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Tesis doctoral

Can you see what I mean? A multimodal approach to interactional competence in English-Medium Instruction

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Doctoral Thesis

Can you see what I mean?
A Multimodal Approach to Interactional Competence in English-Medium Instruction

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For mum and dad

You always believed in me

Abstract

Driven by internationalisation, few would argue that English has become the professional lingua franca in numerous fields as well as in academic instruction (Dafouz & Nuñez, 2009). One way universities prepare citizens for the globalised world and labour market is by giving access to the international community through programs taught partially or entirely in English (Cots et al. 2012), which has led to the implementation of English-Medium Instruction (EMI) in higher education across Europe. However, concerns have been raised about the effectiveness of English as the lingua franca (ELF) of instruction in achieving optimal outcomes in higher education contexts (Jenkins, 2011, Seidlhofer, 2009). Therefore, this thesis aims to investigate the quality of pedagogy in the EMI classroom by looking mainly at how teachers construct the space for learning and how content knowledge is built. The overarching research objective of this doctoral dissertation is to analyse teacher-student interactional competence, understood broadly as the successful collaboration between participants to construct a sphere of shared meaning (Young, 2011), through the mobilisation of multimodal resources in an English-Medium university lecture where ELF is used for instruction. This thesis aims (1) to provide a deep understanding of how semiotic resources, specifically embodied modes are naturally deployed in ELF-EMI settings, and (2) to explore the affordances and impact of these modes as meaning-making systems in the context of internationalised higher education. This phenomenon is brought into focus through three main interrelated theoretical lenses: (1) the university classroom as an interactional event (Goffman, 1981), (2) multimodality, as a situated meaning-making system (Jewitt et al., 2016), and (3) interactional competence (Young, 2011). Theoretical depth of interactional competence and multimodality was sought through the neurocognitive theory of mirror neurons (Gallese, 2001; Iacoboni et al., 2005) as they relate to the Merleau-Pontian notion of corporal intersubjectivity (Escribano, 2004; Tanaka, 2017). Data corpus of audio-visual material was collected from EMI lectures given in the English-track Dentistry Program mainly, at the Faculty of Medicine and Health Sciences of a private Catalan University in the greater Barcelona area. The 5 lecturers that participated in this study are content specialists in the area of science. At the time of data collection, two lecturers had a CEFR English proficiency level below B2, whilst the other three lecturers had a level over B2, whereas students registered a C1+ level on admission to the university programs. Multimodal interactional analysis (Norris, 2004) provided a systemic approach to organising, producing and analysing the datasets. A fine-grained analysis of classroom interaction was approached from the perspective of conversation analysis-inspired notions such as the *long turn* (Sacks et al. 1974), the *recipient design* (Pekarek-Doehler, 2002; Sacks et al. 1974) and *participation frameworks* (Goffman, 1981; Goodwin & Goodwin, 2004). The process and products of analysis resulted in transcripts of talk (Schegloff, 2007) and image vignettes capturing movement trajectories, formats in which the data are presented. The analysis showed the pivotal role of embodied actions to construct spaces for learning, manage classroom interaction, elicit participation, transfer speakership

rights, provide nuance and precision to talk, build rapport, express solidarity, establish and mitigate expressions of institutional power, create a shared classroom experience and evaluate student contributions and co-construct subject matter knowledge. The results of this thesis demonstrate ELF-EMI teacher's interactional competence through embodied actions, such that multimodal resources are not accessory to pedagogy but form a fundamental meaning-making system in the enactment of teaching in internationalised university classrooms such as those of this study.

Resumen

Impulsados por la internacionalización, pocos niegan que el inglés se ha convertido en la lengua franca en numerosos campos en el ámbito profesional, así como en la enseñanza académica (Dafouz & Nuñez, 2009). Un modo en que las universidades preparan a los ciudadanos para el mundo globalizado y el mercado laboral es dando acceso a la comunidad internacional a través de programas impartidos parcial o totalmente en inglés (Cots et al. 2012), lo que ha llevado a la implementación de la enseñanza mediante el inglés (English-Medium Instruction, EMI) en la educación superior en Europa. Sin embargo, se han planteado preocupaciones sobre la eficacia del uso del inglés como lengua franca (ELF) en la enseñanza para lograr resultados óptimos en contextos de educación superior (Jenkins, 2011; Seidlhofer, 2009). Así pues, esta tesis tiene como objetivo investigar la calidad de la pedagogía en el aula de EMI observando principalmente cómo los profesores construyen el espacio de aprendizaje y cómo se construye el conocimiento de los contenidos. El objetivo general de la investigación de esta tesis doctoral es analizar la competencia en la interacción profesor-alumno, entendida en términos generales como la colaboración exitosa entre los participantes para construir una esfera de significado compartido (Young, 2011), mediante de la movilización de recursos multimodales en una clase de universidad en la que se ha implementado EMI, y por tanto se utiliza ELF para dicha enseñanza. Esta tesis tiene como objetivo (1) proporcionar una comprensión profunda de cómo los recursos semióticos, sobre todo lo nominado 'lenguaje corporal' se despliegan naturalmente en entornos ELF-EMI, y (2) explorar las posibilidades y el impacto de estos modos comunicativos como sistemas de creación de significado en el contexto de educación superior internacionalizada. Este fenómeno se enfoca a través de tres marcos teóricos principales interrelacionados: (1) el aula universitaria como un espacio de interacción (Goffman, 1981), (2) la multimodalidad, como un sistema de creación de significado situado en el tiempo y el espacio (Jewitt et al., 2016), y (3) competencia interaccional (Young, 2011). La profundidad teórica de la competencia interaccional y la multimodalidad se buscó a través de la teoría neurocognitiva de las neuronas espejo (Gallese, 2001; Iacoboni et al., 2005) en su relación con la noción Merleau-Pontiana de intersubjetividad corporal (Escribano, 2004; Tanaka, 2017). El corpus de datos de material

audiovisual se recogió de las sesiones de EMI impartidas en el Programa de Odontología que se realiza en lengua inglesa principalmente, en la Facultad de Medicina y Ciencias de la Salud de una universidad privada catalana en el área metropolitana de Barcelona. Los 5 profesores que participaron en este estudio son especialistas en contenido en el área científica. En el momento de la recopilación de datos, dos profesores tenían un nivel de competencia en inglés del MCER inferior a B2, mientras que los otros tres profesores tenían un nivel superior a B2, mientras que los estudiantes tenían un nivel C1 + al momento de la admisión a los programas universitarios. El análisis interaccional multimodal (Norris, 2004) proporcionó un enfoque sistémico para organizar, producir y analizar los datos. Se abordó un análisis detallado de la interacción en el aula desde la perspectiva de nociones en análisis de la conversación, como el *long turn* (Sacks et al. 1974), el *recipient design* (Pekarek-Doehler, 2002; Sacks et al. 1974) y *participation frameworks* (Goffman, 1981; Goodwin & Goodwin, 2004). El proceso y los productos del análisis dieron como resultado transcripciones del discurso (Schegloff, 2007) y viñetas de imágenes que capturan trayectorias de movimiento, formatos en los que se presentan los datos. El análisis mostró el papel fundamental de las acciones corporales para construir espacios de aprendizaje, gestionar la interacción en el aula, suscitar la participación, transferir los derechos de interlocución, proporcionar matices y precisión para hablar, construir una relación, expresar solidaridad, establecer y mitigar expresiones de poder institucional, crear un espacio compartido, crear experiencia en el aula y evaluar las construcciones de los estudiantes y co-construir el conocimiento de la materia. Los resultados de esta tesis demuestran la competencia interaccional del docente ELF-EMI a través de acciones corporales, de manera que los recursos multimodales no son accesorios de la pedagogía sino que forman un sistema fundamental de construcción de significados en la promulgación de la docencia en aulas universitarias internacionalizadas como las de este estudio.

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CA	Conversation Analysis
CEFR	Common European Framework of Reference (for Languages)
CGA	Critical Genre Analysis
CoP	Communities of Practice
DC	Discourse Communities
EAP	English for academic purposes
ELF	English as a lingua franca
ELFA	English as a lingua franca for Academic purposes
EMEMUS	English Medium Education in Multilingual University Settings
EMI	English Medium Instruction
ESP	English for specific purposes
EU	European Union
GATS	General Agreement on Trade in Services
HE	Higher education
IU	Intonational Unit
K-	Less knowledgeable
K+	More knowledgeable
L1	'Mother-tongue' language
L2	Acquired language
PF	Participation framework
SC	Speech Communities
TRP	Transitional relevance place
WPET	EU White Paper on Education and Training
WTO	World Trade Organisation

reproduced on the next page.

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Jefferson (1984), adapted from Transana Basic version 3.30-Mac

Symbol	Name	Use
[text]	Square brackets	marks start and end respectively overlapping talk.
=	Equal sign	discernible break between utterance lines.
(# of seconds)	Timed pause	The hashtag indicates the number of seconds or fraction of a second.
(.)	micropause	Brief speech 'beat' pause.
↓	down arrow	Falling pitch or intonation.
↑	up arrow	Rising pitch or intonation.
-	hyphen	Abrupt halt or interruption in utterance.
>text<	Greater than / Less than symbols	Enclosed speech was delivered more <u>rapidly</u> than usual for the speaker.
<text>	Less than / Greater than symbols	Enclosed speech was delivered more <u>slowly</u> than usual for the speaker.
°text°	Degree symbol	Indicates reduced volume, quiet speech or whisper.
<u>Text</u>	Underlined text	Indicates the speaker is emphasizing or stressing the speech.
::::	Colon(s)	Prolongation of a sound
(text)	Parentheses	Enclosed speech unclear
(xxx)	Parentheses	Enclosed speech unintelligible. 'x' for each syllable counted

The Internationalised University

1.   Introduction and chapter overview

English-taught programs in non-Anglo speaking countries have their rationales in the processes of internationalisation. Therefore this chapter will describe the global forces that drive internationalisation in higher education. Section 1.1 starts with outlining how globalisation strategies are concerned with enlarging the market through processes of homogenisation. Homogenisation in social values leads to social affiliation, alignment, and recognition of the semiotic signs representing those values. This idea is followed by section 1.2 which points out that although the University has a long history as a hub for internationalisation, the current drive for internationalisation follows a more deliberate process. Section 1.3 highlights the correlation between the degree to which a university is internationalised and its world rankings and ability to draw international but also domestic students. The focus then moves to the implications of a multicultural setting in section 1.4. The intention of creating multilingual spaces has given way to an inevitable *Englishisation* of the University in non-Anglo Europe. A close look at this phenomenon in section 1.5 reveals the consequently high stakes nature of English in the context of higher education and thereby paves the way for the arguments in chapter 2. Lastly, section 1.6 summarises this chapter and outlines the structure of this dissertation.

1.1   Globalisation and its impact on social perception

Globalisation is a socio-economic phenomenon (Rikowski, 2002) defined by Altbach (2004) as 'the broad economic, technological, and scientific trends that directly affect higher education and are largely inevitable' (p.5). In this sense, it is a dynamic system and the constant changes can leave institutions, companies and individuals in its wake if they fail to adapt to its demands (Rikowski, 2002; Lasagabaster, 2015). On the other hand, globalisation can create opportunities to access a rich and dynamic social and professional experience (Bolsman & Miller, 2008; Altbach, 2004). Institutions and individuals can harness these lifeworld opportunities afforded through globalisation if well-positioned with capital, social, linguistic and strategic resources (Altbach, 2004; Cots et al. 2012). Therefore, although globalisation is generally considered primarily an economic movement by the vox populi (Wächter, 2000), its materialisation through internationalisation policies and processes bears on broad aspects of our social, political and cultural life (Altbach & Knight, 2007; Rikowski, 2002). In the following, general aspects of globalisation will be dealt with in order to address the impact on education through internationalisation processes, defined thereafter.

In a paper presented to the House of Lords Select Committee on Economic Affairs, Rikowski (2002) outlines the impact of globalisation on higher education. Drawing on work by McLaren (2001), he addresses globalisation in four interlocking dimensions that foreground the social processes at its core. The first two dimensions, the *socio-economic discourse* and the *socio-political discourse* describe the scope and reach of globalisation, whereas the last two dimensions, *commodification* and *social values*, examine the mechanisms behind the global trend.

According to Rikowski (2002), the first dimension, *the socio-economic* discourse refers to an economic strategy of globalisation entailing marketing processes that gradually lead to transcultural homogenisation or harmonisation. This process creates cultural inroads to access and generate a market demand for certain goods and services in different countries, thus enlarging the market for given products, and it involves cultural cross-fertilisation and hybridisation of cultural forms and symbols that eventually result in standardisation and unification of consumer tastes and identities. This way, semiotic signs, that is the symbols that represent and hold meaning for one collective (Bezemer & Kress, 2015), become recognisable amongst other collectives (Adami, 2017).

Hence what has value in one culture may start to hold value in another. The term *McDonaldisation* is often used to describe how a product conforms to an established format so it is recognisable in different geo-national areas in appearance and ideological bearings, for instance in upbeat consumer brands. However, some of these global brands are out of reach for most of the world's population, and yet owning any such product speaks of economic status, and hence social status. Education has been compared to this example in relation to accessibility and opportunism it offers the consumer in terms of upward mobility (Altbach & Knight, 2007; Van der Wende, 2003).

The second dimension, the *socio-political* discourse is concerned with emerging tensions between issues of local governance and the management of global pressures. Constraints on globalisation include local laws, currencies, habits and other types of codes, hence transnational institutions (for instance, World Trade Organisation – WTO, International Monetary Fund – IMF, General Agreement on Trade in Services - GATS and currently, the World Health Organisation - WHO) unify these aspects so that nation-states are being subjugated to the growing governmental roles of these institutions. In the process, nation-states have been losing decision-making powers in national and international arenas, but retain their influence mainly in matters of local governance, which indeed involves the management of incoming pressures through policy.

Commodification, the process of converting a private good or service into a tradeable product, is the third dimension and also describes how globalisation is driven by the notion of *value,* in the form of money-capital and in particular surplus-value, in other words, profit. In commodification a portion of money capital is reinvested into the next or different production cycles through three main processes; i) *extension* where capitalistic activity enters new social spaces such as healthcare or education, ii) *differentiation* where capital becomes embodied in diversified forms of commodities, and lastly through iii) *intensification*, which is an investment venture that drives development deeper within its own domain (Rikowski, 2002, p. 5). This dimension has a distinct knock-on effect on the final dimension.

This final dimension looks at social values and principally the transformative effect commodification has on these. For instance, in the European system, education and healthcare have been upheld as social goods to which all have a right, as the universal availability of these services forms part of the social fabric of values and responsibilities (Altbach & Knight, 2007). Due to their great cost, the neoliberal discourse started to frame these goods and services as financial liabilities (Bolsman & Miller, 2008; Marginson, 2002). Hence education, along with other social goods, has been gradually responding to global and local market demands and placed within frameworks for profitability. Consequently, the social advantages conferred by an educational experience that aims for world life readiness becomes unattainable to a significant part of the population. Therefore, commodification transforms goods that reflect social *values*, into products that hold tradable capital *value*.

The four dimensions given by Rikowski (2002) above outline the strategies of globalisation to enlarge the market through the unifying of tastes and values thereby creating cross-border demands for like products, through the supplantation of local governance by transnational organisations to oversee market enlargements, through the commodification of social goods and services through the private sector, and finally through reframing the notion of social values within the neoliberal discourse to that of social value. The sanctioning power of transnational organisations make attempts to resist these changes somewhat 'Quixotic' (Rikowski, 2002, p. 4).

However, according to the WTO mission statement (https://www.wto.org, last accessed April 1, 2021), market deregulation aims to improve the quality of life in developed and developing countries. Nonetheless, for many, the inequality gap in educational opportunities has widened instead (Altbach, 2001, cited in Van de Wende, 2003). Privatisation is hugely appealing as transnational agencies invite potential private investors to 'unburden' states from the billions it costs to finance public services such as education. However, tensions emerge between ensuring the sustainability of the education system and access to it (Altbach, 2004). The opportunity and

promise of financial returns on commodified internationalised education have not been lost on educational institutions, as efforts are made to draw fee-paying students from abroad. This bid for and presence of international students has far-reaching implications for the university on social and institutional levels where globalisation has introduced a new type of 'interconnectedness, plurality, multi-locality and multiplicity' (Beck, 2000, as cited in Khondker, 2005, p. 183)

Therefore investigation into the social effects and dimensions of globalisation in education needs to come at the hand of sociocultural prisms in addition to the economic paradigms. For instance, globalisation as a macro-level framework cannot be applied to understanding micro-level social realities. Even though macro and micro socio-economic levels are interrelated, there is nonetheless tension generated from interests called from the macro and from the micro side. This tension has led to a new understanding of how macro and micro levels interrelate through the notion of *glocalization* as an emerging operational paradigm that brings the local into relevance on the international stage and vice versa (Dewey, 2007; Khondker, 2005) (More about glocalisation will be said in section 2.1 in the context of English as a lingua franca).

As a result of growing tensions between local needs and global demands, globalisation representatives are facing calls for greater social responsibility from government institutions (Tight, 2021; Van de Wende, 2003) as social issues such as access to quality education are being raised (Zajda, 2015). So it seems the single-minded economic discourse behind globalised education could be losing some of its momenta according to more recent research (Tight, 2021; Zajda, 2015) as populations become vocal about their loss of local industries, access to employment or even identity. Hence, predominantly global economic discourses have been given way to glocal socially-oriented discourses, and those focusing on a knowledge economy as a fundamental factor in the production of goods and services (Rikowski, 2002). The emphasis on creating a knowledge economy places the education system, in particular, the university as a locus of knowledge production, in a central position.

For instance, in the 1990s, Stewart (1996) demonstrated a correlation between a country's rank as a competitive economy and that country's educational system. In countries where a greater number of people were schooled, the economy thrived significantly more than in those in which school enrolment numbers were low. Although one could posit that educational opportunities are a product of a healthy economy, the research presented in Stewart (1996) shows that global systems reward countries that invest in human resources through education regardless of their economic situation, and penalise those countries that fail to do so. Therefore, providing a

relevant education system in a globalised economy and giving access to it is a high stakes endeavour.

1.2   The role of the university in a globalised economy

According to Marginson (2002, p. 412-413), 'global and globalisation refer to world systems that are different to the nation-state, crossing its boundary and sometimes but not always displacing it'. On the other hand, *internationalisation* describes the local institutional policies put in place to regulate and accommodate global trends to local realities whilst creating opportunities to access international arenas (Altbach, 2004; Tight, 2021). In light of this, and amid the complexity of integrating the macro (economic) framework of globalization and meso (institutional) framework of internationalisation, Knight (2003, p. 2) proposes the following definition for higher education; 'Internationalisation at the national, sector, and institutional levels is defined as the process of integrating an international, intercultural, or global dimension into the purpose, functions or delivery of postsecondary education.' In these terms, globalisation is a worldwide socio-economic-political trend whereas internationalisation describes the creative decisions and initiatives for coping with and integrating the challenges and demands placed on society by globalisation. In Europe, the response to globalisation resulted in the EU Whitepaper for Education and Training (1995, 1996) which launched the Bologna Process (1999, 2018), as the guidelines for the implementation of internationalisation directives into a trans-European education system.

A brief historical look at the institution of the university in Europe will provide some insight into the rationales for the directives as well as highlight the uniqueness of today's context. Firstly, the etymological root of *university* encompasses ideas of a whole and the entire community of teachers and scholars, such that mobility is not a modern-day phenomenon (Pavlenko, 2018). In terms of academic mobility, through the ages the university has been a hub of international activity; even in the Middle Ages, it had a global outlook, made and shaped from the mobility of both students and faculty and the connections they established between institutions. Therefore, the university in the Middle Ages already operated and participated in the creation of an internationalised context (Altbach, 2004; Kerr, 2001). University activity relied on a mainly oral and written tradition, hence a common language was needed for scholarship and academia. Latin as a common language of the educated and religious classes became the lingua franca in these circles (Mortensen & Haberland, 2012).

Latin as a lingua franca facilitated exchanges of students and faculty and became commonplace in the activity of Western academia (Altbach, 2004). The resulting connections made the university in the Middle Ages a global institution for two main reasons: firstly, it served an internationalised community, and secondly, those ties created circumstances beyond national

borders that influenced policy and direction. Universities worldwide today are an amalgamation of Medieval scholarship traditions and of the German and American type of university, where a dual focus on research and service (respectively) was introduced (Altbach, 2004; Kerr, 2001). Therefore the Western University has been an internationalised entity for much of its history, and as one of the oldest institutions in the world, it might explain why it has undergone the least change in relation to its organisational structure compared to certain political and religious institutions, such as the British parliament or the Roman Catholic Church (Kerr, 2001).

Despite the university's history as an interconnected international institution, Scott (2000) points out that over half of today's universities were established after 1945 as national institutions to serve specific national needs. However, with the growing pressure from globalisation, these universities have had to adapt in order to survive. So what was once a normal aspect of academic life, institutional internationalisation is a deliberately planned strategy. A study by Marginson (2002) reports the case of the Australian university, as an example of adaptation; the transition from a publically-funded national needs model university to one that navigates and exploits globalisation, and the profound changes in social structure this transition has produced. The 'national university' model stood as an institution of democracy where access to the programs depended on personal competencies and interests rather than on the ability to pay tuition fees, and after graduation, personal aptitude determined access to certain jobs and pay scales. Australia has retained this vision for domestic students, thus attempting to retain its local identity and agenda, whereas engagement with the demands of globalisation and internationalisation have been centred on international students (Marginson, 2002).

In fact, in a globalised market a competitive edge is given by *the local*; what makes the place special, what it offers and what qualities attract capital resources to these spaces (Harvey, 1990 as cited in Marginson, 2002). A similar view is expressed by Khondker (2005) who argues that in globalisation local differences must necessarily exist thereby highlighting the importance of *glocalisation*, that is how the local bears on the global and vice versa. The tensions that emerge as higher education institutions keep local and global forces in the balance bring about a heightened awareness of the social factors that determine success on the one hand and issues of national rootedness and identity on the other.

In order to guide the complex integration of internationalisation processes in higher education, the EU Commission produced the White Paper on Education and Training (1995) (henceforth WPET) which states its mission as follows, 'to plot out a route to this new society by identifying the options available to the EU in education and training.' (p.3). The document recognises each nation-state as different and therefore central in the construction of Europe. It emphasises European citizenship through an education system that constructs European identity and

personal development in addition to field knowledge and technical skill sets. The education system envisaged by the WPET recognises the importance of promoting and supporting competencies related to self-reliance and learning to learn, fundamental skills for navigating and thriving in a rapidly changing world.

Paramount in the WPET is making citizens work-ready, therefore a practical approach to education and training should ensure the skills and knowledge base provided is broad enough to enhance employability, as well as provide personal fulfilment. The WPET addresses knowledge and skills in four domains: technology, mobility, knowledge and social aptitude. First, technology has brought the world of production and the world of learning closer together (p.6), where active participation is required in order to respond to new models of work. The implications on teaching methodologies mean replacing a relatively passive unidirectional teacher-student arrangement with a learning experience based on interaction and active participation, whilst 'changes in teaching methods will not affect the content of the material taught' (ibid). The second domain centres on the free movement of goods and individuals across borders as a result of mobility programs and policies that streamline the mobility process. The aim of mobility is to create an agile and adaptable society that will strengthen Europe's edge on the world market, which ought to translate into a better quality of life for all European citizens (Altbach, 2004; Rikowski, 2002; Cots et al., 2012).

The third domain centres on knowledge and contemplates the unprecedented rate at which scientific and technical knowledge is being produced. Whilst the progress it ushered in is celebrated, the social changes brought about by this very progress can generate anxiety about personal welfare and employability. In response, the EU supports education and mobility through events and programs that seek to instil a culture of learning, such as ERASMUS for mobility. However, in a multilingual area such as Europe, access to and participation in knowledge fields is enabled through a command of languages, hence the WPET places special emphasis on learning at least two foreign languages from a young age. In relation to knowledge and educational methods, the WPET encourages apprentice-like models of education. This reveals an awareness of the *learning by doing* paradigm (Krummheuer, 2011, Sfard, 1998) as an effective educational approach that seems to underpin enlightened teaching practices today.

The last domain focuses on social aptitudes, which refers to the need of individuals to develop social skill sets in order to participate efficiently in collaborative work and in their professional communities. Hence, the WPET states that field and technical knowledge coupled with social skills and mobilised by linguistic competencies equips citizens for participation in European society. Therefore the WPET serves as the interface between globalisation and European social ideals, in which the equality and the holistic purpose of education are upheld above capitalistic

purposes. According to the WPET, the solution to constant change is to become a learning society with the ability to critically evaluate the social moment and respond to the situation with a set of relevant skills. In this regard, the following outlines the three directives out of the five set out in the WPET (p. 30) which are most relevant to this thesis:

1. Encourage the acquisition of new knowledge

2. Bring schools and the business sector closer together

3. Develop proficiency in three community languages

The first directive describes the need for incentives and resources in order to encourage knowledge acquisition, and in the case of the university, knowledge production. Whilst mobility exposes students to new experiences and knowledge, the scheme needs the support of a system of university credit transfer. Hence, the European Credit Transfer System (ECTS) gives local vocational and academic recognition to educational experiences gained in other EU higher education institutions abroad. The second directive aims to make the educational experience rich and relevant to the world of (international) work. Lastly, a focus on developing functional abilities in two other European languages gives the individual access to mobility programs, the possibility of collaboration on international projects and access to knowledge otherwise inaccessible.

As a means to be relevant and efficient and prepare individuals for global citizenship, the WPET suggests the integration of language and subject-matter content in teaching-learning. Although more will be said about this educational approach in Chapter 3, the WPET posits that support to this initiative can be given through an exchange system of language learning materials, together with an assessment system with quality indicators for the materials and the methods employed in the teaching of community languages. Therefore, in light of the directive on language and subject matter integrated learning, this doctoral thesis looks not at the quality of the teaching *of* a community language but of the quality of teaching subject matter *through* a non-local community language.

1.3 Internationalisation as an indicator of quality

The presence and number of international students serve as an indicator of the university's international status, which in turn validates the higher education institution in question as a participant in the international community (Bolsmann & Miller, 2008; Doiz et al., 2011) as well as positions it more strongly on national and international ranking systems. Therefore, attracting and retaining international students and faculty is important. Furthermore, the presence of international students serves to attract domestic students to the institution (Doiz et al., 2011).

Moreover, international students and faculty provide the university with socio-cultural diversity which ought to lead to the development of cross-cultural understanding among the international and domestic student communities as part of the social skill set development (Bolsmann & Miller, 2008; Nilsson, 2002). In fact, in an article in The Guardian newspaper Former British Prime Minister, Tony Blair, a proponent of globalization, stated that international students are a source of cultural and intellectual enrichment for local students (Blair, 2006, as cited in Bolsmann and Miller, 2008).

Although an international dimension to the higher education experience is important for the development of knowledge and skills, a study conducted in Sweden, Nilsson (2003) found that only 10% of students and few academics took advantage of mobility programs. Therefore the author questioned how the remaining 90% of the students who did not, or could not opt for programs abroad could be exposed to an international dimension in their education experience. The concept of *internationalisation at home* (IaH) describes an approach to provide an international dimension to a student's education at home through curriculum design, interaction with international students, and exposure to instruction in a non-local language. Wächter (2002) offers a simple definition of IaH in 'any internationally related activity with exception of outbound students and staff mobility' (p. 6).

Interestingly, Bargel (1998) reports a positive correlation between the lived experience abroad of domestic students and the intensity of the interaction with visiting international students in the host university. Domestic students that have not experienced a stay abroad may not have the same access or desire to interact with visiting students. Efforts to bring together these communities to interact through campus activities increases sensitivity to and appreciation of other cultures. However, one natural space for interaction that seems to be overlooked is the internationalised classroom where students and lecturers come in contact with individuals from different socio-cultural and educational backgrounds. Here the lecturer is a core player in the success of the classroom through their teaching and their engagement with the sociolinguistic challenges of the internationalised classroom (Teekens, 2002).

1.4   Multilingualism: ideals and reality

The third directive set forth by the EU (to 'Develop proficiency in three community languages') calls for the learning of two European languages in addition to one's own to forge a European identity and participate in world citizenship. Mobility to different geolinguistic areas is one means to develop additional language knowledge, however as pointed out previously, the opportunity to access such an experience lies out of reach for individuals. Hence the availability

of higher education programs taught partially or entirely in a language commonly used outside the home country could provide domestic students with opportunities for relevant language learning, while at the same time those programmes serve to draw international students (Wächter & Maiworm, 2014). Subjects taught in another language would lead students to develop professional literacy in that language (Vollmer, 2006). With exposure to integrated linguistic and subject-matter content, students could develop professional literacy in that language of instruction.

However, despite best efforts to promote multilingualism, the predominant use of English in a vast number of professional fields has created a disproportionate demand for courses in English thereby displacing other European languages (Altbach, 2004; Cots et al., 2012; Doiz et al., 2011) In the case of non-Anglophone countries such as Spain, the setting of the present study, offering English-mediated courses provide leverage in the bid for international students (Cots et al., 2012), and therefore it is a high-stakes resource for universities to position themselves internationally (Spencer, 2008, as cited in Cots et al., 2012). Therefore, university language policies aim to protect the use of other languages.

According to Spolsky (2007):

> 'The goal of language policy is to account for the regular choices made by individual speakers on the basis of patterns established in the speech community or communities of which they are members. One such policy is to maintain the existing status of a recognised variety, or more realistically, to resist a tendency of speakers of a variety to shift to the use of another.' (p.1-2)

While language policy safeguards the use of non-lingua Franca status of languages such as Catalan, it invariably promotes the learning through English when English is the language chosen for instruction. The demand and popularity of English taught programs is a response to the demands of academia and the world of work (Coleman, 2006).

In Northern Europe, English taught programs have been a part of higher education for longer than in Southern Europe. In the North there have been concerns regarding 'domain loss', that is, the loss of knowledge and knowledge building in local languages (Doiz & Lasagabaster, 2012). In Southern Europe, English taught programs face a different set of challenges. There are concerns with the quality of instruction in English especially if the lecturer is a 'non-native' user of English (Doiz et al., 2011). Due to the more recent history in English taught programs in Southern Europe, countries are now grappling with issues related to teachers' perceived capacity and motivations as they are called to the ranks of teaching in English (Fortanet-Gomez, 2012).

1.5 The (high stakes) nature of English

As mentioned earlier, few would argue that English dominates science, scholarship and professional spheres as never before, often compared with the use of Latin in the Middle Ages (Altbach, 2013). While Latin was the sole language of scholarship and instruction till the 13th century, it did enable the internationalisation of universities. The Protestant Reformation at the hand of Martin Luther spurred a growing sense of national identities which saw Latin displaced by other national vernaculars. For instance, German and French dominated scientific endeavour and scholarship well into the 20th century, and English was just one of a repertoire of languages (Altbach, 2013; Mortensen and Haberland, 2012) until colonialism spread and established English in a number of countries, such as Australia and India (Pennycook, 2012).

Although stylistic features of English are said to make it a suitable language for scientific communication, the rise in the use of English is linked to the rise of economic superpowers that use English (Blommaert, 2006). As Altbach (2013) notes, 'size and wealth matter a great deal in determining the academic pecking order' (p. 2). The consequence is that English-speaking academic systems draw more than half the world's international students, who then return home with a zeal for the Anglo-Saxon models of university, work and academia. Scientific journals, meetings and websites are largely in English because their main editors and professors come from English-speaking systems or are the product of one (Ammon, 1998, as cited in Ljosland, 2011), or they simply understand that to participate in scientific conversations, a command of the discourse in English is essential. As the common vernacular, English has permitted the creation of wide collaborative networks. However the use of English bears negative effects if the most valued information is only available in English (Coleman, 2006), and knowledge of English is the only way to access that knowledge independently. In other words, a working knowledge of English confers power, and therefore influence to the individual or organisation (Blommaert, 2014; Bourdieu, 1977, 1991; Pennycook, 2012; Ljosland, 2011).

1.6 Summary and thesis structure

This chapter thus far aimed to provide a vision of how the pressures of globalisation have created in English a high stakes resource in the world of higher education, despite attempts to promote other European languages in the name of multilingualism. Due to the demand for English taught university programs a number of 'non-native' lecturers have been called to teach their content subjects in English. Consequently, this endeavour has raised concerns in the popular discourse regarding the *quality* of the educational experience at the hand of non-native English language users. Therefore the purpose of this thesis is to explore this situation from a qualitative socio-cultural perspective to bring into relief the ways in which these lecturers

competently accomplish pedagogical strategies and are able to successfully enact social actions in these circumstances. The following outlines the structure of this thesis:

Chapter two centres on the key notions of English as a lingua franca as a product of *glocalisation*. Having laid this foundation the discussion turns to conceptualise English Medium Instruction as a higher education approach in English taught programs. It is briefly compared to other approaches to highlight its almost exclusive focus on content matter instruction and not linguistic elements of knowledge building and examines issues of teacher and student perception. ***Chapter 3*** lays out the theoretical framework beginning with a discussion of discourse communities as a foundational concept in the emergence of genres. The lecture is then conceptualised as a genre in order to highlight its overall recognisable structure. Because this thesis ultimately focuses on meaning-making, the theoretical framework seeks to point to different ways in which the physical and institutional context inform the construction of shared meaning. In framing the university lecture as a genre, it also makes salient its interactive nature as a shared space. This notion serves to launch the two principal constructs of this thesis; interactional competence and multimodality. Although initially discussed in separate sections, I show how intimately these two phenomena are interrelated and function together. Once the mechanisms of interactional competence have been explained, a discussion of institutional constraints further contextualises the approach to the data.

With the analytical paradigm in place, ***chapter 4*** deals with the nuts and bolts of the study after an introduction to the study research objects and questions. It describes the setting of the study, the participants and the methods used to collect audiovisual recordings of teaching sessions. This is followed by an explanation of how the raw material (recordings) was converted into data (transcripts and video grabs) with the concurrent process of data analysis. Therefore chapter 4 describes the tools used to guide the study, and view, *entextualise*, organise and sequence the data in the process of analysis.

The analytical chapters, whilst independent one from the other, are presented in a cumulative sequence designed to harness the phenomenon presented in previous chapters. Therefore, ***chapter 5*** focuses on the construction and maintenance of *participation frameworks* and speakership transfer through gesture and other multimodal ensembles. ***Chapter 6*** focuses on spatial behaviour within ensembles of other embodied actions. This chapter investigates the way in which a teacher sitting in the classroom reconfigures power distances, and the impact this move has on pedagogical outcomes. Insight into the phenomenon is given through the previous chapter which highlights participation frameworks and gestures. ***Chapter 7***, the last analytical chapter explores how students orient to a teacher with lower English language proficiency. The

analytical prism draws on the notions presented in chapters 5 and 6 overlaid with Membership Categorisation Analysis to highlight how institutional constraints bear on the interaction.

Chapter 8 draws together the findings of the analytical chapters to answer the overarching research questions and highlights the contributions this thesis makes to this field of interactional competence, multimodality and English-medium instruction. Within the realm of education, this thesis makes a persuasive argument for face-to-face teaching compared to online or blended models. The limitations of the study are addressed and serve to launch questions and directions for future research.

Understanding the 'E' in EMI

2.   Introduction and chapter overview

Chapter one argued for the central place of English in today's higher education system in non-Anglo countries. This chapter aims to problematise the notion of English as more than a code and highlight its social instrumental role in education. This chapter starts with section 2.1 which gives a sociohistorical account of English as a hybrid language and therefore the product of glocalisation. This concept aligns with the ideas of globalisation. The idea is further developed in section 2.1.1 by going back to examine what *language* is as opposed to *languages*. Section 2.1.2 explores the notion of English as a lingua franca as a bona fide medium of communication. Section 2.2 introduces English-medium instruction and delves further into the implications on students and teachers through the EMEMUS framework (Dafouz & Smit, 2014) in section 2.2.1. Because one of the central concerns motivating this thesis relates to teaching quality in ELF/EMI, section 2.2.2 addresses the mechanisms currently in place, to then point out the lack of variety in perspectives taken to this question. Section 2.2.3 summarises the chapter and concludes by presenting chapter 3 in light of the call for new perspectives on understanding EMI practices.

2.1   English as Lingua franca: A product of *glocalisation*

Dochakuka is a Japanese term that refers to the process of adapting a particular farming technique to one's own local condition. Inspired by this idea, the Japanese business community merged the terms 'globalisation' and 'localisation' into *glocalisation* to describe the process of adapting products that are global in reach and application to local tastes, culture and needs. Khondker (2005) draws on work by (Roland) Robertson (1995 cited in Khondker, 2005) to point out 'many of the social categories and practices assume a local flavour or character despite the fact that these products were invented elsewhere' (p.185). However, there is a second part to this phenomenon; local culture in turn *is the result of* exchange, of borrowing, of cross-fertilization and finally of accommodating to that which comes from elsewhere. Therefore *glocalisation* can be understood as an interdependent process of macro-localising and micro-globalising of products and practices.

In other words, many social artefacts considered 'local', such as products, practices and cultural mores, are oftentimes a hybrid of non-local influences. For instance, traditional eating habits have changed due to exposure to other traditional foods; Asians enjoy Western food and Westerners enjoy Asian food regularly. This exchange of influences raises questions about what is ('authentically') local. Social artefacts are constructed and evolve through time and space, and they also evolve

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through the changes in our own perception of them, for instance how we view certain traditions or practices with the passage of time. In relation to language, it too is a social artefact, and any perspective of language as a static artefact fails to recognise the dynamic nature of language as an organic evolving phenomenon.

In addition to the above, a static view of socio-cultural artefacts - language, for instance, does not acknowledge its historicity, that is, the history of influences that have resulted in current albeit dynamic forms (Bronckhart, 2008). Therefore, both the global, the local (and the historical) are present in our social artefacts. The process of homogenisation described in chapter one (section 1.1) could therefore be described as the transformational uptake of the global into the local and vice versa (Dewey, 2007). Therefore if social artefacts are evolving products of historical, local and global influences, and language is one such artefact, then language is subject to change.

2.1.1. On language and languages

In his economics of linguistic exchange, Bourdieu (1977) forcefully questions prevailing thinking about language as an intellectual object to be studied for its own sake. A view of language as an organic and dynamic social mediator (Robichaud & De Schutter, 2012; Blommaert & Rampton, 2012) has been gradually subsuming these more cognitive but persistent orientations that make language an object of analysis 'rather than an instrument of action (or power)' (Bourdieu, 1977, p. 645; see also Blommaert, 2014). So, despite the strong structuralist approach to language in linguistics, the legacy of Chomskian thinking (Chomsky, 1965), there is increasing recognition that language evolves out of a need and desire to communicate and this social use of language is the focus of much scholarly work (for instance, Blommaert, 2006, 2014; Hymes, 1972; Gee, 1989; Matsumoto & Canagarajah, 2020; Mondada & Pekarek Doehler, 2004; Park & Wee, 2011; Pennycook, 2012; Vollmer, 2006; Young, 2011, 2013). Therefore from a social use perspective, instead of seeing language as a set of grammatical and syntactical rules, language is seen as a composition of codes and symbols which are then 'exchanged in [the business of] communication' (Tauli, 1968, as cited in Robichaud & De Schutter, 2012).

At this point, a distinction between the notion of *language* as opposed to *(natural) languages*, or the Spanish *lenguaje* versus *idiomas* respectively, might be useful. In a chapter that reflects on theoretical and pedagogical considerations between language and languages, Bronckhart (2008) describes overarching universal characteristics of *language* that underpin the emergence of natural languages. The premise is that language *develops* around human activity, and the resulting *genres*, those consistent types of spoken and written texts, bear witness to the purposes of communication expressed through variations in content, language type, form and target audience (Schriver, 2012; Swales, 1990). It is the commonalities found in natural languages that will help define what we understand by language described as follows.

