

IMMUNOLOGICALLY SPEAKING: ORAL EXAMINATIONS, ELF AND EMI

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Abstract – “English-medium instruction” (EMI) is the name given to the use of the English language in universities to teach academic subjects in countries where the majority of the population does not have English as a first language (Dearden 2014). What this definition fails to mention is that interaction during EMI courses is almost entirely through the medium of English as a lingua franca (ELF). This article focuses on the challenges facing lecturers and examiners working on English-taught programmes (ETPs) in ELF and the role of language experts in supporting them. As a basis for discussion, the article uses data from a set of immunology oral examinations carried out during an undergraduate degree programme in Medicine being taught through EMI. Qualitative analysis of the data shows that this particular oral examination involves students and examiners co-constructing highly specific, chronological narratives of immunological sequences. It is argued that, far from being an exclusively linguistic matter, this kind of narrative co-construction involves acquiring a unique discursive skill set and that preparing students for the examination needs to involve increasing students’ awareness and practice of the construction process. Discussion focuses on how far qualitative results of this kind of local examination data are generalisable to other EMI contexts and whether there are recommendations for language experts and policymakers in understanding and improving the quality of EMI lecturing and assessment through in other languacultures. The article will also examine how far an ELF orientation to pedagogy can assist EMI lecturers, examiners and students in their decision-making regarding materials, methods and their own English usage.

Keywords: English as a lingua franca; English-medium instruction (EMI); oral examination; knowledge transmission; immunology.

1. Investigating EMI and ELF

This article will investigate the way in which learning and knowledge are constructed through the medium of ELF during oral examinations of an immunology programme taught through “English-medium instruction” (EMI). EMI has been defined as “the use of the English language in universities to teach academic subjects in countries where the majority of the population does not have English as a first language” (Dearden 2014, p. 4) and has been expanding continuously across the world over the last 15 years. Dearden’s

2014 survey of 55 countries was based on the premise of “a fast-moving worldwide shift, in non-Anglophone countries, from English being taught as a foreign language (EFL) to English being the medium of instruction for academic subjects such as science, mathematics, geography and medicine” (p. 4). This university-led shift from EFL to EMI has been confirmed in Europe-wide surveys (Ammon, McConnel 2002; Wächter, Maiworm 2015), which have shown an increase in English-medium instruction, typically in large institutions with a growing number of degree programs at bachelor’s, master’s and PhD levels delivered through English. Recent data from the Asia-Pacific region (Fenton Smith *et al* 2017) has confirmed this trend. One of Dearden’s conclusions was that “the private sector will continue to drive the push for EMI for some years to come” and that “public institutions may therefore be constantly playing ‘catch-up’ in order to survive as places where quality education can be accessed” (Dearden, 2014, p. 32). One of the ways in which “catching up” in terms of quality can be successfully achieved is through research into learning and assessment on EMI courses. This article, which uses local data to discuss implications for EMI assessment more widely, aims to make a contribution to this kind of research.

1.1. *EMI and the language/content curriculum*

One of the most important educational questions raised by the expansion of EMI courses is how EMI relates to other types of learning context in which English is already used as a second language or as a lingua franca for the purposes of knowledge transmission. These contexts include primary and secondary schools in which CLIL (Content and Language Integrated Learning) has been adopted, as well as language schools and universities, in which courses in English for Academic Purposes (EAP) or English for Specific Purposes (ESP) have been the norm. The relationship between EMI and these other forms of teaching in English is shown in figure 1, which has been adapted from Airey (2016). The diagram shows the position of EMI on a continuum, ranging from language-focused teaching on the left to content-focused teaching on the right.

