Another reason could be that they are more academically skilled and agile and can thus achieve better results in scholastic endeavours presented to them than their younger colleagues.

IV.3. The difference in attitude towards peer assessment after the second presentation

After each of the two rounds of presentations, the participants' attitudes towards the experience of peer assessment were examined using the peer assessment questionnaire. Upon analysing all five questions of all the participants of both years, the results demonstrated a positive response to 79% of all the questions after the first presentation and to 89% of all the questions after the second presentation (Figure 7). In comparison, the number of neutral responses decreased from 9% to 3%, and so did the number of negative responses – from 12% to 8%.

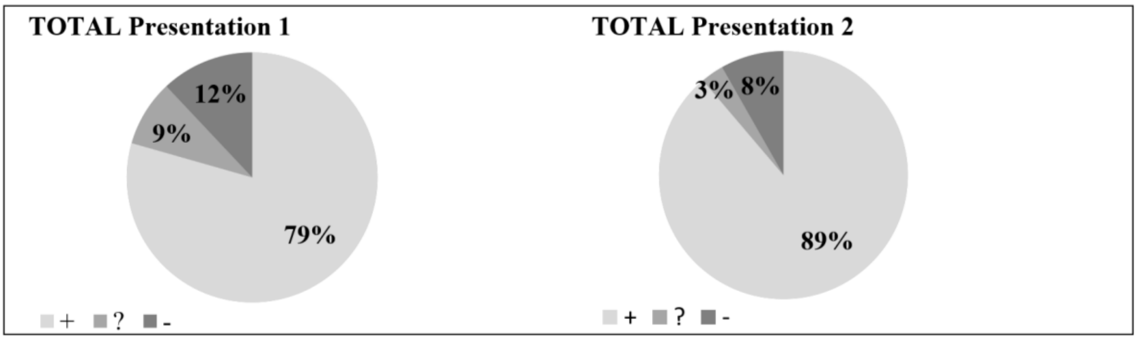

Figure 7. Total attitude change towards peer assessment between the first and the second presentation

Taking into consideration the participants' responses to each question separately (Figure 8), it becomes clear that the number of their responses in which they expressed a positive attitude towards peer assessment was higher after the second presentation than after the first presentation for all questions except the third one (*What have I learnt from this assignment?*) – the number of positive responses was lower after the second presentation than after the first presentation: 88.00% compared to 91.43%. That question is also the one to which negative responses were higher after the second presentation than after the first presentation: 8.00% compared to 2.86%. In all other questions, there was a decrease in the number of responses expressing a negative attitude after the second presentation in comparison to those after the first presentation.

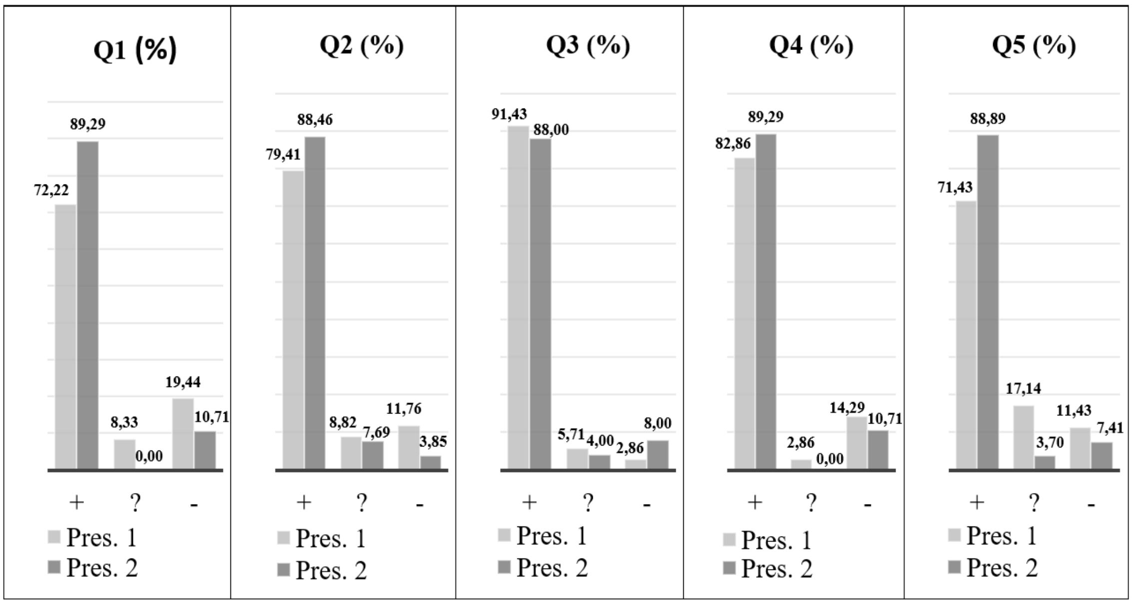

Figure 8. The attitude expressed in the participants' responses in the peer assessment questionnaire

Given below are some examples of positive, neutral and negative attitudes expressed in the participants' responses:

1) "How did the evaluation elements in the table contribute to the preparation of my own presentation?"

   Positive attitude: P25: *The elements from the table were good guidelines while preparing a presentation. They were like small reminders of what to pay attention to*. P21: *The elements in the table helped me to prepare my presentation better, to put less text and more pictures and charts in the presentation*.

   Neutral attitude: P2: *They helped somewhat, but since I already had a decent presenting experience, I was familiar with most of the elements*.

   Negative attitude: P4: *To be honest, I didn't really use the table while making my presentation, but since I was aware I was going to be judged according to it, I did put more effort into my PPT.*

2) "How did the evaluation elements in the table help in assessing my colleagues' presentations?"

Positive attitude: P4: *Helped me see how many factors go into making a PPT & knowing those factors enables you to see faults & issues people have in their PPTs that you can help them with or advise them on those issues*. P30: *I was more focused on some things, while before I would assess the whole presentation without thinking about their posture, for example, which also really matters*.

Neutral attitude: P25: *They made the peer assessment simpler, but it would be good to add a few more elements*.

Negative attitude: P5: *I focused more on assessing than on the content of the presentations. It would be better to have fewer of them*.

3) “What have I learnt from this assignment?”

Positive attitude: P3: *That the sandwich practice is great & really helps people give advice without being too mean*. P31: *I have learned that I'm too nervous during the presentation and everybody sees it. So I need to work on this 'problem'*.

Neutral attitude: P46: *Honestly, not much; learned how to be more compassionate and understanding towards somebody's mistakes/flaws, or more objective*.

Negative attitude: P38: *That colleagues do not need to assess presentations*.

4) “How will I prepare for future/upcoming presentations?”

Positive attitude: P13: *I am not going to read, put more pictures on slides and practise before the presentation*. P14: *I am going to prepare using your concept of elements because it is much easier in this way. Thank you!!!*

Neutral attitude: P10: *With little changes, but basically in a similar way like until now*.

Negative attitude: P41: *The same as until now*.

5) "How will I evaluate/assess my colleagues' presentations from now on?"

Positive attitude: P13: *I am going to be honest because it is for their own good, and I expect the same from them*. P31: *I will evaluate them remembering all the aspects I learned from the table*.

Neutral attitude: P45: *In the same way, not to strictly, not too leniently*.

Negative attitude: P38: *The same as my colleague evaluated mine*.

Overall, the participants expressed a more positive attitude towards peer assessment after the second presentation than after the first one. This might indicate that with practice and more frequent exposure to presentations, followed by peer assessment activities, the participants recognised the benefits of peer assessment and provided more positive responses in the questionnaire regarding peer assessment. Furthermore, if one looks at the responses to each question separately, it is probable that for questions 1, 2, 4 and 5 the participants expressed a more positive attitude after the second presentation than after the first one due to the fact that they understood the benefits of the peer assessment elements as guidelines in preparing their own and assessing their colleagues' presentations. Their responses suggest that they might have become aware of those skills that they had not previously mastered up to the desired level, such as not reading from their notes, putting more pictures and less text on the slides, improving their fluency and accuracy, their speech speed, etc. The responses also show that the participants appear to have decided to plan their later preparations more carefully and on time, using the elements in the table, and rehearsing before the actual presentation. The responses to question 3 were the only ones where there was a noticeable decrease in the number of positive attitudes expressed after the first presentation than after the second presentation, and where a rise in the number of negative attitudes became apparent. This could be explained by the fact that the participants might have misunderstood the question and expected to have gained more knowledge from this activity, and not skills. Although the results of our study show that the participants did acquire more skills, they were possibly not aware of that when directly asked.

The above results demonstrate that the participants could have recognised that the peer assessment table elements are a useful guideline in their preparation for the presentations, which might provide a focus in order to address all the constituent parts, and finally encourage them to work on their weaknesses. They emphasised the importance of feedback coming from different sources, thereby making it more objective, and they especially valued the constructive criticism which guided them in improving their subsequent presentations. Furthermore, they were active participants in the teaching-learning process because they provided feedback to their peers and in that way helped them to improve, but they also simultaneously become more familiar with the requirements of a successful presentation, which finally resulted in the strengthening of their own presentation skills. The majority of the participants in our study said they would continue using the peer assessment table for their future presentations, specifying how they would improve them – by adopting the practice of rehearsing, allowing themselves more time for preparation, not reading their notes, paying attention to the text-image ratio, working on their fluency, accuracy, and pace, etc. Finally, their responses to the questions regarding future peer assessment showed that they plan to continue being objective, professional, serious, constructive, honest, realistic, critical, strict, but also more careful and thorough.

IV.4. The difference in attitude towards peer assessment between first-year and second-year students

After having analysed the questionnaire responses of each year separately, it can be seen that the number of positive responses for Year 1 participants increased from 86% to 98%, whereas the number of neutral responses decreased from 8% to 2% and the number of negative responses from 6% to 0% (Figure 9). On the other hand, the number of positive responses for Year 2 participants increased from 73% to 80%, whereas the number of neutral responses decreased from 9% to 4% and the number of negative responses from 18% to 16% (Figure 10).

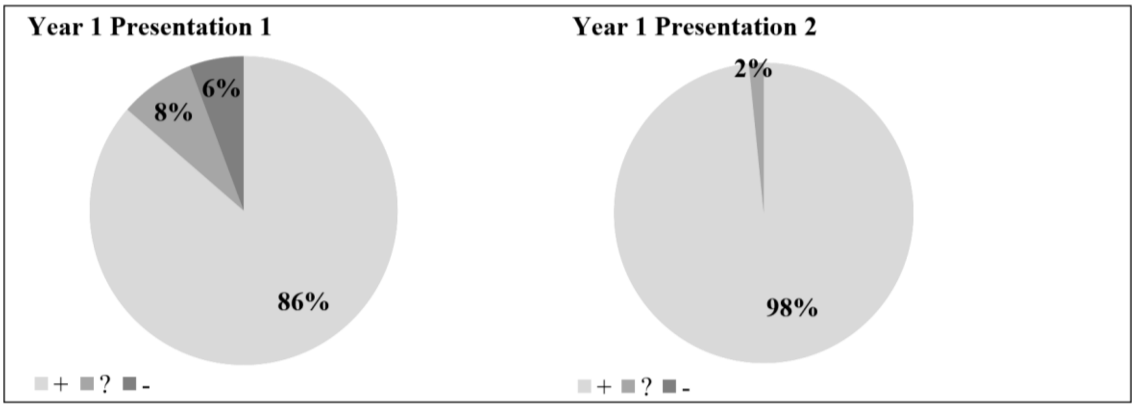

Figure 9. Year 1 attitude change towards peer assessment between the first and the second presentation

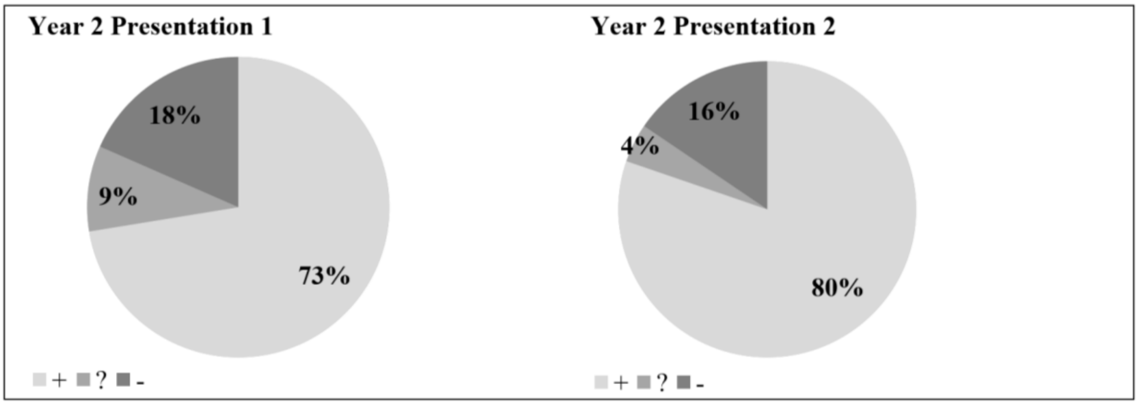

Figure 10. Year 2 attitude change towards peer assessment between the first and the second presentation

The above results clearly show a difference in attitude between Year 1 and Year 2 participants. Year 1 participants improved their attitude towards peer assessment since after the second presentation there was not a single negative attitude expressed in any of the responses to all five questions, and an overwhelming majority, 98% of the participants, expressed a positive attitude in all of their responses after the second presentation, which was an increase of 12% compared to the first presentation. Such results could suggest that Year 1 participants benefited from peer assessment to a great extent since many of them had never even given a presentation, so they might have seen this table as a useful tool and guide. On the other hand, although Year 2 participants also expressed a more positive attitude after the second presentation than after the first one, this increase in positive attitudes in their responses was only 7%, a rise from 73% to 80%, and the number of responses expressing a negative attitude dropped by only

2%, from 18% to 16%. This could suggest that a number of them were relatively experienced in giving presentations and familiar with some of the assessment criteria, so this activity was not as beneficial for them as for Year 1 participants. It might also be the case that not all Year 2 participants used the elements in the table for the preparation of their presentations or took into consideration their colleagues' feedback for the preparation of their second presentation.

V. CONCLUSION

The results of this study seem to offer insights into the effectiveness of peer assessment as an indispensable activity, not only in ESP classes in higher education but also in other English classes and even other courses and subjects. Students in programmes such as the International Relations programme will most likely be required to deliver presentations in English in front of an audience, using visual aids such as PowerPoint. That is why it is considered to be fundamental for ESP teachers to instruct and train their students to master the skills of presentation, using peer assessment activities and peer assessment tools.

The primary aim of this study was to find the answers to our research questions, and they showed us that the participants attained more oral presentation skills in their second presentation in comparison to the first presentation based on peer assessment; that the second-year participants attained more oral presentation skills in the second presentation based on peer assessment; and that all the participants expressed a more positive attitude towards peer assessment after the second presentation, but first-year participants more than second-year participants.

From this point, it is possible to continue researching other potential correlations in the process of teaching and assessing oral presentation skills in ESP courses. However, some limitations of our study have to be taken into account. One of them is the previously mentioned small sample of participants who delivered and assessed the presentations – only 36 participants took part in the quantitative part of our study and only 28 in the qualitative part – as well as the number of presentations given by the participants in this study – only two. It might also be interesting to see whether the participants would attain an even higher level of presentation skills in the third or even fourth presentation, i.e. if they would receive even higher points in the subsequent presentations and whether there would be a statistically significant difference between each round of presentations, especially between the first and the last. Another limitation could be the fact that not all students in all classes can be given such training in peer assessment and be guided by their teacher as was the case with the participants in this study.

This study can be expanded to investigate the participants' attitudes more thoroughly: it would be relevant to see if their attitudes would continue to be more positive with every subsequent presentation, or if a ceiling after a certain number of iterations might be expected, after which positive attitudes would no longer continue to increase, but would, perhaps, even decrease. Another matter worth considering is whether to change the topic of the presentation for each performance, exploring the effect that such an intervention would have on the attainment of presentation skills of the participants. Additionally, peer assessment could be compared to teacher assessment to provide further insight into the degree of objectivity of peer assessment. Furthermore, future research could use a more objective measure to test improvement, by for instance asking teachers or assessors to use the rubric and to analyse video recordings of both presentations, preferably without knowing which was the first and the second presentation. Finally, the peer assessment table could be changed according to the needs of other ESP teachers – some elements could be left out, and others could be added, the point scale could be expanded to include more points, the table could be in a digital form, etc.

In conclusion, final emphasis needs to be placed on the double, or even triple, effect of peer assessment in the context of improving ESP students' presentations skills. Such an endeavour could provide the students with feedback on their work, giving them the much-needed focus on and appreciation of all of the indispensable elements an oral presentation should comprise, and teaching them how to adopt both roles they had been cast in – the role of the assessor and the role of the assessed. Moreover, it would necessarily implicate the teachers themselves in a very different and non-traditional way. Their role in the process of peer assessment, in general, is to be able to appreciate fully how their students react to direct appraisal and commentary by their peers as opposed to a figure of authority, how (and if) they confront criticism and fault-finding, how to discern between potential ill will, inexperience, and carelessness by the assessors, and finally how to define their own position in the process of peer assessment. All things considered, we contend that it is only when all the participants of a learning environment – the student presenter, the student assessors and the teacher – act together, that the level of oral presentation skills of ESP students can really be improved.

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EMI teacher training with a multimodal and interactive approach: A new horizon for LSP specialists

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ABSTRACT

The growing use of English as the medium of Instruction (EMI) in non-Anglophone universities has provided specialists in Languages for Specific Purposes (LSP) with a broader scope for research and teaching. ESP experts are now called upon not only to carry out research to support EMI teacher training, but also to be the teacher trainers. In this study, an ESP scholar explores what constitutes successful interactive lecturing according to academics who have taken part in her interdisciplinary EMI teacher training workshop. This was done by analyzing the engaging, verbal and non-verbal discourse of participants' video recorded exemplary mini-lessons. It was found that the mini-lectures that had been voted as successful made greater use of questions and had a higher concentration of verbal and nonverbal modes of communication in comparison to the lesser effective ones. The findings lend support to EMI training with an interactive and multimodal approach.