All languages are composed of phonemes, morphemes, lexemes, the syntax of some sort, and context, arranged into grammatical, semantic and pragmatic conventions. Language is a linear mode of communication, that is one word is uttered after another, and so requires connectors to relate a current utterance with a previous one, or to project the content of a forthcoming utterance, in this way meaning is derived in how utterances relate to each other. So language is produced and organized sequentially where cohesive devices serve to create overall coherence of ideas. Therefore, successful communication in any language or discourse relies on *coherency*. Natural languages then emerge through a differentiated set of grammatical, semantic and pragmatic rules and conventions (Evans & Levinson, 2009). *Hence*, the very structures that make it a system are those that permit its ongoing reflexive transformations for social use (Hymes, 1972; Robichaud & Schutter, 2012; Young, 2011, 2013). In other words, language as an organic entity is sensitive to how well its current forms achieve desired social outcomes. This organic aspect of language is also one of its universal characteristics and is foundational to the concept of *English as a Lingua Franca* which will be discussed in the next section (2.1.2).

Language, or natural languages for that matter, ultimately have an *instrumental* purpose, in that their value lies in the extent to which they enable social goals to be achieved (Robichaud & De Schutter, 2012). In relation to the goals, if the value is in the language itself for no other purpose than its artifactual existence, the aims of the activities related to language are *intrinsic*. On the other hand, *extrinsic* goals confer a pragmatic functional role to language that is oriented towards achieving goals held as socially valuable. Therefore, intrinsic values of language are generally tied to issues of identity and rootedness for the speakers of that language, hence under this paradigm, the language needs to be protected and preserved. If the goal is to reach a far and wide audience, English, Spanish or Chinese, for instance, could be used in their vehicular capacity. However, should the goal be to create a sense of identity as a nation and access its historical and cultural works (see also Pennycook, 2012), these same languages need safeguarding from so much change that they can not perform their intrinsic function. In this sense, Rochibaud and De Schutter (2012) posit that the extrinsic goals of a language give it an *instrumental* function; a tool that gives access to knowledge, power, autonomy and other aspects of the social lifeworld. It would follow then that language as an 'instrument' can be subjected to alterations, regulations and 'improvements' so it can best perform its social function (Robichaud & De Schutter, 2012, p. 127; Bronckhart, 2008).

For those who are 'native' speakers of a common vehicular language such as English and who to some extent hold an intrinsic view of language, the instrumental view is somewhat threatening to the integrity of the language 'proper', hence to national identity (Ljosland, 2011) and to the national social fabric. The premise is that a community needs a (supposedly) *stable* common identity and culture to construct social *like-mindedness*, which in turn establishes the conditions for the provision and sharing of collective and cultural goods (p.134, see chapter 1, section 1.1 on homogenisation).

This perspective on language as a cultural resource may shed light on the whys and wherefores of social resistance to any changes a language might undergo to fulfil goals perceived as extrinsic and instrumental. However, language use does undergo change, and in the following, a framework for understanding those changes in a non-threatening way is provided in the notion of *repertoires*.

Blommaert and Backus (2011) discuss the dynamic notion of *repertoires* as an alternative to the more static notion of speech communities (more said on speech communities in chapter 3, section 3.1.1). A repertoire refers to language that embodies an area of knowledge; 'because 'having' a particular repertoire is predicated on knowing how to use the resources that it combines.' (p.3). Due to our interconnectedness and pursuit of knowledge, knowledge is constantly being constructed and deconstructed, and language is instrumental in this process. Although there is still the predominant view, particularly in formal instructional contexts, that language knowledge can be measured through the tools offered by, for example, the Common European Framework of Reference for Languages (CEFR), these seem to fall short in this task. The underlying assumption is that language use is uniform and unchanging, and yet 'language' is a historical accumulation of semiotic resources and influences and embodies thinking and knowledge which is ever-changing (Blommaert & Horner, 2017).

To illustrate the idea of 'repertoires', we can compare the language we spoke as young children to our language as adults. Our childhood repertoires grow and broaden as our need for language to navigate and construct our world has. Within our adult world, we have a repertoire for our home life, another one for our professional life, another one for peers and yet another for the lay community, for instance. The uptake of a repertoire comes by interacting with certain knowledge and skills (Dafouz, 2007). It is often the case that 'non-native' students and teachers are fluent in the academic repertoires of their field in English and yet they might struggle with shifting into the language of non-academic everyday life even though they may have scored well on an IELTS exam (Blommaert & Horner, 2017). This competence in one area and not the other indexes a speaker's knowledge pool, which in turn legitimizes their status and credibility (Bourdieu, 1977, p. 648-649), as 'Language is not only an instrument of knowledge but also an instrument of power. A person speaks not only to be understood but also to be believed, obeyed, respected, distinguished'. Therefore, communication, knowledge construction, identity and a disposition towards solidarity are not the only goods resulting from a shared repertoire.

Legitimised talk presupposes a legitimate transmitter addressing a legitimate receiver both of which recognise the authority of the other in how and what is being said. Authority is both earned and granted when the speaker displays an alignment with the stylistic and ideological modes of a particular language (Bourdieu, 1977), such as that of scientific discourse as is the case in this thesis. However, questions of authority on subject matter knowledge might be raised against those for whom

English is not their first language, where their talk might carry non-standard linguistic features and a 'foreign' accent. The undermining of subject matter authority due to pragmatic variations in the use of English is disputed in work that relates to social mobility and academic literacies (Blommaert & Horner, 2017). In the context of mobility, and in particular academic mobility, the geo-nationalistic view of language, which holds that a language belongs to the people of a geographical area, has given way to the notion that a language does not belong to any one country (Ljosland, 2011). So English exists as varieties in Anglo and non-Anglo countries (Blommaert & Horner, 2017). When people move from one linguistic space to another they take awareness of discursive resources such as genres, registers and styles, proper of any language (Agha, 2007 as cited in Blommaert & Horner, 2017). In the case of professionals, however, the discourses need to conform to the norms of their knowledge field (Bourdieu, 1977).

In relation to repertoires, Lave and Wenger (1991) propose *Communities of Practice* (CoP) as a concept that describes social unity through a sharing of ideologies and (language) practices in self-directed ways. Robichaud and De Schutter (2012) point out that '(t)he language we speak in a sense discloses the world in a situated way' (p. 133). Likewise, citing Gadamer (1975), 'to have a world we need a language', and finally, 'language structures the horizon within which our experience of the world unfolds.' (p. 145). Membership to a community requires a certain mastery of the discourse that defines the group (Airey, 2008). In the case of CoP and discourse communities, mastery of the language is access to power and influence.

2.1.2 English: lingua franca or *Frankensteinia*? (Phillipson, 2008)

An algorithm developed by De Swaan (2001, as cited in Coleman, 2006) provides us with Q-values for different world languages as a measure of their widespread use. These values place languages into four main hierarchical categories: peripheral, central, super-central and hyper-central. At present, there is only one language in the hyper-central category and it is English. This empirically drives home the point about the privileged status of English in science, technology, big business, and as the world's most common second or foreign language, in education. This is consistent with predictions that there would eventually be more non-native speakers of English than 'native' speakers (Gogolin, 1994, as cited in Dafouz & Smit, 2012; Graddol, 2003). The notion of *nativeness* will be briefly dealt with later in this section.

Despite attempts to create multilingual experiences, the international bodies of students and faculty have instead tended to mutually fortify the use of English in order to communicate with those from different geolinguistic spaces (Otten, 2000; Ljosland, 2011). According to Seidlhofer (2004), English as a lingua franca (henceforth ELF) is the chosen language of communication between people who do not share a common language or culture and for whom English is not their mother tongue.

Furthermore, Jenkins (2011) posits that *sensitive* native speakers of English will speak a modulated version of English that is different to their 'native' (idiom laden) norm.

Faced with the challenge of how to conceive ELF in an age of mobility, Seidlhofer (2008) suggests that the notion of 'speech community', a collective that shares a set of linguistic norms, is obsolete in light of internationalisation and today's hypermobility, and points to Communities of Practice (CoP) as a more aligned alternative. Members of a CoP use a shared field-specific discursive repertoire, and success within a CoP is measured in terms of the capacity to align the use of [English] with the demands of a situation (Lave & Wenger, 1991, also Firth, 2009). In the context of the given doctoral thesis, the university classroom is part of the academic and professional community, a space of knowledge sharing and constructing, and where students become socialised into emerging members of a CoP (Evnitskaya & Morton, 2011; López-Deflory & Juan-Garau, 2017).

Inside the university classroom and out, international students and faculty have been observed to interact in English by mobilizing not only linguistic resources but also and significantly interactional strategies to create shared meaning (Björkman, 2010; Matsumoto & Canagarajah, 2020). Interestingly, studies report greater difficulty understanding so-called 'native' English speakers than non-native speakers (Doiz et al. 2011). Linee (2010) reports that 'native' speakers of English do not show an awareness of how to communicate successfully in multilingual contexts where they are hard to understand; '(w)hile native speakers of English do not have to learn English as a second language, they should learn how to speak English with non-native speakers.' (Linee 2010:36, as cited in Hülmbauer, 2011). On the contrary, accustomed users of ELF are in general proficient successful communicators where they take a fluid, flexible and pragmatic approach to getting a message across (Jenkins, 2011; Seidlhofer, 2004, 2009).

And yet internationalized universities continue to benchmark native-like English as more desirable (Jenkins, 2011), whereas the onus should perhaps be on clear and effective communication in the given discursive repertoire, high academic standards and the ability to successfully interact with students. This point, again, raises questions about the notion of *nativeness.* As indicated earlier, English is a highly hybridized language, and purpose-driven repertoires and specialist discourses ought to dispel notions of a single entity called *English*, and at best use the notion of *Englishes* (Canagarajah, 2008). Using Kachru's (1988) model of *World Englishes*, Inner-Circle countries (e.g., the UK, Australia and the USA) continue to stake a claim on 'proper' English through the influence of some of its institutions such as, for example, the British Council. Consequently, stakeholders outside the Inner-Circle are held against 'native-like' models of English. And yet, the dichotomous notion of native versus non-native could categorize individuals beyond their speakerhood into potentially discriminatory considerations that disempower them (Cioè-Peña et al., 2016). For instance, while ELF users are considered 'resourceful', it may inadvertently point to their semiotic mobilizations as

compensatory moves, thus undermining the individual as a competent other. This idea is a central driver in the analysis of the data corpus in this doctoral thesis which seeks to examine the nature and the affordances of semiotic resource mobilization in ELF institutional communication.

In relation to categories, if the focus is on content as is the case, and not on necessarily on form, the ELF user should be referred to as a 'speaker' and not a 'learner' (Björkmann, 2008) as they would be under the SLA standpoint. This perspective alone pulls the ELF user out of the 'deficient learner' paradigm (Firth & Wagner, 1997). As Seidlhofer (2011, p. 66) rightfully argues, 'English could not actually function as an international language at all if it were simply adopted rather than adapted'. The resources in ELF are mobilized like those of natural languages as motivated by the communicative functions they serve (Jenkins, 2011). An understanding of how individuals interact in ELF needs to consider their knowledge of their own language, of other languages, metalinguistic skills, as well as paralinguistic (intonation, pace and so forth) and social interactional skills (Blommaert & Horner, 2017). Considering how these resources come into play when people communicate shifts the focus away from a purely logo-centric perspective of communication. Nonetheless and worth considering is Deterding's study on misunderstandings in ELF interactions in South-East Asia among members of Kachru's (1986) Outer-Circle and Expanding-Circles places (in Björkman, 2015 review). The findings showed that only 14% of any turbulence in the communication had grammatical causes, and unfamiliar words and phrases caused 22% of misunderstandings; the most significant find was that 86% of trouble in communication was related to issues of pronunciation. In the case of academics, one can speculate that the reason for pronunciation issues is a result of the dominance of English in the written scientific literature (Altbach, 2004; Altbach & Knights, 2007; Lasagabaster, 2015) where competence in reading is scored higher than other linguistic competencies amongst academics (listening, speaking or writing) (Dafouz, 2007), suggesting greater exposure to written text than to spoken text.

The main driver of ELF is to communicate in the *here and now*, therefore ELF can adapt to the current, local, circumstances of speaking because of its poly-pragmatic, multifunctional aspects which respond to emerging communication needs, in other words, as talk unfolds (Park & Wee, 2011). Even if ELF enables speakers to communicate on a global scale, individual acts of communication themselves are still carried out in specific local contexts (Hülmbauer, 2011, p. 47). Therefore, ELF is non-territorial and adapts to achieve local needs. Moreover, it changes with every speaker and in accordance to the unique constellation of resources they bring to the interaction. As Bourdieu (1977) states, '(u)nderstanding is not a matter of recognizing an invariable meaning, but of grasping the singularity of a form which only exists in a particular context' (p. 647).

ELF is also a product of creativity where speakers mobilise whatever linguistic and other semiotic resources are at their disposal with little consideration for pre-existing externally defined parameters

of usage (Widdowson, 2019). Hence, as outlined previously in section 2.1 on glocalisation, ELF is the result of linguistic and cultural transformation into a specific socio-cultural space (Tomlinson, 1999, p. 149 as cited in Hülmbauer, 2011). In that sense, the forms of ELF can be somewhat unpredictable as a response to the needs of the situation, giving rise to internal diversity. As a result of the inconsistencies in ELF form, Park and Wee (2011) offer a practice-based perspective of ELF where they posit ELF as an activity type rather than a *variety* of English. This is because the use of ELF emerges and evolves moment by moment in situ, in which individuals contingently draw on a range of sociocultural semiotic resources, linguistic and non-linguistic, to make meaning (Canagarajah, 2008; Hülmbauer, 2011; Pölzl, 2003, as cited in Park & Wee, 2011).

Hence, if ELF does not follow established norms in its capacity as a practical medium of communication, it cannot be codified and fixed (prematurely) as a language while in practice it is still described as an 'attitude' (Joseph, 2006, as cited in Dewey, 2007, p. 348), an activity type (Park & Wee, 2011) or a fluid medium of communication (Jenkins, 2011). Nonetheless, there are calls for some type of systematisation for interactions in ELF to bear consistent meaning (Dewey, 2007) or to be taken seriously in academia (Mauranen et al., 2010). Herein lie the challenges of identifying grammatical patterns that would underlie any classification of ELF as a variety of English. Attempts have been made by Mauranen et al. (2010) however their work has mainly identified phonological features that are part of the Lingua Franca Core, consistent with findings by Deterding (in Björkman, 2015) mentioned earlier.

Perhaps the need for systematisation, meaningfulness and institutional validation can be found in the more focused perspective of English as a lingua franca in academic and professional settings (henceforth ELFA) (Mauranen et al. 2010). ELFA contemplates the discursive repertoires of a CoP to provide a shared language that embodies a shared world; that is, the knowledge, ideologies and perspectives on the world. Furthermore, similar experiences as intercultural communicators have equipped ELFA users with common communication strategies (Hülmbauer, 2009; Mauranen et al. 2010). For instance, in the ELFA context, the condition of *non-nativeness* seems to give rise to common ways of reasoning with heightened inference processes (Hülmbauer, 2009). Moreover, interaction among ELFA users produces shared meaning through field-related repertoires. Applying these ideas to the teaching context in higher education, the 'E' in English-Medium Instruction (EMI) is hence a situated, socially constructed activity type in which consistency in use is found in the discursive repertoire as well as in the speaker's L1 structures.

2.2.   English Medium Instruction from a sociocultural perspective

English-Medium Instruction (henceforth EMI) refers to the teaching of specialist subject matter in English with no particular focus on linguistic elements. EMI describes a practice rather than a framework (Airey, 2017). As such it does not describe the sociocultural dimension within an internationalised context in higher education. Dafouz and Smit (2014, 2020) developed the – English-medium Education in Multilingual University Settings (EMEMUS) model to bring to the fore and draw together the dimensions of internationalised education through English as a vehicular language in higher education. A more detailed explanation of the EMEMUS conceptual framework is given later in this section.

To better understand what is meant by EMI, a brief comparison of EMI with other English-based approaches will be based on work by Macaro (2018, p. 39-40). In EMI, English is not a local official language, students are either domestic or international, they can share the same L1 with the teacher (unlike ELF contexts) and English is always the L2. The teacher is a content specialist and EMI is used in either compulsory or elective subjects. Unlike other English-mediated approaches, such as Immersion, Content and Language Integrated Learning (CLIL) or Content-Based Instruction (CBI), EMI does not rest on a theoretical framework, as mentioned above. As a result, EMI does not stipulate objectives in terms of content or language beyond those already stipulated in the official study guide. Hence, EMI is a content-driven approach in teaching that does not require objectives related to linguistic or cross-cultural competence.

The previous discussion on ELF included a sociolinguistic vision of the process of socialising emerging professionals into their CoP (Dafouz, 2018, p. 175; Vollmer, 2006; Young, 2011). This participation requires skills that go beyond linguistic aspects of communication, involving the ability to effectively interact with others. This calls for a pedagogical approach that orients towards the development of content knowledge, discipline-related discourse and social interactional skills (Dafouz & Nuñez, 2009). As already explained in Chapter 1 (section 1.2.), the Bologna Process which grew out of a European strategy for internationalisation in Education and Training (WPET, 1995) acknowledged this need by redefining the way education, in particular higher education, was understood by creating new paradigms that emphasized discipline-content knowledge and how-to skills. These requirements led to a restructuring of the university curricula with competency-based objectives driving different degree and postgraduate programs.

Recalling the directives of the WPET (1995) presented in Chapter 1 (section 1.2), these outline a three-point vision for European citizens: to acquire specialist knowledge, to learn two additional European languages, and to be prepared for the world of work. The internationalised university classroom is a space where these directives can intersect. Nonetheless, this doctoral thesis questions what type of knowledge equips people for social participation. Is explicit technical field knowledge

enough, or are there other types of implicit knowledge, such as interpersonal abilities that are also required? How these social aspects for professional readiness are potentially developed in the university classroom is a concern of this thesis.

While EMI teachers are qualified subject-matter specialists, they usually show little awareness of how language in general constructs the knowledge of their field (Airey, 2012; Airey & Linder, 2008a, 2008b; Costa, 2012). And yet awareness thereof could help develop mastery of a discipline through mastery of the discipline's discourse (Dafouz & Smit, 2016). Integrated Content and Language in Higher Education (henceforth ICLHE), is an approach whose methodologies have intersecting content *and* language objectives (Macaro, 2018). The emphasis is placed on content but includes authentic problem-based approaches with objectives that reflect the need to develop in students professional discursive and interactional abilities (Wilkinson, 2018).

Despite the common view in higher education that language is simply vehicular and not an end (Dafouz & Smit, 2012), studies have nonetheless shown sensitivity towards content-related language use in EMI classrooms, where both the teachers and the students apply interventions to ensure legitimate language usage (Clua, 2017; Costa, 2012; Moncada & Block, 2019; Mancho-Barés, 2016, 2017; Basturkmen & Shackleford, 2015). So although any focus on language is perceived as rare in EMI (Schmidt-Unterberger, 2018), previous studies that look at practices in EMI have shown unwitting orientations to language use. Due to the co-constitutive relationship between knowledge and language, whether acknowledged by teachers or not, language in education is both the object and the vehicle of learning (Airey, 2008; Seedhouse, 2004; Vollmer, 2006). Hence the lecturer as a content specialist should also be considered a linguistic specialist in the related field (Macaro, 2018).

Ferguson (2007, as cited in Björkman, 2010) points out '[w]hile the popular discourse is concerned with linguistic qualifications and pedagogical effectiveness through ELF, institutional talk revolves around specialised language that makes the dichotomous notions of nativeness somewhat irrelevant'. It stands to reason that if EMI teachers are generally equipped with specialist discourse, they are in the position to develop the discourse in students and guide their eventual mastery of the language to think, speak and interact, as emerging legitimate participants (Bourdieu, 1977, 1991; Lave & Wenger, 1991). However, the development of such discourses and related skills requires methodologies that promote dialogical exchanges and interactive practices (Hüttner et al., 2013 as cited in Dafouz & Smit, 2014; Mercer, 1995). Therefore, participation and interaction in the classroom not only contribute to building learning outcomes but *are* learning outcomes in and of themselves as social meta-skills (Krummenheuer, 2011; Mercer, 1995).

Although EMI represents a practice, Dafouz and Smit (2014) argue that an ELF component in EMI confers a socio-cultural dimension in how its situated purposeful interaction relies on practical socio-cultural and linguistic resources. As briefly mentioned earlier, Dafouz and Smit (2014, 2020)

offer a framework in response to the conceptual gap in EMI through their English-Medium Education in Multilingual University Settings (EMEMUS) model. It draws together the global, local, political, institutional, social and linguistic drivers, discussed throughout chapters 1 and 2. EMEMUS provides a vision of the 'dynamic complexity in the main ingredients, that is, social agents and language' (p. 400). This framework offers a socio-cultural vision of EMI practices. For instance, the change from 'instruction' to 'education' departs from one-way, top-down knowledge transmission models. The second 'M' for 'multilingual' speaks to the relationship between predominant English language use and the other languages in domestic, international and virtual contexts.

EMI does not necessarily imply the higher education setting, whereas EMEMUS specifically addresses the peculiarities, tensions, challenges and *identities* involved in the internationalised university setting, one that aims to teach content and socialise students into academic practices. This thesis asks how these processes are constructed and shared, and demonstrates that they do not rely on spoken language alone. While EMEMUS presents and describes the socio-cultural and linguistic dimensions of EMI, as discussed previously, the term EMI will be used herein to refer to English-mediated classroom practices and EMEMUS to the overall context.

2.2.1. The stakeholders in the EMEMUS classroom: teachers and students

A culturally diverse classroom requires cultural sensitivity and knowledge of both the teaching and the learning styles that stem from diverse backgrounds. Hofstede (1986) outlines four areas of potential intercultural problems that lecturers may be unaware of when teaching culturally diverse groups: different understanding of the social position of teachers in terms of epistemic authority and approachability; the relevance of curriculum content; cognitive paradigms; and expected patterns of student-lecturer and student-student interactions. Studies report that any accommodation to internationalised classrooms often emerges from the lecturers' innate interest and capacity to reflect rather than on university protocols (Hofstede, 1986; Teekens, 2003).

Focus on teachers

In a study conducted in a university in the Basque Country, Spain, Doiz et al. (2011) report how teachers (and students) adjust to the English-medium context and what they perceive as benefits and drawbacks. Teachers reported as satisfying preparing and delivering classes as it allowed them greater contact with discipline-specific English, which in turn improved their English through a different skill set. The English-mediated class provided a natural context for English language literature use and the use of specific terms, thereby having to formulate Basque or Spanish equivalents unnecessary. On the other hand, the same study also reported that preparing and delivering classes in English required an enormous investment of time and effort, consistent with findings in Corrales et al. (2016).

According to Airey (2012) overall, teachers did not seem to grasp the objectives of English-medium programmes, or the outcomes they were aiming for. When teachers and students shared the same 'first' language they said teaching in English felt artificial and the seeming lack of purpose prevented full engagement on the part of both teachers and students. And yet a principal rationale for EMI is the access it affords citizens to the globalised world (Dearden & Macaro, 2016, as cited in Macaro, 2018). One of the greatest misconceptions among EMI teachers was related to the role of English in their classes, where they believed they were obliged to include English language teaching rather than teach their disciplinary content through English. Although a misconception of EMI objectives, the resistance to teaching in and through English was a matter of teacher identity and not English language proficiency levels (Airey, 2012; Block & Moncada, 2019).

EMI teachers have shared concerns regarding the depth and level of complexity as well as the volume of content that can be covered in their EMI subjects (Airey, 2009; Macaro, 2018, p. 81). They fear they could not cover as much of the syllabus, and explanations would be far more superficial than if classes were in their own language. Moreover, they reported feeling insecure in their ability to paraphrase and interact with the students (Klaasen & de Graaf, 2001:282, as cited in Helm & Guarda, 2015), as well as build rapport and display solidarity and unable to express humour (Helm & Guarda, 2015). Informal conversations with the teachers involved in this thesis revealed that they hold similar perceptions as those reported in studies cited above in which they undermine their competencies. Fortanet-Gómez, (2012) reports similar findings and adds that lecturers feel more confident about presenting papers at conferences in L2 (English) than EMI. Other than differences in audience, a paper presentation that lasts 20 to 30 minutes followed by possible questions is a much shorter period of time than a two-hour class. Macaro (2018) posits that teaching in an L2 is more efficient and not deficient, where teachers make economical use of words.

These perceptions perhaps highlight the need to deconstruct the role of the 'all-knowing' instructor to that of teacher and facilitator (Cots et al., 2012), to create a space where students are given a more active role (Fasel & Berger, 2015). However, resistance to these shifts might be found in multicultural classrooms in certain geographical areas as they struggle with preconceived ideas of the teacher role. For instance, the teacher-student institutional relationship in Asia or the Middle East is well-known to occur across a steeper gradient than in Western Europe as a result of the esteemed position the teacher figure holds in those societies. Indeed, approaches in an internationalised classroom that call on active student participation can be either welcomed or met with reservation.

At the micro-level university teachers are said to be split into those that view EMI as an opportunity to internationalise their own professional careers (Teekens, 2002) and those that perceive it 'as a threat to their status quo' (Dafouz, Jüttner and Smit, 2016, as cited in Dafouz, 2018, p. 18). The relevance of this discussion is to bring forth common concerns EMI teachers face which impact their sense of

professionalism, identity and status. An overarching purpose of this thesis is to contrast perceptions held by teachers regarding their competence through EMI as reported in the literature with the findings in empirical EMI classroom data.

Focus on students

Domestic students in the university in the Basque Country who chose EMI programs reportedly show greater engagement in the study than those in standard programs, where any lack of language proficiency was compensated by their motivation (Doiz et al., 2011; see also Dafouz, 2007). Nonetheless, one reported reason for a lack of engagement in EMI programs by the Spanish domestic students was related to their self-perceived low level of English proficiency despite holding certificates in advanced English (Doiz et al., 2011). Therefore these students consider themselves under-equipped for the challenges of learning through English. Macaro (2018) points out that no study (at the time) has correlated domestic students' perceived abilities and their actual capacities in the L2. By contrast, international students deliberately choose to undertake the challenges of internationalised education in an L2 and therefore come into this context with a greater sense of their own preparedness. In this sense, concerns among students about the competence of 'non-native' teachers to teach their subject matter in English have been reported in Doiz et al. (2011), as well as casually overheard in the corridors of the institution where this study has been conducted.

In light of these doubts, an analysis of scripted versus unscripted lectures in EAP (English for Academic Purposes) courses, Flowerdew and Miller (1997) found that scripted full-sentenced monologue placed a greater cognitive burden on students in terms of following and understanding the content compared to speech that includes all the 'defects' of natural talk such as 'redundancy, false starts and repetition of key words' (p. 34). The features of real speech slow the pace and together with redundancy allow students to process information more effectively. Other semiotic resources such as discourse markers, prosody and non-verbal language contour, enhance and organise the lecture with better structure and clarity. This point is illustrated by Allan and Bradbeer (2019, April) in a paper presentation that describes an EMI teacher with mastery of both general and engineering English. Despite his linguistic competence he lacked the pedagogical strategies that build a successful learning environment; he spoke in a monotone, had his back to the students as he spoke, and he delivered the talk at a fast pace and in full complex sentences. Moreover, his visual and spatial interaction with the students was minimal. The students in this study brought the situation to the attention of the language department who then conducted the subsequent study on this particular EMI teacher. This case powerfully illustrates that neither *nativeness* nor a solid command of the discourse in English necessarily leads to an effective teaching-learning environment in EMI contexts.

2.2.2. Quality assurance in EMI

Due to the rapid and widespread implementation of EMI in higher education, regulatory bodies are concerned with educational quality (Altback & Knight, 2007). This comes in response to persistent concerns expressed in the popular discourse and by EMI stakeholders regarding the quality of the education experience when ELF is the medium of instruction (eg. Altbach & Knight, 2007; Airey & Linder, 2008; Björkman, 2010; Costa, 2012; Doiz et al., 2011; Dafouz, 2007; Fortanet-Gomez, 2010; Helm & Guarda, 2015; Jenkins, 2011). 'Social confidence in higher education demands giving priority to defining the roles and responsibilities of all players involved in quality assurance' (Altbach & Knight, 2007, p. 302). One such effort is an accreditation system for university teachers which was developed in Catalonia, Spain, in response to the need to provide some quality assurance in EMI. The CLUC-EMI test (*Certificat de Llengües de les Universitats de Catalunya*) is a joint project of the Catalan universities and accredited by Catalan, Spanish and European official agencies.

The test evaluates an EMI teacher's capacity to teach students through English. Although one part of the test includes interaction, as an evaluator of the CLUC-EMI exam, I have found the emphasis continues to fall on fluency, pronunciation, vocabulary and grammar aspects so that evaluations of this type continue to be based on notions of general English (see also Macaro, 2018). A similar test, TOEPAS (Test of Oral English Proficiency for Academic Staff), has been developed by the Copenhagen University TAEC group. The group acknowledges the strong linguistic focus of the TOEPAS test, and in response has established another workgroup to develop an approach called EQUiiP (*The Educational Quality at Universities for inclusive international Programmes)* to equip lecturers with pedagogical skills for the EMI context.

2.2.3. Summary and conclusion

This chapter presented language as a hybrid of historical and global influences in contrast to a static unchanging view. The use of English as a lingua franca, therefore, provides a sociocultural dimension to the practice of EMI. Although EMI has been explored through surveys that have collected data on beliefs, perceptions, experiences and knowledge of the stakeholders (Airey, 2012; Block & Moncada, 2019; Dafouz, 2007; Fortanet-Gomez, 2012; Doiz et al. 2011; Macaro, 2018), more recently, the research community is calling for new perspectives on ELF (Matsumoto, 2019) and EMI teaching and learning through experimental, longitudinal and ethnographic methods (Dafouz, 2018). Likewise, EMI and ELF scholars point to the lack of studies that take a multimodal approach to uncover the interactional elements in ELF contexts to reveal the *processes* in teaching and learning in this context (Björkmann, 2010; Matsumoto, 2019).

This thesis aims to respond to both these calls with an empirical fine-grained multimodal interactional analysis exploration of the EMEMUS context. The preliminary driving questions for the construction

of the theoretical frame of reference are two-fold: What semiotic resources other than talk are involved in the interaction with students and to what effect? How is a meaningful and effective learning experience created? These questions will be developed and refined in chapter 4 in light of the theoretical framework presented in Chapter 3.

The university lecture as an interactional event

3.   Introduction and chapter overview

The theoretical framework underpinning this thesis is composed of three main constructs; 1. the lecture as a spoken academic genre, 2. multimodality and 3. interactional competence. The first construct in section 3.1 will be approached from the recurrent practices of a discourse community whose activities lead to the emergence of genres. The recognizability by the stakeholders of such practices sets the foundations for shared meaning construction. This part of the theoretical framework draws on previous discussions presented in chapters 1 and 2 regarding the nature of the internationalised classroom. Having raised issues regarding the resourcefulness of ELF in chapter 2, the next construct in section 3.2, multimodality explores how any meaning in the university lecture context is indeed constructed through means other than talk. The vision afforded by multimodality shows how any analysis of communication and social action 'doing' (mitigating, disagreeing and so forth), meaning wholeness can only be achieved through a perspective that includes such (embodied) modes as gaze, gesture, spatiality and the prosodic features of talk, and the affordances of material objects (slides, classroom furniture) in interaction.

The final construct of this thesis in section 3.3, interactional competence, draws together the notion presented in sections 3.1 and 3.2. Firstly the notion of competence is briefly defined in light of competing sociolinguistic concepts, linguistic and communicative competence, to show in what way these approaches fall short of producing an understanding of how individuals engage in meaning-making. The discussion centres on the many resources that come into play when individuals interact and the social actions that emerge in that interaction. Notions taken from conversation analysis, the long turn, recipient design and participation frameworks provide the structure to track the effect of non-verbal resources, as well as provide access to an emic view of interaction. With the main focus on embodied actions, interactional competence is further explored through two complementary avenues, the biological basis of perception and the phenomenological approach of the body as a lived experience with others.

3.1   The university lecture: A conventionalised practice

This section aims to outline a framework for understanding how recurrent practices are the basis for meaning-making in their given contexts, in this case in the university lecture as a shared experience.

The discussion starts with a brief examination of speech communities which it then contrasts with Communities of practice and finally discourse communities with the aim to highlight the affordances each of these concepts bring to the notion of situated meaning-making. Having established that all these communities are united by way of ideologies and communicative practices, the discussion turns to the emergence of genres and critical genres as a reflection of the situated recurrent activities undertaken by a community, in this case, the academic community. The idea of genre is subsequently taken to conceptualise the university lecture as a genre belonging to a discourse community composed of the lecturer and students, each participating with their unique set of aims.

3.1.1. On discursive communities and the emergence of recurrent practices

Speech Communities

With origins in linguistic anthropology, the study into Speech Communities (henceforth SC) started in the 1940s with a special focus on geographically determined languages as well as specialised languages (Gumperz, 1968/2009). The concept of the SCs looks at the linguistics of social behaviour which is a core element in sociolinguistics: 'Any human aggregate characterised by regular and frequent interaction by means of a shared body of verbal signs and set off from similar aggregates by significant differences in language use' (p.66). At that time, Chomskian ideas of grammatical correctness in language strongly dominated linguistics and hindered any uptake of the social element in language use, as manifested in the following:

> Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions as memory limitations, distractions, shifts of attention and interest, and errors (random or characteristic) in applying his knowledge of the language in actual performance Chomsky (1965, p. 3).

Labov (1972) creates a hybrid definition that draws together the notions of Chomskian structural aspects and Gumperz's focus on sociolinguistic practices. Labov here stresses the reciprocal nature of linguistic norms and social practices, in how linguistics defines a community: 'The speech community is not defined by any marked agreement in the use of language elements, so much as by participation in a set of shared norms: these norms may be observed in overt types of evaluative behavior [...]' (Labov, 1972 as cited in Morgan, 2004, p. 9).

In Gumperz (1968/2009) privileged talk over other semiotic resources, maintaining that 'refinement' in meaning is a matter of skilful grammatical and syntactic adjustments. In this sense, Gumperz claims that understanding a speaker comes through their well-formed, intelligible talk. He concedes

however that intelligibility also rests on *recognisable* usage, that is, language usage based on a regular association with the social context, where familiarity and predictability play a role, which in turn enables individuals to ascertain social intent (p.67).

Another approach to SC is summed up in 'The Speech Community perspective which views heterogeneity as based in a geographically defined population, and structured by broad and fundamental social categories, particularly class, gender, age, race and ethnicity' (Eckert, 2006, p. 2). This view categorises speakers in terms of central and peripheral demographics where those that interact at sociolinguistic borders are not considered within the notion of a 'typical' speaker (Rampton, 1999; Gumperz, 1968/2009). Survey studies, rather than ethnographic studies, have largely informed this area, and whilst useful to map the distribution of linguistic practices, they do not capture the interaction underlying sociolinguistic changes (Eckert, 2006, p. 2), and yet, according to Pratt (1988, as cited in Eckert, 2006) changes comes from places of intersecting influences, ELF being a case in point (chapter 2, section 2.1).

Communities of Practice

In common with SC, one of the key notions of Communities of Practice (henceforth CoPs) is the specialist use of language and related practices within a (professional) community. The conceptualisation of CoPs was developed by Lave and Wenger in the 90's to describe a shared repertoire of communal resources that evolved and consolidated over time and the socialisation process of the learner into the community of practice as *legitimate peripheral participants* (Lave & Wenger, 1991, 1999; Smith, 2003). Moreover, *legitimate* members of the CoP are those able to show mastery in the use of the specialist discourse, a condition Bourdieu (1977; 1991) also refers to in the context of power relations. However, as alluded to above, the CoP concept was brought into sociolinguistics (from anthropology) to theorise on learning and build a vision of how community participants migrate from novice to expert status (Lave & Wenger, 1991). It is a framework that supports explanations of social learning based on ongoing engagement and social groupings *independent of* geographical location, age or gender, as opposed to SC which is geographically bound, and hence less applicable in discussions on communication in internationalised contexts (Blommaert & Rampton, 2012).

Due to common objectives, members of a CoP develop specific ways of doing things, expressing common views, values, dynamics in power relations and ways of talking, all of which give rise to a process of conventionalisation, and how participants engage in their CoP is in virtue of their place within it (Depperman, 2013c), in this case of this thesis whether they are the expert or the novice. This speaks of recurrent social practices built through shared experience over time and through a commitment to shared understanding, a central notion in CoPs (Macaro, 2018, p. 30). Consequently,

a particular 'thought style' (Berkenkotter, 2008, p. 178) develops and becomes embodied in sociolinguistic practices, where a sense of familiarity and predictability contributes to fluid communication within a given social context (Eckert 2006, p. 3). Furthermore, a CoP lens provides a means to view the process of socialisation and construction of identity in individuals. For example, a study carried out amongst a group of adolescent girls examined their change in linguistic practices in correlation with shifts in their social identities, namely, as they shed their more conservative friends to join a more rebellious group (Moore, 2003, as cited in Eckert, 2006).

A sense of identity participates in how we talk and enact social practices (Stivers et al. 2011). In this thesis *identity* is considered a dynamic entity that is constructed and deconstructed through social interaction. Therefore as said above, socialisation into a CoP is also a process of shifting identities and social positions. In higher education, the socialisation of students into a professional community is one educational objective. The very idea of professional communities requires a proportion of experts and a proportion of novices, the latter of which the experts shape with knowledge of ideology, content, discourse and practices (Swales, 1988). So broadly speaking, a CoP provides a valuable perspective on how recurrent practices in a community based on common interests become the repertoire of recognised and conventionalised practices into which novice individuals are socialised. In contrast, the speech community concept as mentioned earlier uses static socio-demographic and geographical parameters to understand conventionalised practices. Nevertheless, these two notions offer a paradigm of how individuals are grouped together to form communities whose members can understand one another, an important element in a project that strives to explain how mutual understanding is achieved between people. In the next section, the last discursive grouping will be outlined.

Discourse Communities

Similar to the notions in CoPs, the concept of discourse communities - DCs, pivots on functional goal-directed interests and activities, and therefore shifting goals bring about changes in activities and in the elements of communication (Miller, 1984). In other words, the conventions of communication are not pre-established and put in place to then form a community, but instead conventions in communication arise consequentially and contingently from the purposes and functions of the community's goals and activities (Swales, 1990; Wardle & Downs, 2014).

Swales (1990, p. 24-26) provides six defining characteristics of a DC which will serve to underpin the concept of genres in the following section:

1. It 'has a broadly agreed set of common public goals', whether explicit or implicit.

2. It 'has mechanisms of intercommunication among its members, such as meetings, newsletters, research articles and conferences and other forms of participation.

3. It 'uses its participatory mechanisms primarily to provide information and feedback', which serves to maintain members aligned with common goals.

4. It 'utilizes and hence possesses one or more genres in the communicative furtherance of its aims', whereby communicative purposes are fine-tuned.

5. 'In addition to owning genres, [it] has acquired some specific lexis.' mastery of which partly comprises what Bourdieu (1977) considers the dividing line between the legitimate and non-legitimate members of a community.

6. Finally, it 'has a threshold level of members with a suitable degree of relevant content and discoursal expertise.' where continuation of the community relies on training 'incoming' new members to replace 'outgoing' ones.

To sum up, this section introduced the notion of communities which share discursive practices and activities, the fruit of shared contexts, ideologies and knowledge. When communities share discursive practices in a recurrent fashion these practices become consolidated into an activity type (Levinson, 1992). This serves the thesis in the following way; in the business of meaning-making, there is a pre-existing framework for shared understanding that comes through the discourse practices of a particular community, in this case, the internationalised university science class. The following will conceptualise these common discourse practices as genres.

3.1.2. Genres and genre analysis

From the recurrent communicative practices within a discourse community, or Community of Practice for that matter described above, emerges the conventionalization of those communicative practices and eventually the establishment of these as communication *genres* (Miller, 1984; Swales, 1990; Wardle & Downs, 2014:213). Therefore genre analysis is a means to understand the reciprocal relationship between language use and context, as well as recognise socially applied ways of using language (Hyland, 2002; Swales, 1990). Recognition of the genre is based on the following 'that the feature of a similar group of texts depend on the social context of their creation and use, and that those features can be described in a way that relates to the text of others like it and to the choices and constraints acting on the text producers' (Hyland, 2002, p. 114).