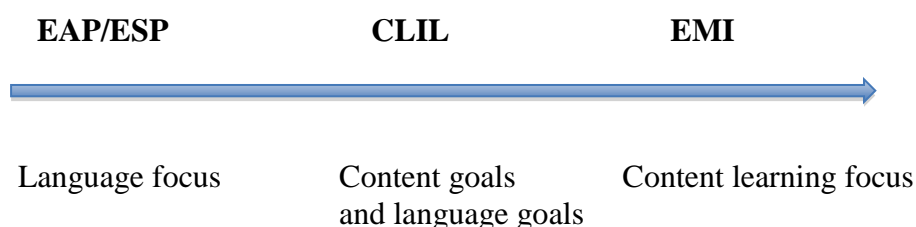


Figure 1
The language/content continuum (Airey 2016).

The teaching of EAP and ESP, on the left of the diagram, has traditionally had a strong language focus, while CLIL, in the centre, has adopted a mixture of content and language and aims to develop both. On the right, we have EMI, which involves content-based learning that happens to be in English. This “language-to-content” continuum is a useful backdrop for the question of the role of language experts in EMI courses. EAP and ESP courses tend to involve specialised language teaching, but for EMI courses, in which there is no declared aim of improving students’ English, the role of the traditional English language teacher is called into question. If university authorities are required to set up quality control procedures for new English-taught programmes (ETPs), it is unclear what kind of criteria they might use to describe and support successful interaction between teachers and students. One of the aims of this article is to explore EMI teacher-student communication and the pedagogical problems raised by the interaction.

1.2. EMI oral interaction and ELF

Oral discourse studies are crucial for an understanding of the pedagogical implications of EMI, yet despite the proliferation of ETPs around the world, comparatively little research has been done on oral interaction in EMI contexts. Although there have been some classroom-based studies (Costa 2012; Basturkmen, Shackelford 2015; Molino 2015), they are vastly outnumbered by studies of lecturer and student perceptions of EMI (see Giordani 2016, for an extensive bibliography).

The global spread of the multilingual classroom (Kramsch 2014) and the increasing pedagogical focus of ELF (Sharifian 2009; Matsuda 2012; Bowles, Cogo 2015) are a challenge to current language learning and teaching policies in all kinds of context. This is particularly true for EMI courses, which are conducted almost entirely in ELF. The relationship of EMI with English as a lingua franca and its implications for teaching are relatively unexplored. The most detailed work on EMI oral interaction with an ELF focus are two book-length studies by Smit (2010) on a hotel management course and Björkman (2013) on university Applied Science programmes. Both books are qualitative studies, which provide important descriptions of ELF classroom discourse in EMI settings. Although Björkman recommends raising awareness of target ELF discourse as a pedagogical requirement, the variety of ELF discourse in different EMI contexts suggests that the nature of the awareness that needs to be raised is still highly specific and may require considerable expertise on the part of the applied linguist in identifying it and making it explicit to lecturers and students. By examining data from one EMI speech genre (the oral examination), this study aims to foreground this pedagogical problem and provide some further recommendations.

1.3. Oral examinations

The oral examination is a particularly important EMI speech event because it is an area of EMI in which student's language difficulties often come to the fore (Dearden 2014). There is a lack of research on oral examinations, perhaps because, in the anglophone world, most school and university examinations adopt written formats and so there has been no pedagogy-led drive to do research on oral assessment. This holds true even from monolingual perspectives. In Italy, for example, where there is a strong tradition of oral examination in schools and universities, apart from two studies by Ciliberti (1999) and Anderson (1999), very little research has been done on the oral examination as a situated practice.

As regards EMI assessment in general, perception studies in different countries have shown that students' difficulties in expressing themselves in English may adversely affect their exam results (Al-Bakri 2013; Borg 2011; Chapple 2015; Floris 2014; Sagucio 2016). One perception study has also shown that quality of English may be a factor in assessment which is causing bias, if the examiner is regarded as either making undue allowances in favour of students with presumed low quality English or marking them down because of it (Berdini 2016). Despite its being an area in which students' difficulties have been highlighted and whose objectivity has been called into question, very little research has been done on oral examination interaction in EMI contexts. Again, this may be partly due to the fact that examinations in traditional EMI subjects such as Engineering, Economics and Medicine are more frequently conducted in written formats, but it may be also because privacy laws and reticence on the part of university authorities make it difficult for researchers to obtain useful data. This study aims to make a start on researching this crucial area of EMI.