Keywords: *English-medium instruction (EMI); Language for Specific Purposes (LSP); teacher training; multimodality; interaction; discourse analysis*

I. INTRODUCTION

The growing global phenomenon of English-medium instruction (EMI) (Dearden 2015) in the broad range of disciplinary subjects of countless non-anglophone universities has brought numerous challenges for stakeholders - policy makers, teachers and students. Among these trials are those faced by teachers and researchers of languages for specific purposes (LSP). The increasing number of content teachers who have switched from using their mother tongue to English has had an effect on specialists of English for specific purposes (ESP). As recent research has indicated (e.g. Aguilar 2018, Ball and Lindsay 2012, Dafouz-Milne 2018, Morell 2018, Sánchez-García 2019, Sancho Guinda 2013), LSP specialists are needed to train content specialists and to do research to support 'best practice' in classrooms of the ever-increasing and diverse EMI scenarios.

In this study, an example of how LSP specialists can use their expertise to train EMI instructors and carry out research to explore effective classroom discourse will be provided. The training and the research take into account interaction and multimodality, two essential competences for improving EMI classroom communication and learning.

I.1. Interaction in EMI teacher training

Classroom interactional competence (CIC), "teachers and learners' ability to use interaction as a tool for mediating and assisting learning" (Walsh 2011:158), has been put at the forefront for effective teaching in EMI university contexts (Airey 2011, Bjorkman 2010, 2011, Hellekjaer 2010, Klaasen 2001, Morell 2018, Suvinity 2012, Tazl 2011). These studies claim that effective lecturing behavior is considered a necessity for information processing in second language instructional contexts. Klassen (2001), for example, asserted that good classroom teaching performances depend on lecture structuring and the use of interaction supported by appropriate non-verbal behavior and well-prepared visuals. In addition, she discovered that lecture quality had a much greater effect on how students experienced lectures than the language used. Similarly, Suviniitty (2012) found, in her doctoral study comparing Finnish university students' outcomes in EMI and L1 classes, that students were better able to understand lectures with a higher degree of interaction, regardless of the language of instruction.

The amount of classroom participation has much to do with the use of questions (Brock 1986, Chang 2012, Crawford Camiciottoli 2008, Fortanet-Gómez and Ruiz-Madrid 2014, Morell 2004, 2007, Sánchez-García 2019). According to these studies, classroom questioning and negotiation of meaning (i.e. comprehension checks, confirmation checks and clarification requests) are potential enhancers of students' engagement. The use of referential questions, those that ask for audience's contributions from their own experiential knowledge or perspectives, have proven to promote more and longer responses in language classrooms (Brock 1986) and in interactive lectures (Morell 2004).

In lecture discourse studies that have drawn from English L1 corpora (Chang 2012, Crawford Camiciottoli 2008, Fortanet-Gómez and Ruiz-Madrid 2014), questions have been classified as either audience-oriented, which elicit responses, or content-oriented, which are often rhetorical questions. In addition, these studies have explored lecture corpora to find out how many questions per 1000 words lecturers use in their discourse. Chang (2012) found that L1 lecturers' questions in the Humanities, Social and Technical Sciences had more similarities than differences and concluded that they are not discipline specific, but lecture genre specific. This entails that questions and negotiation of meaning can be used to support students' understanding in lectures of any discipline. In addition, they are precisely the types of interactive features acclaimed by research on effective lecturing in English as a lingua franca (ELF) settings. In the words of Bjorkman (2011: 196):

> "ELF settings are by nature challenging settings for all speakers involved, and without opportunities to negotiate meaning, there is an increased risk of disturbance in communication. It is, therefore, highly recommended that lecturers in lingua franca settings create as many opportunities as possible for the deployment of pragmatic strategies through which they can increase interactivity in lectures".

I.2. Multimodality in EMI teacher training

Multimodality, the representation and communication of meaning through a multiplicity of modes, as defined by Gunther Kress et al. (2005, 2010) – the father of multimodal studies- also plays a crucial role in EMI contexts. This is true in light of the fact that content specialists are often not fully proficient in the language and need to rely on written words, visual materials and body language in combination with their speech to convey and elicit meaning (Morell 2018). Until recently, improving oral expression constituted developing speakers' linguistic and communicative competences, that is, their knowledge and use of the language. However, a broader view on language, and the semiotic resources we use to communicate and represent meaning, calls for the development of "multimodal competence". This competence has been defined by Royce (2002: 193) as "the ability to understand the combined potential of various modes for making meaning so as to make sense of and construct texts".

Developing students and teachers' multimodal competence has proven to be instrumental for improving comprehension and expression in language (Choi and Yi 2016, Norte Fernández-Pacheco 2018, Sueyoshi and Hardison 2005) and content (Airey and Linder 2009, Morell 2018, Morell and Pastor 2018, Tang, 2013) learning and teaching contexts. Studies based on cognitive theories of learning that have examined interactive multimodal learning environments (e.g. Moreno and Mayer 2007) claim that student understanding can be enhanced by the addition of non-verbal knowledge representations to verbal explanations. Ainsworth (2006: 185), who asserts that combinations of auditory and visual representations may complement, constrain or construct learners' deeper understanding, states "it is not sufficient to consider each type of representation in isolation - representations interact with one another in a form of 'representational chemistry". Furthermore, Airey and Linder (2009) suggest that meaning is distributed across modes and that there is, therefore, a critical constellation of modes that needs to be mastered by students for appropriate disciplinary understanding. Thus, it follows that if lecturers are aware of the potential, or affordances, of each individual representation (mode), they will be better able not only to combine them so as to facilitate students' comprehension, but also to support students' learning.

With regard to multimodality and university academic oral discourse, studies have examined speakers' use and combination of semiotic resources in presentations and in lectures (e.g. Crawford Camiciottoli and Fortanet-Gómez 2015, Morell 2015), but with the exception of Morell (2018), very few studies if any have looked at the development of EMI lecturers' interactive and multimodal competence.

I.3. An EMI teacher training workshop with a multimodal and interactive approach

In the large public Spanish university, where this study took place, there has been a continuous growth of EMI subjects in all disciplines and for the past decade lecturers have been offered 20-hour EMI training workshops with a multimodal and interactive approach. To date, 220 academics from a wide range of university departments have voluntarily taken part in one of its 12 editions. In each of the sessions of the workshops between 15 and 20 participants of a wide-range of disciplines work in pairs and in groups to reflect on, become aware of and practice: a) verbal and non-verbal communication, b) varying interactive teaching methodologies and c) planning a multimodal and interactive mini-lecture[i]. In the final two sessions each participant puts into practice what they have learned by carrying out a 10 to 20-minute mini-lesson on a basic concept of their field of study. These mini-lessons, which are constructively co-evaluated by workshop peers, using the criteria in Morell (2015), are video-recorded and used for research purposes with the consent of the participants.

The main objective of this mixed method study was to explore what constitutes successful interactive lecturing, according to academics who have taken part in the aforementioned interdisciplinary EMI teacher training workshops. This aim was fulfilled by analyzing the video recorded interactive and multimodal discourse of participants' exemplary mini-lessons.

II. METHODOLOGY AND MATERIALS

To determine what characterizes effective interactive lecturing according to experienced academics, the participants of diverse editions of the EMI workshops, described above, were asked to vote for what they considered to be the two most effective mini lectures they had observed and participated in during their training sessions. The two most voted for mini-lectures of three EMI workshop editions, i.e. a total of 6 highly rated video recorded lessons, were the object of study.

As indicated in Table 1, the lecturers of these mini-lessons had varying degrees of English competence level (from B1-B2 to C1), teaching experience in their mother tongue (1 – 17 years), and only one had previous experience using EMI. In addition, they each taught content subjects in a different field (i.e. Chemical Engineering, Business Administration, Architecture, Sociology, Mathematics and Biology).

Table 1. Description of EMI workshop participants' background and their mini-lectures' subject, topic, duration and words per minute (wpm).

Mini-lecture	**English Competence Level (CEFR)**	**Teaching experience in higher education (yrs)**	**Experience in English as a Medium of Instruction**	**Degree teaching in**	**Mini- lecture topic**	**Duration mini lecture/ words per minute (wpm)**
1	B1-B2	7	No	Chemical engineering	Management Systems in Chemical Industry	11 min 59 sec / 90 wpm
2	B2-C1	17	No	Business Administration	What is Marketing?	17 min 08 sec / 99 wpm

3	C1	4	Yes	Architecture	Construction of domestic imaginaries	20 min 33 sec / 108 wpm
4	B2	10	No	Sociology	Survey interpretations	09 min 39 sec / 143 wpm
5	B2-C1	1	No	Mathematics	Applications of derivatives and integrals	15 min 07 sec /129 wpm
6	C1	2	No	Biology	Seafood: do we know what we are eating?	17 min 11 sec /125 wpm

These 6 samples of study, which together entail 1 hour, 31 minutes and 38 seconds of video streaming and a total of 10, 448 words, were used to carry out the audio-visual discourse analysis that was done in two phases. In the first phase, the spoken discourse was transcribed verbatim and then tagged for questions to determine the quality and quantity of interactive verbal discourse. In the second phase, the written (W), the non-verbal materials (NVMs) and the body language (B) modes together with the spoken language (S) were annotated with the support of ELAN[ii] (The European Distributed Corpora Project - EUDICO Linguistic Annotator), a professional linguistic annotation tool.

In the following results section, the verbal interactive and multimodal discourse analysis of the 6 mini lessons is presented. Then, the combined audio-visual analysis of one of the mini-lessons is illustrated. Finally, a comparison is made between the highly rated mini lessons with 6 other less effective ones.

III. RESULTS AND DISCUSSION

III.1. Results of the interactive discourse analysis

The verbal (auditory) discourse of the 6 video-recorded mini-lessons was first transcribed verbatim and tagged for content and audience-oriented questions. As in Chang (2012), the questions were categorized as content-oriented or audience-oriented. The content-oriented questions are the rhetorical questions (i.e. responded to by the teacher or used to structure the discourse), whereas the audience-oriented questions are those that elicit a response. The audience-oriented questions (defined below) include display and referential types, as well as the sub-questions for negotiation of meaning (i.e. comprehension checks, confirmation checks and clarification requests), which maintain the interaction initiated by previous questions (i.e. display or referential) and ensure that the lecturer and the students share the same assumptions and identification of referents (Morell 2000, Pica, Young and Doughty 1987).

- Display questions - check the audience's knowledge or familiarity (e.g. *Do you know what surveys are?*)

- Referential questions - ask for audience's contributions from their own experiences or perspectives (e.g. *When you go to the fish market, which do you prefer, fish from aquaculture or fishing?*)

- Sub-questions for negotiation of meaning:

  - Comprehension checks – check for receivers' understanding of message (*e.g. Do you understand?*
  - Confirmation checks – ask to confirm previous message (e.g. *Did you say…?*)
  - Clarification requests – seek understanding (e.g. *I don't understand, Could you explain?*).

It is important to highlight that display questions, those that ask for students' recall of factual information at a low cognitive level, have been found to be more often used in classrooms than referential questions, those that ask for students' evaluation, judgement or offering of new ideas at a higher cognitive level. In addition, referential questions have been proven to promote more and longer responses with more complex syntax (Brock 1986, Lendenmeyer 1990, Morell 2004). Furthermore, episodes of interaction usually initiated by either display or referential questions are often followed by comprehension or confirmation checks and sometimes clarification requests (See section III.3).

The number of specific questions, instances of negotiation of meaning (i.e. comprehension checks, confirmation checks and clarification requests) and the total number of questions (Qs) per 1000 words of each mini lesson can be found in Table 2.

Table 2. Questions, and negotiation of meaning in mini-lessons 1-6 (T= Teacher, S= Student).

Audience-oriented questions								
	Content-oriented			**Negotiation of meaning**			**Total questions**	**Qs per 1000ws**
Mini-lesson	Rhetorical questions	Display questions	Referential questions	Comprehension checks	Confirmation checks	Clarification requests		
1	5	5	10	2	1T; 2S	0	25	23
2	3	10	10	0	2T; 2S	1T	28	16.5
3	0	6	2	0	0T; 3S	1T; 1S	13	5.8
4	1	3	4	0	4T	0	12	8.8
5	7	6	6	11	3T; 1S	2T; 1S	37	19
6	4	1	10	3	4T; 2S	5S	39	13.6
Total	20	31	42	16	14T; 10S	4T; 7S	154	Avg 14.6

In each case, the lecturers made greater use of audience-oriented than content-oriented questions. The most often used questions were the referential ones, those that elicit students' contributions based on their own experiential or logical representation of the world and that contain more features characteristic of genuine communication. Here are examples of referential questions taken from the mini-lessons that ask students to evaluate (*d*), judge (*a*, *f*) or offer new information (*b*, *c*, *e*):

a. *What is the first thing that I can do with all these belts? What do you think? (Mini-lecture 1)*

b. *Have you studied marketing before? (Mini-lecture 2)*

c. *What does this photograph communicate to you? (Mini-lecture 3)*

d. *What do you think this person would feel about it? Good? Bad? (Mini-lecture 4)*

e. *Have you ever seen a derivative in real life? (Mini-lecture 5)*

f. *When you go to the fish market, which do you prefer, fish from aquaculture or fishing? (Mini-lecture 6)*

It is also interesting to note that the negotiation of meaning or sub-questions that served to check or confirm comprehension and to clarify meaning, which occurred after the teachers' display or referential questions, was carried out by both the teachers (T) and the students (S).

Although referential questions have proven to be the most effective, in so far as promoting more and longer students' responses (Morell 2004, Brock 1986), there is no specific mention of them in other studies that have focused on questions in lectures (e.g. Crawford-Camiociottoli 2008 and Chang 2012). Chang (2012: 106) describes eliciting response questions as those that "invite students to supply a piece of information related to the course content" and gives two examples of what has been referred to as display questions (those that check what students know). The fact that no distinction is made between display and referential questions in lecture discourse studies may be an indication of the lack, or limited degree, of overt student participation found in the lecture corpora studied.

Another distinguishing characteristic of these effective mini-lectures is that they have a greater number of questions per 1000 words (14.45) than the L1 Physical Science (9.9) and Social Science (8.6) lectures analyzed in Chang (2012), which also indicates a higher degree of interactivity in the samples studied.

The degree of interactivity (Table 3) in this study was estimated by calculating the number of tokens used to engage in the questions and negotiation of meaning. Thus, the percentage of interactive discourse is the estimation of the tokens used by both the lecturer and the participants while asking and responding to or elaborating on the audience-oriented questions (i.e. display and referential questions, comprehension checks, confirmation checks and clarification requests) divided by the total number of verbal discourse tokens and multiplied by 100.

Table 3. The degree of interactivity in mini-lessons 1-6.

Mini-lecture	Interactive discourse tokens	Verbal discourse tokens	Percentage interactive discourse
1	496	1090	45%

2	762	1698	45%
3	442	2225	19%
4	171	1365	13%
5	440	1940	23%
6	804	2130	38%

The verbal discourse analysis of the mini-lessons revealed a relatively high usage of audience-oriented questions and, thus, an overall high percentage of interactive discourse. Mini-lessons 1 and 2 that made greater use of referential questions had a greater degree of interaction. In both cases, nearly half the time was spent in collaborative discourse. It is also interesting to note that these two mini-lectures had the lowest rate of words per minute. As is indicated in Table 3, mini-lecture 1 had 90 words per minute and mini-lecture 2 had 99 words per minute. These rates of words per minute in lecture discourse are considered slower than normal according to Tauroza and Allison (1990: 102). Consequently, it seems that more interactivity implies more time or pauses, which have been claimed favorable for facilitating comprehension (Griffiths 1990: 311). This raises the question on the amount of content that can be delivered and the amount that can be understood by learners during a lecture session. Apparently, the extra time spent in interaction will reduce the quantity of material covered, but will provide students with the time needed for comprehension.

III.2. Results of the multimodal discourse analysis

The multimodal discourse (auditory + visual) was analyzed with ELAN. This tool allows users to analyze the orchestration of modes in captured digitalized audiovisual data by making linguistic annotations in tiers to describe the performance of modes during specific times. A 5 tier template was designed with the transcribed spoken discourse (S) in the first tier, and the linguistic annotations of the written (W), non-verbal materials (N), body language (B) and their multimodal combinations in the subsequent tiers (see Figure 1).

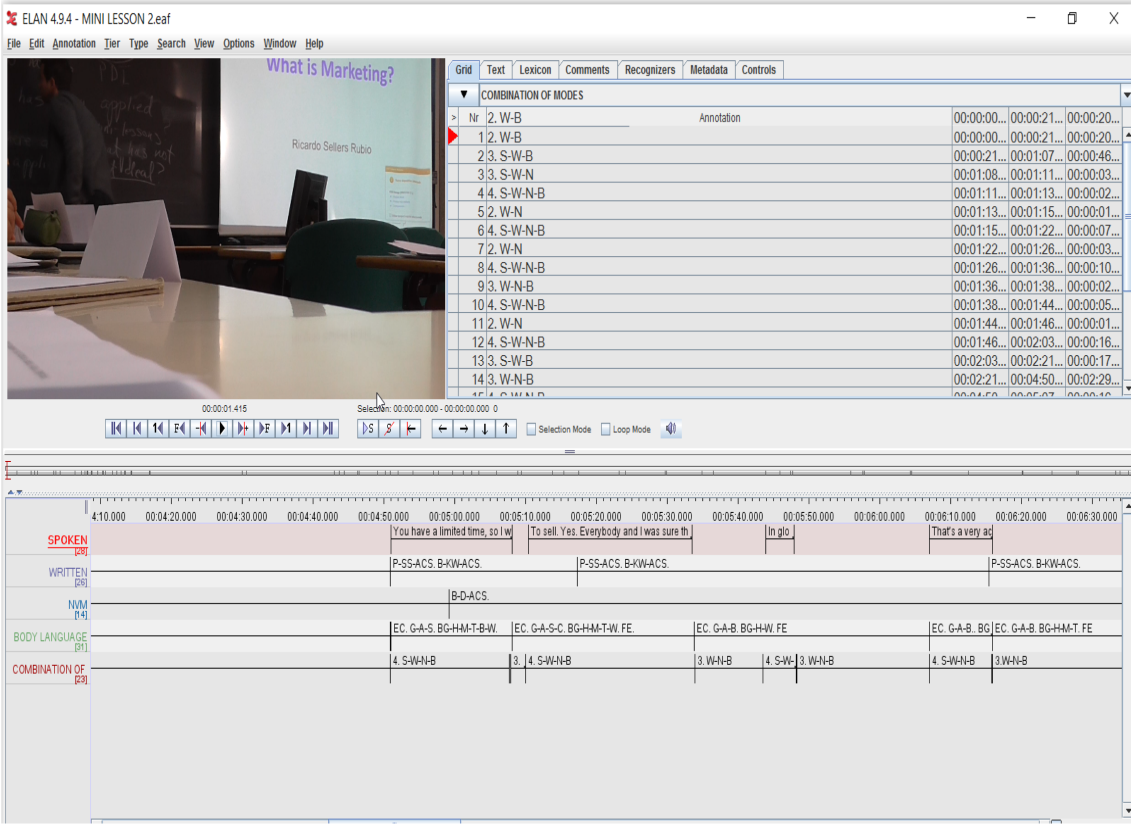


Figure 1. Sample ELAN window with 5 tiers

The main characteristics of the teachers' use of each mode and their combinations is found in Table 4. Besides the aforementioned common use of audience-oriented questions in the spoken discourse, the mini-lessons also shared the following characteristics:

- Stressed key words and simple syntactic structures through the spoken and written modes,
- Implemented illustrative non-verbal materials (realia, images, diagrams, tables, or charts) on the screen,
- Made use of eye contact, body and facial gestures to accompany speech, written and non-verbal materials (NVMs), and
- Combined 4 modes (Sp + W + NVMs + B) throughout the greater part of the lessons.