Swales (1990) describes a genre as goal-orientated spoken or written texts that are characteristically structured and serve to communicate within and outside the discourse community in a manner that is easily recognisable. As such, the genre 'exhibits various patterns of similarity in terms of structure,

style, content and intended audience' (p. 58). Swales includes the notion of *constraints* and their role in giving genres their distinctive forms recognisable to the common-interest community. Kress (1989, p. 10, 60) says of constraint to be the limits, the boundaries, that characterise a particular genre and allows one to be distinguished from another. For instance, a lecture from a paper presentations, or a recipe from a poem. Constraints refer to these design considerations, but also *social* constraints mediate the activity which allows one to be distinguished from another, for example, compare a conversation between friends and the institutional talk between a teacher and a student (Drew & Heritage, 1992; Miller, 1984).

The study of genres is commonly referred to as *genre analysis*. Fang (2012) points out that genre analysis gives insight into the construction processes of genres, such as the structuring mechanisms of participation, interaction and co-construction. This perspective permits observation of how a genre mediates interaction, in other words, we gain insight into factors such as the constraints that weigh in on the interaction between participants. Returning to the notion of discourse communities, one way to view one's membership status in it is through the individual's development of genre knowledge, in how it is composed, its schemata, and the ability to compose the genre type themselves (Flowerdew, 2015; Kress & Knapp, 1992). For instance, a growing experience at oral presentation leads to an improved command of this genre, or proficiency in laboratory report writing will come through reiterated practice in that area (Kress & Knapp, 1992). In other words, having operational mastery of a genre comes through engagement with and experience in the creation of that genre. The rules and constraints of a genre become internalised and eventually followed subconsciously thereby becoming an entrenched practice and recognisable to others (Bhatia, 1991:155). This is the view taken to the university lecturer as a member of a discourse community, and their ability to (co)construct the lecture as a genre of their professional activity.

Critical genre analysis for institutional contexts

Labels such as scientific, legal, medical or educational provide broad contextual field information, but do not say anything about the orientation or intention of communicative action, and do not say anything about the forces that mediate these intentions (Flowerdew, 2015; Swales, 1990). For instance, a scientific phenomenon, particularly a new discovery, is communicated one way in a school book and a different way in a scientific journal. The discourse and structure attempt to make the content accessible to an intended audience, and in some cases inaccessible to those outside the specific discourse community, such as the content in a scientific article. So, the use of different genres mediate professional and academic actions, and *critical genre analysis* (henceforth CGA, Bhatia, 2008, 2012, 2015; Kress & Knapp, 1992; Swales, 2004) extends genre analysis beyond the semiotic makeup of a genre to understand practices in a professional context:

[…] studying genre is not simply meant to describe and explain language use, but also to account for professional practices in an attempt to investigate why and how professionals create, disseminate and consume specialized knowledge and exploit available semiotic resources and modes of communication to achieve their professional goals (Bhatia, 2015, p. 14)

Kress and Knapp (1992) illustrate the instrumentality of language semiotics in the construction of community practices and provide clear and succinct examples through the comparison of two texts which are reproduced below. In both texts, scientists talk about their lifeworld in two vastly different ways. The first is taken from the prestigious scientific journal *Evolution* and the second is from *New Scientist,* a magazine that seeks to take science to the lay community. Two magazines, each with a different readership in mind.

'The present series of papers is aimed towards constructing a comprehensive model of sexual selection and its influence on reproductive strategy in the dung fly, *Scatophaga stercoraris*. The technique used links ecological and behavioural data obtained in the field with laboratory data on sperm competition, for which a model has already been developed. (Parker, 1970s, from Evolution).'

In this case, the language is impersonal and detached as seen through the use of the 'series of papers' as agents in the task of constructing a model. Secondly, 'the technique', as Kress and Knapp point out, is made prominent by the use of the passive structure and is the thing that links the data, not the researchers. However, looking beyond the language used, one can appreciate through it what is important to scientists; their claim on authority in this case conferred by 'the series of papers' they present, and the creation of models and techniques to stake their place in the scientific community.

In this second text, science is addressed to a cultivated curious lay readership.

'Why do peacocks sport outrageously resplendent plumage compared with their more conservative mates? Why do majestic red deer stags engage in ferocious combat with each other for possession of harems, risking severe injury from their spear-point antlers? (From New Scientist.)

Whilst both these papers centre on the sexual behaviour of animals, the latter uses a discourse far removed from the 'academese' of the former. The text opens with two questions that present a 'problem'. The language is not only unscientific per se but makes use of evocative wording (*outrageously resplendent* juxtaposed with *conservative, majestic* with *ferocious* and *severe*),

language that is much more familiar to the readership. Questions posed in this way are not uncommon in the course of instruction or education where they aim to engage and activate the recipient. In this case, they are heralding the content of the ensuing text. Questions worded in this way would be inappropriate in a text such as the first, and would in fact breach the conventions of the scientific article genre, bearing consequences for the professional. For instance, the paper would not be accepted as the author did not display knowledge of the constraints that characterise this one genre of their discipline.

The examples reproduced above illustrate not only how discourse is shaped to serve a communicative purpose, but how the purpose itself is multifaceted. On the one hand, the dissemination of knowledge would seem to be the ultimate purpose of scientific communication. Yet, the first text also shows authors staking their authority in the field (Hyland, 2005). In this sense, multiple social actions are worked into the text. The second text is also an example of embedded social actions, where the authors use the semiotic device of questions to position themselves as knowledgeable in the subject with respect to the readership. Thus, although in different ways, the authors have expressed their authorial stance and expertise through both texts (Hyland, 2005).

In this respect, CGA shifts the focus from the text itself as a stand-alone social artefact to the social context that it mediates. The onus in CGA is on socio-cultural explanations of the genre type over descriptions of the structure of the text (Bhatia, 2012; Fang, 2012). This perspective is partly due to Bhatia's background and work in legal settings (1997; 2012). His work on legal discourse shed light on how power, control, rights of interpretation and jurisdiction are established in this particular discourse community. Interestingly, due to his insights on how discursive practices were integral to a profession, he became interested in and examined 'plain language' policies that made texts more accessible to the lay public. He observed that the modified text *lost* some of the social intentions proper to the legal genre and, while retaining some of the jargon, these texts included pedagogical elements instead.

Hence, CGA includes a focus on practices as mediated by the genres of the profession. If CGA shifts the focus to how genres, whether spoken, written or otherwise are instrumental in the social practices of a profession, such a view necessarily requires inclusion of research approaches such as ethnography, sequential analysis and multimodality which are constructs that will be dealt with later in this chapter. In the context of the given dissertation, CGA is, therefore, a useful approach to examine how the university teacher brings about, sustains, works through and interacts within the university lecture. The genre construct provides a framework to see how the university lecture is a contextualised and recognisable practice, these being prerequisites for meaning construction. The

following section builds on sections 3.1.1 and 3.1.2 to describe the university lecture as a spoken academic genre.

3.1.3. The university lecture as a spoken academic genre

In this section, I will describe the aspects of the university lecture by addressing classroom discourse, lecture structure and styles, and the lecturer's mastery of the lecture genre.

Goffman (1981) defines the university lecture as 'an institutionalised extended holding of the floor in which one speaker imparts his views on a subject, these thoughts comprising what can be called his 'text' […] the controlling intent being to generate calmly considered understanding' (p.165). Although the university lecture comes in different pedagogical styles and strategies (Malavska, 2016), it is a predominantly oral tradition and remains the most common channel of instruction in the delivery of knowledge to a large group of people in tertiary education (Anderson, 2020; Fortanet-Gomez, 2014; Lee, 2009; Lim et al., 2012; Malavska, 2016). Goffman (1981:167) further provides a useful dual perspective on the idea of the university lecture. Firstly, as the physical (or virtual) encounter between teacher and student participants within a physical (or virtual) space and the second perspective is the spoken and written text of the encounter. According to Bhatia (1991:155) a genre view of the university lecture requires:

1. Defining 'the historical, social, geographic, economic, political, philosophical, and occupational placement of the community in which the discourse takes place' and 'the speaker […] of the text, the audience, their relationship and their goals.'

2. Identifying 'the network of surrounding texts and linguistic traditions that form the background to this particular discourse' as well as 'the topic/subject/extratextual reality which the text is trying to represent, change or use, and the text's relationship to that reality.'

In relation to point 1, chapters 1 and 2 constructed the contextual framework necessary to understand the internationalised university lecture as a genre, and the ensuing discussion aims to present the elements specified in point 2.

Teacher-student role

Hofstede (1986) posits that education is one of four main social institutions, along with family, work and community. Common to these institutional arrangements is the interacting *role pairs* (p.301) which is 'a pair of unequal but complementary basic roles'. For instance, the traditional corresponding role pair for the institution of *family* is the parent-child relationship, and in education,

it is the teacher-student relationship. These bound but unequal relationships are based on the idea of the expert role and that of the novice (Drew & Heritage, 1992; Heath & Luff, 2013, Streeck, Goodwin & LeBaron, 2011). In this respect, the teacher-student dichotomous roles are deeply entrenched in most societies, hence, despite certain cultural differences, few will argue that teacher-student interaction is a conventionalised and 'archetypal human phenomenon' (Hofstede, 1986:301).

So what is the relationship ultimately based on? What drives the interaction? According to Seedhouse (2004:183), the universal and fundamental goal of the teacher is to teach the students and accordingly the students' goal is to learn. At the boundary where these roles meet a synergic cooperative relationship between the two social positions is established. The premise that teachers have an instructional function and duty towards learners is an overarching one and subsumes the culture, the paradigms or the methodologies that structure the education system or experience.

Classroom discourse

Classroom discourse here refers to language used for institutional pedagogical talk, and is composed of subject matter discourse together with talk that reflects an awareness of the shared classroom experience (Mercer, 1995; Escobar-Urmeneta & Walsh, 2017). Therefore, if talk does not evoke institutional objectives and has no pedagogical focus it falls outside the boundaries of classroom discourse. Seedhouse (2004:183-184) identifies three basic properties that shape discourse in the classroom. First, language embodies knowledge and is therefore both the vehicle and the object of instruction. Secondly, the relationship between pedagogical strategy and interaction is reflexive, dynamic and co-constitutive. Lastly, utterances produced by students are subject to evaluation, namely the teacher's. The aim is to provide students with a field-specific way of thinking, understanding and talking about the discipline using the discourse of the field. This in turn provides the means for active participation in the classroom (Airey, 2008) as a way of socialising students into the language and thought style of their profession (Airey, 2008, 2012; Airey & Linder, 2008; Vollmer, 2006).

Classroom discourse orientates towards a nominated aim, and it is generally led by the expert-teacher role. Teachers draw from a selection of language that is both appropriate to the learners and to the pedagogic goals of the given moment (Walsh, 2012). Therefore a teacher shows their expertise of the lecture genre through appropriate discursive choices that progressively work towards the learning outcomes for the students (Mercer, 1995). This is particularly relevant for the present thesis, in particular chapter 7 which presents data that shows very explicitly how both the teacher and students orient to each other's linguistic and subject content knowledge status.

In relation to teacher talk, Mercer (1995) provides 3 broad aims to classify teacher talk into functional categories; 1) to elicit knowledge from students, 2) to respond to students and 3) to describe the classroom experience they share with students. For instance, with regards to the first category, questions are a common means for eliciting students' knowledge, whether it is to activate their pre-existing knowledge or to evaluate newly acquired knowledge (ibid, p. 26). There is evidence to suggest that 'closed' and 'display' questions, i.e. ones in which there is only one acceptable answer or the teacher knows the answer, are not always successful in generating a constructive discussion around a topic, but can often truncate fruitful exploratory talk. Nonetheless, these types of questions can launch a discussion in a new direction as the data in this thesis shows.

Just as one cannot change their trajectory if they are not moving, a teacher who does not engage in some form of dialogue with the student cannot shape their learning. For instance, questions designed to elicit student participation can reveal their understanding of a topic for instance. Launching a discussion with questions or inviting questions and comments, can prompt students to recall and apply relevant knowledge, use the discourse of reasoning, arguing and explaining as modes of thinking in extended stretches of talk (Cazden, 1988). To 'shape' students' knowledge (Walsh, 2012), a teacher can draw from such strategies as paraphrasing or recasting student contributions to incorporate specialised discourse pertaining to the discipline, such as specific lexical items or syntactic structures. Teachers can summarize or extend a response, or repeat it with either falling or rising intonation to show affiliation or disaffiliation (Mercer, 2000; Walsh, 2012).

The student, being a novice in a given discipline, oftentimes does not have at their disposal the discourse to express novel or complex concepts and so may require assistance to formulate and articulate an idea or even a question. Hence, grappling with concepts comes with grappling with the language of the field, and that is part of learning (Airey & Linder, 2008; Mercer, 2000; Roth, 2000, 2001; Roth & Lawless, 2002). However, the process of learning comes more efficiently with guidance from more knowledgeable others. Vygotskian socio-cultural theory states that learning of any type is a social process and is mediated through interaction (Skogmyr-Marian and Balaman, 2018). The idea of the *Zone of Proximal Development (*ZPD*)* was developed to explain how, put simply, a greater level of understanding can be developed at the hand of more knowledgeable and experienced others (Vygotsky, 1978). ZPD involves the design of steps in teaching and learning to assist with the uptake of 'those elements of a task that are initially beyond the learner's capacity, allowing him or her to concentrate on and complete those elements within their range of competence' (p. 90). Section 3.1.4 will address more specifically the elements of learning through interaction.

If we turn to the context of higher education classrooms, scientific content knowledge and its discourse make up one component of the learning experience. In educational settings, the idea of *learning* prompts questions about what is taught and learned, implicitly and explicitly. What is explicitly taught is subject matter delivered in a series of functional and rhetorical moves: introducing, defining, describing, explaining, analysing, inferring the features and processes of a field, among others (Malavska, 2016). Moreover, whilst content may be stipulated by a degree program, a teacher can highlight, play down, or take a position with regards to issues, approaches and controversies, moves that represent their expertise in the field (Hyland, 2005), thereby also shaping a student's views on a matter. These elements of teacher talk as discussed above comprise the internal structure of the university lecture and represent some of the characteristics that make this genre recognisable to the participants.

That said, the purpose of a lecture regardless of the teacher's style (eg. seminar) is generally apparent to students. They respond to the purpose of the lecture with silence, writing, ask questions or comments when that opportunity opens to them, and come away with a set of notes at the end (Flowerdew, 1996; Goffman, 1981,p. 173, 175; Magnussen, 1999). The lecturer, in turn, orientates to such purposes through the choice of *talk* and *actions*. The notion that together teachers and students shape the content given in a university classroom departs from the assumption that meaning is 'in' the text alone, such that the text (spoken or written) is the sole bearer of meaning independent from both the speaker and the listener (Flowerdew & Miller, 1997). This notion has implications regarding the work carried out by classroom participants to interpret each other and how they strive for shared meaning-making.

Lecture structure

The university lecture can be characterised by its 'moves' (Malavska, 2016). Swales' work on genres provides a framework for identifying the dynamic nature of a genre through the perspective of 'moves'. Swales (2004) defined a *move* as a 'discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse' (p. 228-229). Moves can be identified by distinct phraseological and organisational patterns used to accomplish them (Flowerdew, 2015). When applied to the university lecture, the structure can be seen as a sequence of relative 'macro' and 'micro' moves (Young, 1994). By way of illustration, Table 1. shows three common main moves and their compositional stages in lecture introductions in both large and small-sized lectures:

Table 1

Move structure of lecture introduction in large and small-sized lectures as indicated by
Lee (2009, p. 47)

Move 1	Warming up
	Step 1: Making a digression
	Step 2: Housekeeping
	Step 3: Looking ahead
Move 2	Setting up the lecture framework
	Step 1: Announcing the topic
	Step 2: Indicating the scope
	Step 3: Outlining the structure
	Step 4: Presenting the aims
Move 3	Putting the topic in context
	Step 1: Showing the importance of the topic
	Step 2: Relating the "new" to "given"
	Step 3: Referring to earlier lectures

As we can see in table 1, the three moves could also be considered phases in the lecture where one phase leads to the next phase. The concern here is to establish the lecture as an academic spoken genre to examine the E(LF)MI teachers' competency through how they are able to usher in, establish and sustain lecture phases. Bhatia (1997, p. 314) provides a useful description of genre mastery that experienced users tend to display. It is composed of four main aspects which can be related to university lecturers:

1. *'Knowledge of the code'*: Although strongly recommended, perfect command of the general linguistic code is not absolutely mandatory. This has been discussed earlier in chapters 2, section 2.1.2 on ELF, and section 3.1.1 on discourse communities.

2. *'Genre knowledge'*: Professional activity relies on and is inseparable from knowledge of the (lecture) genre. It is a form of situated cognition and is composed of:
    a. procedural knowledge: management of the tools, methods and interpretive frameworks used in the discipline.
    b. social knowledge: a displayed sense of the rhetorical and ideological context.
    c. knowledge of genre boundaries and constraints to adhere to and exploit.

3. *'Sensitivity to cognitive structuring'*: Areas of inquiry structure knowledge in their own way (see Bernstein, 1999 on vertical and horizontal discourse), and genre mastery is visible in

organisational choices and rhetorical moves proper to the field. Further to organisational choices, *Pedagogical Content Knowledge* (Magnussen et al. 1999) refers to the transformation of complex knowledge into educational content through the reorganisation and 'translation' of complex scientific information into content that is accessible and fit for the knowledge state of the students.

4. *'Genre ownership':* Genre boundaries and constraints can be exploited in order to modify and accommodate moment-by-moment pedagogical content and strategies to achieve educational goals. Therefore, at the hand of an expert user, the lecture becomes a tool, through which expression of their own style and role is enabled.

To delve deeper into genre mastery the following lists the roles of a lecturer according to Flowerdew and Miller (1996, p. 125-127):

a. As a 'prioritizer of information'.

b. As a 'mediator to the social situation',

c. As an 'integrator of learning modes'.

d. As a 'facilitator of cooperative learning'.

e. As a 'language teacher'. The development of disciplinary literacy is one aim of the university classroom, despite lecturers' lack of interest or training in this area (Moncada & Block, 2019). And yet, some recent studies (Fortanet-Gomez, 2012; Moncada & Block, 2019) show teachers unwittingly engage in linguistically orientated interactions when content discourse is at stake.

This perspective of the teacher's expertise of the lecture genre can enrich understanding of teacher practices and competence in the EMI classroom. What follows is a review of some of the literature in the field of EMI university lectures.

In research on EMI lecturers, a popular approach seems to be Multimodal Discourse Analysis - MDA, understood as the study of how language is used in certain contexts through accompanying semiotic resources. For instance, MDA has been employed to examine competence in terms of mobilizing semiotic resources for participation and teaching effectiveness in EMI (Morell, 2007, 2017), to discuss the integration of content and language in HE (Airey, 2008, 2009, 2012, 2017; Airey & Linder, 2008; Fortanet-Gómez, 2010), to analyse how questions can open interactive windows in the university lecture (Crawford-Camiciottoli, 2008; Fortanet-Gómez & Ruiz-Madrid, 2014), to identify the organisational potential of metadiscourse markers in lectures (Bernard-Mechó,

2015), or to study persuasion in spoken academic genres in EMI settings (Valeiras-Jurado et al., 2018).

With a heavier accent on multimodality, Lim, Podlasov and O'Halloran (2012) correlate the movement of the teacher in the classroom space with his or her discourse through a dual framework of Systemic Functional Linguistics and proxemics (spatial conduct). As mentioned above in relation to 'moves', Lee (2009) compares the rhetorical and discourse choices made by lecturers in large versus small-sized university classrooms. Moore, Nussbaum and Borrás (2012) take multimodality and conversation analysis to the study of plurilingual practices in tertiary education.

Lecture style

The university lecture can have as many different styles as there are lecturers (Malavska, 2016). This idea is related to the expert's knowledge of genre constraints to realise their own (pedagogical) purposes. Lecturer style can be broadly and colourfully described as 'chalk and talk' for transmission of knowledge, the educator 'sage on the stage' or the more interactional 'guide on the side' (King, 1993 cited in Malavska, 2016, p. 67-68). Often lectures are a combination of various styles depending on the teaching moment. The first two ('chalk and talk' and 'sage on the stage'), describe a *monological* style where the teacher has an extended holding of the floor. The speaker-teacher takes a more active role and the listener-student a more passive role. Monological episodes are common when teachers deliver new knowledge and/or explain a concept, often with the support of visual resources such as slides (ibid, p. 64).

Although the *interactional* style is often adopted when a teacher introduces new content matter, the move is accompanied with slides to support lecture content and progress, it is frequently combined with student *dialogical* participation. A related format is the *seminar* in which teachers introduce and go over concepts in smaller groups. However, what makes one teacher's lecture might be another one's seminar. In addition to different personal preferences, Lee (2009) posits that one reason for variation in lecture styles might lie in the ways and degrees to which lecturers and students interact depending on class size, i.e. the lecturer adopts a more distant stance in smaller groups and a more accessible stance in larger groups. The class sizes examined in this doctoral thesis vary between 35 and 70 students, which could be considered a small to medium class size.

Sustained monologic episodes present some problems with respect to attaining learning goals in the EMI classroom, or any other type of classroom. Björkmann (2010) points to depressed awareness of pragmatic strategies in monologic talk, meaning that monologic speech can tax the listener (Flowerdew & Miller, 1996), and moreover afford them few opportunities to mobilise pragmatic

resources to clarify understanding or negotiate meaning. Interactional dialogical speech, by contrast, is less taxing and its participants have a greater opportunity to mobilise pragmatic resources in the interaction. This kind of speech is particularly crucial in EMI classrooms where potential trouble arising from misunderstandings, differences in English language proficiency, educational and social backgrounds and so forth, though trouble can be remedied, and indeed, skillfully harnessed into learning opportunities. Arminen (2017) argues that socializing students into a discipline requires more than a transmission of knowledge, but the opportunity to hone skills through interaction.

The theoretical basis for these notions extend from Vygotskian social-constructivist theory of learning which posits that individuals learn through engaged interaction with one another (Wertsch et al., 2007). Furthermore, he conceptualised the idea of *mediation* as the interface that shapes our learning and our experience in our interaction with the world around us (Lantolf et al., 2004; Wertsch, 2007). Walsh (2011) places interaction at the centre of learning, defining it as 'teachers' and students' ability to use interaction as a tool for mediating and assisting learning' (p.158). These notions have prompted the inquiry made in this thesis about the presence and nature of interactional methodologies in higher education. The university professors where this study is set have indicated a growing awareness of new pedagogical approaches judging by their frequent requests to professors in our department for instruction in interactional methodologies. They intuit that learning is more interesting and content knowledge more readily formed through interaction.

3.1.4. The university lecture as a sociocultural space

Following from the previous, this section aims to make salient the various types of interactional elements present in the university lecture. To begin, classrooms commonly have teacher-fronted arrangements, in which the teacher stands and speaks to students who sit in rows in front, facing him or her and attending to the content through note-taking and occasional dialogical participation. Due to the institutional and pedagogically-driven nature of this context, the teacher's extended holding of the floor is not questioned (Cazden, 1988; Goffman, 1981, p. 167). This traditional configuration speaks to the widespread institutionalisation of the transmission of knowledge model which is largely based on cognitive models of learning, where talk is generally one way from teacher-expert to student-novice (Maphosa, 2014; Morell, 2007). However, there is mutual visibility afforded by this configuration which enables students and teachers to see and *observe* one another, and this physical arrangement paves the way for research into how the body and material objects participate in the discourse and in constructing knowledge. I posit that the lecture as an encounter is fundamentally a rich interaction whether during dialogic or monologic episodes.

In Goffman's seminal work, Forms of Talk (1981), the introduction states the following:

> Everyone knows that when individuals in the presence of others respond to events, their glances, looks and postural shifts carry all kinds of implications and meaning. When in [lecture] settings, words are spoken, then tone of voice, manner of uptake, restarts and the variously positioned pauses similarly qualify, as does manner of listening. (p.2)

Goffman continues by saying that people are accomplished at issuing these cues and likewise endowed with perceptive powers that allow one to catch the significance of these. However he makes this point, 'Everywhere and constantly this gestural resource is employed, yet rarely itself is systematically examined' (p. 2). Since around the time of Goffman's insightful but largely theoretical work in 1981 and similar scholarly pieces (Sacks et al., 1974 for instance) audio-visual tools have become more readily available to investigate the way in which the body participates in meaning-making. In this sense, as said earlier, the spoken or written text of the lecture has no inherent meaning in itself (Bhatia, 1997; Swales, 1990), rather meaning is afforded to any type of spoken or written text through interactional elements such as voice quality, but also gesture, gaze and spatial conduct (Goodwin, 2002; Streeck, 2009, 2013 among others)

Institutional interaction

Non-institutional interaction occurs among peers in which institutional purposes do not bear on and shape interaction, unlike institutional interaction which 'involve[s] at least one participant who represents a formal organisation […]' (Drew & Heritage, 1992, p. 3) and it is driven by institutional goals. By the same token, Swales (1990, p. 40) considers non-institutional conversation to lie outside the scope of genres due to a lack of overarching institutional goals that would otherwise characterise the nature of the interaction. The university classroom is very much driven by pedagogical, institutional and socialisation goals that determine the nature of the interaction between the different participants, therefore the dynamics are different to those of mundane, non-institutional interactions (Drew & Heritage, 1992; Heath & Luff, 2013).

For instance, when we speak we (ought to) acknowledge the recipient's right to limit how long we intervene (Goffman, 1981, p. 19). Failure to acknowledge this right where it results in one's extended holding of the floor could be deemed a rude 'monopolising' move in a mundane conversation. On the other hand, in the institutional setting of the university classroom, an extended talk is an accepted part of the enactment of teaching. Nonetheless, Cazden (1988) emphasizes that the purpose of 'teacher talk' ought not to be only to conduct a lesson but ought 'to foster a constructive discussion'

where teachers and students progressively work towards learning outcomes (p. 61). Although Cazden's work is situated in the primary school classroom, the university classroom is in many ways 'intricately orientated to students' participation' (Moore et al. 2012, p. 5). Goffman (1984, p. 137) further states 'podium talk requires an audience, not fellow conversationalists, therefore audiences hear in a way special to them'.

The ways in which a university lecture is oriented to students is revealed through notions inspired by conversation analysis (henceforth CA), namely the *long-turn*, *recipient design* and *participation frameworks*. These notions bring into relief the otherwise invisible ways in which there is an interaction among individuals, whether dialogical or 'non-verbal'. CA is an emic approach of how social actions (for instance, greeting, mitigating, disagreeing) are co-constructed in interaction. CA seeks to provide a rigorous and generalisable way to discover and describe the norms and practices that make interaction so orderly (Hazel et al. 2014). CA considers language finds its 'home' in interaction (Sidnell, 2016, p. 2). Also, the context in CA is not limited or bound by physical space (Goffman, 1984), instead, context is something that emerges in interaction between the interlocutors, and which is constantly being renewed in and by each turn (Pekarek Doehler, 2002). Therefore CA stands in contrast to much linguistic science which generally understands language to have its home in the human mind and its expression a reflection of the organisation of the mind (Ortega, 2011; Sfard, 1998).

From a monologue to the long turn

In co-present persons, talk becomes conversation when it can be characterized by a number of elements that turn it into an organized activity (Goffman, 1964, p. 135-136). One of these elements is the sequencing system of turn-taking. In conversation one party talks at a time, with some or no overlap, and the transition from one party to the other is a mutually coordinated act. Although there are characteristics of conversation that are context-free, in that they are common to conversation in general, we will deal specifically with the context-sensitive phenomena of the *long turn* in the university lecture. However, a look at the composition of a turn is addressed before describing the long turn.

In their seminal paper, Sacks et al. (1974) outline common characteristics given in conversation that allows it to be classified as a system of components. Within this system and in terms of turn-taking, they find that turn size is not fixed, the talk within a turn can be continuous or discontinuous, and that there are certain techniques used where the next speaker is selected, either by the speaker or by another co-participant. To understand how these transitions occur, or not, we will first look at the composition of a turn. Sacks et al. (1974) call the constructions used to compose a turn 'unit types',

later referred to as *turn constructional units* (TCUs) by CA scholars (Sidnell, 2016, Stivers, 2015). These can be sentences, phrases, clauses and lexical constructions, however, their delineation is not just achieved through grammatical or lexical considerations but also through intonation and other prosodic resources (Norris, 2004, p. 19).

The transfer of speakership could occur at the completion of a TCU. This point is called the *transition-relevance place* (TRP), and there are a few options available regarding who is allocated the next turn based on the techniques used to effect the allocation. Firstly, the current speaker can allocate the next turn by selecting the next speaker, or the next turn can be allocated by the next speaker selecting him or herself. TCU composition from its outset has features of *projectability* so that the recipient is able to anticipate and position themselves to target the point of possible completion of the TCU (Sacks et al. 1974, p. 702). This includes the analysis of turn-ending signals, or completion cues, that a participant must wait to hear, *and see* (Kääntä, 2012) when an interaction is face-to-face, before beginning his or her own turn. So, if the current speaker does not indicate a wish for speaker transfer and the current listeners understand that because they do perceive the cues, then the speaker will continue to speak across transition-relevance places until transfer is eventually effected, or not.

This can lead to an uneven distribution of turns in what is termed 'turn order bias'. Turns are a valued commodity according to Sacks et al. (1974), and their distribution somewhat reflects issues of function, power and status in a given context. Therefore, different contexts call for different turn-taking systems. The turn distribution system in a lecture reflects the institutionally conferred role of a teacher and the pedagogical model in which they function so that it is accepted that the teacher may hold the floor in the enactment of their role. Hence teacher turn order bias leads to extended turn lengths with mainly sentence unit types, as we will see in the data. In the classroom setting, although there might be a transfer of speakership the floor continues to belong to the teacher who can reclaim it at any time due to his or her institutionally conferred rights (Goffman, 1981). Therefore to approach the university lecture as an interactional event, extended teacher talk is conceptualised as a *long turn* instead of the more traditional monologue.

To put these notions into an international context, Stivers et al. (2009) is a study into the interactional conventions of 10 different languages. The authors found that in each of these languages the turn-taking conventions were like those of English. Variance mainly occurred in pause length between speakers of other linguistic cultures, for instance, therefore the basics semiotics of turn-taking ought to be recognisable to an international student.

Recipient design

Defined by its authors as 'the multitude of respects in which the talk of a party in conversation is constructed or designed in ways which display an orientation and sensitivity to the particular other(s) who are the participants' (Sacks et al., 1974, p. 727). Goodwin (2002, 2004, 2013, see also Broth & Mondada, 2013; Mondada, 2009) describes how participants attend to each other and modify their talk, gesture and posture in a way that is contingent on the previous turn whilst also projecting an orientation to the next turn. As established earlier, a lecture is not a conversation with equal bids on turns, despite the possible conversational style of the moment, but rather speakership rights ultimately belong to the teacher and *granted* to students (Cazden, 1988; Goffman, 1981). So how does the lecturer show orientation to the students in a context in which they are speaking for at least 80% of the time (Lee, 2009)? The following will outline some specific ways.

Recipient design is apparent in how content matter is organised and how it is delivered (Moore et al. 2012). Firstly, there is the choice of the topic and the sequencing of subtopics. Awareness of students' knowledge status is displayed in how teachers prioritise information, transform a topic into pedagogical content, regulate linguistic and conceptual complexity and integrate different learning modes in an attempt to facilitate accessibility to the subject matter and its discourse (Magnussen et al, 1999). The use of discourse markers in the teacher's stream of talk show orientation to the others in which the speaker introduces structure and predictability in their talk and hence orients the listeners whilst unburdening the task of listening (Bernad-Mechó, 2015).

Corporal behaviours participate in these moves. For instance, during a long-turn, there are displays of student listenership that include but not limited to sustained gaze on the lecturer or to whatever the lecturer brings into relevance through their own gaze, gesture and so forth. In the classroom, there is mutual monitoring of facial expressions, gaze, gesture, posture, interaction with slide images, all of which we are adept at reading (Gallagher, 2008) and use to shape our responses. In a paper presentation that looked at report sessions in a simulated intensive care unit, Harms and Koole, (2018) show the ways in which note-taking displays signs of recipiency. The *pauses* in writing by the incoming carer were taken as cues by the speaker to proceed with providing information about the patients.

The traditional view of students as passive recipients of teacher talk is not an entirely accurate picture. Students are an invested audience that displays varying degrees of attention toward the activity at hand (Evnitskaya & Berger, 2017). Under the interactionist paradigm, students are classroom participants with stakes in the institutional encounter, and therefore engage and interact in ways different to a fellow conversationalist (Goffman, 1981). The following section introduces

participation frameworks as a lens through which to conceptualise the classroom as a co-constructed space with students as co-participants.

Participation framework and footing

Much of our understanding of participation and participation status in interactional studies is influenced by the work of Goffman (1963, 1964, 1981) and later Charles and Marjorie Goodwin (2004). This study primarily focuses on the interactional elements found in the context of a long turn, therefore an understanding of what constitutes a participant will help define a participation framework. Goffman (1981, p. 3) states that a participant is anyone within a perceptual range of a spoken word. Therefore students are potential recipients of words (and other visual information) issued by the talker, and the level to which they attend to these modes of communication confers one of several statuses in participation according to the degree they are ratified by other participants in an interaction. Nonetheless, although someone may be a ratified listener, in that they are included as an addressee, they may not be listening and while someone may hold the place of 'overhearer' – an unratified participant - they may be (discreetly) engrossed in what is unfolding. The student in this case is a ratified participant in the classroom.

Goodwin and Goodwin (2004) argued Goffman's participation framework notion by pointing out that it is a co-constructed space involving more than speakership and hearership. According to Goodwin and Goodwin (2004), a participation framework describes how co-participants *visibly* display alignment to a particular focus of activity and to each other within that activity. Participation frameworks are accomplished through a dynamic mutual and reciprocal adjustment of embodied activity such as speech, posture, spatial position and orientation and gesture. The interaction within a participation framework takes place in a focused manner, through which social actions are brought into being in a way that is dynamic and contingent on the situation (Rae, 2010; Ekström, 2013). Goffman talks about the binding arrangements of social encounters in a participation framework, a concept that can be extended to the university classroom in which participants orient to their physical and social place.

The participation framework is a paradigm to examine how interactional elements are mobilised in specific spatio-temporal contexts (Goffman, 1981, p. 129; Goodwin, 2007; Mondada, 2009). Because interaction is a dynamic phenomenon, a participation framework describes a dynamic social encounter brought about by participants' mutual attention to each other and to the common objectives (Ekström, 2013). Within the main participation framework (the lecture), centres of focused attention may interactionally emerge between some participants, as when a dialogical exchange takes place between a teacher and student. This creates a differentiated participation

framework, albeit momentary, within the whole class participation framework. The demarcation of one participation framework within an overarching one is accomplished through gaze, gesture and postural orientation to distinguish addressed from unaddressed participants (Goffman, 1981, p. 133).

As outlined previously in section 3.1.3 the lecture is constructed through a sequence of phases or moves. How do we account for these within a participation framework? The resulting change in orientation is what Goffman calls shifts in *footing* (1981). The name originated in the observation that when we experience a mental shift, for example, when a question hits us, or a new perspective is formed, it is generally accompanied by a visible 'automatic' physical manifestation, such as shifting one's weight, tilting the head or some other postural change (Streeck, Goodwin & LeBaron, 2011). In other words, the mental shift transduces into a physical repositioning. Nonetheless, when standing the most common display of a mental shift is the physical shift of weight from one foot to the other, and hence the term 'footing'. Therefore *footing* is the attitude, understanding and alignment participants share within a participation framework, and any change in that alignment is a *shift* in footing. In the case of a lecturer, initiating a move or a shift in footing (such as starting a new topic or closing the session) requires that one attempts to align participants to the same goal to maintain the integrity of the participation framework.

In what is often considered a straightforward unidirectional speech event, the notions of the long turn, recipient design and participation frameworks provide a lens to view the university lecture as a sociocultural interactional space. As such an analytical toolkit that includes more than linguistic analysis is required to understand how meaning and knowledge is constructed in this particular face to face context (Räisänen, 2015). In the same way, Swales (2004, p. 6) relates how technology has changed the way he does academia, and how the tools have mediated his professional activity. Hence just as technology represents a potential set of possibilities, so do new paradigms in research and praxis.

The interactional vision of the university lecture requires a move away from exclusively logo-centric paradigms towards those that examine the participation of other semiotic resources in its social undertaking. It is not the intention of this thesis to downplay the role of language and discourse development in emerging professionals, on the contrary. Instead, it seeks to explore the resources that are mobilised within an EMEMUS context that promote discourse development, conceptual learning and the socialisation of students into their professional communities. Furthermore, the new toolkits hold the promise of revealing the myriad ways in which EMI teachers are competent in constructing quality educational and social experiences.

The following section will introduce *multimodality*, a semiotic meaning-making system that is central to the analysis of social interaction.

3.2   Introducing multimodality

"We speak with our vocal organs but we converse with our entire bodies"

(Abercrombie, 1968, p. 55)

This section is divided into 5 main sections. The first section 3.2.1, introduces multimodality, by first defining a mode followed by a discussion of how a holistic meaning is achieved through the synergic interplay of modes. To this end, an examination of the affordances of each mode follows in sections. Section 3.2.2 describes gesture, its communicative categories and finally the theoretical underlying biological mechanisms to establish gesture as an integral part of our communicative endeavours. Section 3.2.3 deals with proxemics, the science of human spatial behaviour in relation to the self and others. Section 3.2.4 discusses the prosodic features of talk, resources that enable messages to be conveyed in speech. Section 3.2.5 questions the idea of one mode, one sensory channel, and points to scholars that argue for a multimodal-multisensory approach. This view supports arguments put forward in section 3.3 regarding perception. Finally, this section concludes with a summary of the specific affordance of each type of mode as a resource for interaction.

According to a well-known study by Mehrabian (1971), face-to-face communication is comprised of the following: words, prosody and 'body language', and the relative message bearing potential of these modes were found to be 7% in words alone, 38% in prosody and an impressive *55%* in 'body language'. To illustrate that meaning-making is not exclusively bound in language, Goffman (1981) notes, 'imagine a deaf person bystanding a conversation; would he not be able to glean considerable social information from what he could see?' (p. 132). In the educational context, Bezemer and Kress (2016) report on a teaching episode during a surgical procedure, where the surgeon both points to and names a structure in the patient's body; the liver. 'Naming alone would leave the students with the job of establishing exactly what, in this 'mess' of stuff inside the patient's abdomen, counts as 'the liver'. Pointing alone would leave the students with the job of establishing what the object is that is marked out by the pointing' (p.2). And the students display their engagement through gaze, which the surgeon monitors to inform his or her next pedagogical move.

As a point of departure, meaning is constructed through a number of different modes. Kress (2014, p. 60-75) succinctly defines modes as 'a set of socially and culturally shaped resources for making meaning that have distinct affordances' and Jewitt et al. (2016, p. 15) similarly defines modes as 'a set of resources, shaped over time by socially and culturally organised communities, for

meaning-making'. Hence different modes are mobilised and take on a particular set of potential meanings for the individual or the group, which is largely determined by the shared socio-cultural understanding of the world (Jewitt et al. 2016; Miller, 1984; Bezemer & Kress, 2016). Furthermore, modes do not exist as independent entities exerting their own sense of meaning in isolation, instead, modes (gaze) rely on other modes (say, spatial orientation); there is interplay between modes that mutually shape their particular affordances on the potential to create meaning. Language, understood as a written and spoken code has been taken for granted as the primary mode of meaning-making by a number of scholars such as Saussure (1983), Chandler (2007) and Cook (2003) (as cited in Jewitt et. al. 2016, p. 15-16). However the somewhat privileged status of language needs to be questioned in light of what we understand about the architecture of social meaning-making as revealed in the works of interactional scholars (Goodwin, 1979, 2002; Goffman, 1964; Hindmarsh & Heath, 2003; Mondada, 2019; Streeck, 2013; Hazel, 2014 to name a few) as well as scholars in the area of corporeality (Escribano, 2000, 2004; Escribano & Perez-Bellamunt, 2017; Froese & Gallagher, 2012; Gallagher, 2008; Gallagher & Zahavi, 2012; Jaeger et al., 2010). In the field of social semiotics, Kress (2015, p. 49) challenges the primacy of language:

> 'Language', confidently assumed (in the 'West') as the guarantor of what is distinctively human, rational, essential for reflection, capable of expressing every aspect of human life, is being challenged in its hitherto central position by other means of making meaning, by other means of shaping identity. That challenge goes by the name 'Multimodality'.