2. Data and method

The data to be discussed in the article is taken from university oral examinations of a course in immunology being taught through EMI at the Medical School of a university in central Italy. The immunology course and examination, which were conducted in ELF, were part of the 3rd year undergraduate programme at the Medical School. The examination was entirely oral and took place at the end of the course, though it could be repeated at 3-month intervals if the student failed. There were two examiners (E1 and E2 in the transcripts), who were both Italian L1, and each student was examined separately by each examiner for an average of 15 minutes. The examiners compared notes after examining a student in order to decide his or her final mark. Each examiner concentrated her questions on different aspects

of the immunology programme.

The corpus contains 30 recordings for a total of about 10 hours. There are 12 recordings of students whose L1 is not Italian (3 native speakers and 9 non-native speakers of English), and 18 recordings of students with L1 Italian. Having an L1 Italian examiner and an L1 Italian student doing an oral exam in English is not a typical ELF scenario, but it is extremely common on EMI courses in Italy, where there are fewer international students than in other countries. Informed consent for recording was obtained from examiners and students prior to the examinations, and recordings were transcribed in the Jeffersonian style. Transcripts were analysed qualitatively, using conversation analytic procedures with an emic orientation. Using this CA procedure means that although the data was full of the codeswitching, non-standard forms and repetition that are typical of ELF usage, analysis did not focus specifically on these features unless they were actually made procedurally relevant by the speakers themselves during the interaction (Seedhouse 2004, p. 42).

3. Results

Analysis was aimed at describing the distinctiveness of the immunology exams in line with Hyland's description of the disciplinary identity of academic discourse:

Academic discourse helps to give identity to a discipline and we need to understand the distinctive ways disciplines have of asking questions, addressing a literature, criticizing ideas, and presenting arguments. (Hyland 2013, p. 179)

To accommodate Hyland's suggestion, results were divided into two sections. The first looks at discursive distinctiveness – the linguistic patterns that characterise the oral interaction - and the second at cultural distinctiveness – whether the interaction shows characteristics that can be identified with a local disciplinary culture.

3.1. *Discursive distinctiveness*

Preliminary analysis of the data suggested that the exam had a discernible macro-structure made up of three phases - an opening sequence, the main body of conversation and a closing sequence, in which the student's mark is decided.

The opening sequence involves negotiation of the topic of the exam, as shown in the following extract:

Extract 1 (E1, S13)

E = examiner; S = student

- 01 E1: thank you (7.0) okay this is enough so **let's talk about the(.)**
 02 **maturation process of the T cells** the generation of T cells
 03 S13: it's okay
 04 E1: [**where the story begins?**]
 05 S13: [okay first of all progenitor eh (.)okay **the progenitor T cells**
 06 **arrive () from the fetal liver** or the other bone marrow and they go

This opening sequence shows clearly that the expectation of the examiner is for a narrative. She begins by telling the student what the story is going to be about - "let's talk about the maturation process of the T cells" (l. 1-2). This "let's talk about" phrase, which seems to be a standard formula in the opening sequence, immediately introduces the examination as an interaction that is going to be co-constructed by the student and the examiner together. The examiner then asks the student to start - "where the story begins?" (l. 4) - and the student begins her narrative talking about the T cells - "the progenitor T cells arrive from the fetal liver" (l. 5-6). From this point on, the trajectory of the student's narration has to be constructed. It is a story that the examiner already knows and hopes the student also knows. She wants the student to tell it back *to* her and *with* her. This is how the examiner continues:

Extract 2 (E1)

- 036 E1: so e:h so **we are in the bone marrow** what
 037 the progenitor that will become T cell what
 038 does it do?

The expression "we are in the bone marrow" (l. 36) shows the examiner's strong orientation to the story, with an inclusive "we" projecting the idea that the examiner and the student are in the story together.