Table 4. Multimodal discourse description of mini-lessons 1-6.

Mini-lessons	**Spoken (Sp)**	**Written (W)**	**Non-verbal materials (NVMs)**	**Body language (B)**	**Multimodal combinations (percentage of time)**
1	Simple syntactic structures, stressed key words, some linguistic inaccuracies	key words and simple syntactic structures on slides and board accompanying speech	Images, diagrams, tables on slides and realia accompanying speech	Eye contact and gaze towards audience, screen and realia, Hand gestures and body movements referring to content and realia	Sp + B – 10% Sp + B + NVMs Sp + B + W – 13% **Sp + W + NVMs + B – 67%**
2	Combinations of simple and complex syntactic structures, stressed key words, accurate speech	key words and simple syntactic structures on slides and board accompanying, before and after speech	Images and diagrams accompanying and before speech	Eye contact and gaze towards audience, screen and board. Hand gestures, body movements, and shifting positions Walks around class to ensure students' participation	Sp + W + B Sp + W + NVMs W + NVMs + B -10% **Sp + W + NVMs + B - 90%**
3	Combinations of simple and complex syntactic structures, stressed key words, accurate speech	key words and simple syntactic structures on slides and board accompanying speech	Many images on slides accompanying speech at all times	Eye contact and gaze towards audience, screen and board. Hand gestures and facial expressions to emphasize ideas and express opinions.	Sp + NVMs + B- 1% **Sp + W + NVMs + B – 99%**
4	Combinations of simple and complex	key words and simple syntactic structures on	Images and tables on slides accompanying	Eye contact and gaze towards audience and	Sp + W + B Sp + W + NVMs – 25%

	syntactic structures, stressed key words, accurate speech	slides accompanying speech	speech	screen. Continuous hand and arm movements.	**Sp + W + NVMs + B – 75%**
5	Simple syntactic structures, some linguistic inaccuracies	key words and simple syntactic structures on slides and board accompanying speech	Images, graphs and tables accompanying speech	Eye contact and gaze towards audience, screen and board. Facial gestures	
6	Simple syntactic structures, stressed key words, some linguistic innacuracies	key words and simple syntactic structures on slides accompanying, before and after speech	Images, diagrams, graphs, tables and charts accompanying and before speech	Eye contact and gaze towards audience and screen. Continuous body movements.	W – 4% W + NVMs Sp + W Sp + B - 13% Sp + W + NVMs Sp + W + B - 30% **Sp + W + NVMs + B – 53%**

As is indicated in the last column of Table 4, the multimodal combinations or ensembles that included the four modes were prevalent throughout each of the mini lessons. In fact, the percentage of time in which the teachers combined the spoken, written, non-verbal materials and body language modes together to communicate, ranged from 53% in mini-lesson 6 to 99% in mini-lesson 3. Nevertheless, a closer look at how the speakers orchestrated the modes (Kress 2010: 162), moment by moment, to create the specific multimodal ensembles reveals that they were arranged either simultaneously or consecutively. For example, the lecturer in mini-lesson 2 (see Table 5) at times used the written slides or the ones with NVMs at the same time as he spoke, but at other moments he either spoke before or after having shown the written or NVMs. In other words, teachers can choose to use other modes at the same time as they are speaking or to use them before or after having spoken. Consequently, we may state that the 6 mini-lessons coincide in so far as the tendency to use 4 mode ensembles, but not in their orchestrations or organization of modes.

Another distinguishing characteristic of the mini-lessons worth-mentioning, which is positively influenced by the use of multimodal ensembles, is the spoken linguistic inaccuracies and complexities. In mini-lessons 1, 5 and 6 a number of linguistic inaccuracies concerning pronunciation, intonation and syntactic structures were found. In contrast, some complex syntactic structures were used in mini-lessons 2, 3, and 4. Nevertheless, the spoken inaccuracies and complexities were nearly all accompanied by clarifying written or non-verbal materials. Thus, the co-occurring reiteration of meaning through visual modes allowed the audience, with varying degrees of proficiency, to understand what the speaker was trying to convey despite the inaccuracies or complexities.

III.3. A sample multimodal interactive discourse analysis of a mini-lecture

Now that the mini-lessons have been examined, we will have a closer look at the verbal and visual transcription of mini-lesson 2 (see Table 5), the most interactive and multimodal of the six lessons explored (as indicated in Tables 2, 3 and 4). The aim of this lesson was to introduce Marketing and it was given by a lecturer of the Department of Business Administration, who had between a B2 and a C1 English proficiency level and had never used EMI in his 17 years of teaching experience. In this lesson, as in most of the others analyzed, the instructor began by greeting and then attempting to attract the students' attention. This was done by projecting images of controversial marketing campaigns and asking if they were familiar with them. Then, the participants were asked to work in pairs for 2 minutes to discuss and define marketing. The instructions were given verbally and also projected on the screen. While the pairs were working, the instructor went around monitoring the discussions. Once the time was up, each pair was encouraged to contribute their definitions, whose keywords were written on the board by the teacher. The given responses led to a series of interactions, or instances of negotiation of meaning, that allowed several students to bring their experience and perspective to the class. The remaining part of the mini-lesson was dedicated to the interpretation of a published definition on marketing. The definition was projected on the screen and visually supported by gradually highlighting key points in red, which were illustrated through images of marketing campaigns and a final mind map.

The three columns of Table 5 illustrate how this lecturer combined verbal and visual modes to carry out pedagogical interpersonal functions in the first 13 minutes of this 17 minute long mini-lesson. The first column indicates the interpersonal pedagogical function carried out during each of the timed frames. The second column contains a snapshot taken during the performance of the pedagogical function that allows us to observe the lecturer's constantly changing body language and use of slides and blackboard. The third one permits us to read the spoken discourse and to take note of the labeled questions and negotiation of meaning highlighted in boldface. A combined view of columns 2 and 3, that is of the visual and the verbal, for each of the frames (rows), where students are given opportunities to participate (see frames 1, 3, 4, 5, 7 and 9), reaffirms the multimodal and interactive characteristics of classroom interpersonal communication.

On the one hand, if we explore this mini-lecture from a visual multimodal perspective by having a close look at the lecturer's use of body language, non-verbal materials and written content, it becomes apparent that this instructor uses many more semiotic resources besides the spoken in his performance. Each of the interpersonal pedagogical functions is realized through the orchestration of facial gestures, arm-hand movements, changing body positions, writing on board and specific slides that contain concise written texts or illustrative images together with the verbal discourse. On the other hand, if we examine it from the verbal discourse perspective, we note that the mini-lecture starts with interactive discourse during the first 13 minutes and ends with expository discourse in the remaining 4 minutes. The interactive discourse consists of a number of questions, or elicitation markers, that entail a broad range of interpersonal pedagogical functions such as:

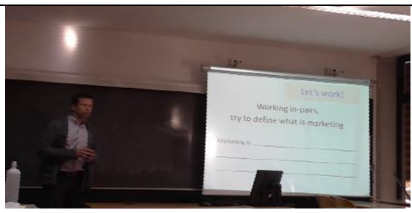
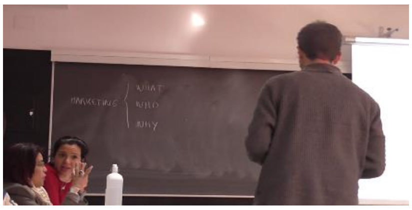
- greeting (i.e. *How are you doing today?*),
- announcing objectives (i.e. *What is exactly marketing?*),
- attracting attention (e.g. *Have you ever seen this picture before?*)

- setting up activity (e.g. *Working in pairs . . . two minutes maximum, what is marketing for you*?
- eliciting information (*When you don't know the meaning of a word, what do you do?*).

All the questions in this mini-lesson (10 referential and 10 display questions) were answered by the students. Consequently, we can claim that this instructor has been successful in engaging the students in co-creating the discourse of this multimodal interactive mini-lecture.

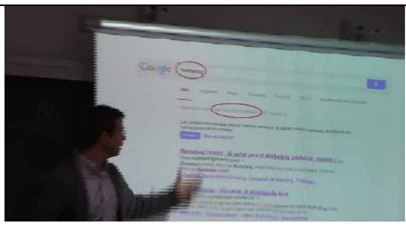
Table 5. Verbal and visual transcription of Mini-lesson 2.

Interpersonal Pedagogical Functions (Time Sequence)	**Visual representation (body language, writing on slides and board, and images)**	**Verbal representation (spoken interactive and expository discourse) question types: d=display, r=referential, rh=rhetorical negotiation of meaning: conf=confirmation check, comp=comprehension check, clar=clarification request**
1. Greets & announces topic 0-0.35"		T- Well, good morning everybody. **How are you doing today?(R)** SS- *Fine, thank you.* T- Well, today, this morning we are going to talk about **what is marketing?(D)**
2. Projects (on slide), announces & reformulates objective Announces show of images		First, the main goal of this subject, of this mini lesson is to understand **what is exactly marketing, what does marketing means? (D)** And the second objective of this mini lesson is that you are able to answer the question to: **which is the scope or what is the scope of marketing? (D)** First of all, I would like you to see some

0.35-1.06”		images that perhaps you have seen before and think about about them.
3. Motivates by showing 3 controversial images of marketing campaigns and asks students if they are familiar with them 1.06-2.02	  	**Have you ever seen this picture before?(R)** SS- *No*. T- Is a marketing campaign from *Benetton*. **You know this brand?(R)** SS- *Yes*. T- Very controversial. **Have you ever seen this picture before?(R)** SS- *Yes. No*. T- Is also a brand. It’s a clothes' brand, textile brand. And the last one, another marketing campaign from *Dolce & Gabbana*. **Have you seen this picture before?(R)** SS- *Yes. No*. T- Some common marketing campaigns that arrived to the mass media because they are very controversial and many people breaks their beliefs when they see this images
4a. Gives assignment on slide. Asks to work in pairs 4b. Writes outline on board 4c. Circulates among pairs	 	Well, after that, I would like you to work in pairs and from your previous experience I would like you to, working in pairs, to try to define, one minute, one minute and a half, two minutes maximum, **what is marketing for you? (R) What do you think marketing is from your previous experience? (R)** **SS- *Inaud SS*** (Working in pairs)

2.02-5.00		
5a. Elicits information from students through questions		T- You have a limited time, so I would like to continue, please. Well, what is marketing for you? **What do you think marketing is? (R)Which is the main activity marketing does?(D)** **S1**- *The main objective is to sell.* T- To sell. Yes. Everybody and I was sure that most of you, in your definitions is to sell, money, profits, **inaud T** And I was sure that most of you, in your definitions have a word... like this. **S2**- *We defined like the process that you can sell your best image of your company or our professional project, in global.*
Negotiates meaning 5b.fills-in outline on board according to students' responses 5c. Evaluates student's response 5d. Praises student's comments		T- **In global, but to sell your image? (Clar)** **S2**- *To sell everything that you have. Your structure, your quality, for your global service, everything that you have. No, No... at the end no is for... the activity is not to sell something by money. Maybe, I don't know...* T- That's a very accurate definition of marketing, **but who does this activity?(D) Who applies marketing?(D)** **S3**- *But, I'm… I not agree with this definition. Why? And the section what? Sometimes when the government want change something or sell, not sell exactly, "sell" a project, they use*

5e. Reformulates to elicit classifying term 5f. Shows activity slide with keywords filled-in 5.00-7.49	  	*marketing.* T- Yes. **S3-** *For example, Hacienda somos todos, I think is marketing 100%.* **(laughter)** **T- Have you studied marketing before? (R) Or you have read something about marketing before? (R)** **S3-** *No, nothing.* **T-** No? *Hacienda somos todos* and the campaigns we saw before, **which is, which is the technique employed here? (D)** **S4-** *Visual? Visual impact.* **T- Visual impact, but the technique, how do we call... which is the name of this...? (D)** **S5-** *Pictures?* **T- Pictures? (Conf)** No, yes they are pictures but... **S6-** *Advertisement.* T- Advertisement. Promotion. Publicity. Promotion. Most people relate advertisement, publicity, promotion, commercial adds as an activity, as a marketing activity, no? **And who does this activity? (D) Who applies marketing? (D)** **S7-** *Companies.* T- Companies, firms. **S1-** *Institutions, public institutions, States, governments. Sometimes, individuals.* T- Individuals, you can also apply marketing. Most of people when try to think about marketing and try to define marketing, employ this words in their

		definitions: promotion, advertisement, firms, also companies, institutions, and most people think or believe that the main objective of marketing is to improve the sales, the revenue of firms to earn money. This is a very applied definition of marketing, but this is marketing as was understood in the sixties. And today, as I have realized, you have a good idea of what marketing is. The scope of marketing is larger, and this is very narrow definition of what marketing is. At the present, nowadays, marketing has two main problems. First, is that marketing has become a very popular term, and this is a problem.
6. Shows Google search of marketing 7.49-8.55		Most people when try to know what is marketing, go to the Google search engine, and write the term marketing, and marketing gives us on this search engine up to five hundred millions of web pages talking about marketing. And most of them make a bad connotation of marketing and don't employ the term marketing in a proper way.
7. Uses humor to demonstrate popularity & elicit what is done to find definitions		The second problem with marketing is that has become very popular, especially due to the digital environment, and most people when applies or try to know what marketing is, begin as Homer Simpson does, **(laughter)** with the most advanced techniques, and forget the basics, and forget the basics. They want to know the most updated techniques, and forget the basics of marketing. **When you don't know the meaning of a word, what do**

8.55-9.32		**you do? (D)** **S5**- *To go to the dictionary.*
8. Shows and reads definition of marketing 9.32-10.22		T- You go to the dictionary and this is what I did, go to the dictionary and read the definition of marketing. I did not go to any dictionary, but the dictionary of the American Marketing Academy. **(laughter)** This is a best dictionary in marketing field. And this is the definition that the American Marketing Association, which is also a definition adopted by the European Marketing Academy. This is how this association defines what marketing is. In this definition as we can read, marketing is a process, is a process, as you stated, very well, of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual needs, organizational objectives and society at large. This is the mostup-today definition of marketing.
9a. Highlights the keypoints in definition 9b. Elicits example of commercial and non-commercial exchange 9c. Relates present teaching activity with 'exchange' 10.22-11.25	 	From this definition, I would like to highlight three points. First, **which is the goal of marketing and who does marketing? (D)** If we carefully read this definition, the goal of marketing is to create exchange. If we think in exchange, we can have, of course, commercial exchange. **An example of commercial exchange?(R)** **S8**- *When you go to a shop.* ***inaud ST*** T- When you go to a shop and buy a mobile phone. But we can also have non-commercial exchange. **Any example of non-commercial**

		exchange? (R) You said it before. **S1**- *When you try to change the way of thinking of some person or….* T- For example, now. Teaching, the teacher and the students. There is an exchange, and I am trying to transmit my knowledge, I am trying that you learn, and you are here making an effort to hear me. So, wherever there is a exchange, marketing can be applied. Wherever there is a exchange, marketing can be applied. In this definition, we don't have the word firm, we don't have the word company, we don't have the word enterprise. We have the word exchange, and wherever there is exchange, commercial or non-commercial, we can apply the word marketing.
10. Illustrates political marketing 11.25-12.45		As Pablo said very well before, politicians can apply marketing. Most people agree that when Barack Obama won or became president of the United States of America, it employed or he employed marketing techniques very well. It is a branch of marketing which is called political marketing. There is a exchange, he is a politician, people who vote him, and they want to make an exchange. I am **inaud** T your vote, and I tell you what I say if you vote me. There is an exchange of marketing can be applied.
11. Highlights the goal of marketing		**Which is the second idea I would like to highlight from this definition? (RH) Why people or why organizations can apply and which is the goal of marketing. (Rh)** The goal of marketing

12.45-13.20		is to satisfy individual needs, organizational objectives, and society at large. Nowadays, because of the media, most people have a bad connotation of marketing, because the most controversial marketing campaigns arrive to the media, and this is what most people can see on TV related to marketing. But marketing should also take care about society, and most firms that apply marketing strategies take into account this concern.
12. Illustrates cause-related marketing 13.20-14.12		For example, we have here a marketing campaign which is a cause-related marketing campaign. In this case, one firm, *Kentucky Fried Chicken* concerns about breast cancer, and every time they make an exchange with the consumer, every time we buy a chicken bucket, they give an amount of money to research against this breast cancer. Because marketing also concerns about the society and that. Of course, they want to earn money, but they can't forget that the consumers could ever have a problem like this, and they concern about the individual needs with which they relate.
13. Highlights what marketing does 14.12-15.05		And the last point I would like to highlight from my definition, well, not my definition, from the American Marketing Academy Association definition is what marketing does. Marketing has a lot of techniques, a lot of variables, and most people think that only promotion is a variable that marketing can be applied, and, we can see, sorry, in this definition there are

		four marketing variables which are employed to define the marketing strategy of a firm, of an organization, which are: the conception of the product, the idea, good or service; the price; the promotion; and distribution.
14. Explains and illustrates 4 main points involved in marketing 15.05-16.43		When we think in a marketing strategy, when we think about marketing, we should think in the four variables all together. Maybe, the most non variable is promotion, but before to promote you need the product. You have to put the product available to the consumer, and then you have to price the product. Because in the exchange, you give the product and obtain the price. And also you have to consider this variable when you define your marketing strategy. To think that marketing is promotion, is a very narrow definition of marketing. Of course, promotion is a variable of marketing, but is not the only, and is not the most important variable.
15a. Reviews definition 15b. Ends with final message 16.43-17.08		And this is what marketing is. I hope that after this class, you have a better knowledge of what marketing is, and I hope that the next time you think about marketing you forget the bad connotations that usually marketing has for most of the consumers. And thank you very much.