Multimodality through other analytical paradigms

Although multimodality offers a paradigm to understand holistic meaning-making, it nonetheless needs to go hand in hand with an analytical framework to approach the data. Here I list some of these frameworks, for instance, *Systemic Functional Linguistics* (SFL) considers language as one more semiotic resource to construct our experience of the world, to make logical connections in that world, to enact social relations, and to organise the message (Jewitt et al., 2016, p. 30); *Social Semiotics* aims to understand the social dimensions of meaning through semiotic resources eg., images and text and their features for instance (Bezemer & Kress, 2016). *Multimodal Discourse Analysis* - MDA, combines language with other semiotic resources such as gesture, text, music and/or images to create meaning in social practices (O'Halloran, 2011). *Multimodal (Inter)actional Analysis* - MIA, provides a way to organise modes into constituting higher- or lower-level activities (Norris, 2004). Like CA described below, the unit of analysis in MIA is the social action. Therefore MIA offers a useful tool to analyse the constituent parts of social actions within a given context. Therefore MIA is part of the methodology of this thesis where it is explained in Chapter 4 (section 4.4) as a framework to hierarchically organise the data into social actions.

In the previous section which described the lecture as an interactional event, notions from Conversation Analysis - CA, offered a prism through which to look at how people mutually organise themselves in interaction and a hint of the modal resources mobilized to that end. In addition, CA offers a vision into the ways in which the production and intelligibility of social action are accomplished by considering the physical and the institutional spaces in which they occur, or which make them emerge (Schegloff, 1987; Goffman, 1964). Therefore CA, and derivatives (eg. membership categorisation analysis) and MIA will be the principal apparatus to approach the modal data in this thesis. That said, CA scholars argue that a *mode* is a predetermined, fixed and delineated concept (Heath & Luff, 2013), and whilst looking at the involvement of modes in an instance of meaning-making, multimodality fails to identify *how* a social action is constructed turn by turn. In a similar vein, Pink (2011) also argues against the predefined role of a mode, argues that a mode is a channel of communication (gesture or prosody), but does not necessarily have a strict correspondence with a sense, for instance, the sight of a textured surface might stimulate our tactile centres (see also Mondada, 2019)

Conversation analysis provides both a theoretical framework for understanding the construction of social interaction through such notions as those presented in the previous section 3.1.4, while at the same time being in itself a methodological approach in the study of interaction (Mori, 2004). Methodological aspects of CA will be addressed in Chapter 4), suffice to say that the methods of CA centre on a *sequential* turn-by-turn analysis of interaction, whereas multimodal potential in meaning-making centres on the *co-occurrence* and interplay of modes. Therefore a comprehensive approach to interactional analysis - multimodal CA, requires reconciling the approaches. Mondada (2016, 2018) provides such reconciliation through a multimodal approach to CA which looks at how modes mutually elaborate one another in interaction in light of the previous turn and in framing subsequent turns. Due to the focus on social (*inter*)action, in CA the term *embodied actions* is preferred over multimodality (Health & Luff, 2013).

Nonetheless, I use both these terms in this thesis; 'embodied action' to focus on the social action as an embodied achievement, and multimodality to focus on the constitution of the action. So in my own attempt to reconcile these two terms, multimodality provides a conceptual and analytical framework (as per Norris, 2004) to understand how modes are the *components and mechanisms* of embodied actions in the construction of social actions, this study's unit of analysis. Therefore, multimodality is an approach to understand how through their interplay modes constitute social actions as analysable phenomena. The following paragraphs will explore the meaning-making potential of modes by looking at their affordances.

Modes and their material and non-material meaning-making resources

Jewitt et al (2016, p. 71) make a useful distinction between modes and semiotic resources. According to these authors, *semiotic resources* are comprised of 'material resources' which they refer to as *modes*, for instance, spatiality, gesture, gaze, talk and language, and 'immaterial conceptual resources', which are realised *in and through* modes, for instance, intensity, coherence, proximity, and so forth. So the mode is the material means, enabling 'immaterial' messages. Furthermore, Bezemer and Kress (2016) point out that 'non-material' conceptual semiotic resources are realised in the materiality of the specific mode. For instance, the semiotic non-material category of *intensity* is one that can be animated by a number of different modes, in accordance to the materiality of that mode, and so will be realised in a way particular to that mode; intensity in colour can be indicated by the degree of colour saturation, in speech by vocal qualities such as volume, in gesture through swiftness or magnitude of the sweep, centrality through position, layout or height in the case of text and images (Bezemer and Kress, 2016, p. 7). These are what Norris (2004) calls the affordances, potentials and limitations of the mode.

Where does this put spoken language as a semiotic system in the multimodal-embodied action paradigm? Bezemer and Jewitt (2010) hold that language is a separate mode, a semiotic resource in the way gesture, gaze and spatiality are with its own set of affordances and limitations. Language is (one) embodiment of thought and experience with the world (Escribano, 2004; Pinker, 2007), and it has its own semiotic resources such as pace, volume and intonation to add meaning to talk (Couper-Kuhlen, 1998, 2008) and to accommodate talk to that of others (Walker, 2013). In light of the above regarding language, terms such as 'body language' and 'paralinguistics' imply that body conduct is subsumed under language, that language is the primary mode of communication from which other modes are invigorated. And yet, the analysis of the data herein demonstrates, for instance, that gesture is deployed moments *before* talk (Kendon, 2004; Streeck, 2009) and that embodied actions compose messages *beyond* the reach of words (Clua, 2017; Goldin-Meadow, 1997). Spoken language has semiotic commonalities with language, however, that does not make 'non-verbal' modes subordinate to language.

The affordances of video ethnography in understanding multimodality

The advent of easily accessible audiovisual recording devices made it possible to capture people engaged in natural interactions, revealing how the body participated in the discourse and in the interaction. Charles and Marjorie Goodwin were amongst the first to realise the potential of audiovisual recordings (for instance M. Goodwin's 1995 revealing and groundbreaking work on girls' aptitudes in games), as a means to repeatedly access embodied behaviour for interactional analysis. Audiovisual material thus presented a new way of doing ethnographic studies (Pink et al., 2017). This medium has permitted new insights into how social interaction is mutually and

reciprocally 'choreographed', through repeated observation and fine-grained analysis of the semiotic resources that participate with speech or in the absence of speech. Audiovisual tools have allowed insight into multimodal participation in holistic meaning-making. Therefore *multi*modality, as the nomenclature suggests, is an approach that accounts for the relative contribution a mode, in an ensemble of interplaying modes, makes to instances of meaning-making (Jewitt, 2016, p. 1-2; Bezemer & Mavers, 2010; Norris, 2004, p. 1-2).

Jewitt et al. (2016, p. 3; see also Bonacchi, 2014, p. 3) propose 3 key premises for a multimodal perspective regardless of underlying analytical framework:

> 1) meaning is made with different semiotic resources, each offering distinct potentialities and limitations, 2) meaning-making involves the production of multimodal *wholes*, and 3) to study meaning we need to attend to all semiotic resources being used to make a complete whole", [in which language together with] "gestures, facial expressions, voice and movements are regarded as mutually interdependent

There are three interrelated aspects in the mobilisation and behaviour of modes as they form ensembles in relation to how they interplay according to Norris (2004, p. 79), these are *intensity*, *density* and *complexity*. Modal intensity describes the primacy a mode may take in the discourse in relation to other modes. For instance, teacher talk may have primacy over other modes (writing) at one point, but the inscription on the blackboard (drawing a diagram) gains primacy during the next move although the teacher may still be talking. Modal density refers to how many modes are involved in an instance of meaning-making, and finally, modal complexity refers to how intertwined and interdependent those modes are in relation to each other. For instance, how does the participation framework, or the activity at hand change if one mode, say talk, stops? More will be said about the organisational aspects of modes in relation to how they construct higher and lower level activities (akin to participation frameworks) in the discussion on Multimodal (Inter)actional Analysis in section 4.4 in the methods chapter 4.

Norris (2004) points out the challenges in the analysis of multimodal interaction related to the *structure* of the mode and its *materiality* (p. 2). For instance, speech is sequentially constructed and structured, where complexity or precision is achieved by adding words, prefixes, suffixes or clauses, whereas, those gestures that are linked to spoken language for instance are not sequential structured, but structured as modules of thought so that these do not acquire complexity or precision by adding one sweep of the hand after another (Norris, 2004, p. 2-3). The materiality of modes is another issue that conditions the analysis of the mode. Spoken language for instance is audible, but it is neither visible nor enduring, whereas gesture is visible but also not enduring. The possibility of creating audiovisual recordings of embodied behaviour have afforded these otherwise fleeting phenomena a

change in materiality providing an enduring medium, which can subsequently be subjected to repeated analysis (Cowan, 2014, see also Bezemer & Mavers, 2010) bringing us an understanding of modes, their interplay and how they construct instances of meaning and social actions.

Whilst the interest centres on the deployment of gesture, gaze and proxemics and how these relate to speech and some of its prosodic features, of equal interest is how embodied modes are emancipated from speech and afford meaning in their own right. The following sections will attempt to dissect the inherent meaning-making constituent of embodied modes to gain some understanding of the meaning potentials in their combined interplay.

3.2.1. Gesture

> "If language was given to men to conceal their thoughts, then gesture's purpose was to disclose them" (Napier, 1980 cited in McNeil's 'Hand and Mind', 1992)

Although the opening citation above implies that gesture betrays our inner thoughts, in this section I will attempt to show how this gestural 'leakage' instead serves to enrich communication. Below, the extended discussion starts with a historical look at the place of gesture as part of the discipline of public speaking, to clarify that this thesis is concerned with naturally occurring embodied expressions.

The study of gestures has a long tradition dating back to ancient Greece and Rome. The communicative effect of gesture as an accompaniment to oration was recognised as a powerful medium (Kendon, 2004, p. 17-19). In ancient pre-print times, public speaking was part of a communication network to broadcast news or share knowledge. Training programs existed for promising young men to teach them the art of public speaking, and an integral part of the training was the skilful use of gesture. Gesture was linked to 'presumed universals of thought' (p. 17-19), therefore training included specific instruction on when and how to incorporate gestures into the discourse, which were permitted and which were not. Attention was even given to magnitude, swiftness and trajectory as a means to underscore meaning. Quintillian, the ancient Spanish scholar in the first century AD wrote a complete discussion on gesture and linked it with subsequent works on rhetoric. In this thesis, we are concerned with gaining insight into *naturally* occurring gestures as they emerge and synchronize with other semiotic resources.

The attention to spoken language has in more recent history put the phenomenon of gesticulation (the body movements that embody meaning relatable to concurrent speech), in a less favourable light in the linguistic community, remaining in the domain of psychology or the arts (Gibbon, 2009). Yet classical art is replete with depictions of gesturing bodies with their facial expressions and specific hand shapes, all of which testify to the artists' sensitivity to capturing meaning, and yet the study of

gestures has till more recently been cast aside as insignificant, vulgar and anti-intellectual (Haviland, 2004, p. 197). As discussed in the previous section, the advent of recorded motion has drawn gestures and other embodied modes into analytical significance and revealed their dynamic relationship to other modes, in particular to talk.

Perspectives on the speech-gesture relationship

In general, the dominant view tends to undermine gesture as a communication entity where it is seen mainly as subordinate to talk, as a last resort when talk falls short of its communicative enterprise, or as 'leakage' of inner states. This perspective is known as the *subtractive* view (Haviland, 2004, p. 198). Under this paradigm, primacy is given to talk against which gesture is then studied. Whereas '[a] *non-subtractive* view integrates movements of the body, first into the full repertoire of interactive communicative resources and, second into the expressive inflexions of language itself' (Haviland, 2004, p. 198-199, italics mine). This latter perspective contemplates body conduct as emancipated from language, a useful approach in activities where talk is not mandatory, such as in the work of archaeologists when using pointing and tracing to delineate phenomena observed in the soil (Goodwin, 2003), to coordinate surgical procedures (Mondada, 2014; Randell et al. 2017) and to identify parts in car repair work (Streeck, 2013). In these examples, gesture becomes the primary mode of communication.

Therefore there is interest in the relationship between gesture and speech and the manner in which they synchronise (De Ruiter et al., 2012; Duncan et al., 2007; McNeill et al., 1994; Streeck, 2013), and are intimately connected (Escribano, 2000). Kendon (1997) posits that speech and gesture are 'two aspects of a single process' (p. 110). This idea will be taken further in the discussion on the *growth point* (McNeill, 1999; McNeill & Duncan, 2000), which describes a cognitive process that binds talk and gesture. Another aspect in the speech-gesture relationship is the observation that gesture often foreshadows speech, that is, gesture is deployed a beat before the accompanying speech (Streeck, 2009). In a sense the gesture primes the recipient for the talk. One explanation is offered by Schegloff (1987) who posits that speech takes longer to process and grammatically assemble compared to gesture (or other embodied movements) which tend to occur subconsciously. For now in what follows I offer an explanation of gesture and then a simple taxonomy to categorise gesture into four main functional types..

Perception of gesture as distinct from other hand movements

In terms of one's ability to perceive gestures, studies have shown that people are instinctively good at discriminating a gesture from a relatively meaningless movement (Cook, 2009). In a paper published in 1978 (cited in Kendon, 2004), Kendon reports on a study where twenty Australian participants of European descent were asked to describe the movements they observed in a film of a

Pig Ceremony in Papua New Guinea. The most salient descriptions were made of *deliberate* movements perceived. In another example, Kendon (2004, p. 13) uses the example of a children's game called Timmy where there is the *Challenger* who deploys a series of actions, and the *Responder* who imitates the actions of the Challenger. Responders were found to imitate the meaning bearing actions but none of the 'non' actions, for instance, movements that re-positioned the hand at the end of the action. Likewise, more recent work on gesture identification is found in Agostini et al. (2018), a quantitative study in which a group of Italians and a group of American participants are asked to identify gestures from meaningless movements. The vast majority of the participants were successful in making those distinctions.

This begs the question of what actually is a *gesture,* and how is it perceived as a meaning-making unit to an observer and what are the common characteristics of a gesture that allow it to be discriminated from other movements? To answer the first inquiry, according to Roth (2000) 'whereas all gestures are hand movements, not all hand movements are gestures' (for instance, manipulating an object). Other parts of our body can have gestural properties themselves and like hand gestures also form a mode of communication with or without speech. Nonetheless, this section will concentrate on gestures as produced by the movement of hands and fingers.

Gesture unit and communication through gesture types

Kendon (1980) produced an influential characterisation of gesture units in which he describes three gestural phases; *preparation, stroke and retraction*. Similarly, McNeill (1987) describes gesture deployment in essentially three phases; *pre-stroke, stroke and hold.* In this thesis, we will refer to the latter. The fact we can talk of phases implies there are characteristics in the movement that distinguishes one phase from another and importantly that we are sensitive to subtle changes in movement dynamics. We have an understanding of the cusp between a non-gesture and the pre-stroke as described previously, however, how is the pre-stroke distinguished from the onset of the stroke phase? From a preliminary position, the stroke phase is deployed with distinctive energy and effort, as it is the phase that carries the message. Finally, the gesture ends at the hold or retraction phase, identified by a lack of energy or effort, as though the hand were suspended or as it becomes relaxed. The gesture may not enter this final phase as it is mutually elaborated with natural speech. In the course of interaction, gesture does not usually come in discrete gesture units. Subconscious, naturally occurring gesture is a fluid set of actions where one gesture flows into another (McNeill, 1987), whether 'completed' or not, in choreography with other modes, we can recognize a gesture unit. The question now turns to what is potentially communicated – and understood, by that gesture, again, as part of a greater ensemble. First of all, gestures have the capacity to communicate intensity in the sweep and magnitude of the gesture; a gesture can be executed fast or slow and the trajectory can be large or small (Norris, 2004). Beyond this notion,

McNeill (2011, p. 76) classifies gestures into four functional meaning-making types. *Iconic*, *metaphoric*, *deictic* and *beat* gestures. However, gesture categories are not mutually exclusive and hence more operational scheme might be to refer to gestural dimensions rather than bounded categories, and hence descriptions of gesture can be made in terms of *iconicity*, *deixis*, *metaphoricity*, and *highlighting* expressions (McNeill, 1987, 1992, 2005).

Iconicity in gesture

An *Iconic* gesture makes a literal visual representation of a concrete object or action that is expressed in speech with the projected trajectory and movement of the hand so that it functions as a structural representation of the object or event (McNeill, 1987). This gesture type depicts not just what is thought to be seen, but depicts an interpretation or a perception of what is seen or thought. In addition to gestures emerging from perception, LeBaron and Streeck (2000) describe an iconic gesture as deriving from the manipulation of physical objects, whereby manipulation eventually becomes emancipated from the object into a simpler more symbolic gesture. For this reason, iconic gestures seem to be commonplace in science classrooms as they participate in explanations of objects, movement, processes, cause and effect relationships. The gesture evokes, delineates and brings into being different entities. The movements provide tempo to talk and allow the speaker him or herself to 'see' what they mean. So iconic gestures participate in explanations, thought constructions and schemas (Chue, 2015), where an otherwise purely verbal explanation would result in lengthy, laborious and subsequently taxing.

An interesting example of how iconic gestures can serve to unburden the interpretive work of the recipient is found in Hindmarsh and Heath (2003). University design students were given the task of designing a briefcase where only wood and rubber could be used. The objective was that documents should remain flat. When the student presented the drawing, he 'transduced' the image into an enactment of how one would use the briefcase. Through his display the briefcase's stiffness, resistance to opening, weight and size were embodied in movement and muscular effort, altogether allowing the instructors to 'view' its dimensions, functions and future use by the target market.

In relation to the science classroom mentioned earlier, Chue et al. (2015) showed how gestures allowed an efficient communication of particle size, the relative positions of particles to each other and the characteristic motion of the particles. The spatial structures of iconic gestures help students clarify issues of space and shape (Chue et al. 2015; Roth, 2000, 2001) as well as sequentiality, directionality and behaviour of otherwise abstract concepts (Cook and Tanenhaus, 2009). Likewise, iconic movements can materialise as diagrams on a medium such as a whiteboard, where the ideas synthesised as 'air drawings' are effectively transferred onto a more permanent medium. The resulting drawing or diagram becomes an artefact, a visible representation of one's concepts and its

presence, in turn, becomes a mediating object in the interaction with students (Goodwin, 2003; Streeck & Kallmeyer, 2001)

Metaphoricity in gesture

Metaphoric gesture provides a dimension to speech that creates a visual picture of an abstract concept and makes visible the modular or graphic quality of our thoughts and cognitive processes (Roth, 2001). A commonplace example given by McNeill (1987), involves the speaker seemingly holding an object, and yet talking about an idea or a memory. Müller (2004 in McNeill, 2008) describes this conduit gesture of a discursive substance as the PUOH gesture - Palm Up Open Hand. In another example, Kendon (2004, p. 100) relates the story of a researcher describing the enthusiasm with which a participant explained an event in their lives. The gesture accompanying the anecdote depicted the enthusiasm of the participant as water gushing out of them. In scientific discourse metaphor has a special place, so a brief discussion addressing the phenomenon is warranted to understand the nature and origin of this kind of gestural expression.

Science relies on analogical thinking for such endeavours as developing hypotheses and interpreting results. This is because many of the phenomena science deals with are not observable within our human perceptual spectrum. For instance atoms, molecules and cells are in the microcosm spectrum, whereas planetary bodies are in the macrocosm. Analogical conceptualisations such as similes and metaphors bring these entities into the more perceptually comfortable and familiar *mesocosm*, the place where we experience motor-sensory interaction (Taylor & Dewsbury, 2018). Our understanding of the world is formed at this quotidian level of reality. Because so much of scientific inquiry lies outside the mesocosm, it is replete with metaphors to help make sense of scientific phenomena, within the scientific community with one set of metaphors, and outside of it with perhaps a different set of metaphors.

Metaphor is such a pervasive and embedded part of scientific discourse that it effectively goes by unrecognised as such (Taylor & Dewsbury, 2017), and yet its affordance on understanding complex phenomena is quite powerful. Lakoff's (2008) work on metaphor and cognition shows that the nature of our thinking is fundamentally metaphorical where metaphoricity reflects how we 'cope' with knowledge. Therefore metaphors are not just linguistic resources, they are the foundations of our thought processes and conceptual constructions. Hence Taylor and Dewbury (2018) report that debates surrounding established metaphors in light of recent knowledge are challenging the metaphors at the core of scientific culture (for example, is a gene a blueprint or a recipe?). Metaphor can also be exploited for persuasive purposes. At the time of writing Covid-19 was being reported in warfare terms. For instance, 'we' (inclusive and collective in the 'us' and 'them' dichotomy) are *fighting* the virus, *we* are *waging* a *battle against* the disease, and *we* will *beat* it. The warfare

discourse attributes a will to a pathogen thus making it an enemy. The resulting imagery is more powerful than, say, depicting a virus for what it is; a witless biological entity. Metaphorical renderings are more likely to achieve social, political and health-related ends, but do endanger the development of evidence-based knowledge of a phenomenon (Taylor & Dewsbury, 2018).

To bring this section on metaphor around to the topic of gesture, there is a growing body of evidence suggesting that language, perception and gesture rely on overlapping regions of the brain (Straube et al. 2011). Any *metaphoricity* in gesture emerges from the experience of the world and common embedded metaphorical givens in science. Interestingly, McNeill (1992) reports that both iconic and metaphorical gesticulations are understood quite universally among Europeans, whereas to non-Europeans certain gestures lacked significance. However, casting back to section 3.1.1 on *Discourse Communities* and *Communities of Practice* may resolve this issue. Whilst the international classroom presents cultural diversity, a common thought style brought about by the educational and social context might act as the referential matrix. Roth & Lawless (1999) take this idea further by arguing that gesture and the manipulation of objects in science education *transcend* cultural differences, hence providing access to scientific understanding.

Deictic gestures

'Without the index of the world of things, the movement of the hand could not be seen as an action, and the signifier would be lost in a sea of meaningless motion' (LeBaron and Streeck, 2000, p. 119). Deixis relies on the grounding function of the gesture's body and the spatial surroundings. Simply deixis movement is the act of pointing to indicate and draw attention to the location of objects and/or actions in space, often to others. This is the first type of gesture children develop where at first the gesture points to concrete and literal things. In fact, concrete deictic gestures form part of the initiation of speech development (Roth, 2001). In later developmental phases, deictic gestures start to take on abstract representations in which imagined objects or locations are referred to (McCafferty, 2004). In an explanation or narrative, deixis with other gestural forms serves to 'populate the setting with the details' (Haviland 2004, p. 205). The hand involved in this type of referential work may also incorporate other semantic overlays to the gesture, for instance pointing higher or lower for objects far and near respectively. The head is also a resource for pointing. A teacher's chin raise with gaze indexes and signals students in the back rows, whilst a forward tilt with gaze does the same for those in the front rows of a classroom.

Deictic gesturing is an interaction of the body with space in which interlocutors (i.e. observing students), share. The body itself can be the space against which gestures of this type are indexed (Haviland, 2004, p. 206). Straus (1950) describes the body firstly in terms of its position in space – upright, and then in terms of a schema that references many of our movements, for instance away

and toward the body to indicate far and near. His work asserts that we have an orientation toward the vertical and we understand any changes produced in verticality to convey meaning such as in standing, sitting, lying down (This notion will be further explored in chapter 6). The body can act as a prop representing one's own body when we point to a painful area, or to someone else's body in storytelling. Below is an example of the lecturer's deictic use of their body to bridge attention between slides and students (first image, fig. 1) and then uses a deictic gesture to locate tonsils using his body as a prop (second image, fig. 2). This is a particularly interesting example as the term tonsils is only a cognate in Italian but not in the language of the other students present.

Figure 1 and 2

Bridging' as a deictic practice (left) and the body as a prop (right), from Clua (2017)
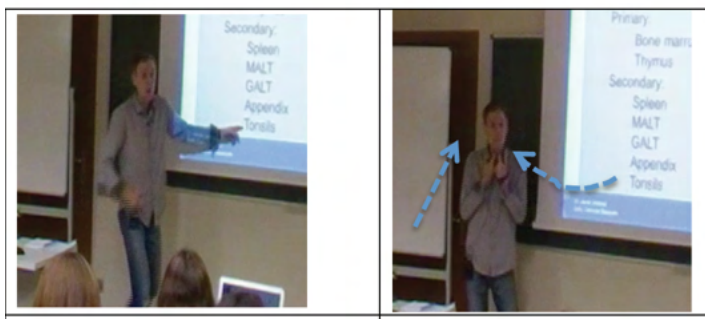
Objects can also be props against which movements are set. C. Goodwin (1994, 2003) shows how the archaeologist's hand, which is holding a spade, is able to point out a distinctive shape made by a different colour soil. The purpose was to draw attention to, identify, contrast and categorise a differentiated patch of soil from the surrounding soil. Interestingly the pointing gesture, a fleeting phenomenon, becomes material as the archaeologist uses the spade to inscribe his indexical movement into the soil, such that the gesture undergoes a transformation in materiality (Norris, 2004). M. Goodwin (1995) observes the grounding effect of the hopscotch grid as girls dispute their different moves during the game. There could be no dispute or no game if the grid were not there against which the movements are set. Much in the same way, the furniture, fittings and layout features of a classroom provide indexical references for spatial meaning to be made. These fixed points provide a point of reference for the trajectories of the teacher within that space. Hence deixis and indexicality can only be meaningful if grounded against material objects (see also Hazel, 2014)

Beat gestures

Beat gestures have a function not unlike the baton of a musical director, hence why they are also referred to as *baton* movements (Efron, 1972 in Roth, 2001). These can be up-down or side-to-side movements of the hand, and also of the head, or tapping motions in time with the
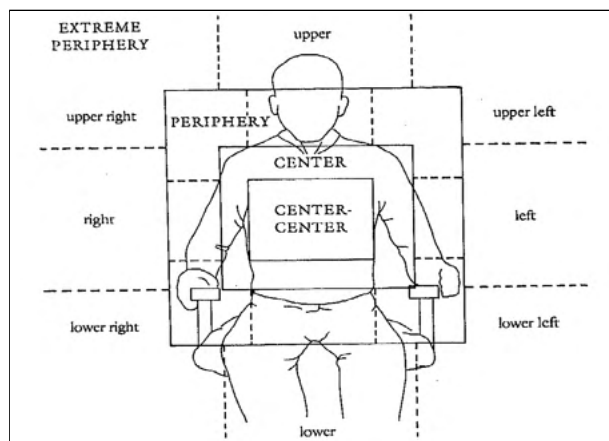
prosodic features of speech (McNeill, 1992). Unlike the iconic or metaphorical gesture, beat gestures are 'simple' and do not have pictorial qualities. Beat gestures regulate pace by providing rhythmic structure, and they have an important highlighting function in giving emphatic structure to information. Moreover, they serve interaction by displaying signs of recipiency (McNeill, 1992; Roth, 2001; Straube et al. 2015). Think of head nodding as performing a beat gesture as a sign of actively listening to your interlocutor. Interestingly a study by Hubbard et al. (2009, cited in Straube et al, 2015, p. 521) reported that beat gestures 'modulate activity in the auditory cortex during speech processing'. Therefore beat gestures structure pace and emphasis.

Gestural schema

The discussion about gestural dimensions reveals that *deicticity* grounds cognition in the environment, iconicity and metaphoricity in gesture represents physical or mental actions or perceptions, and beat gestures provide pace and emphasis. Figure 3 below is McNeill's template for localising the space for different gesture types. Although there is a preference for discussing gesture *dimensions*, McNeill uses the plots to strengthen the case for categories nonetheless. According to McNeill (1992), iconic gestures are deployed close to the body and largely in the central regions. Metaphoric gestures are deployed in the lower half of the central regions with some plot density in the lower peripheral region also. Deictic gestures take place in the periphery and extreme periphery regions. Finally, beat gestures 'plot' in clusters in the centre and periphery region. Interestingly the data for beat gestures showed how different participants had their own favourite space for this kind of gesture.

Figure 3

From McNeill's Hand and Mind (1992) Fig. 3.1. 'Drawing of the typical gesture space of an adult speaker' (p.89).

Speech and gesture have a synergic relationship which will now be explored. According to McNeill (2008), the purpose of gesture is not to accompany talk merely as its imagery dialect, instead, it is to 'fuel and propel' thought and speech (p. 1). McNeill (1999), proposes an interface concept called the *Growth Point*. The growth point is posited as the initial unit of thinking for speaking and is a complex combination of imagistic thinking and linguistic content thinking from which there emerges a cognitive event - the idea unit. The growth point is a concept that states that all related concepts expressed in an utterance are present all at once in a modular format, and not sequentially synthesized. In other words, the growth point is the simultaneous convergence of global, multidimensional, imagistic thought and linguistic content born in a dialectic process. In the event of a growth point, there is a binding of speech and gesture into an inseparable unit (McNeill, 1987, 1999).

Unlike the integrating vision of the growth point, Alibali et al. (2000) and De Ruiter et al. (2012) have a slightly different perspective on the gesture-speech relationship. They posit that gesture is the result of imagined environments, spatial-motor thinking where gesture is coordinated with speech but a separate process to speech. Likewise, De Ruiter (2000, as cited in Kendon, 2005, p. 79) also asserts that speech and gesture production are independent and that utterances are sequentially constructed as opposed to modular. De Ruiter et al. (2012) extend the scope of the speech-gesture relationship by examining the *trade-off hypothesis*. This hypothesis claims that when speaking is harder, the speaker will rely more on gesture, and when gesture is harder, they will inversely rely more on speech. However, the investigators did not find these relationships to hold true in their study. This study offers two insights for this thesis. Firstly, as communication in L2 presumably represents a cognitive load, gesture does not seem to have a compensatory role. Secondly, the implication seems to lend support to McNeill's growth point theory that speech and gesture originate from a single cognitive representation, rather than being two separate processes. Regardless, what scholars do generally agree on is that gesture and speech mutually shape each other (Alibali et al, 2000, Kita, 2000 as cited in Kendon, 2004, p. 80; McNeill, 1987, 1992, 1999; 2008; McNeill et al., 2008).

A recent study by Straube et al. (2015) offers some insight from a neurocognitive perspective into the speech-gesture relationship from the recipient perspective. The authors used fMRI (functional magnetic resonance imaging) to map brain activity when the participant was exposed to each of four conditions; iconic gesture and congruent talk, metaphoric gesture and congruent talk, only talk and only gesture. The aim was to identify the region responsible for the integration of language and gesture. The researchers found that *iconic* gesture and talk activated one part of the

brain, while *metaphoric* gesture and talk activated another part, the one which normally deals with talk-gesture mismatches (see McNeil et al. 1994 for mismatched gesture). This study yielded three relevant outcomes: 1. There is semantic integration in the presence of speech and gesture when attention is given, 2. Whether iconic or metaphoric gesture, when dealing with a foreign language semantic integration takes place in the same region as for metaphoric input, 3. Recall ability was significantly greater for spoken content presented with gesture (bimodal) than for spoken content presented without gesture (unimodal) (see also Zhang et al., 2021).

Do gestures make a difference in communication?

In Kendon's (1994) review of gesture as communication in educational contexts, the studies revealed the centrality of hand movements in providing semantic information in the course of interaction. One particular study by Berger and Popelka (1971 as cited in Kendon, 1994) revealed gestures to mediate the processes of establishing understanding, where participants exposed to the gesture-talk condition scored higher in accuracy of hearing and comprehension than those exposed to the talk only condition. Cook and Tanenhaus (2009) report that students employed very similar gestures in recalling content to what they observed, which seemed to aid the subsequent task of explaining, whilst those who were not exposed to the gesture employed strategies that did not carry any of the informative content conveyed in the gestures. These studies illustrate the *inter*personal effect of gesture. A very recent experimental study by Zhang et al. (2021) provides evidence of the *intra*personal effect of gesture. Students were asked to watch an instructional video (on statistical models), one group only watched the video, the other group were told to gesture the (content-matching) rectangles that appeared in the video, and the third group were told to gesture the (content-mismatched) rectangles also. There was greater recall capacity of the content firstly among the group performing the content-matched gestures, seconded by those performing the mismatched gestures. The poorest results were obtained from students that did not gesture at all. These findings on gesture in learning have important implications for pedagogy and will therefore be discussed at the end of this section.

In terms of interpersonal communication, the expressive possibilities of gesture and spoken language present different affordances and communication potentials (Roth, 2000). Goldin-Meadow (1997) illustrates this notion in the telling of a young child and their displayed perception of changes in water volume; in this classroom lesson on volume, the same amount of water was poured into two different cylindrical glasses, each with a different diameter. The child explained that the water had changed in volume from one glass to the other, however as she explained the phenomenon she concurrently deployed a small c-shaped gesture to refer to the first glass, then a larger C-shape gesture when referring to the second glass. So although the child's

talk centred on the *height* of the water in the glass, the child's *gesture* revealed to the teacher that she had indeed noted the *diameter* of the glasses and not just their height. This type of gesticulation is known as a gesture-speech mismatch.

Gesture: a biological account

What are the underlying mechanisms for the perception of gesture (and other embodied modes for that matter) and their interpersonal and intrapersonal effect as illustrated in the studies above? An explanation of perception and learning can be partially and initially found through the biological account of *mirror neuron* activity (Rizzolatti & Gallese, 1997; Rizzolatti et al., 1999; Buxbaum et al., 2005). Mirror neurons are said to be the underlying mechanisms behind the behaviours reproduced in an individual upon having observed the same behaviour in another individual. The actions are either reproduced internally (brain activity) or externally (behaviour) by the observing individual (Gerdes & Segal, 2009). Rizzolatti et al (1999) call these reproductions or 'imitations' *resonance behaviours*, and they occur at a subconscious automated level (Gerdes & Segal, 2009). Studies in primates show how neuronal zones fire in the same brain region on the *observation* of underline hand and mouth movements (Rizzolatti et al. 1999), thus indicating that the *perception* of hand and mouth movements is an integrated function (Lotto et al. 2009). The *same* neurons fire when the subject performs the same action they had previously observed. Sets of mirror neurons become active in both the production as well as the recognition of purposeful hand-object movements (Rizzolatti & Gallese, 1997). It is worth noting that mirror neurons have not been found to fire in the simple presence of the hand or the object, or in the absence of movement. This could be due to the lack of expressed 'intention' in the absence of movement.

The mechanisms for more complex gestures than those of reaching and grasping may involve, but not determined by, additional areas of the brain. This has been shown in studies involving human participants with lesions in different areas of the brain (Buxbaum et al., 2005). Through the *deficit principle*, which is testing what the patient is and is not able to do as a result of a lesion, the results suggest that mirror neurons may be responsible for the brain's underlying organisations mechanisms (see also Fogassi & Ferrari, 2007). Fogassi and Ferrari (2007) found that mirror neurons in primates have their homologue in the Broca Area of the cerebral cortex in humans. The Broca Area is associated with language production and comprehension as well as with the planning of movement, movement imitation and the grasping of intention in another's movement (website Neuroscientifically challenged, last accessed April 24, 2021). Scholars agree that to one degree or another the activity of mirror neurons underlie our capacity to understand *actions* observed in other individuals (Buxbaum et al., 2005; Fogassi & Ferrari, 2007; Rizzolatti & Gallese, 1997; Rizzolatti et al. 1999).

Thus studies on mirror neurons offer a biological perspective to how we can understand others through gestures beyond linguistic or cultural considerations (Heister, 2014; Iacoboni, 2009; Rizzolatti and Arbib, 1998). It is thought that the mirror neuron paradigm likewise provides insight into learning through imitation and observation (Gallese, 2001; Hayes, 2009; McCafferty, 2004). Hayes (2009) presented evidence that one property of mirror neurons is their plasticity even in adulthood. The implication is that mirror neurons can be modulated and transformed by motor-sensory experience, therefore they are a *product* of social interaction and not an underlying mechanism of imitation and learning. Furthermore, Ping et al. (2014) demonstrated in an experimental study that focused on neuromotor aspects of gesture recipiency that grasping meaning in gesture relied on the activation of one's own neuromotor system. These notions extend to the understanding of other embodied modes as explained in section 3.3.3.

The *inter*personal aspects and effects of gesture have been the main focus of the discussion, however, it stands to reason that if gestures have an internal neural process, there would be an *intra*personal dimension to gesture also. In speaking we naturally, unconsciously and automatically gesture whether we are seen or not (Alibali et al., 2001). We can recall how we gesticulate when speaking on a voice-only call when describing a scene, explaining an idea, or searching for a word (Goodwin & Goodwin, 1986). Congenitally blind individuals gesture when they speak although they have never been exposed to these visual cues (Alibali et al., 2000; Goldin-Meadow, 1997; Roth, 2001). This phenomenon seems to further support the role of gesture in the constitution of thought and the production of utterances, thereby performing a cognitive function for the speaker (Alibali et al., 2000; Goodwin & Goodwin, 1987; Roth, 2000, 2001; Roth & Lawless, 2001). McCafferty (2004) showed how gesture is actional and not just representational through data which shows how learners of English gesture to enact features of language, suggesting that these movements help access and internalize learning. In the study by Alibali et al. (2001) a correlation was found between speech fluency and gesture, where speech became more dysfluent as gesture was suppressed, further supporting the idea that gesture gives the speaker access to their thoughts and plays a role in activating speech (see also Goldin-Meadow, 1997 and Roth, 2001).

What are the implications for gesture use in education? Kendon (1994) demonstrated that deeper learning occurred in students exposed to the gesture condition compared to those in the non-gesture condition. Consistent with these findings are those in Zhang et al. (2021). McCafferty (2002, 2004) suggests that gestures constitute a valuable resource when difficulties are encountered with the verbal channel. Roth (2000, p. 1685) describes the suitability of gesture as a 'four-dimensional analogue channel that is able to portray shape, form, space and position that are not encoded by language'. Roth (2001) shows that gestures (air and inscribed) participate

in the emergence of mathematical thinking and discourse development where students grasp concepts through gestures and diagrams and in turn these gestures and diagrams scaffold the development of discipline-specific talk. Gesture-speech mismatch, where the lecturer might be engaged in analytical talk but the gestures display iconic and metaphoric details force students to make an interpretation of the actions through accommodation and reconciliation of what they see and what they hear (Goffman, 1981; Goldin-Meadow, 1997; McNeill et al. 1994). Moreover, in the L2 environment, McCafferty (2004) suggests that the combination of speech and gesture perform communicative and cognitive functions, packaging a repertoire of embodied actions

The focus of this thesis is largely centred on the lecturer, therefore the aim of this section on gesture is to provide ample evidence of neural activity in the attending students in the presence of gesture and other embodied actions as drawn from previous research. Furthermore, EMI contexts gain a strengthened and consolidated position when gesture as one embodied mode, is treated as an integral part of the discourse. This thesis is being written during Covid-19 restrictions, in which face-to-face teaching has moved to the online mode. The implications to learning are considerable if students are unable to access a lecturer's embodied actions, especially in light of the unique contributions made by speech and by gesture; where 'gesture can be the vehicle for [fine-grained] knowledge unlikely to be expressed in the accompanying speech' (Cook & Tanenhaus, 2009, p. 102). In this sense, teaching strategies are affected by the lack of 'mutual monitoring'. As a member of the university faculty, one has engaged in repeated conversations regarding the 'blind' teaching of online modes. Teachers report feeling lost without the visual feedback they would otherwise receive from students. Likewise, they intuit an impoverished learning experience in a situation where students cannot *see* the lecture. The following describes the other embodied modes, no less important, that participate in meaning-making; proxemics, gaze and prosody.