The examiners are both very clear that they want the story to proceed in a certain kind of order. In the next extract, the examiner introduces the narrative topic as tumor immunity and then seeks to establish its future trajectory:

Extract 3 (E2, S18)

- 14 E2: [ok, ok so ehm ok, so let's talk about tumour immunity=
 15 S18: =ya.
 16 E2: but you know, the [THE SECTIONS=
 17 S18: [the tumour-
 18 E2: [no, no, **don't start with the tumours,**
 19 because **I am doing immunology.**
 20 S18: ok.
 21 E2: ok, so **we'll start with immunology.**
 22 S18: ya.
 23 E2: **but with innate immunity**=
 24 S18: =ok=

- 25 E2: =first of all, because is the most important in this case.
 26 S18: yes.
 27 E2: ok? quindi, first of all is the ehm **innate [immunity]**.
 28 S18: [it's a tumour-, ya.
 29 E2: then we will talk about what you were saying, **CTL**, and then
 30 we will talk about ehm **tumour immunoediting** and tumour
 31 escape, [ok?
 32 S18: [right, ok.

The student starts her turn with “the tumour” (l. 17), but she is immediately interrupted by the examiner who says “no, don’t start with the tumours” (l. 18) and qualifies it by quite pointedly saying “I am doing immunology” (l. 19). She explains this statement of identity by first saying “we’ll start with immunology” (l. 21) and then defining the topic more precisely as “but with innate immunity” (l. 23). She continues in this vein, explaining exactly what she wants the student to talk about in sequence – first “innate immunity” (l. 27), then “CTL” (l. 29), then “tumour immunoediting” (l. 30). She is being very clear about the order in which the narrative is supposed to proceed.

However, troublespots sometimes occur in the interaction. In this next extract, the student is on the wrong narrative track:

Extract 4 (E2, S17)

- 98 E2: [Ok **THE ADAPTIVE adaptive** is also this you know? So can
 99 you define what **adaptive** in your response
 100 S17: the will be produced eh () **antibodies**
 101 E2: no E NO I mean you have already talked about antibodies
 102 S17: yes
 103 E2: ok? **let’s not talk about antibodies** I mean the adaptive response
 104 **can you can you go back to the beginning of immunology?**
 105 S17: yes

Here the examiner asks for an explanation of “adaptive”. The student immediately starts talking about antibodies (l. 100), but the examiner stops her – “let’s not talk about antibodies” (l. 103) - and asks her to go back to “the beginning of immunology” (l. 104) and start the story again. In all our data, there is a very strong orientation by the examiner to getting the story told in the right sequence.

Another way that the examiners have of signalling the order of the narrative is to connect it explicitly to their own level of understanding, as shown in the following extract:

Extract 5 (E2; S10)

- 23 S10: eh eh TM eh TM TM TM17
 24 E2: ok (0.3) ok when are these activated by that antigen and by what
 25 eh eh cytokines and what do they release? ok **so I’d like to**
 26 **progress in this way otherwise I don’t understand** it ok?

Here the examiner asks a series of questions in lines 24 and 25 and justifies the request by saying that she needs this sequence of answers because “otherwise I don’t understand it” (l. 26). What the examiner means by “understand” here is not that she does not understand the sequence but that she does not understand the student’s reasoning because it has not been expressed sequentially, and she can only get that understanding if the story is told in the right way. This comment illustrates once again that her questions are aimed at pointing the student in the direction she wants the narrative to go.

Understanding in the oral also needs to be reciprocal. It is not only the examiners who explicitly clarify what they have and have not understood. The next extract shows that the student also needs to understand what the examiner says she has understood and not understood:

Extract 6 (E1; S8)

- 243 S8: [()] antibodies () against antigen
 244 E1: not the result **I understand the result of the selection**
 245 S8: **ok**
 246 E1: **I do not understand how the selection is made** I mean if we
 247 have two B cells ok that undergo mutation
 248 S8: **ok**

Here the examiner explains what she does understand with “I understand the result of the selection” (l. 244) and what she does not understand with “I do not understand how the selection is made” (l.246), and the student acknowledges her own understanding of the examiner’s understanding with successive “ok”’s (ll. 245 and 248).