III.4. A comparison of the more and less effective lessons

Besides exploring the common interactive and multimodal aspects of the 6 highly rated mini-lessons, 6 other recordings that had not been selected as effective were also reviewed to determine if they had similar characteristics. It was found that in most cases these lecturers used a limited number of questions and that little or no negotiation of meaning occurred. Concerning their use and combination of modes, they shared some similar aspects, especially in terms of the written and non-verbal materials, with the ones that had been voted for as being effective. The written mode on their slides also made use of key words and simple syntactic structures. Similarly, their non-verbal materials consisted of illustrative images, tables and diagrams, though they were used to a lesser extent. Unlike the highly rated lessons, these less effective ones foregrounded speech throughout a greater part of the session and had much lower percentages of time in which 3 or 4 modes were combined to represent and communicate meaning. In summary, the less effective ones were not as interactive or as multimodal as the more effective ones.

IV. CONCLUSION AND IMPLICATIONS

The main objective of this study was to explore the characteristics of lessons considered to be effective according to trained EMI instructors. This was achieved by carrying out a verbal and multimodal analysis of 6 highly rated mini-lectures, then having a closer look at one of them, and finally comparing the more effective with the lesser ones. What follows is a summary of the findings and their pedagogical implications.

The verbal interactive discourse analysis revealed that the more highly evaluated lessons had a greater use of audience than of content-oriented questions. In addition, there were more referential than display questions, both of which were in many cases followed by instances of negotiation of meaning (i.e. comprehension and confirmation checks) initiated by teachers and students. These lessons had more questions per 1000 words and higher percentages of interactive discourse in comparison to those in other corpora (e.g. Chang, 2012). It was also found that these lessons had lower rates of words per minute than other less interactive lectures. Thus, in terms of training EMI instructors in the use of verbal interactive discourse, the study points to the need to a) teach the differences among types of questions, b) practice formulating referential type questions, and c) encourage and give students time to negotiate meaning.

The multimodal discourse analysis of the chosen lessons showed that the EMI instructors' spoken and written language was made up of stressed key words and simple syntactic structures. They each made use of diverse non-verbal materials that illustrated concepts. In all cases, the speech, writing and NVMs were accompanied by eye contact and gestures. In fact, the 6 mini-lessons were highly multimodal because they made use of four modes (i.e. speech, writing, NVMs and body language) throughout most of the lessons, unlike 6 other mini-lessons that had not been selected and that foregrounded speech and accompanying body language most of the time. The findings of the multimodal analysis highlight the importance of raising awareness among EMI instructors of modal and multimodal affordances. In other words, EMI trainers should dedicate time with their trainees to make clear how modes or semiotic resources can be used and combined to facilitate students' comprehension.

The combined verbal interactive and multimodal discourse analysis of mini-lesson 2, represented in Table 5, gives further support to the benefits of instructors' conscious use of interactive and multimodal discourse. In this exemplary lesson, the instructor's use of audience-oriented questions and combinations of varied semiotic resources allowed him to carry out interpersonal pedagogical functions that engaged the audience. Detailed analysis, as this one, of other successful EMI lessons in diverse fields should not only be object of study for ESP specialists, but also a resource for their teacher training

In general terms, a number of implications emerge with regard to training lecturers who switch from teaching in their L1 to English. First, in line with Morell (2004) and (2007), audience-oriented questions, especially referential questions, will enhance interaction that will not only promote students' engagement, but also allow for negotiation of meaning. Second, in line with Morell (2015) and Norte Fernández Pacheco (2018), co-occurring reiteration of meaning through visual modes allows the audience, with varying degrees of proficiency, to understand what the speaker is trying to convey despite linguistic inaccuracies or complexities. Finally, it is important to point out, in line with Klaassen (2001), Hellekjaer, (2010) and Bjorkman, (2011), that effective lecturing skills are not directly proportional with high linguistic proficiency.

As far as research to improve EMI classroom instruction is concerned, there is much to be done to begin to determine 'best practices' and to ensure quality in EMI teaching contexts of diverse disciplines. Here I have only explored the discourse of 6 well-rated mini-lectures, albeit of distinct fields, and I have found that they all have a high degree of interactivity and multimodality. Through this study as in others cited, it seems quite clear that effective EMI instruction involves students in the language and the content. And, in terms of the verbal mode we know that this is done through a deployment of engaging questions and negotiation of meaning. However, in terms of the visual modes and their combinations, it is not so clear. In line with Ainsworth (2006), it is not enough to consider each representation (mode) in isolation, we need to explore how representations interact to form "chemical representations". In other words, research needs to look into how EMI instructors of specific disciplines use multimodal ensembles to effectively represent and communicate the particular inherent meanings of their fields. Consequently, to start to corroborate best practices in each of the many fields that have adapted EMI, LSP specialists need to analyze characteristic multimodal ensembles found in larger lecture corpora.

In this study, I have provided an example of how LSP specialists can use their expertise to train teachers and to do research in EMI. However, and more importantly, this study provides further evidence of the many new teaching and research avenues open to the specialists of languages for specific purposes as a consequence of the ever-increasing university EMI scenarios.

Notes

[i] In this paper the term 'interactive mini-lecture' is used interchangeably with 'mini-lesson' and it refers to a short university classroom session that incorporates student overt participation by means of engaging activities such as group brainstorming, pair work or debates.

[ii] http://tla.mpi.nl/tools/tla-tools/elan

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English, Spanish *o los dos*? Teaching professional writing on the U.S.-Mexico border

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ABSTRACT

In "Spanish for the Professions and Specific Purposes: Curricular Mainstay," Doyle discusses how SPSP is poised to become an "adaptable signature feature of future Spanish curricula" (2018: 96). For SPSP to become a mainstay, Doyle argues that it requires "greater needs-grounded imagination (…) whose potential SPSP portfolios will vary according to educational missions and contexts" and proposes certificate programs as responsive and adaptable programs to fit diverse curricular contexts (2018: 96-97). In this paper, the authors discuss the development of a cross-disciplinary certificate program in Bilingual Professional Writing (Spanish/English) at a public university on the U.S./Mexico border to meet the needs of our unique student body and to better prepare students as globally-minded writing professionals. This model values students' home languages and echoes Collier and Thomas' (2004) assertion that a bilingual and dual language approach can be astoundingly effective at the university level.

Keywords: *Professional Writing Programs, Bilingual Writing in Higher Education, Language for Specific Purposes*

I. INTRODUCTION

"English, Spanish *o los dos*?" To faculty in the Rhetoric and Writing Studies program at the University of Texas at El Paso (UT-El Paso), the answer was unquestionably *los dos* when we began to redesign the curriculum for a professional writing certificate for undergraduate and graduate students. At the core of the certificate design is a curriculum that emphasizes written communication and strives to incorporate both Spanish and English equally in the required courses. The redesigned curriculum was launched in fall of 2018 as the Bilingual and Professional Writing Certificate (BPWC) program. The BPWC is the first and perhaps only program of its kind in the U.S. to focus specifically on writing in Spanish and English for professional contexts. In the BPWC, two languages are then used for the specific purpose of communicating professionally. This UT-El Paso program attends to both local and global needs. At the local level, it honors our students' language assets and maximizes our university's unique location on the U.S.-Mexico border. At the global level, it prepares students for today's workforce, which is quickly becoming more multilingual and globalized, and provides them the opportunity to become effective, ethical and dynamic bilingual professionals. Our goal in this paper is to explain the significance of the program, the curricular design choices made by the founding instructors and its unique position at the crossroads of both Language for Specific Purposes and Rhetoric and Writing Studies.

Before entering into the particulars of the program, it is important to note why we situate the BPWC within the broader approaches of Language for Specific Purposes (LSP)[i] and Rhetoric and Writing Studies[ii] as we draw upon scholarship from LSP and our discipline, Rhetoric and Writing Studies (RWS). LSP curricula are interdisciplinary by nature, and draw upon the research and methods of the disciplines they serve. More often than not, LSP is part of a foreign language curriculum or departments; in our case, the BPWC is a joint effort with the Translation program in the Department of Languages and Linguistics but forms an administrative unit of the Rhetoric and Writing Studies Program within the Department of English at UT-El Paso. On a basic level, the primary goal of LSP is to prepare students for the practical application of a target language in professional environments (Lafford 2012), while the primary goal of RWS is to prepare students for the rigors of writing in professional and academic contexts. The key tenets of our disciplinary approach to teaching writing is that writing is a rhetorical, situational and social act, and values students' own language or language varieties. Thus the BPWC program allows students to embrace their English-Spanish bilingualism, value their home languages and enrich their education while improving their workplace discourse.

The present article focuses on both curriculum design and implementation of the BPWC and examines the topic in relation to a particular geographical context. The article is organized by first discussing the background of the university and its student body, the requirements for the certificate, and then the process of creating the courses and materials with particular emphasis on three trends in LSP and RWS pedagogies: technology, ethics, and service-learning. In tandem with the discussion, we argue that the BPWC is an LSP-writing program and advocate for the advantages of using a rhetorical approach in LSP instruction.

II. GEOGRAPHIC AND DEMOGRAPHIC BACKGROUND

The University of Texas at El Paso is a public, doctoral-granting institution located in one of the world's largest bi-national and bilingual metropolitan areas which includes 840,000 residents of the far-west Texas city, El Paso, and 1.39 million residents of Ciudad Juárez, México. Founded in 1914, the university began with an enrollment of 27 students and one degree program. Today, UT-El Paso offers 170 bachelor's, master's and doctoral degree programs in 10 colleges and schools to its more than 25,000 students. As a commuter campus, the student body reflects the demographics of the bi-national region where it is located; 82% of UT-El Paso students self-identify as Hispanic and 78% of them further identify as being of Mexican heritage (U.S. Census Bureau 2018). Additionally, two-thirds of El Paso households identify as Spanish speakers (U.S. Census Bureau 2018). These statistics do not include the approximately 1,000 Mexican nationals who also attend the university each semester—thus making UT-El Paso a Mexican-American majority student population that is highly bilingual and multicultural.

Apart from our student demographics, the geographic, cultural and economic ties between El Paso and Ciudad Juárez provide prolific options for bilingual employment. Geographically, the two cities share an international border and three ports of entry where millions of passenger vehicles and pedestrians cross annually[iii], yet the relationship between the cities transcends this divide. The concept that is used often to describe the link between El Paso and Ciudad Juarez is *symbiosis* (Chamberlain 2007), and the interaction between the cities is, according to El Paso city leaders, "a unique and unbreakable historical, familial and economic connection that has resulted in a rich culture and vibrant economy...bolstered by $51.1 billion in trade" that "account[s] for 18% of all trade between the two countries" (El Paso City Resolution 2010: 3). Furthermore, every year "Juarenses spend $1.2 Billion in the El Paso economy and over 60,000 jobs in El Paso are dependent upon economic activity in Juarez" (El Paso City Resolution 2010: 3)[iv].

This brief snapshot of the relationship between the sister cities and the larger regional economy demonstrates the extraordinary business and job opportunities available for bilingual professionals on the border, and explains the impetus for the development of a

Bilingual Professional Writing Certificate Program at UT-El Paso. Our unique situatedness and student body made it an obvious choice to implement a bilingual writing certificate.

III. THE BILINGUAL PROFESSIONAL WRITING CERTIFICATE

Housed in the Rhetoric and Writing Studies (RWS) Program within the English Department, the certificate program aims to prepare students:

1) to analyze the workplace situations that demand written responses in English, Spanish or both

2) to ethically consider the audience and purpose when composing

The certificate was also designed to enhance the students' specific discipline rather than focusing on writing within a discipline. In other words, the certificate can complement any degree plan or be earned as a stand-alone certificate, and students have flexibility in choosing the courses required for the certificate from a limited menu of options, which will be discussed in a later section.

Although an administrative unit in the English department, the BPWC is a cross-disciplinary endeavor with the Translation Program in the Department of Languages and Linguistics. However, it's important to highlight the atypical nature of the program's placement in the Department of English and define it within the LSP framework. To do this, we draw upon national survey results on the state of LSP reported in 1990 and 2012 to demonstrate that this program is, based on the survey data, the only LSP that we know of that comes out of an English Department and is the first of its kind to focus on the study of writing. In 1990, Grosse and Voght published the results from a mail-in survey[v] on the state of LSP in U.S. higher education which included information on the types of institutions that offer LSP; the number and types of LSP courses and degree tracks; the LSP partnerships among administrative units; the perceptions of administrators regarding LSP offerings and expected growth of the field, among others. Two decades later, in light of advances and challenges to LSP, Long and Uscinski sought to understand how much the field had progressed since 1990 and "deemed it fit to conduct a new survey modeled on Grosse and Voght's work" (2012:

174). The new survey incorporates and expands upon the questions used in Grosse and Voght (1990). In "Evolution of Languages for Specific Purposes Programs in the United States: 1990-2011," Long and Uscinski present the results of their 2011 survey and compare and contrast them to the 1990 survey. Much like Grosse and Voght, Long and Uscinski sent invitations to participate in the survey to department administrators of foreign languages. Of the 1,435 survey invites, only 13%, or 183 departments responded (2012: 174). The researchers used the online platform, Survey Monkey, to administer the 53-question survey, "27 of which came from the survey conducted by Grosse and Voght (1990)" (Long and Uscinski 2012: 175). The survey results reported are extensive, but we would like to focus on three areas that are pertinent to the current discussion: LSP partnerships, LSP courses taught by non-foreign language faculty, and LSP programs offering a degree track, minor or certificate. Respondents were asked whether they partner with other academic units to provide LSP courses and to identify who they partner with across campus. Twenty-four percent of foreign language departments answered "yes" and indicated that partners included professional schools of business, nursing, public programs and education (Long and Uscinski 2012: 182) –that is disciplines with specialized language and vocabulary. The researchers also asked about the teaching of foreign languages by other (non-foreign-language) departments at their institution. Ten percent of the respondents answered that other departments or units on campus taught their courses (Long and Uscinski 2012: 182). Of all of the responses for departments or units that were involved in foreign language teaching, the Department of English was not listed[vi], nor was it listed in the original Grosse and Voght study in 1990 (Long and Uscinski 2012:182). Given the data collected and the participants in both studies, UT-El Paso's BPWC, then, may be the *first non-English LSP that emerges from a Department of English.*

Moreover, to assess the strength of LSP offerings at U.S. institutions of higher education, Long and Uscinki added a question not included in the original survey by Grosse and Voght (1990) regarding whether the LSP was part of a formal program such as a degree track, certificate or minor (2012: 181). At least 27% of the 183 departments responded that they offer at least one of the above (degree track, minor or certificate); the most common was a minor in Spanish for Business, followed by other degree offerings in Spanish for Translation (Long and Uscinski 2012: 181). Long and Uscinski, however, provide a quick overview of the data on LSP programs and do not offer specific information on certificate programs. We believe that it is of great significance that certificate programs are not explained, and there is no mention of a bilingual certificate program. Nevertheless, since the publication of the survey results (2012), there has been a call from scholars to deepen and expand LSP offerings, and specifically in the area of certificate programs. Doyle (2018: 98) promotes certificate programs and their flexible nature and sees certificates becoming an "adaptable signature feature of future Spanish Curriculum". Although the BPWC is not strictly part of a foreign language curriculum or department, we agree with Doyle that the certificate program is adaptable and relevant to diverse disciplines and degree plans.

At this juncture, we would like to further define the BPWC within the LSP framework. We have discussed earlier that, because of the nature of the program, we have drawn upon literature in LSP to include English for Specific Purposes (ESP) and Spanish for the Professions and Specific Purposes (SPSP), yet our program does not fit into the traditional labels as it shares some commonalities with ESP and SPSP but its primary emphasis is written discourse in both languages. To determine how to situate the program within an LSP framework, we turn to Doyle (2013). In "Continuing Theoretical Cartography in the LSP Era," Doyle predicts that non-English LSP will undergo "its fuller maturation process within American Higher Education" (2013: 3) and:

> the maturation will surely continue as all language use can be defined as LSP, one way or another, either narrowly…or more broadly and less traditionally (e.g. LSP-Literature, i.e., the specific use of language for literary studies and criticism, or even the supposedly more general LSP of being able to engage in tourism…) (2013: 4).

Doyle's emphasis on the future maturation of non-English LSP allows for "all language use" to be defined as an LSP and includes "broader" and "less traditional" programs that focus on the specific use of language for diverse study areas. As such, we apply this broader definition to the bilingual certificate program and identify it as an *LSP-writing program.*

Finally, we should point out that there are different types of LSP programs. In "Languages for Specific Purposes Business Curriculum Creation and Implementation in the United States," Fryer (2012: 132) notes that some LSP programs focus on acquisition and proficiency of the target language while others, "special collaborative programs," such as the MEXUS[vii] program at San Diego State U., "requires a high degree of language proficiency in English and Spanish, the target language". The BPWC program falls into the latter category, where students must take an entrance exam to demonstrate a high degree of language proficiency in both languages. UT-El Paso's program seems to be unique in its faculty's expertise and orientation. While LSP programs aim to teach subject matter in the target language, the BPWC faculty are specifically trained to teach in two languages and to teach communication, both written and oral communication, with a partnership between RWS and Translation faculty.

Thus, the certificate program's unique blend of RWS and Translation faculty and courses provides opportunities: learning opportunities for its students and research and pedagogical opportunities for its faculty not previously explored in the teaching of languages for specific purposes. Undoubtedly, the fact that the certificate program at UT-El Paso falls under the auspices of the Rhetoric and Writing Studies program within the Department of English has allowed for the flexibility to create curricula that are not bound by an English-only language policy. Further, the cross-disciplinary collaboration among the faculty also allows for cross-pollination of teaching practices from one discipline to the other. We argue that this cross-disciplinary approach provides fertile ground for exploring themes from multiple perspectives. In the following sections, we present the course requirements for the certificate and discuss themes and practices that emerged from our collaboration to support our position.