3.2.2. Proxemics

The term *proxemics* was coined by Hall (1968) in his study of how individuals utilize and perceive their space and how they unconsciously construct macro and micro spaces in the course of their daily transactions (Hall, 1963). It is concerned with the distance the individual maintains in relation to other individuals, groups of individuals and material objects (Hall, 1968). Hall (1968) did pioneering work in this area where his perception of space includes a dynamic perspective, and his notion of action in space drew from the discipline of *phenomenology* (Merleau-Ponty, 1948/2004), in which he relates the individual's relationship with space with their lifeworld experience. Hall (1968) asserts that differences in proxemic behaviour stem from individuals' display of *internalised* socio-cultural mores (notions of 'appropriate' distances), as opposed to culture acting as an 'external and coercive' constraint (Hall, 1968, p. 96). In Birdwhistell's (1968) response to Hall (as cited in Hall, 1968) conceptualisation of proxemics, he

points out the incompleteness of elucidating meaning from only spatial positioning and that studies into social interaction necessarily had to include other 'interdependent modalities' (p.96). The analytical approach in this thesis concurs with this notion.

The communicative potential of proxemics comes through the body's overall spatial behaviour; the orientation and the position the body takes up in space. Communication through spatial conduct, proxemics, involves the distance maintained with respect to others and objects that mediate any action in the space (Scheflan, 1965, cited in Aliakbari, 2011) such as classroom size, furniture and fittings. To understand proxemic behaviour, Hall developed three broad categories of space (1963; 1968) to view proxemic behaviour and these are distance, territory and space. In the first of these, distance, he subdivides the distance between people in the following terms: intimate, personal, social and public. He then quantifies these subdivisions from 0 to 360 cm and beyond.

The notion of *territory* is subdivided and conceptualised as *private property,* which is territory that belongs to an individual, and *public property*, which is territory that belongs to a group. Under this system, the territory of the classroom would be considered public property 'housing' the institutional relationship of teacher and students. The last of the concepts he describes is *space* which is further divided into three more categories; formal space composed of fixed features such as walls and fittings, the semi-fixed space, which includes moveable furniture for instance, and finally, the informal space which is that created by the individual with their spatial behaviour in relation to other individuals, the latter an important notion in this thesis.

Whilst all the different notions of space are relevant to this thesis, *informal space* has particular relevance to understanding the construction of participation frameworks in interaction. The conduct of the body in space and time conveys deep meanings and is profoundly embedded in cultural mores as mentioned earlier, where Hall (1968) himself remarked on his own cultural bias and lack of insight into the spatial conventions of other cultures. What cultural considerations influence spatial behaviour? There are forces that mediate and constrain proxemic behaviour that stem from ethnicity (Goffman, 1963, p. 86), sex (Aliakbari et al., 2011) and institutional aspects (Lim et al. 2012) to name a few. Nonetheless, Hall added that an analysis of the use of space through the eyes of other cultures provided him with a fuller understanding of proxemic behaviour in his own culture. An awareness of how members of different cultures adhere to accepted boundaries of informal space is one key aspect to intercultural competence (Aliakbari et al., 2011), (and by extension, to interactional competence which will be addressed in the next section). In an internationalised university classroom there are two mediating forces at work, ethnic-cultural and institutional. However, as argued in section 3.1.1 and not to the exclusion of cultural

considerations, the education institutional culture in general trumps sources of cultural differences in mediating the participants' spatial behaviour.

It is through proxemics, in concert with gaze, that awareness of and attention to others is made visible. Attention is a fundamental element in participation and it is displayed in the teacher and student's spatial position, posture and orientation. Awareness or unfocused attention, occupies the other end of the attention-awareness continuum. The continuum can be correlated with foreground, midground and background fields of attention (Norris, 2004). For instance, one reacts and interacts specifically and intensely with that in the foreground of attention, whereas the interaction is lesser in the mid-ground of one's attention, and finally reactivity and interaction is lesser still with those activities, objects or individuals in the background field. Who or what lies outside the foreground of attention is within the field of awareness. The attention-awareness continuum provides means to describe how an individual can dynamically moment by moment simultaneously interact along this continuum.

For instance, the idea of an attention-awareness continuum can explain the proxemic behaviour of a teacher who is interacting with one student in the back row, thus forming a momentary sub-participation framework, whilst simultaneously displaying embodied signs of awareness of the rest of the class through his or her segmented spatial orientation (body torque). Since the management of awareness-attention towards the class collective and its individuals relies on embodied conduct (Mondada, 2009), in this sense the body can be seen as a sequence of articulated segments, where the head, torso and legs can be oriented in different directions to each other to distribute attention amongst more than one focal point. When body 'segments' are oriented in the same direction, a dominant focus of attention is communicated (Kidwell, 2014).

Proxemics and pedagogy

The design of the classroom layout reflects ideas about teaching and learning (Lim et al, 2012). In the teacher-fronted configuration, teachers are expected to occupy that domain. To complement this arrangement students sit facing the teacher with a full view of his or her domain. The furniture and technical equipment such as the teacher's desk, the projector screen, the white or blackboard and the computer, each have a function and are hence laid out in a practical arrangement within the teachers' domain. Therefore space acquires its domain character and functional recognisability as a result of the furniture and fittings, and their respective orientations; screen, desk and blackboard face the students and student seating is oriented to the front of the class. Moreover, the different spaces within the teacher's domain are marked by furniture and equipment, and how they mediate teacher's conduct constitute a source of meaning-making.

Lim, O'Halloran and Podlasov (2012) built on the proxemic work by Hall (1964, 1966, 1968) in a comparative study in which the spatial and functional use of space of two different lecturers, one more experienced and the other a novice, was correlated to their pedagogic discourse. The analysis was based on the notion that material distance is 'semiotic distance' which is at the heart of Hall's concept of proxemics. Space in Hall's work is seen as relative and relational as opposed to absolute. These authors propose five different semantic spaces, of which I outline the four relevant to this thesis in a table below.

Table 2

Demarcation of classroom spaces as per Lim et al. (2012, p. 337) building on Hall (1968).

Space	Location and functional description
The authoritative space	Behind or near the desk and the front-centre of the classroom; where instruction is given; formal tenor.
The personal space	Often between the authoritative and supervisory space. From where a question might be posed and discussion pursued.
The interactional space	Next to a student's desk or between the row of desks. The proximity is both a product and facilitator of interaction in consultation. Marks a focused participation framework
The supervisory space	The 'patrol' space alongside the rows of students.

Other modes such as gaze, gesture and talk participate in creating space-related meaning, in this way one space can take on and undergo different semantics. For instance, a teacher in their 'authoritative' space by the desk might sit on the corner of the desk in a dialogical exchange with the students, where sitting down plays authority. In this thesis, proxemic behaviour is correlated to the pedagogical moment and analysed as part of a multimodal gestalt. Hence, the semantic affordances of space is observed in the teachers' conduct within the spaces and between the spaces. The next section will describe gaze as a mode that participates in participation frameworks and mediating social interaction.

3.2.3 Gaze

'Each individual can *see* that he is being experienced in some way, and he will guide at least some of his conduct according to the perceived identity and initial response of his audience. Further, he can be *seen* to be seeing this, and can see that he has been seen seeing this (Goffman, 1963, p. 16)

As folk wisdom says 'the eyes are the window to the soul', it follows that a gaze exchanged between two people would create a moment of connection (Kidwell, 2014). Gaze is said to reveal the emotional state of a person, their wishes and desires, and through gaze, one seeks and secures attention. According to Schegloff (1999 as cited in Kidwell, 2014), gaze is elemental and primal in human communication, whereby social interaction hinges on gaze.

A shift in gaze from one person or object to another person or object generally redirects the co-present person's gaze to that person or object (Kidwell, 2014; Goodwin, 2002). Hence a gaze upon something or someone brings that something or someone into relevance as a locus of attention (Mondada, 2009). Therefore, listenership is commonly displayed through gaze, such that one sign that a speaker has secured the attention of another is through the hearer's reciprocating gaze (Ekström, 2013). Kendon (1990, p. 91) observes how the behaviour of speakers bears on the behaviour of listeners which in turn bears on the behaviour of speakers. So gaze, or sight, is fundamental to reciprocity (see section 3.1.4), in other words, we monitor for signs of engagement and participation which in turn will shape our own next action (bid for attention through increased volume or pause for instance). In a show of sociocultural awareness listeners and speakers are generally adept at measuring their gaze to avoid intense prolonged staring lest they violate the other's territory (Hall, 1963, p. 1005; Haviland, 2004; Kidwell, 2013).

Nonetheless, a listener's gaze that has strayed may prompt a number of strategies in the interlocutor to regain that person's gaze and hence attention, such as cut-offs and restarts and even prolonged pauses seem to summon attention (Goodwin, 1980). Indeed, individuals will avert their gaze intentionally when they do not desire to participate or interact (Evnitskaya & Berger, 2017). Gaze in concert with pointing or spatial orientation is commonly used to allocate the next speaker (Käänlä, 2012). In a group of people, a flitting or panning gaze by the speaker affords all the members of the group an equal status as ratified hearers (Goffman, 1981, p. 133). In the classroom when gaze falls upon an individual in a moment of exclusive attention, body 'torque' (Schegloff, 2007), that is the distributed attention displayed in the split orientation of different body segments, may offset the exclusivity of the gaze to include the whole class, and the ensuing interaction is 'played out as a display for the encircling hearers' (Goffman, 1981, p. 133).

Therefore an interactional space, or more to the point, a goal-centred participation framework, emerges through proxemic behaviour and through the gaze that both secures attention and directs attention as gaze works in concert with spatial orientation (Kidwell, 2013, 2014). Through gaze, attention is directed to oneself, to others or towards material objects. In the participation framework of the classroom, a teacher leads participants to share a focus of concern, a common object of attention that is displayed through a shared focus of visual attention. Likewise, participants visibly

display their alignment to the object of concern and to each other through gaze (Goodwin & Goodwin, 2004). Listeners can be ratified participants but not the object of the speaker's gaze. As mentioned earlier, gaze in this case brings into relevance whatever person or object referred to by other means. For instance, teacher talk whilst looking back at a projected slide most likely will draw the gaze of students to the slide, although the talk is directed at them and not the slide, or when one's gaze strays elsewhere other than the environ of the interlocutor's facial region, one is compelled to follow the direction of the gaze. So gaze has deictic potential and is a powerful mode in establishing objects, phenomena and people of relevance and securing participation in a framework.

3.2.4   Prosody

This section will deal with the ways in which talk becomes meaningful speech through those prosodic features that afford speech its musicality. Beyond the conveyance of information, *meaning* is embodied in rising and falling intonations, in the stress given to particular words, and in the location and length of pauses (Couper-Kuhlen, 1998, 2014). The musicality in speech creates an auditory effect that enables us to convey emotion, highlight important information and generally contributes to meaning-making in social interaction (Couper-Kuhlen, 2014; Walker, 2013). Therefore prosody is not an extra layer on grammar and lexis, instead but conforms to an independent form of meaning-making. Indeed, prosody is processed in a region of the brain that is distinct from the known language areas (Grandjean, 2020), and therefore it is channelled differently to language. In fact, prosodic features of speech are powerful communicators in themselves as evidenced in Goodwin's (2010) accounts of Chil, his father who although had lost the ability to speak after a stroke, was accomplished at using prosody to communicate with three simple syllables.

Prosody adds clarity to speech. Mehan (1998) reports on the significantly better test results of students exposed to talk segmented by pauses compared to those where no pauses segmented the stream of talk. Prosodic features are fundamental to the delineation of the *intonation unit* - IU (Chafe, 1994, cited in Norris, 2004:16). The IU is a portion of speech made up of a word or short phrase which generally contains an idea unit, conforms to grammatical conventions and where prosody provides its contour (Norris, 2004) as either upward or downward intonation, length of pause between IUs and so forth. (The method chapter four will expand on the IU in relation to transcription). The meaning-making potential of prosody is enriched when the focus shifts from the speaker to how the speaker's 'voice relates to the voice of the co-participant' (Couper-Kuhlen, 2014, p. 222) in signaling involvement and carrying intent (Gumperz, 1992 as cited in Couper-Kuhler, 2014), in as far as participants actually attend to prosodic cues (King's College, undated).

This thesis includes an analysis of how the lecturer modulates and orients prosodic resources to the listeners during the long turn and in dialogical exchanges. In the first instance, the lecturer's prosody structures his extended talk into IUs, where IU contouring potentially marks idea units and transition relevance places (TRP). In the second instance, prosody signals an aligned coherent interaction with co-participants (Schegloff, 1987) in tempo and word stress. Couper-Kuhlen and Selting (1996) contend that conversation analysis and prosody studies should work together on the grounds that each enriches the other, where prosody as an integral part of talk, plays a determining role in social organization and sequencing via auditory channels (see also Walker, 2013; Heath & Luff, 2013). However, an experimental study conducted by Esteve-Gibert and Prieto (2012) shows the relationship between prosody and the deployment of the stroke phase in gesture, hence in co-present individuals the organisational and pacing elements of prosody (rising or falling intonation for instance) were seen to co-occur with gesture in a synergic relationship, such that prosodic features of speech and gesture altogether constituted an auditory as well as a visual communication experience.

The prosodic focus in this thesis centres on intonation, word stress and pauses to characterise the IU and its contouring. Hence *intonation* is the variance in the pitch of the voice where it is used to carry out such functions as conveying emotion, attitudes, and creating an auditory distinction between a statement and a question (Markee, 2000). *Word stress* is produced when the speaker articulates a word more emphatically within an IU compared to the other items. Emphasis is created when the word is spoken louder, drawn out or pronounced more deliberately than other words in the IU (Bezemer, 2010), and when one syllable is pronounced emphatically for instance to distinguish it from a similar-sounding word (Esteve-Gibert & Prieto, 2012). *Pauses,* the silences between IUs, serve a number of functions in speech. On a practical level, they allow a breath to be taken in the stream of talk. On a semantic level, the deliberate strategic insertion of pauses in talk means the 'information byte' can be momentarily isolated for the message to stand out, and information might be more easily and readily received (Mukherjee, 2007).

3.2.5.   Multimodality and perception

Pink (2011) challenges the Westernised notion of the five senses being directly related to 5 sense organs. She cites research that reports experiences of the world that illustrate other types of sensory correlations. The five-sense model does not accommodate the sensory experiences of people of other cultures, or even in our own culture and subcultures. For instance, we use adjectives pertaining to touch to describe colour (blue is cold), we refer to a clean airy house as *fresh* and filmmakers visually exploit our experiential sense of texture. Therefore, Pink (2011) questions the premise that understanding human perception is a matter of dividing the modes among specific routes, 'The eyes and ears should not be understood as separate keyboards for the registration of sensation, but as

organs of the body as a whole, in whose movement, within an environment, the activity of perception exists' (Ingold, 2000, p. 268 cited in Pink, 2011), a view shared by Kress (2003).

Likewise, Low (2003) argues for a concept of the body that integrates the physical with the biological paradigms as the 'lived experienced, and a centre of agency, a location for speaking and acting on the world' (p.10; see also Streeck, 2013). We *have* bodies but we also *are* bodies (Turner, 1984 in Low, 2003). Our interaction with the world is an embodied one; our bodies are receptors of, mediators in and effectors in the construction of our social experience with others and ourselves. Teaching-learning is a profoundly socio-cultural process, and hence one where our physical bodies and all its movements constitute the social embodied actions that compose the enactment of teaching and learning. The embodied modes, whether gesture, proxemics, gaze or prosody have an *inter*personal communicative function and an internal organisational *intra*personal function. Any attempt to understand the processes of teaching and learning that does not contemplate the body as part of the discourse, I contend, is one that will miss much meaning-making (Iedema, 2003), as 'language and literacy have to be seen now as partial bearers of meaning only' (Kress, 2003, p.35).

Summary and conclusion

This section discussed multimodality as the interplay of different combinations of (embodied) modes comprising a semiotic meaning-making approach to classroom interaction. The discussion examined the individual modes in order to highlight their affordances and limitations when participating in meaning-making gestalts. The section on gestures discussed the communicative potential of gestures showing them to be short in duration providing nuanced layered communication when linked to speech. The extended discussion on the neurobiological basis for gesture-speech synchronization will be taken up and extended in the next section to conceptualise how mutual understanding might be established in interaction. Through spatial behaviour, participation frameworks emerge, are managed, sustained and dissolved, and the display and distribution of awareness and attention are likewise managed through body orientations. Gaze secures attention as well as performs a deictic function, and lastly, prosody, the intonational musicality of speech, its pace and volume infuse talk with sense, connotation, stress, degrees of certainty and significance through which meaning is conveyed.

Multimodality speaks of the astonishing ability individuals have to make sense of all these different signals. We subconsciously integrate the embodied signals and furthermore, we situate these within the social frame of the encounter with all its cultural mores and constraints. Therefore the following section will attempt to describe how participants are able to integrate linguistic, visual and auditory modes for coherent appropriate interaction within an institutional setting thereby displaying *interactional competence*.

3.3 Introducing interactional competence

Section 3.3.1 will take a historical view to interactional competence starting with linguistic competence, then communicative competence in order to show the shortcomings of each of these paradigms for understanding how individuals construct shared meaning. Section 3.3.2 will tackle the notion of interactional competence, followed by an attempt to delve deeper by exploring the underlying mechanisms of interactional competence in section 3.3.3 through the notion of direct perceptions. To this end the discussion draws on phenomenological notions of the body in the construction of intersubjectivity - shared understanding in simple terms, thereby integrating the concepts of sections 3.1 on recurrent practices, 3.2 multimodality and 3.3 to give a phenomenological account of interactional competence as embodied action.

3.3.1 From linguistic competence to communicative competence

In general terms, competence is defined as a characteristic of an individual to perform a function effectively based on their underlying knowledge (Young, 2011). Notions of sociolinguistic competence emerged from models based on Chomsky's concept of linguistic competence, and later Hymes' model of communicative competence. Chomsky (1965) understood language as a purely technical 'mentalistic' system that could be separated from the kinds of social behaviours its use may produce in people and considered that a study of linguistics that included conduct would undermine the discipline (p. 4). He reasoned that *speech* was a messy business, replete with such features as false starts, abrupt mid-sentence stops, sudden shifts in orientation and so forth, and therefore could not provide a means to study language. In his view, linguistic competency resided in the knowledge of grammar and lexis. He considered the social use of language as a type of performance and as such treated it as a separate phenomenon. He operated on the belief in a universal grammar; that we are all born with a common template for language (p.51).

Hymes (1972) argued against Chomsky's linguistic competence and performance dichotomy, offering instead a vision of linguistic competence that integrated the social use of language; 'there are rules of use which the rules of grammar are useless' (p.278). In other words, he believed that language was a social instrument of communication and how you mobilised language in social situations reflected your linguistic knowledge and knowledge of social norms. He considered the linguistic and social domains inseparable, and therefore comprised a single competence. Hymes coined this merger of linguistic and socio-pragmatic abilities *communicative competence*. Thus communicative competence is displayed in the practical socially appropriate way language is mobilised by an individual (Young, 2011).

Canale and Swain (1980, cited in Young, 2011) were inspired by Hymes' ideas of competence and so developed an applied linguistic theory of communicative competence that built on Hyme's original foundational premises. The Hyme's model was modified and expanded to include a relationship between language and pragmatics and how they combined according to the principles of discourse. Due to the simplicity of the Canale and Swain model, it became a central notion in English teaching and testing through the 80s and 90s (Bâgaric, 2007), and today continues to dominate in some educational systems (Escobar-Urmeneta, 2016; Sun, 2014). Bachman and Palmer (1982, 1996, cited in Sun, 2014) developed a more complex model for communicative competence where they distinguished between organizational knowledge, pragmatic knowledge and strategic competence. Organizational knowledge covered areas of grammar and text, whereas pragmatic knowledge covered the ability to navigate sociolinguistic contexts. Lastly, strategic competence, a metacognitive ability, could make the most effective use of all knowledge types to accomplish a given task (Sun, 2014). Hence, communicative competence developed into a more complex construct, however, like the concept of linguistic competence, it was considered as an ability and a characteristic possessed by a *single* individual.

Both linguistic and communicative competence are essentially cognitive-based constructs, as opposed to sociocultural (see Table 3 below). Cognitive outlooks tend to compound the view of the ELF user as a deficient learner rather than a competent embodied pragmatic user (Firth & Wagner, 1997). For instance, Young (2010) echoes this when he says 'people are beginning to realise what greater insights we can get into SLA by looking at gestures that accompany language than by studying learner language alone' (p. 3). Although the communicative model has been enthusiastically applied in language pedagogy and testing (Walsh, 2012), the field of SLA has moved away from cognitivist paradigms towards socio-constructivist paradigms in recent decades at the hand of such scholars as Young (2010, 2011, 2013), Pekarek-Doehler, (2002, 2012) and Lantolf (2011) to name a few. The difference between socio-constructivist and cognitive perspectives on teaching and learning are summarised from Ortega (2011, p. 168) in three main points in table 3 below.

Table 3

Comparison of cognitivism and socio-constructivism in understanding teaching, learning and knowledge construction (Ortega, 2011, p.168)

Dimension	Cognitivism	Socio-constructivism
Origins	Psychology, therefore: ● Knowledge bound in the mind ● Individual accomplishment ● Learning through the mind as exposed to external stimuli.	Socially-oriented disciplines and theories: ● Knowledge and learning is socially distributed. ● Learning is a social accomplishment ● Has social histories
Knowledge	Abstractness ● Knowledge can stand alone ● Transferable across bounded minds and contexts.	Situatedness ● Knowledge enmeshed in a greater whole. ● Knowledge as epistemology, informed by contextuality, mutuality, embeddedness, embodiment
Focus	Entities and objects ● Taxonomies and categories: 'language', 'native', 'learner'	Actions and processes ● Doing being ● Emergent, evolving knowledge ● Flux, relations, practices, co-construction, dynamism

3.3.2. Mutuality and reciprocity

A study conducted by Saville-Troike (1989, p. 131-132) reveals the shortcomings of the communicative model. She reports on a verbal exchange between a white Anglo-American kindergarten teacher, and the father of a child, a Navajo man. The exchange was based on the recurrent and familiar practice of greeting, however, what each party considered a respectful greeting resided on assumptions that were completely opposed. The Navajo man remained silent before the teacher who keenly introduced herself to him. Each perceived the other as rude, when in fact they were both displaying their respect for the other. They both indeed displayed *communicative* competence, however, the problem was their lack of insight into each others' culture and other contextual matters.

Interactional competence (henceforth IC) takes linguistic and communicative competence into the real-life arena. IC is the highly complex ability one individual has in interacting with another individual which involves mobilising the skills of the aforementioned competencies in a coordinated manner to create a *joint* competence between the interacting individuals (Young, 2011, 2013). However, IC is more than the sum of the skills described in the models by Chomsky (1965), Hymes

(1972) and Bachman and Palmer (1982, 1996), but rather it is a complex multimodal *gestalt*, where the whole is greater than the sum of the parts (Mondada, 2018). Interactional competence is not a characteristic of an individual, instead, it is the dynamic interplay that emerges among co-present persons. McCarthy's (2006) term *confluence* illustrates the idea of one's utterances (or actions) being coherent, or co-fluent, with that of another and implies a joint *collaborative* effort between speakers to mutually understand one another. Kramsch (1986) in the field of L2 education states:

> Whether it is a face-to-face interaction between two or several speakers or the interaction between a reader and a written text, successful interaction presupposes not only a shared knowledge of the world, the reference to a common external context of communication, but also the construction of a shared internal context or 'sphere of intersubjectivity that is built through the collaborative efforts of the interactional partners. (p. 367)

These notions set the work on IC apart from the prevailing theories mentioned earlier. The willing collaboration between co-participants to construct common understanding requires skills in negotiating, adjusting one's speech to align with intended meaning through prosodic variations, requesting clarification, giving clarification and anticipating the listener's perception and response. The aim of interaction is to reduce to a minimum any misalignment between the speakers' intended "meanings, perceptions and expectations" (Kramsch, 1986, p. 367). According to Walsh (2012) interactional competence, that is the ability to engage in successful interactional dynamics that lead to shared meaning is by far a more determining skill to communicative outcomes than the speaker's level of linguistic fluency. Nonetheless, Markee (2008, p. 3) points out that the co-constructed experience of interaction should lead to a progressive construction of knowledge.

Young and Miller (2004) and Yagi (2007) have investigated the elements of interaction and have pushed it beyond previous sociolinguistic boundaries to include historical and cultural perspectives. Moore (2016, 2012) for instance, observes that interactional competence draws on a repertoire of plurilingual, multimodal prosodic resources, and work by interactional analysts such as Escobar-Urmeneta (2016), Evnitskaya & Berger, (2017), Goodwin, C (1980, 1986, 2000, 2013), Goodwin, M (1995), Hazel et al. (2014), Mondada (2009, 2018, 2019, 2020), Heath and Luff, (2013) and Streeck (2009, 2013) and Streeck et al. (2011) to name a few, have brought to light the crucial role of embodied modes in meaning-making and interactional competence, where interactional competence relies on embodied modes. Therefore the ensuing discussions will be constructed on the assumption that embodied modes play a pivotal role in interactional competence.

Drawing from section 3.1.4 on recipient design, the notion of reciprocity is the basic template for interactional competence (Pekarek Doehler, 2002). In the course of interaction, the design of the next (embodied) turn is contingent on the design of the previous embodied turn (Hindmarsh & Health, 2003) and so forth. Because IC is about how participants respond to one another turn by turn whereby meaning between them emerges and evolves with each turn, an emic perspective is the most appropriate approach to reveal the sequential evolution of social interaction. Interactional competence is a profoundly socially embedded process therefore the notion of social *context* needs addressing in order to gain full insight into meaning-making processes (Goffman, 1964). Therefore interactional competence is highly contextual in time and space - it is a *situated* phenomenon. Within the sociocultural paradigm context is two things; what emerges and continually evolves between co-participants in interaction (Heritage, 1984), and the overarching matrix of sociocultural conventions (Drew & Heritage, 1992; Goffman, 1964). These two dimensions of context are interrelated and mutually define one another, as they are both the product and the matrix of social interaction.

Ascription of meaning

Sidnell (2016) reflects on the 'action' in interaction and clarifies how talk can be an action (p.8) but unlike speech acts, social actions do not have a set of premade categories in which to neatly 'bin' observed phenomenon (p.9). Similarly, Goffman (1981, p. 72) amongst others rejects the idea of determinism often bound in cognitive approaches to teaching and learning (Ortega, 2011; Mondada & Pekarek Doeher, 2004), and points to all the different impromptu moves made in conversation. Instead of seeing spoken interaction as *dialogue,* Goffman (1981) considered it best described as verbal *interplay*. Adding the multimodal prisms, that interaction is an interplay of modes comes clearly into focus (Norris, 2004, p.1).

That meaning is ascribed despite the impressive speed with which one engages in interaction, where the next turn has been designed even before the interlocutor reaches the end of their turn-at-talk (Levinson, 2013, p. 103) is worth contemplating. The coherency of these sequential turns is what Levinson calls 'the miracle of understanding' (ibid p.103). Schegloff (2007) asks how co-participants integrate words, movement and position of bodies with the environment to perceive a request, mitigation, respectful or disrespectful disagreement, an invitation, bidding for attention, forgiving or asking for forgiveness, or any other social action?

Asking for forgiveness, for instance, is not necessarily bound in the words 'will you forgive me?' but can present as a series of reconciliatory actions recognizable only to the intended recipient. Action *ascription* is preferred to action *recognition*, as the latter implies that social actions have a correct standard structure when in fact social actions are often personally constructed, misconstrued and

require negotiating (Levinson, 2013). The idea of action ascription describes joint understanding that is deemed *good enough* for the interaction to continue coherently. (This 'good enough' idea is similar to the Husserlian notion of intersubjectivity outlined later from Duranti, 2010). In other words, participants have formed an operational perception of each other's intentional trajectory. Because research into meaning-making requires an analysis of reciprocity, it requires tools for an emic view of turn by embodied turn co-construction of social actions (Nevile, 2015). Furthermore, Sacks (1995) considered culture to be 'an apparatus for generating *recognisable* actions' (p. 236 cited in Levinson, 2013, p. 105). This notion ties in with the discussion in section 3.1.1 on discourse communities and 3.1.2 on genres as foundational to meaning-making in the educational context.

In relation to coherency, for instance, a question invites an answer, an offer invites an acceptance or refusal. However, we respond to more than an utterance, but to motivation, an intention revealed how that utterance is embodied (Gallagher & Zahavi, 2012; Mondada, 2020). For example, gesture often precedes an utterance thereby giving a front-loaded cue to action ascription (Streeck, 2009, 2013), much in the same way that *Wh-* question words index that a question is to follow, although Schegloff (2007) does not give credit to non-linguistic forms to compose or structure an *adjacency pair*, defined as a set of coherent turns produced by co-participants (Schegloff, 2007). However, Levinson (2013) points out that if you wave hello, I wave hello back, and 'if I raise my eyebrows and gaze pointedly in the direction of the wine, you get it for me; I hold out my hand, you shake it' (p.124).

These ingrained behaviours become apparent at the moment they are breached in any way. For example, when a hand offered in a handshake is ignored or overlooked. This faux pas stirs emotions not just in the rejected but in onlookers also (Gallagher, 2008; Tanaka, 2017). Mondada's (2002) study of surgical settings shows that an outstretched palm up open hand does not invite one to insert their hand into it but to place an instrument in it (see also Bezemer & Kress, 2016). Therefore actions are understood within a specific context and as part of a string of previous actions, all of which are constructing a larger action.

3.3.3 Perception and intersubjectivity

Duranti (2010, p. 17) states that despite advancements in our understanding of interactional architecture, he questions the nature of co-presence and intersubjectivity. The previous discussion in section 3.2.2 on the awareness-attention continuum may provide some inroads into understanding how people first of all are visibly aware of each other, although one does not really know what the other is thinking. Duranti (2010) turns to the 20th-century philosopher Husserl, the originator of the

concept of intersubjectivity, to move away from the more simplistic rendering of shared meaning and that of a meeting of minds. Instead, Husserl saw intersubjectivity as a union of consciousness *and* the human body (Husserl, 1931, p. 149-150 cited in Duranti, 2010, p. 20). This brings up two points; that while thoughts in themselves are not visible, Husserl who was German was able to exploit the distinction the German language makes for the body, '*Korpor'* as the anatomical material object, and '*Leib'* as the living interacting body entity (Streeck, 2013), thereby he posited that the body would reflect or manifest signs of our internal world. Second, because we experience life in a unique way, then we will 'see', or rather perceive things, people, events in a unique way (see also Gallagher & Zahavi, 2012; Mondada, 2019).

Before addressing perception, a brief overview of *empathy* will contribute to the discussion on perception that follows. Mirror neurons discussed in section 3.2.1 perform a role in understanding others and participate in the process of learning (Iacoboni, 2009). Connections have been made between mirror neurons and the construction of internal representations (Buxbaum et al, 2005). Connections had been made between mirror neurons and the development of empathy (and therefore intersubjectivity) in Gallese's Manifold Hypothesis (Gallese, 2001). Gerdes and Segal (2009) look beyond affective and emotional responses often associated with ideas of empathy, to explore the *involuntary*, preconscious responses we have to others that arise from this deep visceral sense of empathy. Therefore according to these scholars, empathy is a deep and somewhat biological type of connection to others. So in this sense, Iacoboni (2009; also Iacoboni et al., 2005) looks at mirror neuron activity as foundational in the ability to understand each other.

Rizzolatti et al. (1999) work with primates identified a strong correlation between mirror neurons and what they call *resonance behaviours,* which are behaviours an individual reproduces on observing that behaviour in another individual. In other words, the firing of mirror neurons upon observation of action causes the corresponding activation of one's own existing motor-sensory network. In human studies, this motor mapping is theoretically linked to the formation of one's ability to understand intention in others through their actions (Gallese, 2001). Nevertheless, for the sake of delving deep into interactional competence, the question of *how* perception organises and 'delivers a *meaningful* experience of the world' (Gallagher & Zahavi, 2012, p. 6), will be the focus of what follows.

The need to explain perception and meaning has given rise to various theoretical angles. Within cognitive sciences, Theory of Mind (ToM) has dominated the field (Gallagher, 2008; Froese & Gallagher, 2012). ToM is an overarching theory that offers two main perspectives; Theory Theory (TT) and Simulation Theory (ST). TT posits that we employ common-sense theories about how certain emotions, beliefs and desires influence the behaviours of others. This approach relies on mentalizing what the other must be thinking. ST on the other hand says that we are equipped with

our own mental model to simulate another person's mental state. The other person's behaviour is observed from which we draw their belief or emotional state as though in their place (Gallagher, 2008). Husserl (in Duranti, 2010), puts forth the notion of *trading places*; if you were in my proverbial shoes you would see and experience life as I do.

Gallagher (2008) critiques ToM theories; he contests the theory that simulation scenarios are mobilized in our minds in the course of our interactions with others. Instead, he offers an alternative in 'smart' *direct* perception. He argues that mental exercises in simulation are not called on to make sense of interactional moments, instead our accumulated memory of past lifeworld experiences provides us with immediate meaningful feedback in what we perceive. This idea of perception is based on how direct perception is and how informed it is. So we come equipped with a basic set of perceptive abilities which develop and broaden with time and experience. Direct perception might be the more feasible theory considering how richly complex interaction is and how fast it moves.

Perception is a situated phenomenon; 'In daily life, we do not interact with theoretical objects, but with tools and values, with pictures, statues and books, tables, houses, friends and family (Husserl, 1952/1989, p. 26, in Gallagher & Zahavi, 2008). We do not add context to our perception of an object but rather the object and its context are inseparable. This is the basis of perception from a phenomenological perspective where there would be no perception if the object were suspended in a vacuum, so to speak. Meaning is found in perception and perception is gained from the surroundings that afford the perceptual experience (Gallagher & Zahavi, 2012, p. 94). The Ebbinghaus Illusion as Figure 3 below illustrates this as a principle of perception where our perception of the central circle is conditioned by the size of the surrounding circles.

Figure. 4

The Ebbinghaus Illusion shows how perception is shaped in context (Wikipedia).
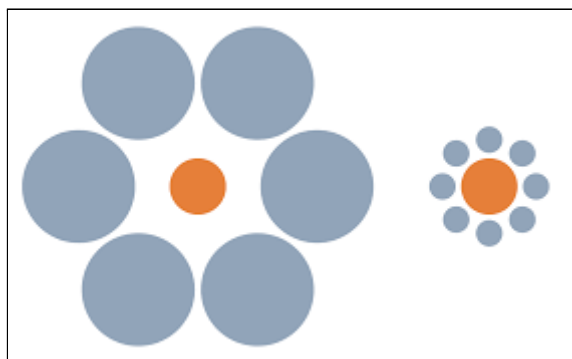
Hence, *intersubjectivity* is not a state where two individuals will perceive an event or an object in the exact same way, but rather work towards intersubjectivity opens the *possibility* of mutual understanding through interactional mechanisms (goals, embodied actions, institutional constraints

and empathy) although perhaps not its full accomplishment (Duranti, 2010, p. 21). In other words, intersubjectivity is not an end product of communication but rather it presents as a *possible* state willing participants strive for.

The body and intersubjectivity

What remains is an integration of the body in perception, intersubjectivity and interactional competence. The enactive theory of perception links perception and how the body determines the experience, 'it is the movement which is primary and sensation which is secondary; the movement of the body, head and eye muscles determining the quality of what is experienced' (Dewey, 1896, p. 358 in Gallagher & Zahavi, 2012, p. 98). What we see, touch, taste and feel are somewhat determined by what we do, what activities we have undertaken in other words. Casting back to the German distinction between the physical object (Körpor) and the animated subject (Lieb), our bodies as living experiences respond to and are recipients of preconscious movement and activity in the world, and form the basis of intelligibility (Dreyfus, 1991, p. 3, cited in Streeck, 2013). The body is the vehicle for being in the world '[…] I am conscious of my body via the world […] I am conscious of the world through the medium of my body, it is our means of communication with it' (Merleau-Ponty, 1962, p. 82, 92).

The perspective offered by phenomenology redefines the body in relation to our consciousness. It is a move away from the instrumentalist concept of the body where it simply serves as a workhorse for actions but does not receive or give meaning in and of itself. As Merleau-Ponty (1960, p. 138) points out 'Motility is not a handmaid of consciousness'. Therefore an instrumentalist account of the body overlooks its spontaneous, quasi-autonomous, creative contributions it makes to interaction. Moreover, interaction begins with just being co-present with others, before talk or any overt embodied action; it begins with a mutual perception of the other (Mondada, 2019). Building on Husserl's notion of intersubjectivity, Merleau-Ponty (1945/2012) incorporated the participation of the body in joint meaning-making to produce the idea of corporeal intersubjectivity which later became *intercorporeality*. Intercorporeality is the mutual incorporation of participants' living sensorial bodies, where embodied interaction strives for intersubjectivity as mediated through direct perception (Fuch & De Jaegar, 2009). Hence intercorporeality is a nexus where embodied actions and interactional competence converge to explain meaning wholeness through the way one's own body resonates with that of another (Tanaka, 2017). The concept of intercorporeality is expanded in chapter 6.

3.4   Summary

The three main constructs introduced as the theoretical framework of this thesis, discourse and genres, multimodality and interactional competence, attempted to present the university lecture as an interactional event in which knowledge building and meaning-making result from the mobilisation of a number of different semiotic resources. The aim of each section is to show the different ways in which meaning is created in this particular context. Firstly, the notion of discourse communities provides a vision into shared ideologies and practices, and mastery of the discourse a sign of membership in the community. The recurrent familiar and conventionalised practices of a discourse community lead to the emergence of genres. In this sense, the university lecture is thus conceptualised as an academic genre and the teacher an expert in both the scientific discourse and in their knowledge of the genre's functions, characteristics and constraints. From here the university lecture was refocused through a sociocultural lens to bring into relief the ways in which it is an interactional space.

Secondly, multimodality is presented as an approach to integrate embodied actions into the meaning-making enterprise. The opening discussion introduced the foundational notions of multimodality, that it is concerned with the synergic interplay between modes within a modal ensemble in instances of meaning-making. To this end, the modes of gesture, proxemics, gaze and prosody are described independently to reveal each one's limitations and affordances in the business of communication. The discussion on gesture ventured into neurocognitive areas to understand the connection between speech and gesture and if gesture (and other embodied modes) make a difference in communication and in structuring interaction. The last construct of the theoretical framework, interactional competence describes the coherent sequential interaction between participants as structured by embodied modes. Interactional competence is not only the know-how participants bring to the interaction, but it is how each person responds to the social actions that emerge in interaction. Hence, recipiency is a template for interaction, and the strivings for intersubjectivity, a driver.

Chapter 4: Methodology

Not everything that can be counted counts and not everything
that counts can be counted
- Albert Einstein -

4.   Introduction and chapter overview

Whilst the theoretical framework is the conceptual lens through which the data of this study can be examined, interpreted, and interrelated to make salient situated teaching phenomena, this chapter explains the methodology undertaken to collect and analyze the data. Section 4.1 states the study objectives and research questions refined in light of the theoretical framework. Section 4.2 describes the specific context of the university and participants, while section 4.3 outlines the methodological approaches, namely the case study design, conversation analysis and membership categorization analysis. Lastly, Section 4.4 describes data collection and organisation followed by procedures in transcription and analysis.

4.1   Research objectives and questions

A series of preliminary questions outlined in Table 4 below stemmed from the central notions raised in the Introduction Chapter 1 regarding the effectiveness of EMI teachers in creating a quality comprehensive learning space and experience that adhere to institutional and pedagogical goals. Drawing on these preliminary questions, the overarching research objective (RO) and research question (RQ) were formulated, and later these were narrowed down into three more specific objectives and questions. The overarching objective and question underpin the thesis as a whole and the specific objectives and related questions drive the analysis of chapters 5, 6 and 7 where aspects of interactional competence as embodied actions are closely examined through more specialised analytical lenses.