Another very powerful clue that the students need to pick up on is a very specific idea of explanation required by the examiner.

Extract 7 (E1)

- 225 E1: if you **explain it instead of just sayin’ a word** I can evaluate you

What the examiner means by “explain” is that the student needs to provide some kind of verbal proof of understanding. This reflects an Aristotelian perspective, which may underpin the style of oral examination generally in the Italian educational system, that knowledge cannot be said to have been achieved until it has been successfully communicated. In the case of immunology, the explanation has to be carried out in very careful steps. In extract 6 below, the examiner is very critical of the way the student has not included all the steps that she should have:

Extract 8 (E1; S17)

- 56 E1: step two? no **step one is finished**
 57 because if you don’t know the part(h)icipants **let’s go on step**
 58 **two**
 59 S17: **adhesion**

60 E1: **no this is step three** I'm sorry. Cells need to be () on specific
 61 signals to go to adhesion (.) that's why **there is a step two**
 62 **between rolling and adhesion.**

Here the examiner says “step one is finished” (l. 56) and then “let's go on step two” (ll. 57-58). The student tries to say “adhesion” (l. 59) but is immediately corrected “no this is step three” (l. 60) and the examiner explains why – “there is a step two between rolling and adhesion” (ll. 61-62).

The fact that the exam is in ELF is not an impediment for this kind of step-by-step procedure. This becomes clear if we look at how a student who is a native speaker of English produced her narrative:

Extract 9 (S15)

18 S15: e::m (.) B- happens before, when you're acute, anyway em o::k
 19 **I'll start with hyperacute. Hyperacute occurs**, initially, like
 20 years back, before they knew anything about blood type, you
 21 know, **it occurred** because they **transplanted** a bio- a different
 22 bio blood type in with the transplant. And obviously this
 23 **immediately initiates** () **because there's anti-a and anti-b**
 24 **antigens.** U::h so the antibodies against these would attack the
 25 endothelial cells of the vessels of the transplant, they'd ca:use
 26 instant coagula:tion, ischemia, obviously ischemia=

Here the student has taken a very long turn. This is fairly typical of our data – speakers with English L2 tend to take shorter turns and speakers with English L1 longer ones. However, despite the length of the English L1 student's turn, the trajectory of her narrative is very unclear. The student is going backwards and forwards in her story without the kind of chronological sequencing that the examiner requires. She starts with the end product – “I'll start with hyperacute” (l. 19) – and gives it a present tense narrative – “Hyperacute occurs” (l. 19), but then reframes it as a past tense narrative – “it occurred ... transplanted” (l. 21). She then goes back into the present – “this immediately initiates” (ll. 22-23) and then even further back to the cause – “because there's antigens” (l. 23). So her narrative is hard to follow because there are many different elements being introduced (antigens, antibodies, endothelial cells) in an order which is not chronological.

Narrative research has shown that a story with one character doing x, y and z in chronological order (*ordo naturalis*) is easier to follow than a story that is told with a character doing z, then y, then x in reverse chronological order (see Brown 1994, pp. 15-18). A story with *two* characters doing x, y and z is harder to follow than a story with *one* character doing x, y and z. This is not a question of the words being used in the narrative but of *how* they are being used and how this relates to the way we think. It is a question of cognitive load – having to keep track of different pieces of information at the same time. It is hard to follow what the English L1 student is saying in her

narrative because different concepts are piled on top of each other in an order that it is hard to keep track of.

The fact that the cognitive weight of a complicated utterance can undermine comprehension is highly relevant to EMI, where heavy noun phrases and complex structures are more frequent than in ordinary conversation. The fact that the examinations are being conducted in English as a lingua franca may even be advantageous for the sequential chronology required by the examiners. ELF usage tends towards accommodation and simplification and this tendency makes the kind of simplified step-by-step approach that is required in these immunology exams much easier to acquire.