III.1. Certificate Requirements

As indicated in the UT-El Paso academic catalog (2019), the BPWC program "is intended to prepare students to communicate in print and digital environments ethically and responsibly in both English and Spanish". UT-El Paso's program curriculum also emphasizes "the practice of rhetoric, technology, and language as they apply to bilingualism and translation in professional settings." The certificate is open to students enrolled at the undergraduate *and* graduate levels to enhance their degree plan or as a stand-alone certificate. The certificate comprises 12 credit hours and 4 courses: 2 courses in Translation and 2 in Rhetoric and Writing Studies. The courses include

Introduction to Translation, an elective in Rhetoric and Writing Studies (either Bilingual Workplace Writing or Bilingual Technical Writing), an elective in Translation (Legal, Business or Healthcare Translation), and a Rhetoric and Writing Studies Practicum course. Students can choose from these pre-approved electives and enroll in the courses that most align with their career goals. This allows for a versatile and adaptable certificate that is applicable to numerous degree plans. So far, the majority of students who have completed the certificate have been from the Translation Program, but interest in the certificate program is growing as more students recognize bilingualism as a personal and professional asset. The certificate program not only honors students' home/heritage language; it prepares them to write professionally in two languages regardless of their discipline. Students who leave the borderland can boast an asset that no other university develops: bilingual composition in a professional setting. Students who remain in the borderland region can demonstrate documented proficiency in written bilingualism in both languages. Either way, proficiency in professional writing in both languages, according to an European Union Report on Languages and Employability, translates into increased employability as "multilingualism is no longer a choice or an option; it has become a must for business growth" (European Commission Joint Research Centre 2015: 20).

III.2. Theoretical foundations

As mentioned previously, the certificate also emphasizes rhetoric, technology and ethics. All program instructors, regardless of departmental affiliation, have received targeted training in these three areas, including training in teaching bilingual writing as a requirement for their teaching in the program. The courses' theoretical foundation is rhetoric since the certificate is aimed at the teaching of effective writing in professional contexts - whether the resulting text is in English, Spanish or both, the focus is on the written word. Given its rhetorical orientation, the program looks to the National Council of Teachers of English's position statement on *Understanding and Teaching Writing, Guiding Principles* (2018) to guide the program's teaching and course objectives. As the position statement explains, "when it is effective, writing is rhetorical, i.e., it takes into account the values, ideologies, interests, needs, and commitments of the people, the audiences, for whom it is intended." It is necessary to point out that we rely heavily on using the rhetorical situation as a means to teach students how to create effective messages for diverse audiences and contexts. Scholars in RWS have used the term *rhetorical situation* since Bitzer defined it in 1968. Loosely, we follow Grant-Davie's characterization of the rhetorical situation "as a set of related factors whose interaction creates and controls discourse" (1997: 265). The NCTE Position Statement (2018) names the related factors of writers, purposes, audiences and contexts as key to informing the choices that writers make when composing. The related factors should guide writers' (NCTE 2018):

- content (the subject or focus of the writing);
- form (the shape of the writing, including its organization, structure, flow, and composition elements like words, symbols, images, etc.);
- style/register (the choice of discourse and syntax used for the writing, chosen from among the vast array of language systems [often called "dialects"] that are available for the writer), and
- mechanics (punctuation, citational style, etc.).

Particularly in the RWS courses within the BPWC, students are asked to carefully consider how their specific audience will use their text. That audience analysis leads them to identify appropriately worded content, form, register and language, to include dialect. Assignments are designed where students must consider the specific rhetorical situation of an assigned prompt in order to do well; for example, in the Workplace Writing course, students have a sensitive letter assignment that is scenario-based. Students are provided with the assignment and important details that they will use when analyzing the writing situation. For example, one scenario asks students to respond to the president of the local chamber of commerce. The president requests free or reduced prices for a company's services as a "favor" because of his/her position. The student responds as the owner of the company where the services are requested. It is not enough for the student to craft a letter in the correct format or in "good" English or Spanish, for the letter to be effective students must carefully analyze the scenario and the interaction of the factors when crafting their response because the response must consider their standing in relation to the president of the chamber of commerce to choose the right tone. They have to weigh carefully their word choice because the letter could have real consequences (i.e., blacklisting from the chamber of commerce or alternately other business owners could expect the same "deal"). In the Technical Writing course, students are asked to develop a set of instructions for a process or procedure of their choosing, and ideally in their field or future profession, and also prepare an accompanying memo that identifies the cultural elements that must be considered as the instructions are prepared for translation to be used in a specific Spanish-speaking country. To complete the assignment successfully, students must demonstrate that they understand not only how the language must be tailored to the instruction set users, but what language, register, and cultural aspects must be considered when composing the instructions.

This deliberate and explicit focus on rhetoric enhances what Ruggiero alludes to in her "Graduate Courses in Languages for Specific Purposes: Needs, Challenges and Models" (2014). Ruggiero's survey of graduate programs in the area of languages for specific purposes identified "few opportunities for graduate students to gain the necessary experience, training and expertise to either teach or pursue non-academic interests in this area" (2014: 56). She thus recommends transforming graduate foreign language programs from their current focus on training future academics by developing courses "that situate language within broader social, historical, geographic and cross-cultural perspectives" as advocated by the 2007 Modern Language Association assessment of the state of foreign languages (2014: 59). Her re-centered course "presents a multicultural approach to the teaching of Spanish for Specific Purposes (SSP)[viii] and civic engagement" (2014: 62). Although Ruggiero does not specifically address how she incorporates rhetorical studies or theory into her re-centered course, the 2nd section of her 5-part course focuses on "The Rhetorical View of Specialized Languages: Effective Communication in Intercultural Context" (2014: 64). Ruggiero's background and expertise is not rhetoric and writing rather a foreign language discipline, yet she has nonetheless woven rhetoric into her language teaching. Her rhetorical approach emphasizes the need to communicate effectively for broad audiences and provides students the opportunity to develop cultural and intercultural competence. For the BPWC, both its graduate and undergraduate students can expect to incorporate rhetorical theory in their coursework that expectation is explicit in all program courses. Our goal is to thus provide students with the opportunities Ruggiero found lacking in graduate language education.

We also believe in using Bitzer's (1992) formal exploration of *rhetorical situations* across the disciplines as a way to frame the intentional choices we made in curriculum design and instruction. Also echoed in the NCTE's position statement, Blitzer defined a rhetorical situation as one where "a complex of persons, events, objects, and relations presenting an actual or potential exigence which can be completely or partially removed if discourse, introduced into the situation, can so constrain human decision or action as to bring about significant modification of the exigence" (1992: 6). Our curriculum design and instruction both utilized this concept and included it as part of the curriculum. We understood that the certificate program involved: 1) people, that is, the University's administration, both faculty departments teaching in the program, students desiring to augment their skill set to become more marketable in a burgeoning interconnected and global society; 2) events, in the sense of an increasing awareness of multilingualism as an asset in the border region, the appropriate mix of capable instructors; and 3) relations, meaning the complex of the people and circumstances identified. These interrelated factors allowed us to address the need to teach writing in two languages: the exigence. Our curriculum is designed to help students recognize the exigence in situations that demand an appropriate response and then teach them to use appropriate rhetorical strategies to craft the appropriate response. Along with our understanding of the rhetorical situation in which we developed the program, we also recognized trends in higher education that would also inform our pedagogies and practices in the program. We discuss those in the following section.

IV. PEDAGOGIES AND PRACTICES

Many scholars assert that students who take LSP courses tend to approach the courses as applied learning environments—meaning that they "intend to use that knowledge on a frequent basis in their future work environments for the benefit of the enterprise for which they work and/or the clientele base with whom they will interact" (Lafford 2012: 21). With that in mind, we knew that we had to approach course design by carefully considering both student and future employer expectations. Three main trends emerged from faculty discussions and research that we believed had to be addressed in course content, delivery, or as part of the final program outcomes to address student and industry expectations: digital technologies, ethics for writers and service-learning.

IV.1. Digital technologies

In regards to digital technologies, we aimed to understand Generation Z, also known as iGeneration. Gen Z are students born between 1995-2012 (see Stillman and Stillman 2017). General observations that can be made about Gen Z students may be helpful in informing teaching practices; they are the first generation, from birth, to have access to technology and the Internet (Seemiller and Grace 2016), and they have been characterized as having short attention spans and expecting the use of up to date technology in their educational experiences. Scholars such as Hopkins et al. (2018) have suggested the use of social media and other web-based tools such as podcasts, YouTube and FaceBook instead of traditional methods of teaching. Arnó-Macià (2012: 95) asserts, too, that online learning: "seems to be especially appropriate for LSP given that it allows for the customization of learning to suit students' needs…" For this reason, the BPWC was designed as a 100% online program where instructors could customize the learning experience albeit within the university-selected learning management system.

Our courses are conducive to an online environment because they are writing intensive, and students have to use writing as the primary means to communicate they are writing more in this delivery format than any other because much of the student-teacher, and student-student interaction must be in the form of written discussion boards or emails. The RWS courses, as bilingual classes, are designed using a 50-50 model such that the content and assignments are divided equally between Spanish and English. This may take on diverse structures in the online environment, but the most common format is alternating weeks between Spanish and English. The determining factor in selecting the language for major assignments is the nature of the assignment and its fit into the overall course. In informal assignments, such as discussion board posts, students are also encouraged to use both languages. Often, students are told they need to compartmentalize the use of different languages; our courses afford students the opportunity to choose the language/s that they have commonly used to write. Further, while RWS courses require writing as the principal mode of completing an assignment, not all assignments follow traditional print format. Students may complete assignments that call for a twitter feed, a presentation deck, a podcast script or they may have to determine the most rhetorically effective mode to use for a specific scenario.

The overall instructional design is one of a flipped classroom[ix] that incorporates a variety of educational sources from YouTube videos, academic articles and other web content, and students engage in their learning through peer, teacher, team and external audience interactions. For example, for a module on writing an application letter (cover letter) and résumé for a current job or internship, in addition to readings in the textbooks, students learn about the different terms that are used to refer to a résumé in Spanish (C.V., *hoja de vida*, etc.), read an academic article on "Translating Politeness in Bilingual English-Spanish Business Correspondence" by Fuertes-Olivera and Nielson (2008), watch YouTube videos on tips for creating an effective CV and visit websites from diverse countries such as Chile, Mexico, and Spain. Students engage with the content in three discussion boards: a class, reading and team forum. Discussion board questions foster debate, problem-solving and reflection so students gain a critical understanding of the rhetorical choices they make in communicating effectively with multicultural audiences. According to King de Ramírez (2017: 68), "...this is especially important for HLs [Heritage Learners] who may assume that cultural practices learned at home are shared by all Hispanics in their community". Typical questions posed in the discussion forums are designed for students to consider the rhetorical situation to help them to understand and manage cultural differences, such as:

> What is the appropriate tone in professional writing contexts?
>
> Are there differences in how appropriate tone is defined in English and Spanish?
>
> What does *goodwill* mean? How do you create this in your writing?
>
> After the reading, explain what differences you found in the norms for writing résumés in Spanish and English? Did you identify any differences among the examples from Spanish-speaking countries?

By way of discussion boards and other collaboration tools, the courses foster engagement, and also teamwork. In the technical writing course, students complete their final project in teams and are expected to develop their own parameters and roles for group members to finalize their technical report. Online and distributed collaboration is intended to mirror today's globalized workforce environment and aligns with the attributes that employers value most: “problem-solving skills and an ability to work in a team” (National Association of Colleges and Employers 2018). We recognize students are navigating different time zones, and personal, work and school schedules, so they are encouraged to use both the university’s learning management system and other communication technologies that foster collaboration and coordination as they produce a multi-step and complex text. The goal is to foster adaptability and awareness of various technology that allows for collaboration and coordination—the same adaptability that employers will expect our graduates to demonstrate when they join a global workforce.

To reinforce concepts of external audiences, that is audiences other than the instructor, and foster intercultural sensitivities, we have laid the groundwork for collaboration between sections of technical writing at UT-El Paso and the University of Puerto Rico, Mayagüez campus. In a pilot study, students participated in peer reviewing a technical report and presentation and provided feedback on the process. The peer review is important because it allows students to appreciate the complexities of writing for a global audience while developing cultural sensitivity and intercultural competencies. Donovan and Quezada assert that the peer review brings to life the Conference on College Composition and Communication (CCCC) “Principles for Post-Secondary Teaching of Writing;” specifically our writing instruction “considers the needs of real audiences,” “recognizes writing as a social act [and] writing processes as iterative and complex,” and “depends upon frequent, timely, and context-specific feedback to students…” (2015). The cross-cultural peer review added another audience to both the UT-El Paso and UPR-Mayagüez students. They knew they were now writing not only for their respective instructors, but that other readers would be reviewing their work for overall understanding and clarity and that these new readers were culturally diverse. Their peers would also be looking for ideas to strengthen their own writing since both sets of students were enrolled in technical writing courses. Students were then asked to reflect on the process and comment on the strengths and weaknesses in the drafts they reviewed and consider how the review further informed their subsequent revision process. Although there were challenges to conducting peer review digitally, across time zones, and with unique student populations, we believe that this is a sustainable pedagogical practice and important to LSP curriculum development for the 21st century.

Recognizing Gen Z's desire to customize and have additional resources available to them at the push of a button, BPWC faculty have collaborated with UT-El Paso Library professionals and developed a Library Research Guide (or LibGuide) that includes carefully curated additional electronic resources for all courses. The LibGuide provides both students and faculty with bilingual and monolingual resources for writing in different contexts as well as glossaries, and style and grammar handbooks. The LibGuide and an embedded course/program librarian, who has been a critical resource to the certificate program since its inception, provide students an organized reservoir that can further enhance their sources while managing the materials instructors must require or provide in individual courses.

IV.2. Ethics for writers

An ongoing element of RWS curriculum has been writers' ethical considerations and the development of those considerations as students develop their assignments. Recognizing that having the certificate program designation on student transcripts would increase prospective employers' or graduate programs' expectations of our graduates, we understood that ethics had to be foregrounded for students and incorporated into the overall program structure. The desire to infuse more general skills, such as leadership, in foreign language study was also forwarded in 2011 in the 21st Century Skills Map by the American Council on the Teaching of Foreign Languages (ACTFL) and P21 (2011). Other scholars such as Uribe et al. (2014), Long et al. (2014) and Doyle (2017) propose developing leadership with integrity as a core value within the curriculum. The need for leadership skills is also seconded by the National Association of Colleges and Employers study (2018) that lists leadership as the fourth most desirable attribute that employers seek. We agree, then, with Derby et al. (2017: 85) that "leadership as an educational notion is rising in importance throughout academe that we should ...find creative ways to incorporate this key concept into FL [Foreign Language] curricula as often as possible".

For the BPWC curriculum, we focused on one key attribute of leadership: the principle of ethics. Following Uribe et al. (2014) and Doyle (2017), ethics was "infused" into the curriculum, starting first with the program outcome statements and then into each of the course outcomes in the syllabi. For example, the Bilingual Workplace Writing syllabus highlights in the outcomes statements that students will "consider the ethical dimensions of composing and working within and with organizations as well as the ethical dimensions of translation in professional settings." Ethics instruction is supported in BPWC courses through specific modules that ask students to consider the ethical implications of their writing. While translation brings with it a specific ethical consideration usually found in professional associations' codes of ethics (See American Translators Association Code of Ethics and Professional Practice 2019), students are not always aware of how ethics relates to their professional and technical communication. The RWS faculty carefully considered the inclusion of ethics discussions in their textbook and instructional material selection; they provide specific discussions of ethical implications for student writing at the outset of the courses, and also weave those ethical considerations into subsequent assignments. In Workplace Writing, an ethics section is included in every weekly lecture. Students are asked to explore the *Professional Ethics-Code of Conduct* on the Association for Business Communication website (2019). They also discuss recent ethics' scandals in the local, state or national government. In the Technical Writing course, students are introduced to the ethical considerations for technical writers as described in the Society for Technical Communication *Ethical Principles* (2018). Further discussion regarding specific scenarios through assignments helps students understand how their writing can result in or respond effectively to ethical dilemmas or ethical lapses. As we continue to refine the BPWC curriculum, we see ethics as a fundamental part of a curriculum that responds to the growing need to develop future leaders and professional, ethical writers.

IV.3. Service-Learning

In the Rhetoric and Writing Studies Practicum course, students are asked to work with a non-profit organization as bilingual, professional writers. The benefits that come from this experience are underscored by Deans (2000) who argues how service-learning is one means by which we can emphasize how writing is a social act. He relates service-learning to writing by showing us how service-learning exposes students to multiple discourses and asks them to write within these different nonacademic discourse communities. In addition, service-learning asks students to situate their work in wider non-academic communities, and it has students cross cultural and class boundaries by working with community organizations and their clients who often hold subject positions different from their own (Deans, 2000). In short, service-learning can be viewed as the fruition of some of the most important contemporary theoretical claims of rhetoric and writing studies.

Furthermore, in the practicum course, Deans' paradigm of "writing for the community" is used. By having students write in both English and Spanish for the community, the primary site for learning is the nonprofit organization rather than the classroom, and workplace discourse becomes the most highly valued discourse. Students work with the agency contact (their agency mentor) and the instructor becomes a facilitator of the process (Deans 2000: 17). Thus, students learn nonacademic writing practices and reflect on the differences between academic and workplace discourses, and students provide needed writing products for agencies, focusing on different audiences, purposes, and contexts. In addition, other benefits come from this service-learning experience. As King de Ramírez (2017: 56) states: "service learning allows students the opportunity to observe authentic language usage, network with individuals outside academia, and become familiar with sociocultural issues that affect their immediate community".

The writing practicum begins by students selecting a community writing partner (a non-profit organization who has partnered with the Department of English for this type of service-learning experience) and developing a practicum contract with the agency mentor. Students are informed ahead of time what the organization's literacy, writing, and communication needs are, and these needs include the production of texts in English, Spanish, and/or both (bilingual). Based on these needs and the student's academic background, skills, and interests, the student negotiates the projects to be completed with the agency mentor. The instructor must approve and sign off on this contract before the student begins working with the agency mentor. A major requirement is for students to produce texts in both languages, English and Spanish. Throughout the course, students provide progress reports to the course instructor where they outline the status of their projects and how close they are to completion of the tasks listed in their contract.