Preliminary questions related to how interactional competence is embodied

- Are gestures and other embodied actions compensatory in an L2?
- Is cognitive burden displayed when teaching in L2?
- How are scientific concepts embodied by EMI teachers?
- How do embodied actions provide access to and (co-)construct knowledge?
- How are the intrapersonal and interpersonal roles of gesture displayed?
- How do participants embody expertise?
- How do EMI lecturers manifest their professional vision?
- How do they display solidarity?
- How do EMI lecturers elicit participation?

- How is disciplinary discourse developed in students?
- Is learning a reciprocal experience in the EMI classroom?

Questions that reflect on methodological aspects of the research process:

- What are the gains and losses in multimodal transcription?
- How does the change in modal materiality and structure affect or inform the analysis of the data?
- What is the relationship between audiovisual material and audiovisual data?

Overarching research objective (RO) and research question (RQ)

The following overarching RO and RQ were formulated to guide this doctoral thesis:

RO: To analyse teacher-student interactional competence through the mobilisation of multimodal resources in an English-Medium university lecture where English is the lingua franca (ELF) of instruction.

RQ: How do lecturers and students using ELF embody interactional competence in an EMI classroom?

The overarching RO and RQ have been unpacked into the following topics, thus allowing this rather broad research question to be answered.

a. The enactment of teaching moves and student responses.
b. The co-construction of spaces for learning.
c. Gaze, gesture, spatial behaviour and prosodic features of speech as pedagogical resources.
d. The orientation students and teachers display to each other's (epistemic) status.
e. The embodiment of institutional roles and positions by teachers and students.

Specific research objectives and questions (SRO and SRQ)

The following 3 sets of specific research questions and objectives aim to explore the topics listed above.

To address **topics *a-c*** the following specific objectives and research questions and subquestions were formulated:

SRO1: To explore the construction and management of participation frameworks in a university classroom and how gesture participates within that structure.

SRQ1: How do participants co-construct a context and manage the space for teaching-learning?
- SRQ 1.1: How is participation acknowledged?
- SRQ 1.2: How is speakership managed?
    - SRQ 1.2.1: How is speakership transfer projected and affected?
- SRQ 1.3: How are student contributions shaped?
- SRQ 1.4: How does gesture participate in knowledge construction?

To narrow in on **topic *c*** the following specific objectives and research questions and subquestions were formulated:

*SRO2***:** To explore the management of power relations through spatial behavior and its affordances on pedagogical moments.

*SRQ2***:** How does the configuration of a teacher's action of sitting (momentarily) in the classroom contribute to pedagogy?
- SRQ 2.1: What effect does this action have on the participation framework?
- SRQ 2.2: What effect does it have on the ensuing discourse?
- SRQ 2.3: What effect does the teacher's action of sitting have on speakership rights?
- SRQ 2.4: How might this action affect issues of power?

To address **topics *d* and *e*** the following specific objectives and research questions and subquestions were formulated:

SRO3: To explore the effect of student agency as it orients to institutional roles and constraints.

SRQ3: How do linguistic **K+*/content *K-* students orient their agentive actions to a linguistic *K-*/content *K+* teacher?
- SRQ 3.1: What circumstances activate student agentive action?
- SRQ 3.2: How are any epistemic tensions managed?
    SRQ 3.2.1: How are they embodied and displayed?
- SRQ 3.3: How is linguistic and content knowledge co-constructed under these circumstances?

*The symbols K+ and K- in the question SRQ3 above refer to positions individuals occupy on an epistemic gradient in relation to each other, where K+ means 'more knowledgeable', and K- means 'less knowledgeable' in a given matter (Heritage, 2012, p. 4).

4.2 General context and participants

The study is set in a private Catalan university in the greater Barcelona area. The University was founded in the 1990's and is therefore a relatively young institution which has ranked well in a number of national and international university lists as a result of quality indicators in areas of research and teaching. The university is composed of two main campuses located in separate geographical locations. The main campus houses Humanities, Business Studies and Architecture, whilst the other campus houses the Faculty of Medicine and Health Sciences, the Faculty of Dentistry and, the Faculty of Education.

The positive rankings obtained by the university in the areas of teaching and research are partly due to the routes and protocols established in the University's *Pla Estrategic 2015-2022* (Strategic Plan 2015-2022) expressed as a series of goals summarised below:

Goal 1 Teaching: High quality teaching and academic syllabus supported by in-house training and evaluation programs.

Goal 2 Research: The consolidation of research lines, groups and publications by teaching and research-only staff, promotion of international collaboration.

Goal 3 Internationalised education: Provision of students and faculty with an international dimension to their education for world-citizen mindedness.

Goal 4 Knowledge transfer: Promotion of a knowledge transfer culture between research groups and among the university community in general.

Goal 5 Quality assurance: Successful implementation of this Strategic Plan and generation of synergic relationships between knowledge hubs.

Although each of the 5 goals are relevant to the context of this doctoral thesis, goals 1 and 3 are especially relevant as the rationales in the creation and development of programs to support EMI teachers, which will be described below.

Data for this study was collected from the Faculty of Medicine and Health Sciences which offers undergraduate and postgraduate degrees in Medicine, Nursing, Physiotherapy, Dentistry, and more recently Biomedicine, Bioengineering, Psychology and Education. Each of these programs include subjects taught partially or entirely in English. Unlike other departments, the

Department of Dentistry offers an English-track program to undergraduate students which is delivered entirely in English for the first two years of the 5-year program. This attracts a high number of international students to the university since it allows them to develop enough competence in Spanish to continue into the 3rd year of the degree and beyond. Moreover, for domestic students who opt for the English-track program, it is thought to provide them with an international dimension in their education.

Whilst this program has attracted some local Catalan and Spanish students, who usually come with high levels of English language proficiency, it has mainly drawn students from other European Member States and the Middle East. Meanwhile, domestic students with a proficient level of English who preferred to take the Spanish-track program often report no interest in establishing relationships with international students in terms of future professional networks[1]. Therefore, all but one data set were collected from the Dentistry English-track classes which had smaller class sizes - less than 50 students, compared to the 100+ students of the Spanish-track program. As previously mentioned, class size bears on the nature of interaction, as does the size and characteristics of the room, amongst other factors (Lee, 2009; Lim et al., 2012).

With regards to both domestic and international students' levels of general English language proficiency on admission to the program, the vast majority tested either C1 or C2 according to the Common European Framework of Reference of Languages (CEFR) in the standardized university entrance test or provided official certification of that level. C1 describes mastery of general English in the following generic terms:

> Can understand a wide range of demanding, longer texts, and recognise implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices.
>
> *(Council of Europe website, last accessed 24.11.20)*

The demand for English taught courses in this programme and to a lesser extent other programmes, has required the enlistment of teachers into the ranks of EMI. At the time of data collection between 2017-2019, many teachers had little or no previous experience of teaching through/in English. Nevertheless, all lecturers who agreed to participate in this study are also

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[1] These were my own students who I surveyed informally.

researchers and therefore experts in their fields of knowledge. As such, their English language capacities are most remarkable in the skill of reading, where they are proficient in comprehension. Casting back to the discussion on scientific discourse communities in section 3.1.1, participating lecturers have a consolidated command of the discipline-specific discourse of their field regardless of their general English level. Although comfortable with the language of their field derived mainly from reading, written text is a different genre as compared to spoken text and therefore a point of concern was their ability to resemiotise knowledge mainly derived from written forms into a spoken genre.

In alignment with goals 1 and 3 of the Strategic Plan presented above, the university responded to the need of providing quality teaching in EMI by creating a support program called the EMI Development Group Program in conjunction with what was originally the Language Service Centre and now the Department of Applied Linguistics. The program partnered content specialists who were required to teach their subject in English with a language specialist. The original idea of the program involved mutual support of knowledge co-construction and development between the two specialists, as language specialists taught across the undergraduate degree programs, and the exchange of subject matter and relevant linguistic knowledge aimed to help each develop in their field. Furthermore, the program envisaged an opportunity for *action research* (Stringer, 2008), which is research that seeks improvement through the simultaneous process of doing research, reflecting on the findings and taking action to implement improvements. However, partnerships tend to be more operational in supporting the content specialist (e.g., Ploettner, 2019). Two of the language specialists involved in the partnerships, one of which is the author of this dissertation, were comfortable with scientific discourse due to their background in health sciences.

These partnerships aim to provide content specialists with linguistic support as well as introducing pedagogical approaches and methodologies that are aligned with sociocultural approaches to teaching and learning. This involves, on the one hand, revising teaching materials (e.g., Powerpoint slides) and rehearsing parts of the lecture to (1) verbalise and mobilize the knowledge in English, (2) anticipate any potential difficulties, and (3) develop strategies to engage students in quality classroom interaction. On the other hand, the partnerships discussed and helped teachers implement strategies for a dynamic and interactive dimension to the classroom experience. The introduction of these elements responded to the commonly held belief that teaching in English was simply a matter of translating teaching materials and switching into English without consideration for the expression of ideology or matters of organisation (Airey, 2012). Therefore the program aimed to provide more comprehensive support and foreground those elements fundamental to learning, such as clear discourse markers

to highlight rhetorical moves and organisation. One lecturer commented that the enhancement of these skills in English, spilled over into her teaching strategies in Spanish and Catalan.

Teacher participants

Seven voluntary teachers were recorded in the naturalistic setting of their classrooms (Lincoln & Guba, 1985) in the academic years of 2017-2019. All the teachers are Doctors and involved in research activities in addition to their teaching responsibilities. Of the seven teachers who volunteered, the data of 5 have been included in this thesis. To respect their anonymity the two-letter acronym used to identify each lecturer was inspired by their professional activity, for instance the lecturer DM teaches Dental Materials. Although each analytical chapter provides a description of each lecturer, in what follows an outline of their main characteristics is given, namely their acronym, field of expertise, years of teaching experience, years of teaching in English and their general English language proficiency level according to the Common European Framework of Reference for languages (CEFR):

● JM is a Doctor in Microbiology from the Department of Basic Science at the university. At the time of data collection, he had over 5 years of experience teaching, two of which included teaching microbiology in English to Dentistry students. Also at the time of recording in 2017 his general English proficiency level tested at B2 according to the CEFR.

● DM is a Doctor in Dentistry from the Department of Odontology, at the time of recording in 2019 she had over 5 years of experience in teaching, three of which involved teaching Dentistry Materials in English to Dentistry students. Her general English level of proficiency at the time of recording was below B2.

● DF is a Doctor in the field of Neurobiology from the Department of Basic Science. Data was collected from her class to students of a specialist Master's in Dentistry in 2019, and at the time she had over 5 years of teaching experience. The session recorded was her first in English. At the time of recording, she had below a B2 level of general English language proficiency.

● MP was a pre-doctoral student in the field of Psychology at the time of data collection in 2017. She had under 5 years of experience in teaching at the time and only one of those in English teaching Developmental Psychology to Dentistry students. Her general English language proficiency level at the time of recording was B2.

● LD is a Doctor of Medicine who specialises in Dermatology. Unlike the cases described above, the session recorded was part of a Dermatology subject given to mostly domestic senior medical students. Because the class was given in English the session qualified as an internationalised experience (section 2.2). The data was collected in 2018 and at the time LD had a general English language proficiency level of C1.

The teachers involved in this study signed a consent form (Annex 1) authorising the video recording of their class. The research project was explained to the students in situ and they were also provided with the student version of the consent form (Annex 2 and 3). The explanation given to both teachers and students excluded details regarding the analysis of embodied actions and centred on the exploration of EMI teaching strategies in general. The students were informed that they could grant or withhold their consent from inclusion in the study, which would require I edit out or block their image and sound in the latter case. Of more than 120 students, only 6 withheld their consent. (Anecdotally, when one student withheld their consent, it seemed to provoke a shift in the sense of cooperation in those around them, where they then withdrew their consent. This occurred on two different occasions). The identities of unconsenting students have been concealed in the data. This was done by identifying them by their photo in their university file.

4.3   The study design

This study is situated within the tradition of sociolinguistics which allows for an emic interactional analysis approach to data. Therefore, a brief description of ethnomethodology here will help connect chapters 1, 2 and 3 to the analytical methodology.

Ethnomethodology refers to the in-situ study of how social order is produced *in* and *through* the processes of interaction (Maynard, 2013) and is hence an analytical approach that is intensely situated in context. According to Garfinkel (1967 as cited in Maynard, 2013), the 'ethno' in ethnomethodology refers to the common sense knowledge that members of society share and individually come into. This is the foundational notion in ethnomethodology which looks to 'common sense' rather than external forms of reasoning (Maynard, 2013). Ethnomethodology, and the approaches that stem thereof, provide a foundational framework for practical first-person reasoning (or response) in the analysis of data. 'For an investigator to explicate an utterance as a social object or action, one paramount issue is how recipients deal with it, how they are the analysts of the [talk] in the first place' (Maynard, 2013, p. 15). The analysts' focus is on 'what happens next?' and 'why that now?' to see how the participant handles the turn. The previous discussion on perception as a phenomenon in section 3.3.3 also ties in with the main notions of ethnomethodology as they both provide access to understanding the lived experience from a first-person perspective. Furthermore, the author of this doctoral study has membership to the university discourse communities.

The data and its analysis presented herein have been subjected to evaluation in a form of triangulation (Lincoln & Guba, 1985). More specifically, different parts of the analysis done

within this doctoral thesis have undergone the scrutiny of interactional analysts in data sessions and at national and international conferences, as well as the comments and insights of some of the study participants (teachers). Overall, my own analytical impressions have been closely corroborated and enriched by the academic community. 'Our combined signitive, imaginative, and directly perceptual experience of the world qualifies the researcher and the participants' (Gallagher & Zahavi, 2012, p. 90)

4.3.1   The Case Study approach

> Observational fieldwork has two long-established virtues. It gets below and behind the surface of official accounts by providing texture, depth and nuance, so our stories have richness as well as context (Rhodes, 2014, p. 326)

Research into social interaction necessarily relies on data from audiovisual recordings. The first order entextualization of naturalistic behaviour is paramount for in-depth fine-grained interactional analysis. the case study methodology was chosen in light of the research objectives and questions and the nature of video-based interactional analysis work An operational definition of case study methodology is taken from Yin (2009, p. 18) and presented as a series of main points, which deal with the scope (points 1 to 3) and technical aspects (points 3 to 5) of case studies:

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1. A case study is an empirical inquiry

2. It supports in-depth investigation into phenomena in their real-life context

3. It allows for intricate analyses when phenomenon and context boundaries are blurred

4. It can cope with myriad variables (as opposed to data points)

5. Multiple sources of evidence are required to triangulate data analysis

6. A previously constructed theoretical framework guides the collection and analysis of the data.

(Yin, 2009, p. 18)

The case study method offers a means to analyze phenomena as they emerge and evolve in their natural settings, hence the resulting fine-grained analysis of the way embodied social action

comes together in interaction. The research questions and objectives of this study stated in section 4.1 inquire into this process through predominantly 'How' and 'In what way' type of questions. Furthermore, the emic perspective offered by ethnomethodology, phenomenology and conversation analysis (CA) supports a 'what happens next' vision to observe how individuals together construct their strivings for intersubjectivity. Therefore in reference to point 5 above, the aims and theoretical apparatus of this study does not warrant triangulation beyond that which was mentioned earlier in this section. In this sense, case studies represent a powerful study design to bring to light those phenomena that would otherwise go under the radar with other methodological designs.

The case study design draws its strength from two main sources: a diligently described context that weaves macro elements into the micro fabric, and a rigorously constructed theoretical framework (Yin, 2009). The theoretical framework in turn becomes the apparatus in setting the analytical perspective. As has been exposed in chapter 3, conceptualisations such as the long turn, recipient design and participation frameworks are CA-based notions used to understand interactional elements, however, CA is also a methodological research approach for turn-by-turn analysis of interaction (Schegloff, 2007). The complexity of analyzing the embodied co-construction of institutionally situated social actions requires a multidisciplinary approach that involves philosophy, sociolinguistics, anthropology and phenomenology, and CA merges these perspectives into a single toolkit. This leads us to a brief presentation of the main analytical tools provided by CA.

4.3.2 Conversation Analysis analytical toolkit

As a way of linking the theoretical aspects of CA presented in chapter 3 (sections 3.1.4 and 3.2.2) to CA as a toolkit, I offer a working definition of conversation analytical approach to empirical data given by Mondada (2013, p. 33):

> CA aims to describe the *organization* of ordinary social activities such as taking turns-at-talk, or opening a telephone call […]. CA is interested in the endogenous organization of social activities in their ordinary settings: it considers social interaction as collectively organised by the co-participants, in a locally situated way, achieved incrementally through its temporal and sequential unfolding, by mobilizing a large range of vocal, verbal, visual and embodied resources, which are publicly displayed and monitored *in situ.*

CA enables the analysis of endogenous logic because this paradigm arose from the meticulous analysis of social action formation (Schegloff, 1987), which has been further enriched by a multidisciplinary prism. Therefore CA draws on ethnomethodology inspired by Goffmanian sociology on interactional order, phenomenology for the lived experience conceptualised by Husserl and Merleau-Ponty, linguistics, ethnography, anthropology and sociolinguistics as integrated through the works of Charles and Marjorie Goodwin for instance (Maynard, 2013, p. 27). CA bears and is characterised by its 'analytical mentality' (Mondada, 2013, p. 32), therefore it is an approach to the sequential analysis of social interaction whereby it provides both the theoretical notions and analytical toolkit as an integrated resource for interactional analysis (Gardner, 2013; Mori, 2004; Sacks et al. 1974). Due to CA's rich perspective, Ten Have (1997) called it an 'empirical philosophy' (no page number available); the context and discoveries from past work on related phenomena are engineered into a theoretical framework which becomes the prism for work on future analyses. In this way, theory and data conform to a reciprocating mutually shaping relationship (Ten Have, 1997).

In line with the assumptions of case study methods mentioned above, CA is keen to identify similarities among phenomena and cases rather than point to differences (Gardner, 2013), in order to enable descriptions of locally produced recurrent practices. However, the organisation of the CA-based vision of action is two-fold; context-free and context-specific (Sacks et al. 1974). In relation to the context-free aspects, our interactions with others feature a series of common social actions that occur regardless of context and include turn-taking, sequencing, repairing, negotiating, pausing, dealing with trouble, displaying uncertainty, openings and closings of conversation, mitigating, and many other properties and strategies of ongoing talk (Drew & Heritage, 1992).

With regards to the context-sensitive aspect, CA is also concerned with the way one's awareness of the social situation shapes and characterises *how* these actions are played out (Drew & Heritage, 1992). For instance, turn-taking is affected by the setting and its constraints, as in the case of a classroom. However, CA refrains from specifying beforehand how actions are (supposed to be) done, but rather allows the data to 'speak to' the observer. In CA there is no predetermined way to *do being*, that is to *do being sorry*, or *doing claiming authority* or *status* (Schegloff, 1987). Our *doing being* is deeply rooted in our socio-cultural and historical story, which makes each story unique, making each individual unique. So, data is approached from bottom-up allowing instances to emerge in sessions of *unmotivated enquiry*, which is an approach to the data where the researcher puts aside preconceived ideas of how a social action should be 'done' and 'notices' how in fact it is accomplished through interaction (Maynard, 2013, p. 34, 35). Nonetheless, in such cases, knowledge of the context provides the researcher

with insights into how the constraints shape the interaction and characterise the social action. To illustrate this point the following quote comes from Schegloff (1984, p. 34-35, as cited in Heritage, 2012, p. 1):

> Even where an utterance is in the linguistic form of a question, and seems to be *doing* questioning, the latter will not be adequately accounted for by the former. For if the question form can be used for actions other than questions, and questioning can be accomplished by linguistic forms other than questions, then a relevant problem can be posed not only about how a question does something other than questioning, but about how it does questioning; not only about how questioning is done by non-question forms, but about how it gets accomplished by question forms.

One of the main instruments in CA that gives access to the issue is how things get done in interaction is the *adjacency pair*. The adjacency pair are the units of turns participants take in interaction and which allow one to see how one utterance relates to the previous one and at the same time how it projects ongoing talk. The analysis of adjacency pairs makes visible the construction of meaning through the systematic emergence of social actions (Heritage, 2012). Below is an example of adjacency pairs extracted from the data in chapter 7:

```
5)   ST1:   sorry (.) what is borax
6)   ST2:   borax is the retarder right↑
7)   T:     borax is a one component it's [a..
8)   ST2:                                 [a retarder right↓
```

These (embodied) turns comprise the interaction, which turn-by-turn composes social actions, thus the social action is the object, or unit, of analysis in this thesis. This analysis is especially focused on the affordances of embodied modes in the interaction on the basis that 1) talk and embodied modes are mutually bound (McNeill, 2005), and 2) embodied modes are equally emancipated from talk and able to produce meaning of their own. This multimodal vision in the sequential analysis of adjacency pairs is a powerful tool to view how participants adjust and align to each other in interaction (Goodwin & Goodwin, 2004; Mondada, 2018).

Hence, each turn of the adjacency pair exhibits a *turn design*, that is how the turn orients to the co-participant as well as how it projects into the emerging situation. From the emic perspective, turn design is somewhat revealed in the co-participant's *embodied* response to the turn, and how they subsequently design their turn and how that turn is then interpreted and so forth (Sidnell, 2013). Nevertheless, an emic analysis of social interaction relies on what is available in the

recordings only. The researcher cannot make any assumptions with regards to the participants' 'motivations, intentions or purposes beyond what can be demonstrated in the data insofar as the participants themselves notice, attend and orient to these matters' (Ten Have, 1997).

In step with the development and accessibility of audio-visual technology and at the hand of such visionaries like Charles and Marjorie Goodwin, for instance, recorded material has revealed its potential to foreground the vital role of embodied conduct in interactional organisation and communication (M.H. Goodwin, 1995) to not only interactional analysts but to other professions such as lawyers and the police (see Goodwin, 1994 for an astonishing analysis of the video analysis of the Rodney King case). Resources such as the analytical paradigms and video recorders have enabled a shift from logo-centric analyses (for instance Sacks et al. 1972) to one in which the body is a crucial participant in meaning-making (Bezemer & Maver, 2011; Escribano, 2000). This broadened scope in understanding meaning-making calls for a use of terms that reflect this. CA reference to '*turn-in-talk*' excludes other participating embodied modes, therefore '*embodied*' turn, action and adjustment may be more descriptive since embodied modes participate in those actions and others (Broth & Mondada, 2013). Furthermore, a prism that integrates embodied modes for emic research provides a means to produce an empirical study attempt into intercorporeality.

4.3.3   Membership Categorisation Analysis

As mentioned earlier, through CA the context-free aspects of interaction (such as turn-taking, repairing trouble in understanding, negotiating meaning, and recipient design) are identified, in that they are common to interaction whether it is mundane or institutional. Nonetheless, context does bear on these aspects of interaction and gives them distinguished characteristics. One of these constraints are determined by the different roles teachers and students have in the educational setting. Each comes to the common space with their own set of goals and institutional authority. Their individual goals place them in a certain position in relation to each other (Depperman, 2013) whereby certain constraints come into play, for example, how and when speakership can be claimed, how turns are designed and how one orients to the others' level of expertise (Heritage, 2012; Ploettner, 2019). In other words, individuals position themselves in how they orient to and position others with respect to themselves.

Work originated by Sacks (1974/1992) and later refined by other interactional CA scholars (Housley and Fitzgerald, 2015, 2015; Schegloff, 2007; Stokoe, 2012) recognised this social positioning phenomenon in the conceptualisation of *Membership Categorisation Analysis*, which is 'how social members achieve, use, and orient to membership categories in the process

of performing some social action' (Fitzgerald & Au-Yeung, 2019). Although a far more complex construct, for the purposes of this project it is delimited to how individuals orient to the social role of others, whereby the implications of social roles are a general given (Sacks, 1972).

MCA is also a means to access 'social and moral organisation' and 'culture-in-action' (Housley and Fitzgerald, 2009). A well-known example is given in Sacks (1972) with regards to the role of 'mommy' and the corresponding assumptions. He illustrates the givens in social roles through the salient analysis of a phrase in a children's book, 'The baby cried. The mommy picked it up'. In short, one assumes the baby belonged to the 'mommy', and that picking up the baby is a normal coherent response for a mother. Sacks asserts any member of society would recognise these implicit roles. We can extrapolate these notions to better understand teacher-student roles and behaviour, and from there pursue a deeper investigation into the way we socially position others and, by default, how we then position ourselves in relation to others (Depperman, 2013; Housley & Fitzgerald, 2015)

In mundane situations, one might expect some jostling for establishing identity and social positioning (Antaki et al. 1996), however, in institutional contexts the constraints and limitations of the social situation mediate the interaction. The MCA approach in the setting under scrutiny here calls into play notions of *epistemic status*, *epistemic stance* and *epistemic authority.* (Heritage, 2012; Stivers et al., 2011) in how these attributes shape relative positions. For instance, the teacher-expert is assumed to have superior content knowledge in a particular field, therefore has superior epistemic status (K+), whereas students-novices are expected to position teachers as experts and, respectively, position themselves as having an inferior epistemic status (K-) in relation to both teacher epistemic authority and content knowledge, i.e. in a way that displays their deference to others superior status.

Stance is understood as 'the teller's affective treatment of the events he or she is describing' (Stivers et al, 2011, p. 37) and it is implicated in the display of attitudes held in these positions and is elemental in the shaping of the interaction. Whilst scholarship into the notion of stance is often carried out in light of affiliation such as in the work of Lindström and Sorjonen (2013), the notion of affiliation may not be as relevant as the notion of alignment in contexts such as the classroom. A teacher may display their stance in relation to content knowledge through the choice of discourse markers, prosodic features such as highlighting devices and perhaps sustained interaction with content on slides. Where affiliation might be relevant in terms of stance is in the expert's treatment or analysis of competing paradigms, in which siding with one over the other comes across through their positioning, and therefore their stance. Stance is also visible in students' orientation to teachers and vice versa, whereby it is not understood as a

matter of affiliation but rather a matter of alignment in and to the shared endeavour of education (Goodwin & Goodwin, 2004, Goodwin, 2007).

This section has woven notions of the theoretical framework into a working methodology, in particular the underlying constructs to interactional competence. The next section describes the 'nuts and bolts' of data collection, viewing and transcription with a short discussion on linking software as a resource in the creation of data collections and preliminary analysis.

4.4 The data: collection and treatment procedures

Fundamentals: Goodwin's professional vision approach

Unfolding actions in the classroom are a series of fleeting moments and the ability to identify and 'see' these instances as significant and furthermore reifying them is rooted in the professional vision afforded by membership in the discourse community (Goodwin, 1994). Goodwin (1994) gives an account of 'coding' and 'highlighting' as embodied practices to ground the identification of significant instances and construct a shared operative perspective. *Coding* is understood as the transformation of 'phenomenon observed in a specific setting into the objects of knowledge that animate the discourse of the profession' and *highlighting* is the practice of making 'a specific phenomenon in a complex perceptual field salient by marking them in some fashion' (p. 606).

The practices of coding and highlighting serve a two-fold purpose: as instruments to 'see' the data within the raw material (recordings), and as a means to make salient these very practices used by lecturers in their teaching. In relation to the latter, Goodwin goes on to explain that the tools used in professional practices determine the perspective with which a phenomenon is viewed, hence a coding system frames an event in accordance to the professional's views, stances, paradigms and objectives. He illustrates this idea by comparing how a farmer and an archaeologist would contemplate a patch of soil; one would look for signs of fertility and the other for signs of past human activity, each would approach the soil with a different set of coding and highlighting tools, and yet it is the same patch of soil.

The theoretical framework of this doctoral project provides a coding system for the data and highlighting is achieved through marking systems mapped onto video grabs with corresponding descriptions, which will be further explained in section 4.4.1. Using the same example above, Goodwin's (1994) exemplar account of instances of annotation, pointing and inscribing outlines in the soil with a trowel to draw attention to, delineate and explicate the soil phenomenon being viewed, with and without talk shows how highlighting can be achieved. 'This focusing of

attention organises the perceptual field into a salient figure [...]' (Goodwin, 1994, p. 620). In the same example above, beneficiaries of these moves are both students attending to the moment as well as the expert; embodied practices are part of the professional discourse that comprises the activity of archaeology for instance. Likewise, the scientific classroom presents visual and auditory stimuli which have been organised and designed by the teacher-expert and where images, diagrams and lexical items as encoded artefacts are highlighted and indexed. The embodied interaction with these artefacts serves to teach as well as socialise students into the discipline-specific way of seeing the field, and the world by extension. The following explains how this thesis has applied the principles of coding and highlighting to the analysis of social interaction.

Interactional analysis relies on audiovisual recordings. And in educational settings, the location of the camera in the classroom determines the perspective that is enabled in viewing the *doing of teaching*. For the purposes of this doctoral thesis, either one or two video cameras were used to record a teaching session. Whenever possible, the camera was positioned halfway towards the back of the classroom. The advantage of this position is that it offered a broad view of the front of the classroom so that it was able to capture the lecturer's spatial behaviour in relation to the classroom furniture, equipment, the students and the projected slides. A disadvantage of this position in contrast to a position that offers a more proximal view is the potential loss of quality in the details with regards to gesture and gaze, in particular as the front of the classroom was often darkened compared to the rest of the space in order to make projected slides more visible. Nonetheless, the images and sound obtained through the selected placing of the cameras were of sufficient quality to conduct the analysis according to the study objectives.

Due to some schedule clashes, the author of this thesis was not able to record some of the classes personally. This will be specified in the data chapter. The task was then given over to an experienced researcher colleague from the department. Although the recordings were satisfactory, 'behind the scenes insights' were missing from those particular sessions, as was the general feel of the class, compared to those sessions that were recorded by the investigator. For instance, there were no field notes to accompany and complement the data regarding student and teacher behaviour or reactions. This experience highlights the ideal of collecting data first hand; the personal intercorporeal experience of being present during the data collection. More about this will be said in the discussion chapter in relation to the study limitations.

A total of 18 hours of recordings from the different classroom sessions of 7 different teachers were kept in three locations; a secure Google Drive account, an external hard drive and the computer desktop. Transana™ linking software (Basic version 3.2) was used to view the raw

material, make annotations, create transcripts and facilitate video grabs. Furthermore, Transana™ as an interface with the recorded material enabled the creation of the data corpus, where like phenomena were organised into library collections through the features offered by the software.

Approach to the analysis

In the first stage of preliminary data analysis, the recordings were viewed repeatedly until a pattern emerged in the sequences. The questions in mind when viewing were (1) What is being done in the interaction? and (2) In what manner is it being done? This approach is in line with Multimodal Interactional Analysis (described below) that asserts that modes are so bound together in their meaning-making endeavour that they cannot be easily separated (McNeill, 1987, Roth, 2000). When an action sequence was identified in the data, the preliminary analysis moved to the second stage, in which the sequence was studied in detail by viewing it without sound to observe the modes at play and how an action was embodied. Notes were taken regarding marked gestures and spatial orientation in relation to the room and to the students. Slow-motion viewing allowed the detection of subtle intricate movements that would otherwise be missed. Gestural action was viewed forward and in reverse to note any symmetry in the trajectory, a feature that characterises the gesture unit (Kendon, 2004).

In parallel, auditory analysis was also conducted by turning down the brightness on the screen, in that way removing any visual cues linked to talk and the prosodic elements of speech. The speech was analysed for changes in volume, pace, rising or falling intonation, word stress, pauses and hesitations. These prosodic features of speech were noted in light of how they served to orientate the lecturer's long turn to the class, how these served to initiate, shape and drive interaction and later how talk and features of speech synchronised with other embodied actions. According to Gareth (2013), phonetics provides CA with an analytical look at the design of talk beyond its merely linguistic configuration, and likewise, CA provides a framework for understanding the interactional relevance of prosody and its role in organizing social interaction.

The visual and auditory information obtained through the described procedures was mapped against the emerging transcript and linked through video analysis software (Transana™ Basic Version 3.3). The following sub-section describes the analysis process in greater detail.

Organisation of modal information

Multimodal Interactional Analysis (MIA) developed by Norris (2004) provides a relative hierarchical methodological framework to draw out and organise the data in that it serves to organise actions in relation to each other and identify how these are constituted by sequentially

co-occurring semiotic resources. The unit of analysis within this framework is the dynamic evolution of the social action – the action sequence – rather than the semiotic resources per se, or modes. This approach is consistent with the analytical apparatus of CA, which looks at the sequential creation and organisation of social actions in interaction. As already mentioned above in section 4.3.2, the advent of audio-visual recording technology and the acknowledgement of the body's discursive power in meaning-making has moved the field of CA from its logo-centric origins to a multimodal one (Mondada, 2018).

Hence the following is an outline of the MIA framework for the analysis of how social actions are constituted (Norris, 2004, p. 13):

● *Higher-level actions* (HLA) are the large-scale overarching participation frameworks such as a dialogical exchange or lecture.

● *Lower-level actions* (LLA) are the smaller scale actions that compose the HLA, for instance, the TCUs, the lecture phases, the move to claim speakership rights, changing slides, the interaction with slides or the focused interactional space with an individual.

● *Frozen actions* 'foreground' the activities that produced the artefacts that are present in the interaction, such as the content of projected slides with its text and images. The video grabs, used to compose the data are also considered frozen actions..

The modes that make up embodied practices, that is, speech, gesture, posture and proxemics, unfold in time as they also co-occur (Bezemer, 2010). Therefore, these form 'chains' of LLA ensembles, and as a series of moves, these LLAs together compose and construct the HLA. In order to understand how the different semiotic resources interrelate and the relative weight each of the actions bears on the HLA, Norris (2004) developed the notions of modal *intensity* and *complexity,* which has already been discussed in chapter 3, section 3.2, whereupon I offer a brief review here*. Intensity* is understood as the dominance of a mode in an instance of meaning-making. A mode or modes can achieve high intensity in interaction when they take primacy over other modes, for instance, the gesture of pointing to a diagram to draw attention to it is dominant in that instance, however, talk with gestures in the next instance are primary modes in meaning-making.

Because modes are interconnected, an interaction may change if a mode is added or changed in some way, or discontinued. Modal *complexity*, hence, refers to the number of different modes mobilized as well as which of these participate in interplay that results in the emergency of one type of action or another. When looking at the ongoing 'maintenance' of an HLA, such as a lecture, if one of the modes changes or is discontinued, it will not necessarily change that HLA, despite the fact the modes are closely intertwined. However, when there is a change in

orientation within a lecture, this is indexed by a change in modal interplay. In this study, the lecture is conceptualized as an interactional event and an overarching participation framework, therefore, MIA provides a means to organise the HLA as a series of LLA, and the shifts in footing produced therein displayed as changes in modal intensity and complexity.

4.4.1 Transcription procedures

Transcription is a process of resemiotization (Iedema, 2003) the process of changing the materiality of speech and embodied actions so that speech takes on the form of written text and the dynamic actions of gesture and proxemic behaviour become frozen artefacts (Norris, 2004). The obvious concern is the potential loss of information in the process in which the transcription cannot collect all features of speech or each element of embodied actions (Bezemer, 2010, Jewitt, 2016, p. 140-147). Therefore, transcripts need to note the features that are relevant to the study in sufficient detail for an analysis to be carried out in accordance with the study objectives (Jewitt, 2016:146; Cowan, 2013). In this study, transcripts for spoken language and for visual information were developed and subsequently linked through Transana™. Although fragments were chosen on the basis of their relevance to the stated research objectives and research questions, the steps followed in transcribing these instances started with the transcription of the spoken language. In this sense, the talk provided a structural and organisational 'backbone' to the observation of related phenomena, particularly, given the oral tradition of the university lecture and the symbolic, semiotic and instrumental view of language advocated in chapters 2 and 3; but efforts were made to not privilege this mode.

The act of annotation of spoken language is commonly referred to as *transcribing* (Jefferson, 1996). However, the term does not capture the process of resemiotization in which modes become translated and transformed in their structural and material properties. The term *transducing* by Bezemer & Mavers, (2011) highlights the process of transformation from one mode to another. I will continue to use *transcribing* as the process of developing data, and *transducing* to describe gestural phenomena in the data. That said, as one seeks to transcribe auditory and visual material, one becomes acutely aware of their complexity, interrelatedness and their material and structural properties. The act of transcribing is an act of teasing modes apart and changing their properties, for instance, the complexity of talk is transduced to written form and proxemic behaviour into a written description supported by a series of video grabs. So transcription transforms the auditory to the visual, and 3D movement to 2D still images.
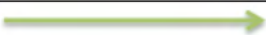
Hence, the detailed work involved in transcription is the process of data creation and analysis, '(t)ranscription is the tool for awareness, not the objective' (Carroll, 2012). Put simply, the

process of transcription is the process of analysis. As mentioned earlier, the vision applied to the transcription and analysis in this thesis is given by the theoretical framework and operationalised by the frameworks given in sections 4.3.1, 4.3.2, 4.3.3 and 4.4. Therefore a transcript reflects a way of seeing and the subsequent rendition of events according to the author of this thesis (Mavers, 2011). However, the raw material and the transcripts are two separate resources and as such one of these could be given primacy over the other one, so that the rendition of events could draw primarily from one resource only. This can be problematic (Hazel et al., 2012). Whilst Transana™ facilitated the task of transcription, its role in linking fragments of recording and transcripts bears an important analytical task which will be explained later in this chapter in section 4.4.2.

The change modes undergo in materiality and structure warrants a system to preserve a sense of movement in the images as well as depict the range, magnitude and trajectory of movement as part of the analysis of interaction. Images without any highlighting devices to draw attention to the phenomena of interest lack power as evidence in a study (Tufte, 2006). Therefore, a system of arrows have been mapped onto some selected images to show gestural and proxemic trajectories from the initial point to the endpoint. Deployment of gaze as a securing or deictic device is also mapped onto images. As Table 4 below shows, solid arrows are used for projected trajectories, while broken arrows are employed for completed trajectories. Blue arrows are used for marking gestures and green arrows mark proxemic behaviour. Blue dotted lines are used to mark deictic gestures on occasion. Red dotted lines show the direction of gaze. This varies from Mondada's (2014) conventions for mapping movement, in which she uses a broken line for projected trajectories and a solid line for completed trajectories. The choices made herein were based on the idea of the forward design of movement and the clarity of 'what happens next' afforded by solid lines.

Table 4

Key of arrows mapped onto images

Mode	Projected trajectory	Completed trajectory
Gesture	→	------→
Proxemics behaviour	→	------→
Gaze	·········→	
Deictic	·········→	

From the total time of the audio-visual recordings (18 hours from 7 different teachers), 20 excerpts illustrating goal-related social actions from 5 different teachers were finally selected from the larger corpus for in-depth transcription and analysis. Each excerpt was chosen for its capacity to showcase different types of interactional affordances brought about through embodied actions Most transcripts in this study cover approximately 30 seconds of recording in accordance with MIA recommendations (Jewitt, 2016; Norris, 2004). The length of the fragments were more specifically determined to ensure the phenomenon under scrutiny remained embedded in meaningful context (Jewitt, 2016). In his chapter on gesture units, Kendon (2004) points out that gesture can only be interpreted within the context of the moment. Extending this view to other modes, these can only be interpreted within their spatiotemporal context and in how they sequentially unfold.

A transcript in itself is a multimodal artefact (Bezemer & Mavers, 2011) and therefore a labour-intensive product. How to best integrate the transcript of the spoken with the images (video grabs) of the action is a challenge to resolve. Descriptions of movement inserted within, alongside or beneath the transcription line lack descriptive power and are essentially 'crude glosses' (Haberland, 2012, p. 20), especially considering that embodied modes have a central role in how an interaction plays out as an intricate choreography of motion (Escribano, 2000, 2004). An alternative approach is to insert mapped images into the transcript and link them meaningfully to the talk with a connecting line. The images serve as explanations as well as evidence. In this thesis, a series of *vignettes* were composed of images mapped with arrows when movement required highlighting. The images were organised sequentially to show the unfolding of action in a prolonged stretch of discourse. The images are numbered and a short pertinent description and/or the fragment of the co-occurring talk was inserted beneath each image. A description of this process for each main mode ensues in the following sections.