Within this narrative framework, the data also shows that correct terminology is important for structuring the story. In extract 10 below, the examiner explicitly discusses this point:

Extract 10 (E1; S17)

- 45 S17: selectins
 46 E1: **OH HOW MANY SELECTINS ARE THERE?**
 47 S17: there are mainly rolling type one and type four
 48 E1: how many selectins are there? how many selectins exist? type
 49 one and type four (1.0) is not an answer that matches the question.
 50 **CAN YOU NAME THE SELECTINS?**
 51 S17: no I can't
 52 E1: you can't. ok it's very difficult **to talk about transendothelial**
 53 **migration** also because expression of selectins is regulated (4.0)
 54 by what or which cell if you don't remember the name?
 55 that's why is difficult to talk about these receptors.

The examiner's first question – “how many selectins are there?” (l. 46) – is delivered in a raised voice. After the student's first answer (l. 48), she repeats the question (l. 48), justifying her repetition by explaining that the student's response was not an answer to the question. Within the same turn, she changes her question slightly to “can you name the selectins?” (l. 50), again in a raised voice. When the student answers that he cannot (l. 51), the examiner explains that it is difficult to describe a process – “to talk about transendothelial migration” (l. 52-53) – if you cannot name the particular selectins involved.

The student's ability to use specific terminology is not confined to the use of correct nouns and noun phrases, but extends to the verbs used to describe processes. In the following extract, there is an interesting orientation to the way in which the student uses process verbs when constructing his narrative:

Extract 11 (E2; S18)

- 128 S18: perforin, they ehm they **have** (.), so they **express**, they **release**
 129 perforin=
 130 E2: =yes=

- 131 S18: =which **perforates** the cell membrane=
 132 E2: =yes=
 133 S18: =ehm and they **secrete** granzymes=
 134 E2: =yes=
 135 S18: =that **invade** the cell=
 136 E2: =yes=
 137 S18: =through the perforated membrane and ehm and ehm (.) ehm and
 138 that's(.)=
 139 E2: =the granzymes not really **invade** [(laughs)).
 140 S18: [right, ok.
 141 E2: they **enter** a cell=
 142 S18: =yes.
 143 E2: and then [**activate**
 144 S18: [ACTIVATE ()
 145 E2: ehm:: **a-activate** def- [ensins.
 146 S18: [defensins, right.
 147 E2: **that are called caspases**, ok?
 148 S18: rhm, yes ok, the caspase pathway.

This extract is a prime example of a co-constructed narrative, in which the student first gives a chronological description of what takes place after the release of perforin. He achieves this by using a set of short verb phrases – “they express, they release perforin” (l. 128), “perforates the cell membrane” (l. 131), “secrete enzymes” (l. 133), “invade the cell” (l. 135), each of which is acknowledged by a “yes” from the examiner. This exchange between student and examiner is extremely rhythmical and has latching turns. However, at turn 137 the student hesitates (“through the perforated membrane and ehm and ehm”) and is interrupted by the examiner, who queries his use of the term “invade” in the previous turn. The examiner’s intervention is accompanied by laughter, which perhaps signals that her interruption is not to be interpreted as hostile, and she follows it up with a reformulation of the student’s use of “invade” – “they enter a cell” (l. 141). The examiner then continues the description herself, using the sequenced verb phrases “and then activate” (l. 143) and “ehm:: a-activate defensins” (l. 145). This suggests that the examiner is acknowledging and repairing the student’s hesitation in l. 137 herself by reconstructing this part of the narrative for him. The student shows an orientation to the examiner’s reconstruction by echoing the words “activates” (l. 144) and “defensins” (l. 146), as if to demonstrate that he is keeping up with the narrative construction and fully understands the process. In her final reconstructive turn (l. 147), the examiner rephrases “defensins” as “caspases”, indicating again her orientation towards the precise use of explicit terminology, which in turn is rephrased by the student as “the caspase pathway” (l. 148).