Consequently, students, by the end of the practicum, have produced texts, in print and/or digital, in English and Spanish, for their community. Deliverables can include websites, newsletters, grants, recommendation reports, brochures, PowerPoint presentations and other workplace and professional texts. At times, students will create these texts in English, Spanish, or both. At other times, students may translate existing texts from one language to the other. But for the texts created and/or translated, students revise, edit, and proofread these texts before submitting them to the non-profit organization. The deliverables are evaluated by both the course instructor and the agency mentor; this way, as Bacon (1997) advises, instructors call upon the expertise of the community writing partners (the agency mentors). Students then benefit from the input of two experts—the writing instructor and the agency mentor. This practice helps instructors too in that it can support the teacher's expectations of students in the classroom when the same expectations and standards are echoed by the agency mentor who represents the needs of real readers (1997: 39-55). In addition, students, through their writing practicum, are working now with professionals outside academia, and as Long (2017) asserts, "the most successful LSP programs include courses in a variety of approaches to several disciplines and put students into contact with experts in the field" (2017: 4).

Moreover, aside from being grounded in service-learning scholarship, the practicum course responds to Wu's lament that "a limited number of foreign language programs in the United States...provide their students with experiential learning opportunities that require them to functionally use their linguistic and intercultural skills in professional contexts" (2017: 567). As students work with their agency and faculty mentors, they practice writing, in English and Spanish, within a professional context and for an actual audience in the community.

V. CONCLUSION

We asked English, Spanish *o los dos*? The BPWC program most emphatically answers "*los dos*". Achieving *los dos,* however, in ways that meet current industry and student demands as well as meeting pedagogical and curricular trends presents both challenges and opportunities. As we developed the program, we considered UT-El Paso and the program's location, both geographically, interculturally and within the University structure. The program developed in response to the El Paso community's implicit and tacit need for bilingual communicators, but it also responds to the global and intercultural realities our students are expected to navigate once they graduate, certificate in hand. Making the program attractive to students and effective as an online certificate meant we had to design the program with current trends in mind and operationalize those trends in each of the courses. We believe in doing so, we will become part of future LSP transformation and can contribute to the *specific purpose* by introducing rhetorical theory used in monolingual and general purpose composition courses. As the program grows, we anticipate we can evaluate individual courses, assess pedagogical practices, enhance digital technologies used and track our students' successes while keeping our program's goal, to develop ethical, bilingual, culturally sensitive and dynamic communicators, firmly in mind.

Notes

[i] Language for Specific Purposes is an approach most often applied to the teaching of English for professional contexts (English for Specific Purposes) although there is increasing demand and growth in Spanish for Professional and Specific Purposes (SPSP) in the US. Given the bilingual nature of the BPWC, we include LSP scholarship from all three of these areas.

[ii] Rhetoric and Writing Studies (RWS) in the United States emerged from English Departments and literary studies in an effort to study, initially, the traditional Greco-Roman concepts of rhetoric and how students learn and instructors teach composition. Since about the mid-twentieth century, however, the discipline has grown to encompass multiple concepts of rhetoric and explores writing process(es) through various lenses. The discipline has continued to grow and is a separate field of study from its English Department roots. Degrees at undergraduate, graduate and doctoral levels are awarded by a number of programs. In many instances, RWS programs have become independent academic departments within their universities.

[iii] In 2011, the City of El Paso International Bridges Department reported that "more than 3.6 million passenger vehicles, 4.2 million pedestrians and 300,000 commercial vehicles crossed into Ciudad Juárez through the three bridges" (City of El Paso 2020).

[iv] See also El Paso Regional Economic Development Corporation. REDco (2005-2006 Labor Market Assessment by the Wadley Donovan Group).

[v] The mail-in survey consisted of a two-sided questionnaire and was mailed to chairs of departments of foreign and classical languages at 4-year institutions in the U.S. The total surveys sent out were 3,093; 26%, or 790, responded (Grosse and Voght 1990: 37).

[vi] In the 1990 survey, departments that taught foreign languages included Continuing Education, Theology, Religion, History, Asian Studies, Native American Studies, Schools of Law, Engineering, Social and Behavioral Sciences, Education, Foreign Service and Diplomacy. In 2011, Long and Uscinski added to this list: Anthropology, Biblical Studies, Business, Humanities, Linguistics, Philosophy, and Pan-African Studies (2012: 182).

[vii] Undergraduate transnational dual degree program in the U.S. and Mexico (Office of Postsecondary Education 2007).

[viii] Some scholars use Spanish for Specific Purposes (SPS); Others use Spanish for the Professions and Specific Purposes (SPSP). Depending on the context and the material we are citing, we use both terms and acronyms in this article.

[ix] Flipped classroom model or inverted classrooms occur when instructors assign class content to students to be completed outside of traditional class time. The content may include traditional readings or multi-media content such as videos from multiple sources. The goal is to allow for more active learning during class time. Class time is then dedicated to working through problems, discussing complex, complicated concepts and engaging in collaborative learning (Roehl et al. 2013). In the RWS class, these activities may include workshopping students' writing, discussing rhetorical concepts, peer review and student-teacher conferences or reviews.

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Maps of student genres in engineering: a didactic model for teaching academic and professional Spanish language

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ABSTRACT

Textual genres written by university students have become the focus of attention due to their importance within disciplinary learning (Parodi 2010). This paper has been developed in the field of study called student genres (Navarro 2018) and it uses the analysis of situated genre (Swales 2018, Pérez-Llantada 2015) as its methodological platform. This study has two main objectives: a) to create a map of student genres from a learner corpus of the engineering field and b) to propose a didactic model for teaching academic and professional Spanish language using this map. Hence, linguistic research and description are linked to students' pedagogical needs (Breeze and Sancho Guinda 2017ab) and take into account the actual practice in the communities as well as the writers in these disciplines (Curry and Hanauer 2014). Finally, implications for configuring specific didactics in LSP are discussed.

Keywords: *Discourse genres, writing in STEM, academic and professional Spanish language, genre pedagogy, genre maps, analysis of situated genre*

I. INTRODUCTION

I.1. Student genres in engineering field

This research addresses the field of academic writing in university education, specifically, the genres found in undergraduate academic training, through the description and analysis of a text corpus and of the thinking expressed by academics and students in the context of different stages and trajectories of disciplinary and professional learning. Textual genres written by university students have become the focus of attention due to their importance, and the recognition that they have a wide range of functions within disciplinary learning (Parodi 2010). This paper is concerned with the emergent field of study around "student genres" (Navarro 2018) and seeks to provide more information about teaching languages for specific purposes at the rhetoric-discursive level, reporting innovative practices in teaching Spanish for academic and professional purposes.

Another motivation is to obtain deeper understanding of the dynamics, complexity and nature of the relations between discursive communities and the genres involved. By probing this area, it will be possible to understand the interconnections and tensions between academia and the profession through the study of the communication patterns in the disciplinary knowledge in specific learning communities. Hence, the study of academic cultures and genres can contribute to our knowledge of the trajectories of learners or new students when learning engineering related genres, and facilitate interdisciplinary collaboration between teachers of Language for Specific Purposes (LSP) and the disciplinary communities in engineering and sciences.

In this context, this research seeks to answer the following question: *How can teachers and researchers in Languages for Specific Purposes take full advantage of contemporary trends in higher education (in this case engagement with professional communities) to develop innovative pedagogies and practices?* In this respect, mapping student genres (Navarro 2014) is proposed using the analysis of situated genres (Dressen-Hammouda 2014, Pérez-Llantada 2015) informed by Swales' notion of textography (1998, 2018). Swales developed this idea from his research from the university herbarium located on the second floor in the biology building: "something more than a disembodied textual or discoursal analysis, but something less than a full ethnographic account" (Swales 1998: 1).

In this way, the analysis of the corpus (identification and definition) is complemented with ethnographic information collected from interviews with teachers and students who are part of the community of practice, as well as curricular documents related to the plan of studies or learning community that is being studied. The purpose of this analysis is to propose a way for this map of student genres to be valuable to develop innovative methodologies as well as collaborative and interdisciplinary practices between teachers of Language for Specific Purpose (LSP) and teachers of the different disciplines of engineering. Viewed from this perspective, the present article is organized as follows: firstly, theoretical statements that support the research are presented. Secondly, the theoretical-methodological platform used is detailed. Thirdly, results are introduced and discussed in the light of the research question above proposed. Finally, a didactic model for teaching academic Spanish in the engineering area is designed and conclusions and pedagogical implications for LSP are provided.

I.2. Classification of student genres

Research carried out in the past decades has revealed that some discursive genres may show a significant intra and interdisciplinary variation (Bhatia 1993, 2004, Parodi 2007, 2008, 2015a, 2015b, Kanoksilapatham 2015, Venegas, Núñez, Zamora and Santana 2015), while other genres may remain very stable and are homogeneous across different scientific fields (Venegas 2006, 2007). In this respect, notions of genre sets and systems (Bazerman 1994), genre colonies (Bhatia 2004), genre families or macro-genres (Martin and Rose 2008) are highly productive. They specify the relations and overlap between genres, circulation field and comprehension and production from different disciplines: "any text is best understood within the context of other texts'' (Devitt 1991: 336).

The concept of set of genres was introduced in research conducted by Devitt (1991, 2004) on the work of tax accountants. She focuses on a limited group of genres, twelve in total, that interact with each other to develop the activities in the tax department where each genre "is aimed at carrying out particular work with specific audiences, such as clients or the tax system" (Andersen, Bazerman and Schneider 2015: 306). Thus, a set is conceived as a group of genres used by a person in his/her role within a community, for example, an undergraduate student. Bazerman (1994) broadened the notion from group to genre system, linking it to the concept of activity system proposed by Russell (1997). This idea is intended to emphasize that the relation between genres is part of a circulation system "where documents were produced in orderly sequences, responsive to each other" (Andersen et al. 2015: 306).

Since Text Linguistics was born, the interest in classifying and organizing text reality has been a recurrent concern for researchers, analysts, and language professionals. Classification of texts written by students during their academic training has become a main research task for a number of research studies recently (Parodi 2010, Gardner and Nesi 2013). In the specific field of Civil engineering, Callut (1990) identifies seven genres particular to this field, described as scientific-technical genres, as seen in Table 1.

Table 1. Discursive genres in engineering.

Scientific-technical genres in engineering
1) Technical brochure

2) Technical memoranda
3) Contact
4) Technical manual
5) Product specification
6) Report
7) Tender basis

Conrad (2017), in research on the *Civil Engineering Writing Project Corpus* based at Portland State University, identified at least ten discursive genres written by students and practitioners of civil engineering. Genres selected in this project applied to the teaching of the disciplinary writing are listed in Figure 1:

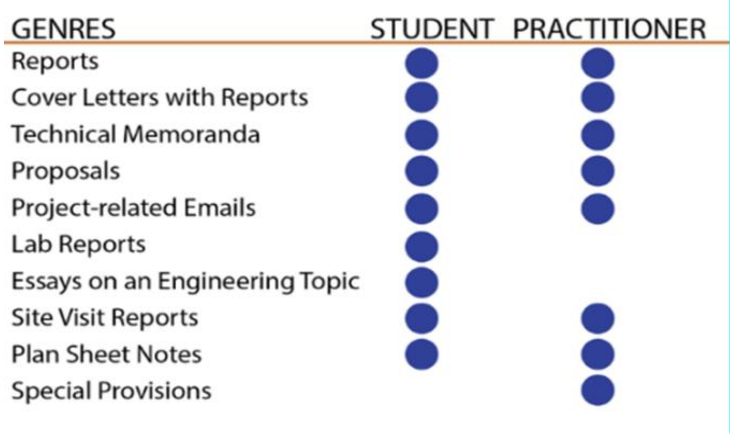

Figure 1. Identified genres in the *Civil Engineering Writing Project Corpus* (Conrad 2017)

As observed, some of the genres identified by Callut (1990) such as proposals, technical memoranda and reports are found in the map drawn by Conrad (2017). In addition, four report types are highlighted in the list: reports, cover letter with reports, lab reports and site visit reports. This demonstrates the importance of the 'Report' in the field of engineering.

Genre instances linked to the work and professional world of engineering are also underlined: tender basis, projects, e-mails, plan sheet notes and regulations. Finally, the 'essay about engineering topics' emerges as an exclusive academic genre that can have a wide circulation. It is written by engineering students only, showing the continuity of its high educational value in education in USA, even after high school years and freshman level in university (Harvey 2009).

All the reviewed research studies point to the importance of making reading and writing maps in university education. By doing this, it is possible to access the preferred discursive genres in different areas and the ones used for transmitting, producing and spreading specialized knowledge and tools for learning in the different fields. This research seeks to better understand the discursive genres of academic training in Spanish, specifically in a sub discipline of civil engineering. In this respect, the aim is to deepen the findings stated above in the links established with the practice of writing, organization of the curriculum, challenges and obstacles in the process of academic and disciplinary literacy. Consequently, these results will provide empirical data sustained in linguistic corpora to guide and provide feedback on teaching efforts in academic reading and writing in the institutions studied, and with projections to promote pedagogical devices in other contexts, either within Chile or in Latin America as a whole.

II. METHODOLOGY

II.1. Analysis of situated genre

Research is based on a qualitative multi-stage approach that considers a concurrent triangulation (Creswell & Creswell, 2018) of the methodological strategies that will be conducted in order to accomplish the objectives. These are: Stage 1: interview analysis, Stage 2: corpus analysis and Stage 3: data integration and didactic proposal. This study has a descriptive exploratory scope, a non-experimental and cross-sectional design (Pagano 2012), that is to say, *ex post facto* single-time design: research developed in a determined time frame (2016-2019). It will be a basic-applied approach (Perry 2010), focused on exploration and description. Qualitative techniques (Creswell, 2014) and methods of ethnographic nature are used to cover the complexity of the teaching-learning process in academic writing. The situational variables chosen are the discursive genre, as a relevant written communicative activity for acquiring and confirming knowledge, curriculum as a key academic and social organizer, and computer science civil engineering as a subdiscipline.

The qualitative element of this research will provide perspectives from the participants in the discourse community in detail (academics and students) in order to enrich the genre studies field. A qualitative phase helps to listen to the participants, that is, to incorporate an emic perspective (Creese 2010) or obtain insights from inside the communities. It provides valuable contextual information that allows for understanding the phenomenon studied in a comprehensive way, related to the practice in the university classroom in Computer Science Civil Engineering in three Chilean universities: *Pontificia Universidad Católica de Valparaíso, Universidad Técnica Federico Santa María and Universidad de Chile.*

This last factor helps us to give meaning to the wider production of academic genres in the practice of the writing and production of knowledge, as well as pedagogical interaction in the micro and in the macrocurricular level focusing on the singularity (Stake 2008) of the subject of study. This study, given the above, considers three approaches to genre studies, focusing on academics, students and texts, that is, the product. An informed ethnographic approach (Gardner 2008) is assumed, using some ethnographic research tools (Sheridan 2012). In the following Table 2, techniques and instruments for collecting information and participant selection criteria are specified:

Table 2. Tools and selection criteria for interviews and focus groups.

Data collection tool	Selection criteria	Number
1) In-depth interviews	Academics/faculty members of each study program where teaching is developed in the capstone cycle.	- 4 academics per studies program - 1 head teacher or director - 3 academics of the cycle Total participants: 14 academics
2) Focus group	Students in the capstone cycle (seven to twelve semester accordingly).	- 5 to 8 students per program study, from each university Total participants: 37 students.
Total participants in interviews and focus group		**51 participants**

Guideline questions for the in-depth semi-structured interview are shown in Table 3:

Table 3. Protocol with main questions and probes for interview and focus group.

In-depth and semi-structured interview questions	
Main question	*What do students write in the capstone cycle in Computer Science civil Engineering?*
Probes	*What texts are requested to be written?* *How are they called?* *What is the structure of these texts?* *Who are the recipients?* *What are the differences with other texts?* *What topics do they cover?* *What are the most difficult texts to write? Why?* *What are the difficulties of these texts?*

II.2. Learner corpus HÉLICE 2017

In order to describe student genres written by students of the capstone cycle of computer science civil engineering as part of the requirements of the specialization courses, a learner corpus was developed, called HÉLICE 2017. This multigenre corpus includes 467 texts from three study programs in civil engineering from the three afore-mentioned prestigious Chilean universities (Quacquarelli Symonds 2019), written from 2015 to 2019. It contains 1,413,437 words, exceeding the minimum of one million recommended for specialized corpora (Pearson 1998, Rea Rizzo 2010).

This description will contribute to understanding the formative role of these genres in the teaching-learning context in the classroom of computer science civil engineering. Thus, through an ascending-descending approach, as a starting frame the proposal of Parodi et al. (2008, 2010, 2015a) will be used. These genres were identified in a corpus of 467 texts from 2016 to 2019, and later characterized and defined under criteria such as communicative purpose, discursive organization, semiotic mode, circulation context, relation between participants and learning objective. For this an Identification of Discursive Genres Matrix (MIGD in Spanish) was developed using Parodi et al. (2008).

A non-probabilistic purposive sample (Pagano 2012) by convenience (Corbetta 2006, Pagano 2012) was obtained for the corpus. Given they are occluded genres (Swales 1996), and difficult to gather, a collection strategy was followed consisting of asking the students of the capstone cycle for the largest possible number of pass-grade written assignments (>=5.5)[i]. Therefore, the corpus was formed by the students' selection of their own work in these courses; effectively, this presents some characteristics of self-compiled corpora (Lee and Swales 2006). Additionally, a small portion of the assignments were collected in the academic office or requested by e-mail to each academic. In this sense, it is a learner corpus (university capstone students). The courses of this cycle in each study program is detailed in Appendix 1. A total of 103 students provided texts for the student text corpus, and each student contributed an average of 5 texts.

III. RESULTS AND DISCUSSION

III.1. Genres in the disciplinary discourse: genre system in the capstone cycle in Computer Science Civil Engineering (ICI)

III.1.1. Description by the teacher and student discourse

Each of the academic and disciplinary cultures possesses a potential genre group or genre system (Martin and Rose 2008) recognizable by their own members. In this section, a summary of discursive genres selected by academics and students from the practice communities of ICI will be presented. As genre analysts have outlined (Parodi et al. 2019), in order to tag genres written by student engineers, it is necessary to reconcile a wide range of terminology used to describe the texts, as in the case of the paper and the article or report, among others.