Transcription of talk

The video fragments were transcribed using normal orthography to create a draft text. Due to the long turn formats of teacher talk, the texts were then segmented into intonational units as separate and numbered lines. Intonation units, IUs (Chafe, 1993, 1994, as cited in Norris, 2004), were developed as a way to segment discourse into conversational chunks. IUs are delimited by prosodic cues such as a rise or fall in pitch or intonation, or an acceleration-deceleration of speech. Each IU occupies a separate line in the transcript. Chafe (1994 as cited in Scheibman, p. 20) suggests that 'we perceive speech as intonation units and that cognitively each IU represents the information that is active in the speaker's mind at that moment'. Therefore, there is a strong association between the IU and a grammatical unit; so that most IUs are in fact phrases or

clauses (Scheiber, 2002, p. 21). Unconventional uses of language (such as L1 interference) were transcribed as they were and not corrected. Transcription conventions and approaches designed by Gail Jefferson (Sacks et al. 1974; Jefferson, 1996) within CA have been used to add prosodic texture and highlight features of speech to each IU. Transana™ Basic version 3.30-Mac for transcribing audio-visual data was used for this task as it offers and supports Jeffersonian symbols:

Table 5

Jeffersonian symbols for features of speech (Jefferson, 1984) adapted from Transana Basic version 3.30-Mac

Symbol	Name	Use
[text]	Square brackets	marks start and end respectively overlapping talk.
=	Equal sign	discernible break between utterance lines.
(# of seconds)	Timed pause	The hashtag indicates the number of seconds or fraction of a second.
(.)	micropause	Brief speech 'beat' pause.
↓	down arrow	Falling pitch or intonation.
↑	up arrow	Rising pitch or intonation.
-	hyphen	Abrupt halt or interruption in utterance.
>text<	Greater than / Less than symbols	Enclosed speech was delivered more <u>rapidly</u> than usual for the speaker.
<text>	Less than / Greater than symbols	Enclosed speech was delivered more <u>slowly</u> than usual for the speaker.
°text°	Degree symbol	Indicates reduced volume, quiet speech or whisper.
<u>Text</u>	Underlined text	Indicates the speaker is emphasizing or stressing the speech.
::::	Colon(s)	Prolongation of a sound
(text)	Parentheses	Enclosed speech unclear
(xxx)	Parentheses	Enclosed speech unintelligible. 'x' for each syllable counted

Transcription of gesture

Gesture was captured through video grabs and mapping arrows presented above (table 4.) following the structure of McNeill (1992, 1987) and Kendon's (2005) gesture anatomy, i.e. stroke phases: pre-stroke, stroke, retraction. For iconic, metaphoric and deictic gestures, the three main phases were transcribed in the images by showing the pre-stroke, the peak in the stroke (the stroke) and the point in which the hands come to rest in a neutral position (the retraction). Beat, or beat-like gestures usually come in sets of two or three and therefore not each one was illustrated. The highest and the lowest points of a beat gesture were registered and the number of 'beats' were stated in the image captions and description.

Transcription of proxemic behaviour

Proxemics refers to spatial position and bodily orientation, and it plays a determining role in creating, managing and characterising interactional spaces and establishing participation frameworks (Goodwin, 2002). Commonly, two to three stills were taken to illustrate changes in position from trajectory onset to the taking up of the final position. Because the analysis centres on a system of concurrent movement, the stills that aimed to illustrate postural and positional shifts would also serve to display other types of movement such as gesture and gaze.

4.4.2   Linking software

Entextualization refers to the practice of registering sound and movement as a recording and turning utterances and movement into a written text or screenshots, respectively (Haberland, 2012). Said to have its origins in the German 'vertextung', which describes 'the process by which circulable texts are produced by extracting discourse from its original context and reifying it as a bounded object' (Park & Bucholtz, 2009 as cited in Haberland, 2012, p. 3), the audiovisual recordings are our *first-order* entextualizations and the transcripts become our *second-order* entextualizations.

There is a tendency, however, for researchers to turn to their transcripts as their primary data over the recordings, which is due to the fact that transcription is a labour-intensive process (Mavers, 2011; Norris, 2004; Hazel et al., 2012). Multimodal transcripts (henceforth *transcripts*), which are transcripts that include the spoken text with symbols for features of speech, as related to the image vignettes, both display the process and are the product of analysis. Hence the transcripts often become the main source of data from which actions are described in writing (Hazel et al., 2012). The symbols nature of the transcript facilitates finding

phenomena of interest more efficiently than turning to the recording, even if time coding simplifies the search. Yet, a transcript is a product of the researcher's perception of the event (Hazel et al., 2012). If the transcript becomes the primary source of data it can possibly take on a 'life of its own' whereby as a creation of the researcher that strays from the events as they occurred.

However, the original audio-visual material, even if it has been segmented into episodes, lacks the coding and highlighting features (described in section 4.4) that make the researcher's view salient, and turns material into data - a first-order entextualization into a second-order entextualisation. Hazel et al. (2012) bring to our attention the methodological problem that arises when researchers use different tools to access and hold each of these data types. The audio-visual recordings are stored in one place as one type of format and the transcripts in another as a different type of format as separate files. The challenge to the researcher is how to converge these two entextualisation orders in a place other than solely in the mind.

To overcome this issue, in this thesis specialised video analysis software (Transana™ Basic version 3.0) was used. The software allows the researcher to link the original recordings and the transcripts into a single environment in order to give simultaneous access to both orders of entextualization. Time-coding features synchronise the written transcript with the recording. In other words, the recordings and the transcripts are rendered into a single resource; the two orders of entextualization are linked together as a single data file. Being able to view the two entextualization types concurrently creates a mutually reflexive relationship within the data where one refines understanding of the other, and they become a single data source. The image vignettes represent the objects of analysis in the audiovisual recordings and were initially inserted in the spoken transcript as video grabs.

Finally, transcriptions unfold and lay out the lower level action sequences in which relevant details are exposed, whilst the recordings relieve the transcript from bearing full responsibility as the research artefact (Bezemer & Mavers, 2011, p. 204; Hazel et al. 2012; Mavers, 2012). Hence, data linked in this way and presented for scrutiny to the research community (e.g., in peer review data sessions and at academic conferences) reinforces the internal validity of the analysis and contributes to the scholarship of qualitative interactional research (Hazel et al., 2012)

4.5   Summary

This chapter started by introducing the research objectives and research questions that will guide the analysis of the data chapters in section 4.1. The objectives and questions were refined through the theoretical framework of chapter 3 and thus organised into a broad overarching research objective and related questions followed by sub-objectives and questions that unpack some of the broader notions to reflect the concepts presented in the theoretical framework. The subsequent three sets of research sub-objectives and questions serve as the focus of the three data chapters five, six and seven that follow. An overview of the university context and the teacher and student participants of this study was given in 4.2. It started by outlining the university's drive for English taught programs as part of the 5-year strategy program. A description of the general profile of the students undertaking the English-track dentistry program was given, followed by an outline of the teacher's profile, even though a more detailed account of the participating teacher is given in the corresponding analytical chapter.

Section 4.3 described the study design, by firstly explaining the suitability of the case study approach for emic qualitative research. This was followed by the analytical tools used to approach the data, namely Conversation Analysis - CA, as a framework for sequential analysis, and Membership Categorisation Analysis - MCA, to view how teachers and students through their roles and identities orient to each other turn by turn. Consequently, the research objects and questions of this thesis require audiovisual material for analysis therefore, section 4.4 explained the 'nuts and bolts' of recording classroom sessions, identifying objects of interest, and organising the constituent modes within the Multimodal (Inter)actional Analysis - MIA framework. The section includes a discussion of transcription and the approaches used to obtain working transcripts from the raw data. The last part of this section deals with the issues of data existing as two separate orders of entextualisation, in which the written transcript could potentially dominate the researcher's perception of events recorded. To solve issues of skewed visions, a description of the linking software used in this thesis was given.

Therefore this chapter with previous chapters one, two and three, have provided the context, the prisms, the methods and the means by which the analysis of the enactment of teacher in an EMI classroom has been approached and presented in chapters five, six and seven that follow.

The embodied achievement of teaching

5.   Introduction and chapter overview

Teaching is a social act that is more than imparting knowledge; teaching occurs in and is shaped by context. That context is a co-constructed phenomenon, a participation framework that acts as a social matrix. The focus of this chapter is the analysis of elements that are geared towards the construction and maintenance of the classroom environment participation framework(s), namely the affordances of gestures, proxemic behaviour and gaze on the enactment of instruction and specifically on the organisation of turn-taking sequences. Furthermore, this chapter is concerned with the social actions that emerge in interaction in this particular context. Therefore this chapter is structured in the following way. First, introduction 5.1, recalls section 3.1.4 of chapter 3 regarding the classroom as an interactional space and poses questions regarding teaching and learning that are then specified and refined in 5.2 as the chapters research objective and questions. Section 5.3 introduces Goodwin's (2013) substrate idea to understand how knowledge is incrementally constructed upon previous turns. The methodology section of 5.4 gives an overview of the participants of this chapter, although each of the three participants is described in greater detail in their analytical section. Sections 5.5, 5.6 and 5.7 present a fine-grained multimodal analysis of the embodied actions of student-centred interactional teaching. Finally, section 5.8 brings the findings to the fore by discussing the research questions posed in section 5.2.

5.1   The classroom as a co-constructed learning environment

As argued in chapter 3 (section 3.3), interaction mediates learning; therefore, with dialogical interaction, turn-taking can be thought of as an intricate choreography in which co-participants must attend carefully to the signs and signals that project and create the space for speakership transfer (Koole, 2013; Goodwin, 2007). Moreover, turn-taking is accomplished according to institutional and pedagogical related constraints that govern contexts such as the one under study (Drew & Heritage, 1992). Hence, unlike mundane interaction, speakership in classroom settings is not equally distributed among teachers and students (Cazden, 1988; Goffman, 1981). Therefore, in the highly oral tradition of the university lecture, speakership rights *belong* to the teacher and are *granted* to students. Turn-taking implies that participants know when to speak and when to bring their turn to an end. This begs the question, how do participants indicate a

wish for a turn and how do they recognise they have been given speakership rights, and finally how do they know when to give up the floor?

Dialogical interaction in the classroom rests on the successful deployment of such semiotic resources as questions from a teacher which are reciprocally met by the appropriate response from the students thereby securing speakership opportunities at those times in which they are indeed offered. However, progression in interaction comes through speakership as well as attentive listenership (Gardner, 2007). Although the listener is the vocally more silent participant in interaction, listening is an embodied activity to which speakers orient to and monitor to modulate their turn (Evnitskaya & Berger, 2017). In the university classroom context, how do both students and teachers display their listenership, and how does its embodied display mediate interaction, for example, how does it encourage extended talk?

Lastly, as Seedhouse (2004, p. 183) plainly states, 'the goal of the teacher is to teach the students'. Therefore, this chapter examines knowledge construction and development through the interactional mechanisms of embodied mediation in turn-taking (Koole, 2015). The analysis thus seeks to reveal the embodied sequences played out *in* and *through* such actions as speakership transfer, listenership, and discourse development. It also contemplates the design of material objects and their mediating role in knowledge building. To address these issues, the questions posed above have been refined into a specific research objective and a set of specific driving questions below, reproduced from chapter 4:

5.2 Specific research questions and objectives

SRO1: To explore the construction and management of participation frameworks in a university classroom and how gesture participates within that structure.

SRQ1: How do participants co-construct a context and manage the space for teaching-learning?
   - SRQ 1.1: How is participation acknowledged?
   - SRQ 1.2: How is speakership managed?
      - SRQ 1.2.1: How is speakership transfer projected and affected?
   - SRQ 1.3: How are student contributions shaped?
   - SRQ 1.4: How does gesture participate in knowledge construction?

The first concern in this chapter is how embodied actions bear on the creation and management of participation frameworks and secondly how gesture, as part of a multimodal ensemble in the construction of knowledge participates in the creation of TRP (transition relevance place)

Chapter 3, section 3.2.1, dealt extensively with gestures; therefore, the ensuing will only outline a specific prism employed in this analytical chapter that expands on notions of gestures as a sign of speakership and listenership to address the embodied resources involved in activating participation. The *substrate* concept (Goodwin, 2013) is introduced to understand one principle of co-constructed coherency in interactional progress (see also Gardner, 2007 and Greer et al. 2009). Although chapter 4 described the analytical approach to the data chapters, this chapter will expand on specific considerations related to teacher profiles and data collecting methods where pertinent. After that, in section 5.5, the first case to illustrate the phenomena under study is presented through a fine-grained analysis that will converge the central notions posited in the theoretical framework (chapter 3), brought into focus below to approach the data sets in this chapter. Subsequent cases are presented to showcase how similar phenomena are embodied by different teachers across data sets. Finally, in the chapter conclusions, the evidence yielded in the data will ground assertions regarding embodied modes as fundamental to the coordination of interaction and as central to holistic meaning-making.

5.3   Interactional elements in teacher discourse and turn-taking

CA literature is replete with studies on turn-taking mechanisms such as questions, rising and falling intonation, and extended pauses for instance (Sacks et al. 1974; Schegloff, 2007; Drew, 2013), and furthermore how semiotic modes such as gaze, gesture and proxemic behaviour participate in the organisation of turn (Goodwin, 2000; Mondada, 2013; Nevile, 2015). The embodied actions that comprise *turn allocation sequences* are well-documented in the literature in which gaze (Kidwell, 2014), proxemics (Lim, 2012) and gesture (Kääntä, 2012), and their interplay (Drew & Heritage, 1992; Goodwin, 1980, 2002; Luff & Heath, 1992; Streeck, Goodwin & LeBaron, 2011), have a determining role in turn sequencing. Furthermore, through these embodied modes, constructing a joint alignment to an objective is also achieved (Mondada, 2009). However, whilst the deictic effect of gesture or nominating gaze on turn-taking organisation is well documented in the literature, to my knowledge no study reports on how gesture contours and sustains a TRP. For any of the embodied modes mentioned to bear any meaning as actions, they need to be contextualised within a participation framework (henceforth PF) in order to identify the various goals and constraints that shape said interaction. A brief overview of these notions is presented in the following.

The PF concept has been presented in detail in Chapter 3 (section 3.1.4) and is broadly described as the orientation of participants towards a shared objective (Goodwin & Goodwin, 2004). Orientation is achieved spatially through posture and direction of the body, whereby the scope of gaze delineates the spaces around participants to either create a focus of attention on an

individual or flits across the classroom to draw all students into the realm of attention (Kidwell, 2014). In other words, gaze is a fundamental resource to initiate interaction with others to hence establish a PF. PFs are steadier than gesture and talk, which are fleeting by comparison where they are constantly replaced moment-by-moment by newer talk or gesture. A PF is hence sustained over time and stretches of talk (Goodwin & Goodwin, 2004). Hence, the participation framework is the locus for embodied meaning-making; indeed, meaning-making derives its wholeness because of this 'ecological huddle' (Goffman, 1964, p. 64) that is the PF. Nevertheless, the PF itself is also a dynamic evolving phenomenon that is constantly renewed with each turn. Therefore, sustaining the alignment that makes the participation framework and the structure a shared space requires everyone to move together in the same direction (Goffman, 1981).

The seminal work in Sacks et al. (1974) described the sequential organisation of turn-taking and noted the turn's social value. In the context of this study, speaking rights and turn-taking patterns in educational settings reflect the set of institutional constraints that answer pedagogical and institutional objectives (Drew & Heritage, 1992). Consequently, speaking rights, whilst occasionally shared with the collective class within the parameters of the participation framework, by and large, belong to the teacher. As such, the latter deems when and perhaps who has the right of turn (Cazden, 1988; Goffman, 1981). This ownership of turns has two effects, 1) a turn is *granted* to students, whereas 2) the turn is *reclaimed* by a teacher. If turn-taking is composed of turn granting and turn reclaiming, it implies these two types of speakership transfers would be enacted differently to each other. The analysis aims to reveal the ways in which granting and reclaiming the turn are visibly and distinctly embodied. First, a brief look at the summoning elements of student speakership transfer in order to contrast with the absence of these moves in teacher's reclaiming the floor.

When an IRE ('initiation-response-evaluation' pattern) question is posed in class, which subsequently creates a TRP inviting student dialogical participation, Cazden (1988) reports on the effect of increased wait time. It slows the pace of the class and provides students with time to construct their thoughts. Moreover, the silence of a pause at a TRP has a powerful summoning effect, as does the restart of a phrase (Goodwin, 1980). The pause in talk by the speaking party at the TRP transfers the responsibility for silence onto the students and hence it becomes the students' responsibility to fill it (Sacks et al., 1974). Teachers mobilise strategies in addition to pauses to summon and re-summon students to participate (Goodwin, 1986), for instance visually a gesture or spatial readjustment, or discursively through repetition, a reformulation or an adjustment of the focus of the question (Arminen, 2005; Goodwin & Goodwin, 2004).

Interactional competence is not just a matter of packaging our verbal output in an appropriate form. Interaction is a social activity that relies on a 'contingently connected sequence of turns in which we each act' (Drew, 2013). To ensure the work of coherence co-participants monitor signs of listening through which current and future embodied turns are modulated and adapted. For instance, Gardner's work on receipt tokens during listenership (1998, 2007) show these as actively participating in moving talk forward (1998) and in acknowledging epistemic progression in talk (2007). Examples are 'right' to acknowledge epistemic confirmation and 'Hm..mm*'* and 'Okay' act as both continuers as well as acknowledgement tokens. Nonetheless, vocal receipt tokens are only partial bearers of meaning; intermittent gaze, head nods and spatial orientation are often synchronized with receipt tokens and are issued by the listener (Clua, 2017). In that sense, embodied receipt tokens afford the listener active participant status (Schegloff, 1987). The way listeners signal their participation allows the researcher to see how these 'silent' parties shape the ensuing turn and hence 'the trajectory of the talk' (Gardner, 1998, p. 204), where each turn adds knowledge and direction. In relation to this co-construction of knowledge, CA has an organisational system briefly described below.

In CA the *adjacency pair* provides insight into how one speaker relates to another speaker, where the speaking of the first utterance by one speaker motivates the speaking of the second utterance by the other speaker. The analysis centres on how each speaker builds on the previous turn, how each designs their orientation to the other, and how each build-in a forward orientation into a future turn. In light of these points, the adjacency pair arrangement bears witness to how knowledge is incrementally co-construction (Schegloff, 2007). The question remains how these increments are in fact accomplished. How does one actually build on the previous turn in the educational setting? How does one recognise and track the ideological trajectory? Goodwin (2013) provides insights through a concept based on the biochemical concept 'substrate'.

According to the Merriam-Webster dictionary, a *substrate* is a substance (a molecule) that is acted upon by an enzyme. The analogy comes into focus in what happens next; the enzyme causes a chemical reaction that involves the substrate, resulting in a bonding of the substance and the enzyme at the active site to form an enzyme-substrate complex. Goodwin brought this term into sociolinguistics to represent the initial idea as bound in an utterance, for instance. The interlocutor takes the utterance and can reuse it or transform it so the resulting form continues to be recognisable to participants, but it now exerts a new action. Goodwin's (2013, p. 9) example below clearly illustrates the point:

```
1  Tony:      Why don't you get out my yard.
2  Chopper:   Why don't you {make me} get out the yard.
```

Chopper takes Tony's challenge, recycles the resources provided by the challenge and creates an action of his own, namely, a counter challenge by inserting new talk into Tony's phrase. Hence, the substrate is the original material that is acted upon to build a new action. In this way, 'participants are able to grasp the meaningfulness of subsequent talk' (p.9).

Another example of the *substrate* concept is seen when a candidate answer is offered in a classroom and the teacher *repeats* it, but in doing so the teacher evaluates the statement through prosodic means (rising or falling intonation). The original action, participation, thereby undergoes transformation and composes a new action; evaluation and the staking of the expert role. Another example is the teacher's incorporation of the candidate term, which he or she repeats and remodels through extension, reformulation or recasting (Escobar-Urmeneta & Walsh, 2017). This idea is consistent with Bakhtin (1981, p. 293), who says, '(a) word in language is half someone else's. It becomes 'one's own' only when the speaker populates it with his intention, own accent, when he appropriates the word, adapting it to his own semantic and expressive intention'. The substrate analogy in sociolinguistics ends in that substrate reactions are not cumulative chained reactions. In sociolinguistics, the emergence of a social culture relies on a historical accumulation of past uses of language and recurrent actions.

The substrate idea could also be applied to the role of material objects in the classroom in terms of *Frozen objects* (Norris, 2004; see chapter 4, section 4.4.1). These are the products of decision-making, conceptualising, selecting, transforming, adapting, shaping and expanding in the endeavour to turn scientific knowledge into pedagogical content (Magnussen et al., 1999). The process is *frozen* into a product, such as projected slides or even the video grabs used to compose the vignettes (Bezemer & Kress, 2016; Kress, 2015). The content of the slides mediates classroom interaction, where the teacher's interaction with his or her own slides 'thaws' those contents into the teaching-learning experience for which they were designed.

Hence, artefacts (such as slides) can ground the talk and help make epistemic increments and trajectories traceable in the discourse when combined with teachers' deictic, iconic, beat and metaphorical gestures and spatial conduct. (Hazel, 2014; Streeck et al., 2011). Concerning gestures, although McNeill (1992) provided broad taxonomies of gesture types (see Chapter 3, section 3.2.1), gestures can bear more than one type of message, through their structural trajectories and in the way fingers can extend the gesture's meaning-making capacity. Hence sections 5.1-5.3 sought to establish the fundamentals of classroom interaction that create and

enable the space for learning through such elements as turn-taking, questions, and knowledge co-construction in which talk, embodied modes, and material objects are engaged in synergic meaning-making gestalts. The following describes the specific methodological aspects of this chapter.

5.4   Methodological approach

The discussion above provides the specific analytical lenses employed in this chapter to examine interactional competence through teachers' coordinated engagement in turn-taking. The data and the analyses show how actions are foreshadowed, project and unfold. Therefore, this type of analysis requires a comprehensive view of actions in their context to provide insight into how they unfold. In line with this approach, the transcript of the talk and the vignette of images are presented in their entirety and subsequently referred to as the analysis unpacks the phenomenon presented. Jeffersonian conventions (Jefferson, 1984) were used to add prosodic features to the talk transcript. Video grabs were embedded as images into a vignette. To maintain a sense of movement in the still images, a system of arrows indicate projected and completed embodied trajectories (See table 4, section 4.4.1). Captions were added beneath the images to facilitate understanding of the analysis. The captions include glosses of actions presented and corresponding fragments of the transcript. Images may vary in size and perspective depending on the phenomenon under scrutiny. The quality of the vignette may vary depending on if they are composed in this document or inserted as a pdf cropping.

This chapter presents data from three different lecturers. The three cases are organised in such a way so that the most developed (Case 1) will serve to unpack and yield a fine-grained scrutiny of embodied practices. In comparison, the three other cases presented after will identify embodied conduct common across the data sets for the same phenomenon under study. In other words, the first case aims for depth, whereas subsequent cases aim for breadth. The introduction to each case will describe the lecturer and any peculiarities of the setting. Nonetheless, Table 6 below presents an outline of the lecturers, their anonymising acronyms, subject, level of English and the number of students in their class.

Table 6

Characteristics of participating lecturers and their students

Lecturer acronym	Subject & degree year	Track (English / Spanish)	Teaching experience, including EMI	EMI training *DGP	English level (CEFR)	Number of students
JM	Immunology and Microbiology; 1st-year Dentistry Degree	English & Spanish	Eight years including two years of EMI	Yes (DGP)	B2	35-40
MP	Developmental Psychology; 1st-year Dentistry Degree	English & Spanish	Less than five years, including one year of EMI	Yes (DGP)	B2	35-40
DF	Cellular and Molecular Biology; Master's in Dentistry	English	More than 5 years; first EMI session	Yes (DGP)	B1	30

Development Group Program

5.5   Case 1 Immunology and microbiology

JM is a research scientist who teaches the subject 'Immunology and Microbiology' in both the English-track and Spanish-track programs of first-year dentistry. This was his second year teaching this subject in English of the 8 years prior teaching experience. JM had participated in the EMI Development Group Program provided by the Department of Applied Linguistics in the previous year under the auspices of the University Strategic Plan for quality teaching and internationalisation. He was deemed a suitable candidate for this study based on positive student feedback and his expressed ease with his being recorded during a teaching session. He had recently obtained B2 (CEFR) certification in general English language proficiency at the time of recording in January 2017. An overall oral ability for B2 CEFR is described in the following terms:

> Can give clear, systematically developed descriptions and presentations, with appropriate highlighting of significant points, and relevant supporting detail. Can give clear, detailed descriptions and presentations on a wide range of subjects related to their field of interest, expanding and supporting ideas with subsidiary points and relevant examples.

The data excerpts presented and examined in Case 1 are taken from the opening session of the subject 'Immunology and Microbiology' for 1st-year dentistry students. The overarching

objective of this course is to provide students with a foundational understanding of the mechanisms underlying oral diseases. This case presents a series of instances showing the affordances of embodied modes in the sequential construction of social actions related to the introduction of the first lecture in this subject. The excerpts are organised into two main sequences:

Sequence 1 (excerpts 1-4): Establishing a shared classroom experience.

Sequence 2 (excerpts 5-9): Speakership transfer and the co-construction of knowledge.

5.5.1 Sequence 1: Establishing a shared classroom experience

The opening lecture of a subject promises a series of unique moves related to establishing rapport, objectives and identities. The first sequence shows JM establish his wish for a shared classroom experience. By describing the nature of the interactive classroom, he expects the students to co-create the learning space; JM demonstrates his experience-based understanding of students' capacity to co-lead in the classroom and not just participate (Fasel & Berger, 2015). Although the focus centres on embodied actions, the analysis has been divided into 4 discourse-related excerpts:

Excerpt n°	Analytical focus
Excerpt 1	Active participation and engagement as fundamental for an effective learning environment
Excerpt 2	Students' responsibility for their learning through inquiry
Excerpt 3	The role of inquiry in the unfolding of the class
Excerpt 4	Student and teacher roles in co-constructing a space for learning

Excerpt 1

Prior to line 1, JM has already explained the course logistics, In this first sequence, JM opens the slides on the computer. He has chosen to stay behind the desk in relation to the students, therefore he has had to twist around to view the screen to carry out the activity as seen in. He could have completed the task from the other side of the desk; however, that would have led to giving his back to the students. In this way, his spatial orientation in the classroom maintains alignment with both his expected institutional role and the activity that is to take place, where his bodily position demonstrates split attention between the task of preparing the slides and the presence of the students sitting in front. As he prepares to straighten his posture JM takes a quick glance at his notes on his desk. The notes seem to provide a transitioning point between the task of opening the slides and preparing to address the class. He straightens and opens his

posture and undertakes some readjusting of his clothes. He then moves to the right side of the room from where he pans the room to gauge the level of the students' attention toward him at this point.

Data for excerpt 1

```
(1)        so:: (.) I think it was clear
(2)        that to me is i-is important
(3)        for you to be present
(4)        for you to be involved
(5)        for you to:: <part-I-cipate>
               ((raises eyebrows on 'participate'))
(6)        for you to: ask
               ((turns head and gaze to another side of the room))
(7)        for you to:: (.) con*trol the dynamic
             ((fig. 1.2 inverts cupped hands upward))
```


| Fig. 1.1 Pre-stroke on "con-" (line 7) | Fig. 1.2 Deployment of gesture stroke on "-trol" | Fig. 1.3 gesture hold phase on "..the dynamic" |

Line 1 opens with the JM using the discourse marker 'so' followed by a pause which summons attention, and initiates a communal shift in the participation framework footing. In other words the discourse marker ushers in a new phase in the class. JM continues in line 1 stressing the word "think" which he embodies in a facial expression of uncertainty (squints eyes, furrowed brow), hence seemingly mitigating the power distance, and thereby setting the tone before addressing the general precepts for class dynamics (line 2). In the sequence shown in lines 3-7, JM employs a linguistic construction that allows him to emphasize the desired key behaviours in the class, with the repetitive pattern "for you to ..". In lines 5, 6 and 7, the "to" vowel sound is prolonged to varying extents. In line 7 the prolonged vowel sound of "to" is met with a micropause, thereby enabling further emphasis of the following word 'control'. Moreover, the

prolonged 'to' could be interpreted as filler whilst the right word is searched (Goodwin & Goodwin, 1986).

Hence, whilst presence and involvement is highlighted as important, the additional stress on "participate", "ask" and "control" (lines 5, 6 and 7) operationalises the former two. In line 5, an eyebrow flash accompanies "participate", highlighting the utterance. Emphasis of "participate" in line 5 is achieved by slowing down articulation and subtly increasing the volume. In line 6 he turns his gaze to the other side of the room simultaneously with "ask", but the body continues to orient in the same direction as before, presenting *body torque*, i.e. split spatial orientation, to distribute attention to different points in the class (Schegloff, 2007). Until this point JM's right hand has been resting on the PC cabinet, however at the beginning of line 7 his right hand leaves the PC cabinet, and assume a pre-stroke position on the first syllable of "con-trol" (con-) (fig. 1.1), and on the second syllable (-trol) the gestures is deployed as he swiftly moves his hands below an imaginary sphere (fig.1.2). This metaphorical gesture displays the idea of enveloping and holding something, and as seen in line 7, the 'something' is the dynamic of the class which he seems to be offering the student. Fig. 1.3 shows his hands in an open upward hold position as he utters "the dynamic".

Excerpt 2

This excerpt continues from excerpt 1 where JM continues to describe the displays of interest expected from students which will in turn shape classroom dynamics. JM uses gesture to embody the notion of 'interested', thereby affording an otherwise neutral term a personalised nuance. The gesture and the spatial trajectory that accompany the utterances in lines 1 and 2 again showcase the potential for embodied action to enhance talk with visual metaphorical meaning and emphasis, respectively.

Data for excerpt 2

```
(1)      If you are:: interested
(2)      I will I will give you a (lesson) (.) right?
```

Fig. 2.1 Pre-stroke "if you are.."	Fig. 2.2 Stroke onset and duration synchronised with "interested"	Fig. 2.3 Stroke hold "I will I will…" Retreats
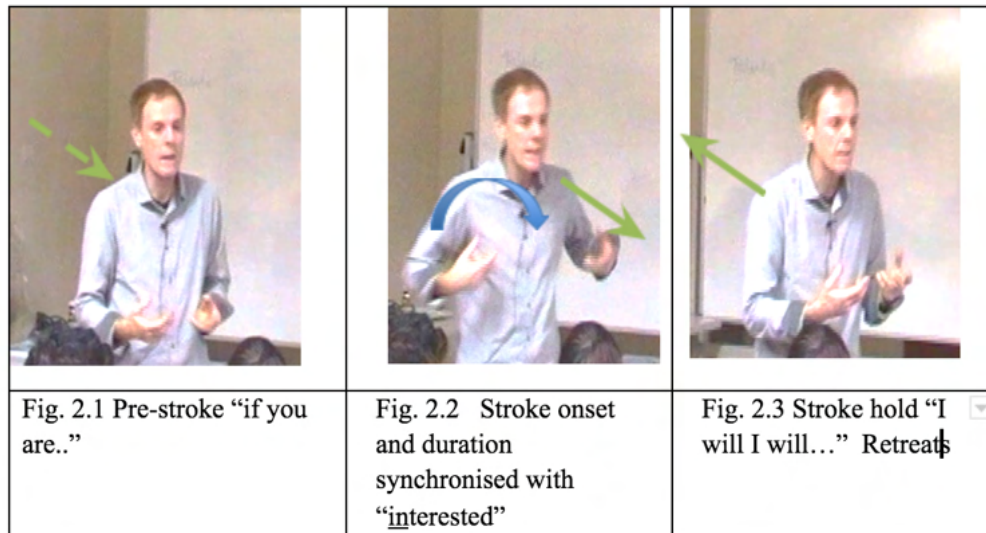
In line 1, JM takes a small step towards the centre of the room from the right-hand side, with hands in the pre-stroke phase while uttering "if you are" (Fig. 2.1). On "interested", the main stroke is deployed energetically away from the body (Fig. 2.2) which is synchronous with a long step forward, thereby affording the stroke greater emphasis. The gesture depicts a welling up and gushing out movement in a type of display of giving so that *interest* is depicted as an act of giving and not receiving, a message consistent with his desire for interactive learning space. At the hold phase of the gesture (Fig. 2.3), he utters line 2 – "I will I will give you a (lesson), right?" - whilst retreating back to the starting position.

When asked in an informal follow-up conversation about his preference for the corners of the room, he was unsure except that the projector would shine in his eyes. When asked if it may have anything to do with his seeking a decentralized model for his class, JM stated he had not considered this but thought it was an interesting idea. In teacher-fronted classrooms, the front centre conveys more authority than lateral positions (Lim et al. 2012).

Excerpt 3

This excerpt shows how JM insists on the value of the students' participation in the unfolding of the class, and ensuring they receive a relevant learning experience. The point of interest is the deployment of gesture on uttering the word "detecting" which he does twice.

Data for excerpt 3

```
(1)    But for me it is would be very important to

(2)    for you to help me in (.) you know (.) in (.)

(3)    detecting the important points for you

(4)    detecting the things that are (.)

(5)    more (.) interesting for you..
```


| Fig. 3.1 Pre-stroke pause on line 2 "in", searching for the appropriate word. | Fig. 3.2 Stroke onset and proxemics trajectory synchronise with 'detecting' |
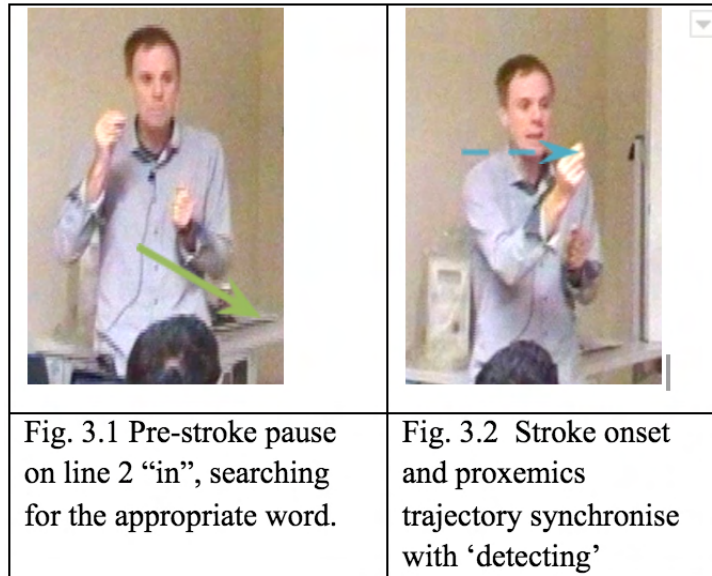
Lines 1-5 show JM appealing to students to participate in order to co-produce a dynamic and relevant learning experience. Line 1 shows JM seamlessly reformulating his request from a more assertive stance ("is") to a mitigated one ("would be"). As he utters line 2, he holds out slightly cupped upward facing palms, common when one is appealing (no image). At the end of the utterance of line two, precisely on "in" he brings his right hand to nearly eye level (Fig. 3.1), as he pauses in what seems like a word search. In line 3, the word "detecting" occurs to JM upon which the gesture stroke is deployed (Fig. 3.2). The gesture is composed of a pinched thumb, index and ring finger, and deployed swiftly away from his face, hand remaining almost at eye level (Fig. 3.2). This would seem to associate the concept "detect" and the idea of sight. The shape formed by the pinched fingers seems to enrich the utterance with the idea of precision and detail (Kendon, 2004, p. 47). The utterance and the gesture co-occur with a short forward trajectory towards the centre of the classroom, and on line 4 the same gesture type is deployed on "detecting", and again with a short forward trajectory. It is as though the impulse given by the gesture action provokes his moving forward, as the body is turned on stroke deployment (compare body orientation in Fig. 3.1 and 3.2). As in excerpt 2, stepping forward with the gesture and utterance lends emphasis to the instance. In line 5 the key term is "interesting"

which is uttered with a smaller step forward and a subtle gesture echoing the gesture of "detecting". His oblique spatial orientation in relation to the class collective and unfixed gaze displays whole class attention.

Excerpt 4

The following and last Excerpt 4 in this sequence shows JM bring this establishment of the shared experience phase of the lecture to an end. In this excerpt, gesture is deployed to emphasise his sincerity in his appeal for interaction. An interesting interplay with head nods provides an additional emphatic dimension to the embodiment of this instance. Figs 4.1 and 4.2 in the vignette of this excerpt are discontinuous with fig. 4.3.

Data for excerpt 4

```
(1)     So feel free to::(.)ask
(2)     Feel free to (.) eh (.) I don't know (.) modify the rhythm
(3)     Modify the dynamic of the class
(4)     And:: I will be in charge of: (.)
(5)     managing a bit there
```


Fig. 4.1	Fig. 4.2	Fig. 4.3
Line 1 "so feel.."	"..free to ask"	Line 5
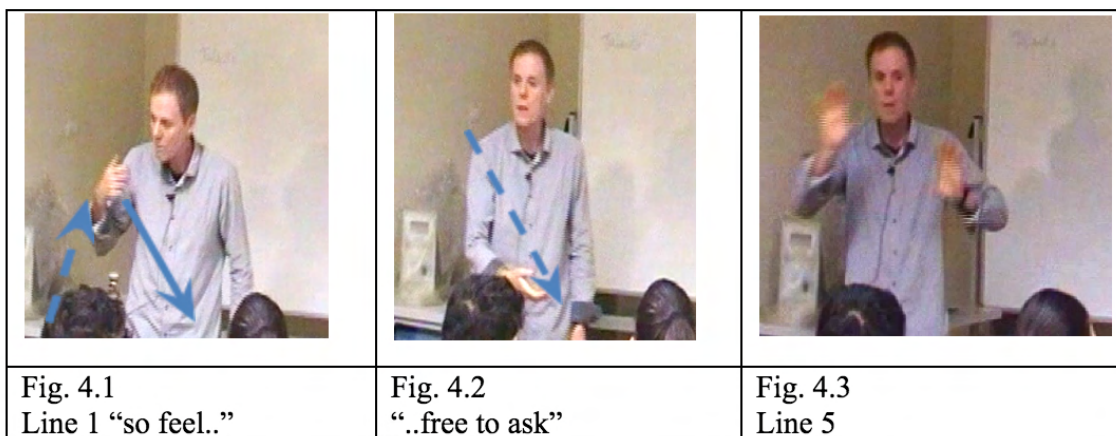
Like the initiation of this phase of the class shown in excerpt 1 which started with "so", line 1 in this final excerpt shows JM use the same discourse device to mark a shift in footing, instead this time the bringing of this phase to a close. This is because "so" converges all that was previously said to make a final concluding statement, where he weaves in the language used in the previous excerpts ("ask", "dynamic") (Goodwin, 2013). In Fig. 4.1 and 4.2, we see the action that accompanies line 1 and is repeated in line 2. Fig. 4.1 shows JM's right hand near the shoulder in the pre-stroke and his head slightly tilted forward and cocked to the side. On "feel" the stroke is deployed (Fig. 4.2), whereupon the head is raised, and "free to: ask" is delivered in the hold

position (Fig. 4.2). The gesture-head combination is repeated in line 2. The idea of giving the floor to the students seems to be conveyed by the stroke of the gesture. Lines 2 and 3 confer permission to modify the course of the class, and on line 4 JM states his teacher's responsibility of bringing order to the interaction.

However, fig. 4.3 shows the circular movements of the gesture on "I will be in charge of.." depicting the idea of arranging (line 5), but which interestingly cease on uttering "managing" (line 5). A lag occurs between the gesture (fig 4.3) and related talk (line 5), which could be an example of 'forward gesturing' (Streeck, 2009), that is the occurrence of gesture first which gives access to the linguistic resource of talk. In other words, it is the observation that gesture, like other types of embodied conduct, frequently foreshadows ensuing talk, thus priming participants for 'what is coming next' (Ádel, 2010; Schegloff, 1987; Streeck, 2009).