Summing up the results in terms of discursive distinctiveness, our data shows that students need to develop a number of linguistic and metalinguistic skills that are specific to the examination. Examiner and student both show an

orientation to the demonstration of knowledge through a particular type of narrative co-construction in which correction of the narrative by the examiner is used as a device for both conversational repair and knowledge transmission. In the construction of the narrative, the student needs to demonstrate an ability to “explain” the topic under discussion through the detailed, step-by-step reconstruction of immunological processes using precise immunological terminology, particularly process verbs.

3.2. Local and cultural distinctiveness

There is also evidence in our data of a local cultural understanding of what is distinctively disciplinary, particularly in the way that the examiners themselves talk about their discipline during the examinations. The following extract provides a good example:

Extract 12 (E1; S17)

04 S17: so after a (.) the receiving of a (.) of a (1.0)
 05 informational inflammation state
 06 E1: this is a rather generic and (.) please. **Try to be biologic** in
 07 your response so receiving informational inflammation state
 08 (1.0) is something that does not exist

Here the examiner exhorts the student to “try to be biologic” in his response. What does she mean by a biological response? Returning to extract 3, in which the student was asked about tumour immunity, the student had wanted to start with the tumour, but the examiner’s response was “don’t start with the tumours” and “I am doing immunology”. Likewise, in another extract, not quoted in this article, when a student was asked a question about kidney transplants, the examiner directed her away from talking about kidneys, saying “I’m not a nephrologist”. In our data, it seems that the examiners have a very strong idea of how they see their own discipline and how they identify as immunologists. In their own words, they are not nephrologists, they are not oncologists, but they are “doing immunology”. This very specific linguacultural attitude feeds into the way these oral examinations are supposed to proceed.

If we now dig a little deeper into the attitudes underlying the examiners’ approach, their declared identity as immunologists may to some extent be determined by the medical syllabus that they have to follow. In Italy the immunology exam comes in the third year of medical school, but it is not a clinical exam. Clinical exams usually take place in the sixth and final year of the programme, so the Italian immunology examiners tend to have a non-clinical orientation. From the perspective of anglosaxon medical training, on the other hand, the idea of having an immunology course in the third year is quite unusual. The study of immunology is considered a specialist field. What

is more, it is taught and examined from a strongly clinical perspective. Below is a typical written exam question from a paper in Immunology in an English Medical School:

Describe the characteristics of a granuloma and the key immunological events that lead to its formation. (The Royal College of Pathologists, Part 1 examination, Immunology: first paper, Tuesday 23 September, 2014 – retrievable at <https://www.rcpath.org/resourceLibrary/immunology-paper-1---past-papers.html>)

The question is clearly framed from a clinical perspective with a typical problem-solution framework, which was first identified by Hoey (1983; 2001) as a popular organising pattern for the production of texts. The question requires the student producing the text to start with the problem of what a granuloma is (“Describe the characteristics of a granuloma”) and then to work towards a solution by describing how it came to be a granuloma from an immunological perspective (“the key immunological events that lead to its formation”). This schema reflects the problem-solving nature of medical training and assessment in English universities, in which students are presented with clinical problems and asked to find solutions, working backwards from the problem. It may also explain why the L1 speaking student in extract 9 starts her narrative with a tentative explanation of *why* hyper acute occurred (“it occurred because they transplanted a bio- a different bio blood type in with the transplant”) rather than the chronology of the immunological process itself. The EMI immunology oral in our data starts from the other end. The story that needs to be told is not about tumours or granulomas because it has to start at the beginning of the formation process (“at the beginning of immunology” in the examiner’s words, line 104, extract 4). It might eventually end up with the granuloma or the tumour at the end of the process, but that is not really the point of the exam or of the story that the examiners want to be told.