Genres identified in the capstone cycle of ICI that students must write as part of the disciplinary training and integration are included. Through the interviews and focus groups, 32 genres emerged, ascribed to the training stage as observed in Table 4.

Table 4. Student genres described by academics and students with code and number.

Nº	Code	Genre	Nº	Code	Genre
1	AIC	Research article	18	ICA	Case report
2	CAS	Case of use	19	INF	Technical report
3	CER	Exam	20	LIC	Tender basis
4	COD	Code	21	MAI	Implementation manual

5	COM	Commentary	22	MAP	Procedure manual
6	CU	Questionnaire	23	MET	Methodology
7	DEFO	Oral defense graduate project	24	MOD	Model
8	DT	Technical description	25	PW	Webpage
9	ESC	Scenario of use	26	PN	Business plan
10	EA	State of the art	27	POS	Poster
11	FOR	Forum	28	REQ	Requirement
12	TFG-a	Progress report of graduate project	29	ERP	Problem solving
13	ILAB	Lab report	30	RES	Abstract
14	IPP	Internship report	31	TAIC	Paper translation
15	IPRO	Project report	32	TFG	Undergraduate Project report
16	INV	Research report			
17	IAL	Algorithm report			

As seen in the Venn diagram in Figure 2, academics identified a greater number of genres (30 in total) whilst students identified 18 genres. From these 18 genres, 15 of them were identified by academics and only three were exclusively named by students: Code (COD), algorithm report (IAL) and research report (INV). This conforms to the extensive discussion in the literature about the low degree of transparency when teaching genres to students (Shaver 2007, Graves, Hyland and Samuels 2010, Navarro 2013, Navarro et al. 2019).

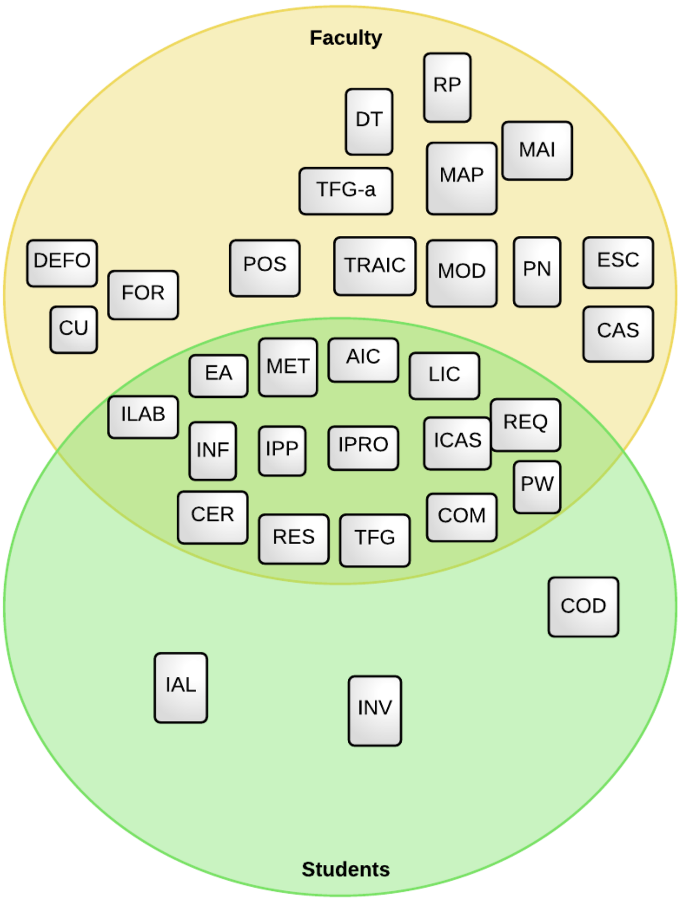

Figure 2. Genres identified by teachers and students of Computer Science Civil Engineering program studies.

Within the genres shared by both groups, the research article (AIC) is outlined as it behaves as a macrogenre and can eventually subsume training genres such as state of the art (EA) and methodology (MET), given their relation with prototypical sections of an AIC (Venegas 2006, Sabaj 2012). Thus, different specific varieties of reports are described: technical report (INF), internship report (IPP), project report (IPRO), lab report (ILAB), including the oral report as part of a genre chain (Swales 2004). In effect, the report is articulated as a macrogenre (Parodi et al. 2018) or family of genres that gathers specific genres together. In the economics and business field, descriptions of these genre forms for Spanish language are found, such as the Monetary Policy Report (Parodi et al. 2015, Vásquez-Rocca and Parodi 2015, Vásquez-Rocca 2016) and the Financial Stability Report for Spanish and German (González and Burdiles 2018), while research on the civil engineering field is more scarce (Marinkovich, Sologuren and Sahwy 2018, Sologuren 2019; Sologuren and Castillo 2019).

Another of the student genres mentioned by students and teachers is the dissertation, bachelor's degree thesis or thesis, according to the name assigned by the academic unit, or Undergraduate Graduation Project (TFG or "Trabajo fin de grado"). A member of the faculty commented:

> "I usually ask my students not to be satisfied with what they wrote, but I ask them to think about other work that can result from what they already did. I, at least, demand that they write" (P06_DCC_05-1)

Thus, research writing emerges in the curriculum as a key component for developing complex thought. Therefore, the TFG becomes a macrogenre (Venegas 2010) inside which it is possible to find subgenres or genre resources that can be parts of a genre or can act independently such as EA and MET. From there it is possible to see the necessity of describing student genres on their own, because "there is no systematic engagement between a potential genre expert and his/her own training 'version'" (Ávila and Cortés 2017: 165-166). In effect, student genres mutate dynamically depending on the perceived pedagogical necessities and according to social teaching motivations and knowledge credentials (Dias et al. 1999, Ávila and Cortés 2017, Bazerman 2017).

In Figure 1 it can be observed that teachers and students recognize two curricular genres (Anson 2008): exam (CER) and abstract (RES). In relation to the first genre, one of the interviewed academics who identified it quickly commented:

> "That's what they read, but they write very few documents, in general, as far as I know they answer exam questions and it's not uncommon when asked something they answer something completely different because they didn't understand the question, and that's a problem because they sometimes know the answer" (P02_INF_06-3)

From the perspective of the teacher, this genre would be one of the most frequent, and one where students show comprehension and approach production problems. It seems to be a projection of general school genres (Parodi et al. 2015). In the same way, the abstract genre (Parodi, Ibañez and Venegas 2014) emerges as a genre resource that is highly valued from the textual production field. It is considered for the development of the ability to synthesize and for its enabling function when it is a supporting genre oriented to the realization of other genres guided by academic purposes of knowledge acquisition, such as the poster (POS):

> "That's different, the ability to synthesize is not well developed, like writing and speaking, and if you give the task of producing a poster they will write everything that comes to their minds, that's why they need to be given the format" (P07_ICI_009-10).

The interrelation of the written and the oral mode and the importance given to orality is also manifested in the Poster genre (POS). It is defined as "a multimodal communicative genre, with text, graphics, colour, speech, and even gesture used to convey meaning" (Kress and van Leeuwen 2001). It is often labelled as a less prestigious genre among the constellation of academic genres (Swales 2004) and it is perceived as second-class (MacIntosh-Murray 2007) compared to oral presentations (Swales and Feak 2000). However, the situation is changing nowadays because posters "are an increasingly important part of scientific conferences and constitute a valid and interesting alternative to paper presentations at conferences" (D'Angelo 2010). Now, the relevance of the sociodiscursive practice of innovation (Sabaj 2017, 2019) is added, as well as entrepreneurship, especially in engineering, that has promoted new genres and the revaluing of discursive practices that help the display and development of an idea from conception until completion.

Finally, among genres recognized by both groups, there is a set of student genres colonized (Bhatia 2002) by the professional discourse (Bolívar and Parodi 2015) or defined in another way, namely as genres belonging to non-academic professional discourse (Navarro 2012), of an instructional or educational nature. They are the genre forms named here as tender basis (LIC), webpage (PW), requirement (REQ) and commentary (COM). Meanwhile, LIC can be classified as an imported genre (Parodi 2014, Bolívar and Parodi 2015) widely shared within the engineering discipline (Callut 1990 for an early classification of the types of texts in engineering, REQ and COM). They are genres that future computer science civil engineer will have to produce when working.

Table 5. Genres, requirements and comments emerged by academics and students of ICI.

REQ	Selection criteria
"Yes, I think we know how to identify the requirements the best and, therefore, to know how to express them better and write them in a document" (E11_DCC_21-24). "Reports titled under a required specification and a required design. They have a narrative portion and many graphics of nomenclature portions that we use to identify systems" (P09_INF_004-1) "Our program studies work with too many softwares, they have requirements we need to meet and we are experts reading a document, to take the requirements of the software asked and then write it in a report under a requirement 1, requirement 2 and explain and explain it again in detail" (E12_DCC_21-25).	"It is ironic because in programming we are taught alt command to comment a code and we write a commentary and the commentary doesn't affect you what the program has to do or the person reading it, it helps us, but when we write it down in the test, I say this because I didn't think about it or because I did it so, we are not given point, not because we are commenting if I want the code, then why do they teach us that if they don't want that" (E10_ICI_22-6). "For example, in a code we write a commentary about the function it receives, stays there and what it does and everything explained in few lines so later one week reading codes" (E09_ICI_23-8). "For example in computer science, in programing there is a topic that… commentaries, I don't know, I have a program and I should have commentaries, then what commentary level should I have, to be understood, because if no one will use this program why I am commenting, but maybe in the future somebody will have to change something here or they will use it as a base for another one, then I should leave commentaries" (P07_INF_004-5).

For REQ, teachers and students agreed to point out the disciplinary relevance of this resource as part of the typical work in computer science civil engineering, emphasizing a narrative, explanatory and descriptive element in the explanation. For its part, COM is also a typical genre in computer science. Students E09 and E10 in Table 4 explain the utility of this genre form in programming, but they express a mismatch in the teaching and evaluation of this genre. For teachers, commenting involves considering the development of future programming experts, as observed in Table 2,the idea being that their programming notes can be used, improved and adapted by other professionals of the field.

III.1.2. Student genres in the HÉLICE-2017 learner corpus

For Bhatia (2004, 2016) genre theories can be defined in different ways, since they have an ongoing life in "the real world of discourse". In this sense, we face a challenge in the process of analysing the interrelations and connections between different genres. In fact, relations and connections between genre forms is for Swales (2016) one of the most important current topics for LSP. In this context, it is necessary to consider the notions of macrogenre and microgenre as relevant analytic categories to understand the complex relations between genres. A macrogenre is defined as "a genre unit of higher hierarchy formed by genres" (Venegas, Zamora and Galdames 2016: 252) where varied genres can be included. Additionally, a microgenre can work as an element of a macrogenre, as 'embedded' in terms of Martin and Rose (2012), as part of a genre (Breeze 2016) or as functional rhetoric segments (Cotos and Chung 2019).

Based on these ideas, my results from the identification, delimitation and characterization of student genres from a double perspective (typological and topological) will be expounded and discussed in the following sections.

The analysis results in the identification of 33 GEFICs, as seen in Table 3, meaning that there is great diversity in this subdiscipline of civil engineering. Figure 3 shows the genres identified and the percentages of texts that belong to each genre.

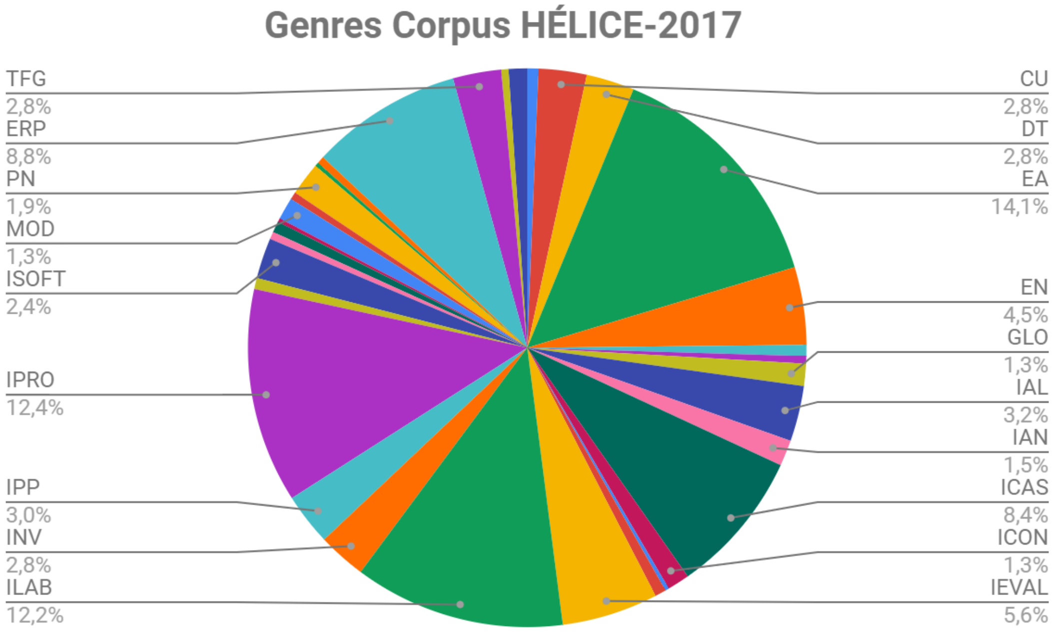

Figure 3. Configuration of HÉLICE-2017 multigenre corpus.

Table 6 contains the 33 student genres in Computer Science Engineering with the access number to the text corpus and the identification code:

Table 6. List of the 33 discursive genres identified from the text learner corpus HÉLICE-2017.

Nº	Code	Genre	Nº	Code	Genre
1	IPRO	Project report	18	IEV	Evaluation report
2	PN	Business plan	19	EA	State of the art
3	GLO	Glossary	20	IAN	Business analysis report
4	LIC	Tender basis	21	TFG-a	Progress report of TFG
5	ERP	Problem solving	22	TFG-p	Exam proposal report
6	TFG	Undergraduate Project report	23	MET	Methodology
7	ISOFT	Software report	24	EN	Essay
8	ILAB	Lab report	25	ESC	Scenario of use
9	IPP	Internship report	26	FI	Card of state
10	ICAS	Case report	27	IDIAG	Knowledge evaluation
11	CU	Questionaire	28	PENT	Protocol of interview
12	CAS	Use of case	29	EF	Financial statement
13	MOD	Model	30	ICON	Consultancy report
14	IAL	Algorithm report	31	IRREFLEX	Reflexive report

15	DT	Technical description	32	ITERR	Field report
16	RES	Abstract	33	IEV	Evaluation report
17	INV	Research report			
18	IEM	Market research report			

The overview of the genre composition of this corpus shows the appearance of the report macrogenre with an appreciable variety of genre instances (15), the emergence of professional oriented genres, and other mostly didactic ones. In addition, genre resources linked to processes of scientific research and to genres of discourse on economics are noted. In this respect, the genre conformation of this corpus is similar, as expected, to that for the academic discourse in civil engineering and industrial chemistry engineering (Parodi 2008), physics and chemistry (Parodi 2012, 2014) and economics (Parodi et al. 2015). Other genres linked to social sciences, information sciences and other disciplinary specific genres from the computer science field have also emerged.

Furthermore, genre forms in the professional world surface, displaying a diverse intertwine (Flowerdew 2003, Bolívar and Parodi 2015) between academic discourse and professional discourse. In this perspective, we find overlaps with innovation (Sabaj 2017) and entrepreneurship (Varas 2017) discourses. This wide diversity of identified genres shows the interdisciplinary nature and considerable hybridization in this subdiscipline of civil engineering.

The results of my characterization of student genres in computer science civil engineering make it possible to group genres into seven macrogenres or genre families as defined in Table 7.

Table 7. Macrogenres identified from text corpus and the definition.

Nº	**Macrogenre or genre family**	**Code**	**Genre**
1	Technical report	MGITEC	Genres that belong to this category share the macropurpose of *writing* the state of a procedure, an experiment work, a development or a project. Genres that belong in this category are the following 15 student genres: *IPRO, ISOFT, ILAB, IPP, ICAS, IAL, INV, IEM, IEVAL, IAN, IDIAG, ICON, ITERR*

			*a*nd *IRREFLEX*. In addition, this family takes into account the microgenre: EF
2	Plan	MGPLAN	The genre resources that belong to this genre family share as a communicative macropurpose *persuading* a professional audience about a determined proposal in a work context. Genres that belong to this category are: *PN* and *LIC.*
3	Requirement	MGREQU	This macrogenre integrates genres that share the communicative macropurpose of *guiding* a specialized audience about the criteria to start or to hold a process. Macrogenres that belong to this category are: *CAS, ESC* and *FI.*
4	Model	MGMOD	Genres that belong to this collection share the communicative macropurpose of *representing* a procedure, a phenomenon or an entity to emerge the meaning within a determined process. Macrogenres that belong to this category are: *MOD* and *DT.*
5	Methodology	MGMET	This genre family is formed by discursive genres which communicative macropurpose is to describe the procedures developed by the academic writer in a determined research or innovation project. The represented microgenres in this category are: *MET a*nd *PENT.*
6	Didactic Exercise	MGEJED	The macrogenre is formed by genres that share the communicative macropurpose of *instructing* about a specific disciplinary topic. They are genres that "display didactic resources with a clear emphasis on teaching/learning processes" (Parodi et. al 2015: 183). This intends to favor an autonomous learning of the students and to strengthen the knowledge of disciplinary key concepts. Discursive genres that belong to this genre family are: *CU*, *GLO* and *RES.*
7	Undergraduate Project Report	MGTFG	Genres in this category answer to a "Research written report of evaluative accreditative nature, submitted by university students as the dissertation, a requirement to obtain a such as a Bachelor degree, a Master's degree

			or a Ph.D., and it must be presented and orally defended before a commission of experts to be approved" (Venegas 2010: 13). The shared communicative macropurpose is *persuading* about a particular research or development. Genres that belong to this genre family are: *TFG-p* and *TFG-a*.

Moreover, it is possible to understand from this text analysis how each macrogenre is situated on a continuum from a prominently professional academic nature to a professional non-academic nature that connects training with work areas (Figure 4).

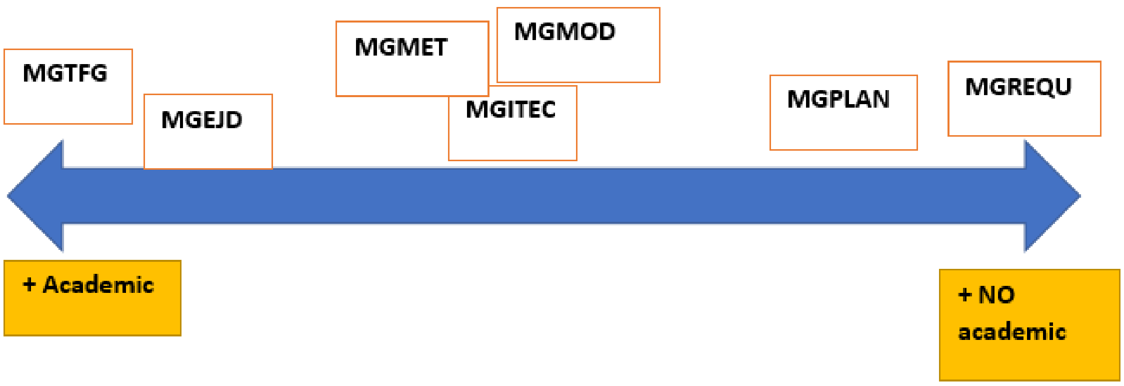

Figure 4. Continuum of macrogenre conforming disciplinary discourse in undergraduate studies for Computer Science Civil Engineering Program.

It can be observed on this continuum that the predominance is given by intertwining and overlapping (Flowerdew 2003, Bolívar and Parodi 2015) between what is known as 'academic' discourse (+academic) and 'professional' discourse (+NO academic) showing hybridization as a characteristic phenomenon of the genres produced by students of computer science civil engineering. In effect, three out of the seven genre families are located in the middle of the continuum: MGITEC, MGMET and MGMOD. This occurs because the genre resources do not correspond exclusively to either of the poles, but the genres conforming them are either related to a strictly academic field, a strictly professional field or they are hybrid genre instances that facilitate the disciplinary learning.

MGTFG is situated at one end of the continuum, representing the final episode of the program studies in which the author submits a text that evaluates his/her knowledge of the field (Montemayor-Borsinger 2014: 268). On the other end, the MGREQU family gathers those defining genres of the work sphere of any computer science civil engineer and that characterize their daily duties.

As seen in Figure 3, the MGPLAN family is situated slightly further away from the NO academic end. Although it contains strongly professionally oriented genres, its focus on academic training has assisted in surfacing situated variations of the genre, which: “plays a key role in entrepreneurship and is used in educational settings” (Navarro 2015b: 150). Additionally, closer to the academic end, the MGEJD family appears in the university undergraduate training of this discipline gathering curricular genres (Christie 2002), genres that for this author are realized in a regulatory register related to instructions and educational objectives to be covered, and an instructional register connected to curricular content and cognitive abilities to be developed. In this sense, they respond to the sociosemiotic process (Mathiessen 2007, 2015) of enabling, which, in a secondary degree of delicacy, established in the register cartography (Mathiessen 2007), considers instruction and regulation.

III.3. Didactic model for teaching academic and professional Spanish in civil engineering

A group of phases and criteria is proposed from this mapping, thus facilitating the articulation of a model to teach academic Spanish language and to develop a didactic proposal based on textual genres which are important for training and for professional performance, including genres which are actually used in the scientific, academic and professional fields of civil engineering.

Phase 1: Diagnostic knowledge evaluation of requirements and difficulty in writing different genres in the capstone cycle of civil engineering study programs.

This phase aims to understand the characteristics that academics and students identify in genres that must be written as part of the different courses in order to efficiently achieve the informative-evaluative function of academic discourse. Moreover, it is intended to evaluate the main difficulties experienced by academics and students during the academic writing process of each genre.

Phase 2: Description of discursive genres in the civil engineering field

The focus of this phase is to describe genres based on lexical grammar, semantic-discursive, rhetoric and stylistic features (Manrique, Zapata and Venegas 2019), and at the same time, to relate the student genre map to the communicative purposes of the genres, the key courses in the curriculum and the functions for which the genres are used.

Phase 3: Collaborative and interdisciplinary work with teachers in the engineering field (Bauerle, Hatfull and Hanauer 2014).

This phase is based on a group of steps that may help the curricular insertion of discursive abilities in Spanish in courses on computer science civil engineering.

1) Validation of the genre description together with academics of the engineering field in order to develop a verification process with the specialist (Bhatia 2002) and to enrich the possible use of the genre.

2) Presentation and analysis of genres organized in macrogenres, genre families or colonies (Bhatia 2004, Luzón 2005) considering the communicative macropurpose and the disciplinary learning unit where it is inserted. At this stage it is also important to consider more or less specialized possible contexts in which each genre is used. From the results obtained, an explicit teaching of the seven identified and defined macrogenres is proposed, so that the students will strengthen their genre knowledge, and they will be ready to approach emerging genres that enter the system or genre colony.

3) Design of writing tasks with the collaboration of LSP teachers and professors of engineering that help students to display their genre skills, paying attention to the communicative purposes in the diverse discursive communities where these genres are used and analysis of lexicogrammar and rhetoric-discursive features.

4) Specification of the relations between discursive genres, and, in particular, pedagogical activities promoting analysis and development of genre chains that involve the development of discursive trajectories not only displaying writing skills, but also oral and reading skills, such as the business plan (PN), tender basis (LIC) or internship report (IPP).

5) Comparison of different genres with similar communicative purposes, for example, knowledge evaluation (IDIAG) and evaluation report (IEVAL), in order to observe the communicative and linguistic differences produced in terms of communicative function, writing objective and target audience. In addition, it is relevant to observe how they are integrated, and how different genres and microgenres from the corpus can be used, e.g., the abstract (RES), state of the art (EA), problem solving (ERP), the case of use (CAS), scenario of use (ESC), model (MOD), financial statement (EF). These can behave as embedded genres or parts of a genre (Breeze 2016).

IV. CLOSING COMMENTS

Progressive analysis of genres that are situated in and connected to the community of practice and the learning community allows for a gradual development of more comprehensive rhetoric knowledge. This knowledge will be fundamental to successfully address multiple communicative contexts and problems that engineering students will face throughout their undergraduate years, as well as in their future work, either in the industry or in other organizations.

Additionally, the use of a sound theoretical background and the incorporation of research resources (such as the learner corpus HÉLICE-2017) are likely to assist students in discovering the academic and specialized Spanish language used in computer science civil engineering, so they can become language 'detectives' (since "every student [is] a Sherlock Holmes" (Johns 1997: 101)). This learning process will equip them with a more nuanced metadiscursive awareness and strategies of text metaproduction. Their heightened level of awareness of texts and textuality is bound to enhance writing quality in a given subdiscipline, being an element of great importance for transmitting and proving knowledge.

In this sense, and trying to answer the research question: *How can teachers and researchers in Languages for Specific Purposes take full advantage of contemporary trends in higher education (in this case engagement with professional communities) to develop innovative pedagogies and practices?* LSP teachers may use reading and writing maps as a valuable input to negotiate processes with academics, to increase students' rhetorical sensitivity (Guerra 2016), and to help them build knowledge about professional discourse and its diverse forms since: "They also build bridges between higher education and the real world, by motivating learners with authentic documents from their fields of expertise and improving their information literacy and communicative abilities" (Breeze and Sancho-Guinda 2017: 215).

Finally, and as a projection, one of the future challenges lies in organizing the transition from the discursive genres produced during the formative stage in the Faculty of Engineering, to incorporate specificities about all the subdisciplines such as geology, and produce didactic resources for the curricular insertion of genres in the reports written in each key course of the engineering field. This process will contribute to developing a situated and contextualised support system, as well as providing more informed feedback on academic and professional writing. This will also lead to an update of the curricular tools in engineering education. Owing to the above initiatives, a refined model of text production will emerge that considers all the stages and strategies necessary for genre-based didactics in the STEM field.

Notes

[i] According to the university grading system of Chile.

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APPENDIX 1

Table 8. Courses in applied engineering.

Nº	Code	University 1	Code	University 2	Code	University 3
1	ICI5240 Sem 9	Artificial intelligence	ILI225 Sem 7	Software Engineering	CC5401 Sem 9	Software Engineering II
2	ICI5440 Sem 9	Human factors in software projects	ILI255 Sem 7	Introduction to computer theory	CC5402 Sem 10	Software Project
3	ICI5540 Sem 9	Database workshop	ILI256 Sem 7	Computing networks	CC4102 Sem 8	Algorithm design and analysis
4	ICI5341 Sem 10	Distributed systems	ILI264 Sem 8	Systems and organizations	CC4302 Sem 8	Operating systems
5	ICI5544 Sem 10	Business engineering	ILI285 Sem 7	Scientific computing I	CC4303 Sem 8	Networks
6	ICI6440 Sem 11	New technologies in organization	INF293 Sem 7	Operation research	IN3301 Sem 9	Project evaluation
7	ICI6441 Sem 11	Administration of computing projects	INF322 Sem 8	Interface design	CC5901 Sem 9	Professional internship
8	ICI6442 Sem 11	Business intelligence	INF295 Sem 8	Artificial intelligence	CC5601 Sem 10	Preparation and evaluation of projects TI
9	ICI6540 Sem 11	Bachelor's degree seminar	INF343 Sem 8	Distributed systems	CC6908 Sem 10	Introduction to Thesis project
10	ICI6541 Sem 12	Thesis project	INF266 Sem 8	Administrative systems	CC6909 Sem 11	Thesis project
11	ICIPRAC Sem 10	Internship 2	INF228 Sem 10	Workshop of computing Project development	CC5206 Sem 10	Elective class
12	ICI5542 Sem 9	Computer Project design	INF309 Sem 10	Thesis project 1		
13	ICI6003 Sem 12	Elective class	INF310 Sem 11	Thesis project 2		

14	ICI5142 Sem 10	Research of advanced operations	ICN270 Sem 7	Information and financial mathematics		

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BOOK REVIEW

Specialised English: New Directions in ESP and EAP Research and Practice
Ken Hyland and Lillian L. C. Wong
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The field of specialized English has expanded on an unprecedented scale. We have already seen that there is a plethora of research articles in specialized top journals like *Journal of English for Academic Purposes* and *English for Specific Purposes*, as well as influential volumes and handbooks: in English for Specific Purposes (ESP), publications like *The Handbook of English for Specific Purposes* edited by Paltridge and Starfield (2013), *Introducing English for Specific Purposes* by Anthony (2018); in English for Academic Purposes (EAP), publications such as the seminal collection *Research Perspectives on English for Academic Purposes* edited by Flowerdew and Peacock (2001), *Introducing English for Academic Purposes* by Charles and Pecorari (2016), and *The Routledge Handbook of English for Academic Purposes* edited by Hyland and Shaw (2016).

The field, however, is moving so fast that many researchers and practitioners are unable to keep current with its developments and trends. Hyland and Wong's volume, therefore, seeks to contribute to the evolving and dynamic scholarship of specialized English by gathering cutting-edge chapters on current and international perspectives on specific varieties of English. It covers a wide range of recent issues of EAP and ESP, such as English as a lingua franca, workplace English, academic interaction, practitioner identity, data-driven learning, and critical thinking. In addition, diverse genres are included, among others, research articles, workplace talks, university tutorials, builders' diaries, and personal statements.

The volume contains 17 specially commissioned chapters by some of the world's leading experts. The chapters are grouped in a thematic way, covering key concepts of specialized English (Chapter 1-Chapter 6), textlinguistic analyses (Chapter 7-Chapter 12), and classroom practices (Chapter 13-Chapter 17).

The first thematic module focuses on a series of current issues in specialized English language research and teaching. It starts with a chapter by Anna Mauranen where she looks at the use of English as a lingua franca (ELF) in the trend of globalization and language contact from macro-social, individual's cognitive, and micro-social perspectives. By exploring authentic data from corpora of spoken and written ELF in academic settings, the author shows that ELF as a dynamic and complex system brings about linguistic changes in English through the process of approximation and fixing. In Chapter 2, Jane Lockwood raises the conceptual issue of 'workplace English' that oversimplifies the specialized and contextualized communicative needs. She thus proposes a multilayered analytical framework to unpack and theorize workplace English and suggests a specially tailored syllabus planning and assessment design. Vijay Bhatia in Chapter 3 argues that the application of critical genre analysis that focuses on interdiscursive performance (Bhatia, 2017) will benefit the curricular design of English for Professional Communication (EPC), thereby plugging the remaining gap between school practices and professional practices in the world of work.

The fourth chapter by John Flowerdew provides some thought-provoking insights into the notion of power, which is closely related to different aspects of EAP, including institutions, EAP practitioners, the environment of English as a global lingua franca, disciplinary communities, pedagogy, and discourses. He concludes that EAP practitioners need to familiarize themselves with those different power relationships and adopt a critical and assertive approach in order to change the marginalized situation of EAP. Echoing Flowerdew's viewpoint, Alex Ding in Chapter 5 focuses on the peripheral and marginal role of EAP practitioners and examines the cause and effect relationship between "professional disarticulation" (Hadley, 2015: 57) and practitioner identity crisis. He argues that the status, development, and recognition of EAP practitioner identity are diminishing, due to the impact of neoliberalism, a lack of socialization and cultural capital, and some internal conflicts within the field. He concludes by advocating a collective consideration of the identities that EAP practitioners are willing to develop and commit to. The first section ends with a chapter by Lynne Flowerdew where she first raises several conceptual issues in both ELF and learner corpus research of disciplinary writing, such as native-speaker norms and comparability. By discussing four previous corpus studies of both fields, the author suggests that future research should seek to build bridges between the two fields and to find their similarities and differences.

The second part of the volume concerns texts of various genres, including research articles, university tutorials, students' texts, and personal statements. Ken Hyland in Chapter 7 explores the use of interaction by disciplinary writers over the past 50 years. By implementing Hyland's (2005) model of stance and engagement, he attempts to uncover whether writers' commitment and attitude towards what they said, as well as their engagement with readers, have changed over time and across disciplines. His findings suggest that changes in stance and engagement do exist but are slow and barely noticed. In Chapter 8, Ian Bruce proposes a social genre/cognitive genre model in order to examine the expression of critical thinking through written text. The successful application of this model in two genre studies demonstrates that it is important to incorporate resources such as rhetorical moves, metadiscourse devices, metaphor, and engagement markers into the expression of critical thinking. Chapter 9 by Coxhead and Dang seeks to explore the usefulness of existing single-word and multi-word academic lists in preparing learners for the vocabulary used in university laboratory and tutorial scenes. The results show that Academic Spoken Word List (ASWL) outperforms other single-word lists in terms of coverage and number of items and that the overlap of multi-word lists that consists of core items is useful. The study further provides suggestions for EAP pedagogy, materials, and course design.

In Chapter 10, Janet Holmes shifts her attention to the workplace and especially focuses on how different levels of social constraints of the 'culture order' (Holmes, 2017) affect workplace interaction. Her analysis based on recorded data foregrounds the sociopragmatic skills that newcomers should acquire for professional identity construction. The study ends by providing practical instruction to develop teaching and learning materials. Jean Parkinson in Chapter 11 calls scholarly attention to multimodal student texts, where visual elements are becoming increasingly common. Drawing upon prior studies, Parkinson explores the possible use of social semiotic and move analyses in student's multimodal texts. Finally, she suggests that ESP teachers raise student's awareness of rhetorical conventions in visual meaning, as well as coherence between visual and written meaning. Interested as well in students' texts, Ann Johns focuses on student's personal statement (PS) writing task in Chapter 12. By looking at the PS writing processes of three secondary students, she illustrates what the challenges in writing are and how the students meet them. She concludes the chapter by offering pedagogical suggestions to help students construct identity and explore accomplishments.

The last section of the volume consists of five chapters that explore pedagogic practices both as general principles and specific classroom situations. It begins with Laurence Anthony's research which addresses some common issues when EAP instructors or learners implement data-driven learning (DDL) in classrooms, such as the construction of corpus and the interaction with it. He introduces a variety of corpus analysis tools and accompanying teaching strategies in order to integrate DDL effectively into classroom practices. In Chapter 14, Lilian Wong continues the topic of DDL and applies this approach to multidisciplinary thesis writing courses. The feedback from students and instructors suggests that while students tend to have a positive attitude towards the corpus-assisted writing resource, teachers seem to feel ambivalent about it.

Jill Northcott in Chapter 15 investigates the academic feedback on student writing provided by EAP tutors and subject tutors, respectively. Her analysis found that there are some areas where both tutor groups can provide meaningful feedback, whereas in other areas one or the other tutor group is more qualified as feedback providers. This gap suggests the need for collaboration between EAP and subject tutors. In Chapter 16, Wingate and Ogiermann explore writing tutors' use of directives in relation to dialogic versus monologic teaching styles. The results, based on the analysis of ten academic tutorials, did not meet their expectations. The tutor with the dialogic approach was expected to use fewer directives and more mitigated devices than the tutor with the other approach. Further analysis suggests that the contradictory results were influenced by the sequential position of the directives in the dialogue. Following the same research topic as in Northcott's study (Chapter 15), in the final chapter (Chapter 17), Li and Cargill also explore the collaboration between EAP practitioners and subject experts, but in the setting of a Chinese university. They analyze and reflect on why the second author's attempt at facilitating an attitude of openness to collaboration at the said university is unsuccessful. The views from both discipline supervisors and students suggest implications for Chinese EAP teachers.

Taken together, the chapters encompassed in this collection capture some of the most interesting and important developments in the field, contribute to expanding reader's knowledge of specialized varieties of English, and suggest avenues that could be explored in future studies. The chapters cover wide-ranging topics, theories, methods, and tools that are tailored to suit teachers' and learners' specific needs. It is noteworthy that although it explores the same focal field, this volume differs from other relevant publications in that it synthesizes the most up-to-date studies and authoritative discussions from established scholars of the field. Moreover, a special section of the volume is devoted to introducing approaches, tools, and practical advice for diverse classroom settings, which would be particularly appreciated by EAP/ ESP practitioners and teachers.

Overall, the edited volume *Specialised English: New Directions in ESP and EAP Research and Practice* by Hyland and Wong brings together differing views on specialized English and provides fascinating insights into the theories and practices of EAP/ESP. It is an invaluable resource for upper-level undergraduate and postgraduate students and researchers in EAP/ESP or applied linguistics in general, as well as pre- and in-service teachers and tutors of EAP/ESP.

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