4. Recommendations

The discursive and cultural results regarding the distinctiveness of the immunology examination, suggest that a number of recommendations can be made for applied linguists working with students and teachers on EMI courses. The first of these is the importance of understanding disciplinary variation. This is a question of the educational culture of particular countries and can only be studied by close observation in the EMI classroom and examination room. Our results suggest that the conduct of the immunology examination reflects a local epistemology, which is made up of examiners’ expectations of how the oral should proceed and how students should

construct and express their knowledge as a particular narrative sequence. If this is the case, then applied linguists will need to examine the local epistemology of the EMI courses in which they are involved. These may vary from country to country but may also vary between universities within the same country, between disciplines (e.g. Economics and Medicine) and between sub-disciplines (e.g. Immunology and Oncology). Exploring local EMI context involves an ability to record transcribe and analyse classroom discourse along the lines used in this article. It also involves close professional collaboration between the linguists and the disciplinary professionals of the kind discussed by Sarangi and Candlin (2003) in order to gain as much insight as possible into the local disciplinary culture. Linguistic experts need to build a good relationship with EMI lecturers and students and discuss their recorded performances in considerable depth.

In relation to ELF, our results have shown that the fact that the oral examination was carried out in ELF was not an impediment to the interaction. There is no evidence in our data of a breakdown in communication between examiners or students brought about by a lack of intelligibility in their discourse. It is therefore particularly important to correct the perception that the reason that the students' oral exams may go awry is because of a lack of quality in their English. This misconception is often quite difficult to correct. The students with English L1 often assume that they do not need help with oral examinations because they can already speak English fluently, while speakers of L2 English typically think that to improve their oral performance they simply need more English classes to improve their grammar and vocabulary. The misconception can only be corrected by using discourse evidence to increase students' awareness of the reasons for their poor performances; in the case of the immunology exam, for example, this might be an inability to produce the required narrative sequences in the right way, not the fact that they were using non-standard grammar. The same applies to the examiners. If the transcripts of the exams were to be shown to the examiners, they would probably remark on how badly their English comes across and how they needed to improve it. The linguist needs to reassure them that they have conducted a complicated exam in immunology in their second language without any problems of language misunderstanding at all.

One final point relates to the question of ESP materials. Some ESP materials for medical subjects adopt an anglosaxon problem-based approach. For example, a vocabulary learning exercise might start with a description of a medical problem in English – the transplanted kidney or the tumour - and get the students to fill in the gaps in the process leading up to it. This may be a perfectly good way of teaching medical vocabulary, but its downside is that it reinforces the problem-solution framework, which may not be appropriate in countries or in medical subjects which do not adopt the problem solving method. It is certainly not going to help the EMI student to conceptualise the

framework require for an immunology oral in English in Italy. Language exercises about nephrological problems with problem-solution style texts might improve their lexical knowledge but they are not going to assist them in structuring their immunological “steps” in the oral. This applies particularly to the L1 English speakers attending the EMI course, who may be at an advantage in terms of everyday language use but are at a huge disadvantage in terms of the oral because the narrative approach that is needed - the “biological” response, the step-by-step approach - is the exact opposite of the written problem-solving approach that they have been used to if they have had an anglosaxon school education in the sciences.

5. Conclusions

What conclusions can we draw from the very specific kinds of spoken discourse produced in the immunology exams in relation to EMI and ELF? First, one cannot make generalisations about “oral exams in EMI” or about “oral exams in European EMI” or even about “oral exams in Medicine”. We need to make a lot of distinctions and the work of distinguishing needs to be based on local data. Future research in this area will need to include discourse analysis of EMI oral interaction which is supported by ethnographic data on how the discourse is informed by local educational cultures at national and local level.

The results also suggest that the rethinking of language support programmes in EMI needs to be informed by an approach that involves an ELF orientation to pedagogy. Applied linguists involved in EMI programmes will need to focus much less on decontextualised language and much more on cognition, intelligibility and understanding in interaction, as well as on the influence of local academic epistemology and culture on discourse patterns in particular disciplines. This kind of expertise is not easily acquired and requires appropriate input in applied linguistics courses at postgraduate level and English language teacher training programmes. Whether lecturers, students and universities are going to be receptive to this kind of approach is, however, quite another question.

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