To sum up, these four excerpts chosen for this chapter reveal how JM multimodally constructed meaning related to student participation through embodied means in the initial phase of the class. The metaphorical potential of the gesture ensemble afforded efficiency and layered dimensions to his discourse through a visual enrichment beyond the reach of words alone (Hao & Hood, 2019). The embodied actions defined a situated institutional role of 'teacher' and 'student', where message highlighting and stress was achieved through repeated structures and the accompanying gestures. The complex balance between teacher authority and the invitation for student inquiry was efficiently managed through the mobilization of mitigating embodied actions; JM occupied the front of the room and moved freely therein, he rightfully had the floor, however, his discourse, nuanced and emphasised by his gestures and trajectories spoke of a shared space for learning.

5.5.2   Sequence 2: Bringing immunology and microbiology into relevance

This longer sequence follows sequence 1 and demonstrates JM's use of Socratic methods to lead the students into an understanding of why the course subject is relevant to them as emerging dental professionals. The attention centres on the embodied actions in the enactment of this pedagogical strategy. Moreover, and of particular interest, this sequence showcases the embodied projection of speakership transfer, its execution and the notion of speakership rights. In addition, the gesture deployed at the end of this sequence reflects his previous discourse about the shared learning experience.

Unlike sequence 1, the actions in this sequence are consecutive therefore the transcript of talk and the vignette are presented as a continuous whole so as to not interrupt the perception of the

unfolding actions. However, to facilitate the analysis, this longer sequence has been divided into five excerpts, numbered to follow those of sequence 1. This organisation allows the embodied phenomenon of each excerpt to be made salient. Although the transcript and vignette are presented whole, the first number of each image in the vignette corresponds to its excerpt number (eg., fig. 5.1 is the first image in excerpt 5). Each excerpt section provides the transcript lines and figures numbers. The excerpts and their analytical focus are listed below:

Excerpt n°	Analytical focus
Excerpt 5	Initiating a shift in the participation framework and projecting a TRP.
Excerpt 6	Orientation to a self-selecting student.
Excerpt 7	Displays of listenership as participation and reclaiming speakership.
Excerpt 8	The shaping and (co-)construction of content matter discourse.

Transcript of talk for sequence 2

```
(1)     JM:     so first thing
(2)             why do you think immunology and microbiology
(3)             is important for(.)dentists↓(.)for odontologists↓
(4)             why do you think that you are here↓
(5)     ST:     (inaudible talk)
(6)     JM:     °tell us°
(7)             tell us
(8)     ST:     eh because eh(.)we can have some patients
(9)             that have eh(.)reactions
(10)            >for example we can put an implant<(.)
(11)    JM:      °Hm mm°
(12)    ST:     t[he body] can detect it=
(13)    JM:      [°Hm mm°]
(14)    ST:     =as[.as a foreign::(.)body
(15)    JM:        °[Hm mm°
(16)    ST:     and it can <like eh>(.)
(17)    JM:     and produce a reaction(.)
(18)            and that reaction can be::
(19)            deleterious or can be dangerous:(.)
(20)            a:nd >could be<
(21)            or it could be important for you to kno::w
(22)            that that may happens(.)right↓
(23)            and what is the::(.)mechanisms behind(.)this:(.)
(24)            rejection(.)
```

Vignette for sequence 2

Fig. 5.1 JM orienting to slide Class is silent.	**Fig. 5.2** Turn completion on "thing" of Line 1.	**Fig. 5.3** Trajectory to centre front of room on Line 2 "why do you think immunology and microbiology..."
Fig. 5.4 Taking up authorative centre front of classroom on line 2: "..is important for.."	**Fig. 5.5** Full body turn to students on "dentists", mobility pause, then "odontologists" of line 3.	**Fig. 5.6** He turns to face class on "here" of line 4. Clasped hands.

Fig. 5.7 Inclination/ bow at end of talk (Student's identity protected)	**Fig. 5.8** Pans room. Extended wait time for student to self-select	**Fig. 6.1** Head and body turns in response to signs of student self-selection
Fig. 6.2 Gaze secured trajectory towards student, utters "tell us" of line 6	**Fig. 6.3** JM leaning in to interactional space. No talk from student	**Fig. 6.4** Focused space, right hand in pre-stroke position. No talk from student

Fig. 6.5 Swift upward gesture. No talk	Fig. 6.6 JM enlarges space with student Line 7: repeats "tell us"	Fig. 7.1 Student initiates turn. Line 8 (St): "we can have some patients…"

Fig. 7.2 Nod produced on "detect" from instructional space Line 12	Fig. 7.3 Mid distance gaze. Student monitors JM on line 14 (St): "..as..as a foreign body"

Fig. 7.4 Student gesture on "like" of line 16. JM projects reclaiming speakership.	Fig. 7.5 JM reclaims floor. A mitigating shrug on "produce" on line 17	Fig. 8.1 Gesture on "know" of line 21

Fig. 8.2
Deictic gesture on "rejection" (line 24) Student
acknowledgement 'displayed' for class..
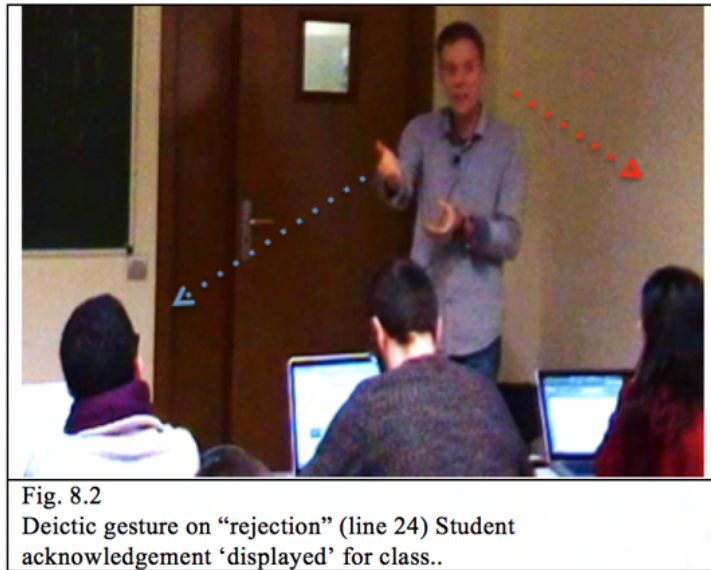
Excerpt 5

This excerpt presents the first move in the new phase of the lecture ushered in after excerpt 4, sequence 1, where the business of the subject matter is first addressed. The shift in footing is accomplished by posing a set of questions designed to elicit their thoughts about the relevance of the subject. The questions and their embodiment contour a TRP.

Data for excerpt 5: Transcript lines 1-4; Vignette figures 5.1 – 5.8

Analysis

The first image, Fig.5.1 shows the instance in which JM orients to the projected slide with head and gaze, whereas his torso displays distributed attention between the slide and the students. Through gaze, he brings the slide contents into relevance. Whilst seemingly taking stock of the slide within an extended pause, a phase boundary is created where the silence of a pause has a potential summoning effect upon the students. No talk is issued from students to the teacher as they remain in their seats, which seems to indicate their understanding and collaboration ushering in the next phase. The slide participates as a frozen action, the product of previous decisions and process, specifically how to present scientific concepts to a group of learners. Hence, the teacher's momentary orientation towards the slide is a resource to recalibrate the PF and align the emerging phase.

Completion of the visual-auditory boundary marker is seen in Fig. 5.2 where the subsequent phase is verbally indexed by "so first thing" (line 1) followed by a short pause. The common discourse marker "so" summons attention and the sequencing device of "first thing" sets an

organisational structure in place for students to orientate towards, finally, the pause again exerts a summoning effect. Upon "so" (line 1), JM simultaneously swings around swiftly to face students, with a slight inclination towards them as he does so (Fig. 5.2). Thus, "first thing" is synchronised with the turn trajectory so that at the end of the utterance he squarely faces the whole class. In this sense, the ensemble of talk and swinging around creates a mutually emphasizing effect, where the gaze and spatial trajectory trace a link between the slide and the students, creating a new context for ensuing talk. An image of the slide is presented below and described in what follows.
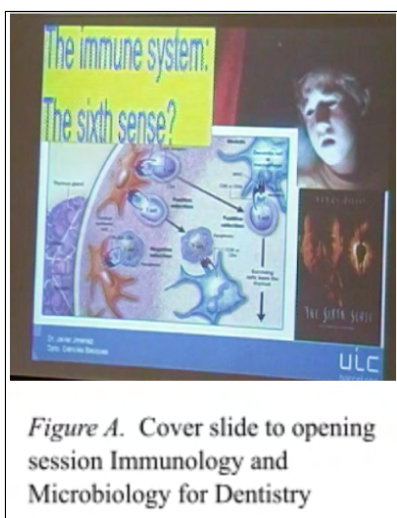
Figure A. Cover slide to opening session Immunology and Microbiology for Dentistry

The cover slide, Fig. A on the left, presents juxtaposed images of immune processes and the image of the actor and title of the 90s iconic movie 'The Sixth Sense', as a way to introduce the immune system through a metaphorical association with a 'sense' (taste or smell, for instance), which is more familiar territory to students. Although the students may not be familiar with the movie for generational or cultural reasons, the effort to connect with their stage of learning using non-scientific semiotics is visible through this design (Adami, 2017). Furthermore, the seemingly disparate semiotics used in this single space could prompt students to correlate these images into a meaningful interpretation (Bezemer & Kress, 2016, p. 64-67).

The proxemics in what follows reveals an instinctive sense of space-authority management within the teacher domain as he poses questions to elicit their thoughts about the relevance of the topic. After 'so first thing', JM steps away from the centre of the room (Fig. 5.3 shows off-centre position), but then initiates a trajectory towards the centre-front (Fig. 5.3-5.5) as he poses his first question to the class in lines 2 and 3 (see transcript). Studies on the pedagogical correlates of spatial behaviour (Lim et al., 2012) discuss the functional categorisation of classroom space with the discursive moment. The front centre of a classroom is commonly the space of authority and instruction, whereas off-centre positions serve to mitigate that authority. JM poses the questions from the centre-front but then he physically removes himself to an off-centre position, in a physical display of giving the floor. Fig. 5.3 and 5.4 show how the question of lines 2 and 3 are embodied. The first part in line 2, "why do you think immunology and microbiology.." is seen in Fig. 5.3. It is followed by a brief mobility pause on "..is important for.." in his forward trajectory to the centre-front of the classroom (Fig. 5.4). On "dentists" (line 3), he swiftly turns to face the students (Fig. 5.5), much in the same way and to the same emphatic effect as in Fig. 5.2. At the same time, a deictic function is served by gaze and spatial

orientation signalling the students as the emerging professionals he is referring to and to whom his question is directed.

As the question trails off on "or odontologists" (line 3), JM migrates back to the mitigating off-centre position to the left, abandoning the centre-front position (Fig. 5.6). As he does so, he prompts students with a simplifying reformulation of the question, "why do you think that you are here?" (line 4). A reformulation of a question can make a point or serve to accentuate a TRP (Bamford, 2005) and re-summon verbal participation (Goodwin & Goodwin, 2004). He punctuates the end of the question with a swift 'bow' (Fig. 5.7).

And here is probably the most interesting and remarkable aspect of this case. To make sense of this bow, we note that JM's hands have been contained in a mutual clasp throughout the entire sequence so far (see Fig. 5.1-5.7). Unlike the previous excerpts of sequence 1 in which gesture participates actively in the discourse, here there is no gesture. Moreover, in restraining his hands in a clasp his elbows are firmly by his side (Fig. 5.8). The overall effect is one of reducing his physical size. This reduction of his physical presence removes the focus off him and enables a focal shift onto the students. Whereas a pause that ushers in a new orientation summons attention, a pause after a question transfers the responsibility for the silence to the recipient. Hence, JM's gestural stillness seems to position him to listen, as well as visibly contour the TRP. Kendon (2004) and Streeck (2009) reports that an extended upward facing palm is a common forward gesture when one invites or transfers speakership to another. In this case, the bow deployed by JM seems to be in lieu of the hand gesture, and likewise performs a large visible transfer action.

Excerpt 6

This excerpt shows how after a standard wait time of approximately 2 seconds, a student issues cues of self-selection to which JM orients. Teacher talk in this excerpt is minimal (four words uttered in total), yet the focus on the embodied actions reveal the creation of a sub participation framework.

Data for excerpt 6: Transcripts lines 5-7; Vignette figures 6.1 – 6.6

Analysis

To link with the above, an extended wait time, a panning gaze across the room and clasped hands follow the questions and bow. This modal ensemble signals a TRP (a transition relevance place). After a wait time of almost 5 seconds from the end of the utterance (line 4), or 2 seconds

from the end of the 'bow' gesture, a student gives an apparently audible or visual cue of self-selection (line 5). The cue induces a subtle quickening in JM where he swiftly orients to the student (Fig. 6.1). Gaze and head turn almost simultaneously in the direction of the student followed by a complete postural reorientation, after which he initiates a gaze marked trajectory (Figs. 6.2 and 6.3).

At mid trajectory, JM utters "tell us" (line 6, Fig. 6.2), however, the student withholds his response. JM spatially leans in whereby projecting an emerging focused interactional space with the student within the larger participation framework (Fig. 6.3). His hands continue in a clasp. Fig. 6.4 shows JM creating a momentary directly facing focused space with the student. We see his right hand slip from the clasp into a pre-stroke position. A swift upward gesture is deployed (Fig. 6.5). The gesture seems to both invite the student to speak, but also affords the moment some lightness (Kendon, 2004). At this point, JM reduces the exclusivity of the interaction by enlarging the space with the student (Fig. 6.6) while repeating the inclusive sounding "tell us" (line 7). JM's hands return to a clasp as he waits for the student to respond.

Although an answer was summoned by JM in line 6, the student awaits for both verbal *and* embodied cues to initiate his turn; gaze and spatially oriented attention. Heath and Luff (2013, p. 288-289) report on a similar situation where a patient does not respond to the doctor's 'What's up?' until he, the patient, has summoned and secured the doctor's gaze, thereby attention, through his 4-second pause. In this excerpt JM maintains a reduced physical presence by re-clasping his hands which seems to contour the TRPs. His opening the interactional space has three effects, (1) visibly gives the floor to the student, (2) places the student's contribution in the domain of the whole class, and (3) it mitigates his authority.

Excerpt 7

The focus of this excerpt centres on firstly, the teacher's displays of listenership as participation in the interaction with the student, and the student's monitoring of those cues, and secondly, how JM reclaims his speakership rights, which contrasts with how a student obtains rights to the floor.

Data for excerpt 7 analysis: Transcripts lines 8-17; Vignette figures 7.1 – 7.5

Analysis

Fig. 7.1 shows the spatial orientation of JM as the student initiates his turn, showing split attention as JM attends to the student's talk, seen by his gaze, whilst displaying awareness of the

whole class, seen by how his body is turned slightly away from the student. Furthermore, the student is gazing at JM. Synchronised with the student's talk, JM moves between two different pedagogical domains; interactional space and the instructional space (compare 7.1 and 7.2) (Lim et al., 2015). The moves are accompanied by alternate eye contact and mid-distant gaze, downward head nods and receipt tokens "hm mm", signalling affiliative stances when the student utters key notions (Gardner, 1998; Greer et al., 2009) (Fig. 7.2 and 7.3, lines 10-15). During the student's ongoing turn, he monitors the teacher for the signs of listenership (Fig. 7.3).

In line 16, the student seems unsure how to complete the thought as indicated by his hesitation on "like eh". On "like", the student deploys a gesture, with elbows resting on the table and outward hand movements from a central position, in a depiction of expansion or even 'explosion' (Fig. 7.4) which he deploys twice. According to Goodwin and Goodwin (1986), when a word is not immediately available, gesture participates in the word search. Kendon (2004) notes this is a *slot gesture* and Mori and Hayashi (2006) refer to this phenomenon as embodied completions. The student's gesture seems to communicate both 'loss for words' but it also depicts the concept for which he could not find the word. This might be an example of how gesture can be emancipated from talk.

JM attends to the gesture and the utterance "eh", and retakes the floor on cue. Fig. 7.4 shows JM project this action through his focused attention and mouth parting in readiness to speak. The student's "like eh" and co-occurring gesture have contoured a TRP. However, due to his institutional category, JM *rightfully* retakes the floor therefore the interactional sequence in this instance is in contrast to that when granting speaking rights to a student. Although JM seeks shared speakership, the floor remains his and so does not require speakership rights to be expressly granted to him (Goffman, 1981, p. 146). JM takes the floor and completes the student's idea verbally (line 17). On "produce" he cocks his head to the left whilst raising the right shoulder (Fig. 7.5) as though making a suggestion. However, fig. 7.5 shows that his hands remain clasped even though he is talking. The clasped hands seem to be part of an embodied ensemble to hedge what is a spoken assertion, showing solidarity and rapport with this new group (Valeiras-Jurado et al., 2018).

Excerpt 8

The excerpt showcases how a teacher can shape student knowledge and co-construct content related discourse by building on a student's contribution. Furthermore, this last excerpt of case 1

shows how the teacher establishes rapport and a shared classroom experience with students that is consistent with the discourse in sequence 1.

Data for excerpt 8: Transcripts lines 17-24; Vignette figure. 8.1 – 8.2

Analysis

Pekarek Doehler's (2002) description of the visibility of student agency in teacher on-going turn design and Goodwin's (2013) borrowed notion of *substrate* as a metaphorical resource to explain how knowledge is visibly constructed turn by turn, are very relevant here. The ensuing talk reveals two things: firstly, JM had attended to the student's use of "reaction" (line 9) by his use of the same term in line 17 and 18. Secondly, he had attended to the student's 'expansive' gestural depictions.

The analysis of lines 17-23 is based on the transcript only. JM takes the neutral term 'reaction' and starts to shape it with the adjectives 'deleterious' and 'dangerous' (lines 17-19). In lines 20-22, he underscores that 'bad reactions' are a real scenario, and hence in line 23 he points to the need for them to understand the underlying mechanisms. Having done the conceptual shaping work, JM continues in line 24 recasting "reaction" as the now more accurate term "rejection" . JM has discursively extended and shaped the student's term, finally replacing it with a concept related to immunology and relevant in dentistry (see also Jacknic & Duran, 2021). The pause introduced before 'rejection' allows him to deliver the term with greater emphasis. However, it is the embodiment of this instance that reveals it as a rich point.

In fig. 8.1 we see JM has unclasped his hands where in this image we see him gesture "know" (line 21) as a receptacle. Then on "rejection" (line 24) JM gestures towards the student whilst directing his gaze towards the collective class (Fig. 8.2). This gesture acknowledges and credits the student for "rejection", whilst the gaze summons the class' attention to the accomplishment of the student. The talk shaped the concept; yet, JM's embodied actions sustained a dual focus of attention, turned the focused interaction into a display for the class, mitigated his authority and finally confirmed the shared classroom paradigm through his acknowledgement of the student's contribution.

In summary, Excerpts 5 to 8 in Sequence 2 demonstrated the fundamental contribution embodied actions made to the management of participation frameworks: in the way the teacher constructed the space for dialogical interaction (see also Jakonen, 2020, for a similar phenomenon). It also displayed how the students' own gesture informed JM of what he was

attempting to express. This sequence also revealed the intricacies involved in speakership transfer where the student was awaiting speaking rights, compared with the teacher directly re-taking speaker rights. Most significantly, the excerpts examined presented a contrast to those analysed in Sequence 1 in terms of gesture where it was deployed with talk in meaning-making ensembles, whereas this sequence showed the contrary – absence of gesture (clasped hands) as part of the creation and maintenance of a transition relevance place.

5.6 Case 2: Developmental psychology - Getting started

The second case presents MP, a psychologist, teaching in the English-track dentistry program. The class is composed of the same group of students as in Case 1. Like JM, MP had a B2 level (CEFR) of general English at the time of recording. She had had approximately 3 years of experience in teaching Developmental Psychology in Spanish across different degree programs, and this was her first year teaching the course in English. Unlike the previous case, the session recorded was not the opening lecture in the course, therefore the teacher and the students had consolidated their roles and expectations. Nonetheless, it was the first class of a new topic in Psychology for Dentistry. The overarching aim of the course was to provide future dentists with a foundational understanding of human psychology. The video camera was positioned on the left lateral side of the classroom. Nevertheless, the perspective captured by the camera was deemed adequate for the inclusion of this class in the data corpus used in this thesis.

This case presents four excerpts, each with a different analytical focus. These particular excerpts were chosen for their representational value to showcase similar embodied actions to the first case, thereby reinforcing the evidence for common behaviours in the enactment of teaching. Listed below are the excerpts with a short description of the analytical focus. The excerpts presented in case 2 are not consecutive instances, as in sequence 2 of the previous case, instead they are instances taken from the 1.5 hour recording. Therefore each excerpt presents its corresponding transcript and vignette data.

Excerpt n°	*Analytical focus*
Excerpt 1	Gestures to explain the scope of the subject.
Excerpt 2	A rhetorical question to launch an explanation.
Excerpt 3	The embodiment of eliciting past content
Excerpt 4	The creation of a transition relevance place (TRP).

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Excerpt 1

This excerpt shows the presentation of the new topic, Developmental Psychology. This excerpt shows how gestures are employed to explain the course scope. It occurs at the beginning of the class when the new topic is introduced. A focal point of this excerpt is the teacher's deployment of gesture and how the gesture externalises and displays the teacher's perspective on a topic. Although the multimodal aspect of the analysis centres on lines 7 and 8, the transcript for this excerpt has been kept intact for the sake of maintaining context integrity.

```
(1)   so let's /e/start with the first point

(2)   what we are going to see

(3)   about developmental psychology is

(4)   which are the the-the objectives

(5)   of this branch of psychology

(6)   then we will move to the topic

(7)   eh we will see eh:: exclusively=

(8)   or we will focus in what is development
```


Fig. 1.1	Fig. 1.2
Line 7: 'exclusively'	Line 8: 'what is development' Hand move to syllables in utterance. Beat gesture marking the pace of talk.
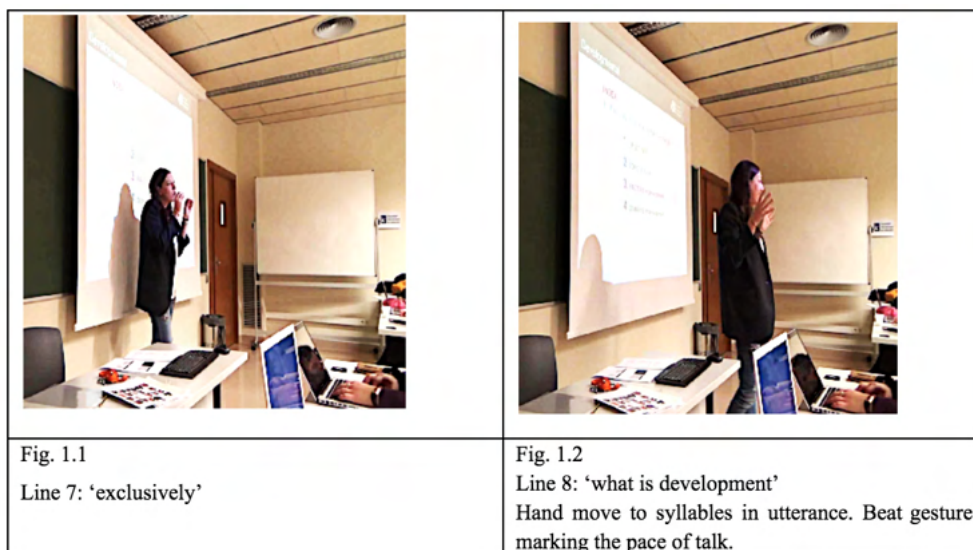
MP opens the introduction of the new topic in line 1 with "let's start" and projects the structure of the ensuing talk with "first point". During lines 2 – 5 she stands near the slide and draws the students' attention to the topic outline and organisation with her hand. Her body is positioned such that she bridges the slide and the students. In line 6, she withdraws from her interaction with the slide and starts to turn to the students. Line 7 displays some uncertainty with wording

her ideas as shown by the use of "eh" at the start of the utterance, and by the prolonged sound on "eh" in the second instance, which is then followed by "exclusively". However, it is on line 6 that as she withdraws from the slide she brings her fingers into a pincer gesture close to her face. This instance seems to indicate that the idea of 'exclusive' was formulated and the hands depicted the idea of 'small and selective' in a forward gesture. Fig 1.1 shows MP's gesture when she utters "exclusively" (line 7). However, line 8 shows she changes the perspective in how she sees the topic of development by her gesture seen in Fig. 1.2. There is a mismatch in talk and gesture in line 8 where she uses the term "focus in", yet her gesture communicates that the field of development is broad.

Excerpt 2

This excerpt shows MP situate and start an explanation of Developmental Psychology. It aims to describe the embodiment of a rhetorical question, which will be compared to the embodiment of a question that contours a TRP in excerpt 3, as well as the use of gesture to animate the image representing human developmental stages on the slide.

```
(1)     So what is developmental psychology=
(2)     is a branch of psychology
(3)     that /e/studies
(4)     how people grow and change(.)
(5)     over a::ll the life
```


Fig. 2.1 Walking across room, hands open looking at students Line 1: 'so what is developmental psychology?'	Fig. 2.2 Deictic gaze and gesture to image Lines 2-3: is a branch of psychology that /e/studies

Fig. 2.3 Pre-stroke Line 4: How people grow and change	Fig 2.4 stroke position 1. Low Line 5: over all	Fig. 2.5 stroke position 2. High (Line 5 cont.): the life

Fig. 2.1 shows MP walk towards the centre front of the classroom after she has changed slides from the outline of the topic to the slide showing people at different stages of development (see e.g., Fig. 2.1). As she moves towards the centre, she utters line 1. Her hands are open in a palm-up position which, given the context, conveys the idea of inquiry but also of holding knowledge in her hands like an object. Line 1 is a question, however, there is no pause between lines 1 and 2 that would mark a TRP. Furthermore, as she utters line 2 she turns to the slide and not to the students. The gaze at the slide brings this object and its image into relevance for the whole class. Therefore, what is grammatically constructed and prosodically delivered as a question has not been embodied as a device to elicit dialogical interaction; gaze shifted to slide, hands open and transitioned into a deictic gesture towards the slide (Fig. 2.2). The deictic gesture creates a visual link between her and the material object she is oriented to. In so doing the slide is ushered in to participate in ensuing classroom discourse. In lines 3-5, MP defines developmental psychology, and as she does her hand sweeps into a pre-stroke position (Fig. 2.3) as she utters line 4. As she utters line 5, she deploys a sweeping gesture from a low position to a high position (Fig. 2.4 and 2.5). Her hand is outstretched with palm facing down during the gesture trajectory and ends in a downward cup shape at the height of the trajectory. This gesture conveys the longitudinal notion of life by its sweep, and it conveys the physical change in height a person undergoes throughout life. She starts from a low position to indicate infancy and stops at a high position to represent an adult. The cupped hand in the high position, compared to the open hand of the lower positions during the sweep, seems to indicate a maximum, or an end point. This would contrast with an open hand gesture that could suggest continuity. This gesture animated the image on the slide showing people at different life stages.

Excerpt 3

MP uses the teaching strategy of recalling previously taught content to build the subsequent session. To achieve this she mobilises gesture to elicit student participation and as a way of acknowledging their contribution as she counts the items offered off with her fingers. This excerpt reveals the projection and creation of a TRP which contrasts with how a rhetorical question is delivered in excerpt 2.

```
(1)    MP:      do you remember that
(2)             yesterday we talk about
(3)             the objectives of psychology
(4)             in general
(5)             we talk about four objectives(.)
(6)             you remember that (3.0)

(7)             does anyone of you::↑ have any idea

(8)             we talked about four objectives
(9)             (.)in psychology
(10)            yes
(11)   ST1:     (to control)
(12)   MP:      to control was one

(13)   ST2      (xxxx)
(14)   MP:      to observe
(15)   ST3:     (xxxx)
(16)   MP:      (xxx) to describe
(17)   ST4:     (to explain)
(18)   MP:      to explain good what else
(19)   ST5:     (xxxx)
(20)   MP:      to predict
(21)            So to describe(.)to explain(.)to predict and to control
```

Fig. 3.1 Oriented to students. Hands from central to open on 'psychology' (line 3)	Fig. 3.2 Hand opens and four fingers displays on 'four' (line 5)	Fig. 3.3 Pause (line 6), oriented to class, still, clasped hands.
Fig. 3.4 Re-summons with emphatic gesture on 'four' from authoritative space (line 8).	Fig. 3.5 Head orients to participation signal, and points *before* she utters 'yes'	Fig. 3.6 Summons answers by counting off fingers Has taken up an off-centre position in the room.

In lines 1-5, MP activates previous content introduced in the last class. She defines the nature of the activity a question (line 1), then orients students to when the content was introduced ("yesterday", line 2) and the items she seeks to elicit ("the objectives of psychology, line 3). Then in line 4 she marks the granularity of the expected answers ("in general"). When she utters "psychology" in line 3, she holds up her hands (fig. 3.1). This gesture seems to foreshadow line 4 rather than relate to line 3. In line 5 she provides a structure for students by reminding them that there are four main objectives, and holds up four fingers and remains still (Fig. 3.2). In line 6 she re-summons students to provide the four objectives. This is followed by a 3-second pause where she clasps her hands and her elbows are pulled in (Fig. 3.3). She smiles as she gazes across the class in silence and re-summons students to provide the four objectives (lines 7 and 8). The rising intonation and prolonged sound of "you" in line 7 seem to highlight her attempt to grant speakership, but also remind them that this is content they ought to know. At this point, she has repositioned herself from interactional space to her more authoritative instructional

space (fig. 3.4). On 'four' (line 8), she emphatically presents four fingers again accompanied by a quick emphasising forward head nod, to re-summon a response (Fig. 3.4), and reorients them to the subject of psychology in line 9 in a continued attempt to elicit an answer. A student signals a wish to answer (line 10), MP first points to the student (Fig. 3.5) and then utters 'yes' (line 11); an example of 'forward gesturing' (Streeck, 2009).

MP takes up an off-centre position in the classroom as she focuses her attention on the student (Fig. 3.6). As soon as the student has offered her answer, another student answers. As different students respond, MP points to them. The pointing takes place after the students respond and therefore in this case the pointing serves to acknowledge their contribution as opposed to granting them speaking rights. As she points, she also nods and repeats the students' contributions (fig. 3.6; lines 11-20). Repeating a student's contributions serves to affirm the answer, whilst it relays the information to the whole class, thereby creating a whole class learning experience. As MP 'counts off' the objectives offered by the students on her fingers, and accompanied with a head nod, they can see how their answers are contributing to the construction of the learning environment and forming the base for the ensuing lesson. In line 21 MP brings the activity to completion by recounting the four objectives of psychology off her fingers (no image in the vignette for this action).

This excerpt has demonstrated how the teacher projected a TRP to the whole class by launching a recall activity with a question. MP's use of her hand and fingers to create a visible activity which served to summon and resummon students to participate. The resulting episode brought to the fore content items addressed the previous day, and which now were being connected to the ensuing class. MP successfully enacted the effective pedagogical strategy of student recall whereby embodied actions were central to the activity.

Excerpt 4

This last excerpt in Case 2, presents another instance of TRP contouring and skilful mobilization of gaze to re-summon an answer from a student. The analysis will also examine how MP maintains whole class awareness whilst sustaining a focused interactional structure with an individual student.

Transcript excerpt 4

```
(1)        MP:  When we talk about development↑

(2)             we say it has this characteristics
```

```
(3)              is a rhythmic process

(4)              do you know what means rhythmic (1.5)

(5)              Any idea↑ (1.0)

(6)      ST:     °em how you move (.) no↑°

(7)              (.)how you move

(8)      MP:     how you move

(9)              and how can you move

(10)     ST:     em (1.5) if you're old

(11)             you will be more::(1.0)

(12)             like em (2.0) not that /mobable/

(13)     MP:     okey::↓ okey::↓

(14)             the idea is-is right but..
```
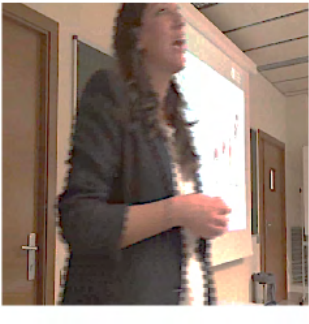
Fig. 4.1 Lines 1-4 Draws attention to the slide as she introduces the concept of rhythmic development.	Fig. 4.2 Hand curls on line 5 "any idea"	Fig. 4.3 Interactional space with the student. Clasps hands. Line 7
Fig. 4.4 Line 9. Rotational gesture on 'move'	Fig. 4.5 Re-clasped hands, smiles	Fig. 4.6 Smiles as a sign of listening, hands clasped, Opens interactional space

Fig. 4.7
Rotates hand back and forth as though trying to insert an ill-fitting object in a hole as she utters line 14

MP is about to explain *rhythmic development*, a sub-topic of Developmental Psychology. As she refers to the first characteristic – "rhythmic" (the first item on the slide, lines 1-3), her hand with outstretched fingers indicates the items on the slide (Fig. 4.1). However, before she proceeds with an explanation of this concept, she asks the students if they are familiar with the concept of *rhythmic* (line 4). Her hand stays open in line 4, as in Fig 4.1. MP waits approximately 1.5 seconds and then prompts with "any idea" (line 5), while concurrently spatially orienting to the class, her hand curls away from the slide (Fig. 4.2) and she pauses. These actions signal an orientation to eliciting student responses.

After a brief pause, a student quietly responds by offering "how you move" (line 6) ending the utterance with the Spanish question tag, "no", with rising intonation. The question tag downplays his answer (Stivers et al., 2011), however, the data does not show if in downplaying his answer he is orienting to MPs expertise status or orienting to his peers.

As the student utters line 6, MP sets her gaze on him with an enquiring expression and approaches his space with clasped hands (no fig.). The student interprets that MP had not caught what he said and he subsequently repeats his candidate answer (line 7) a little more assertively; it is louder than previously and there is no question tag. At this point, MP has constructed an interactional space with the student, wherein she repeats the student's answer (line 8, fig. 4.3), which (1) confirms she has heard it and (2) relays it to the rest of the class (Fig. 4.3). She then seeks to have the student expand on his answer (line 9). On "move" she unclasps her hands and deploys a rotation-like gesture (Fig. 4.4). She immediately and swiftly re-clasps her hands (Fig. 4.5) and the student initiates his turn (line 10). As the student further develops his answer (lines 10-12), MP smiles at him, the smile and gaze seem to display her attendance to his talk and to encourage an extended turn (Jakonen & Evnitskaya, 2020).

On line 10, MP starts to migrate back to her instructional space (Fig. 4.6), thereby opening the interaction to the whole class. She continues to gaze at him, her hands are clasped and she is spatially oriented to the whole class. At the end of the student's turn, MP responds with a nod on each "okey" (line 13). The two 'okeys' were uttered carefully and with downward intonation. When she continues that the "idea is right but.." (line 14), she deploys a rotating gesture with her right hand, as though trying to insert an ill-fitting object into a hole. (Fig. 4.7). It seems the gesture correlates with the "..but" of line 14. The back and forth movement in this gesture could

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also convey a sense of uncertainty or mitigation of an incorrect idea. This is an example of a *slot gesture* depicting that the concept the student held needed some further work. Therefore, the gesture allowed MP to communicate that the student's idea needed redirecting while at the same time mitigating this *dispreferred* response, that is a response that does not comply with the expectations of the previous turn, and are therefore delivered with mitigating devices (Pomerantz & Heritage, 2013).

This excerpt has shown how MP skilfully contextualises the component of this new topic and then displays awareness of their novice status by halting her explanation and reorienting to address the students' actual knowledge status. This shift in footing is made evident by her visible withdrawal from the slide through curling her hand away from it and spatially orienting to the student. She provides students with think time as seen by the pauses in the transcript. A student self-selects by initiating a turn. MP responds immediately by forming a focused interactional space to receive his contribution. She then asks that he expand his answer, an effective pedagogical strategy, which she accompanies with an iconic gesture depicting moving. She accepts and acknowledges his contribution, but does express that it does not quite affiliate with the concept she is about to explain. Responses to dispreferred answers require sensitive handling (so as not to discourage future participation). MP accomplished a mitigated response through smiles, head nods on receipt tokens and a slot gesture that saved her from having to verbalise the dispreferred response.

To sum up, case 2 has presented instances when gesture has played a role in providing nuance to talk, animating images on a slide, as well as present as mismatched with talk thereby externalising MPs perspective on a field topic. Furthermore, these excerpts contained examples like case 1 where gesture was withheld when a TRP was being created. The withholding of gesture was continued in both cases whilst the student had the floor. This is an interesting phenomenon (which Case 3 will also present), and seemingly part of the multimodal ensemble in the transfer of speakership and display of listenership. MP also showed skilful spatial management with proxemic behaviour that displayed exclusive attention whilst maintaining whole class awareness. The management of spaces were dynamic and responsive to moment-by-moment needs. The spaces for learning created and dissolved by MP facilitated the participation of students at different times in the class. MP's embodied actions were laden with information related to course content as well as classroom management.

5.7   Case 3: The basics of cellular and molecular biology

DF is a neuroscientist from the Basic Science Department. The recording was taken during the first of three classes in the Master's Degree in Dentistry. The overarching objective of the course was to introduce the students to cellular and molecular biology to understand the underlying mechanisms behind many oral diseases. The class is composed of approximately 30 international and domestic students. DF was asked to give her part of the course in English. For this reason, she sought the support of the EMI Development Group Program provided by the Department of Applied Linguistics. Her general English proficiency level at the time was a low B2 level (CEFR). During the program, a language specialist worked on the use of discourse markers and material objects to support her pedagogical work, such as the design of slides and the use of the whiteboard. DF's subject is organised as a combination of lectures and self-directed learning sessions.

The two excerpts presented below showcase two distinct ways TRPs can be embodied in accordance with the teaching moment. The first excerpt shows TRP creation to elicit what students expect from the course, and the second excerpt uses the resource of drawing to elicit student participation.

Excerpt nº	*Analytical focus*
Excerpt 1	Eliciting student expectation
Excerpt 2	The co-construction of a diagram to make knowledge visible

Excerpt 1

This excerpt shows the opening of the first session. DF introduces herself and her area of expertise (neuroscience). She explains that this session is the first of 3 that compose her subject. The classroom is arranged such that the teacher domain runs along the rows of student seating. In other words, along the side of the room and not the front of the room, which is where the screen is located and where the slides project. Before she proceeds with an explanation of the course's objects and structure, she attempts to elicit what expectations students have of the course.

```
(1)     before to start let me::: ask you something
(2)     what do you expect from this subject (3.0)
(3)     do you have any idea::about (3.0)
(4)     (giggle) ok
```

Fig. 1.1 Hands clasped, and gesture a beat on "subject" (line 2)	Fig. 1.2 Gesture on "do you have any idea"	Fig. 1.3 'about' (line 3) Hands re-clasp.

As DF utters line 1 "before to start.." she is changing the slide, then on "let me ask you something" she moves away from the keyboard and gazing at the slide over her shoulder as she moves into the teacher-student space on "me:::". Whilst taking glances at the slide, her body is oriented towards the students and utters line 2. On "what" and "expect" her left hand emphasises the words with single beat gestures. On "from this subject', she turns completely to the students and her hands come together in a clasp and beat down once on 'subject' (Fig. 1.1). After a wait time of 3 seconds, no student self-selects. She further prompts them (line 3); her hands release the clasp and perform a rolling gesture on "do you have any idea" (Fig. 1.2). Her hands re-clasp on "about" (Fig. 1.3), her voice trailing off as she initiates another wait time. Her elbows are in, her body and gaze are oriented to the students. She has contoured a TRP with a question and with both a vocal and mobility pause. However, there is still no response from the students. She waits for a beat and then terminates this phase with a giggle and "ok". Salient in this excerpt is the common feature of clasped hands as part of TRP contouring and launching, as seen in the previous two Cases of JM and MP. Because the students do not respond to DF, she consequently shifts the class into the instructional phase.
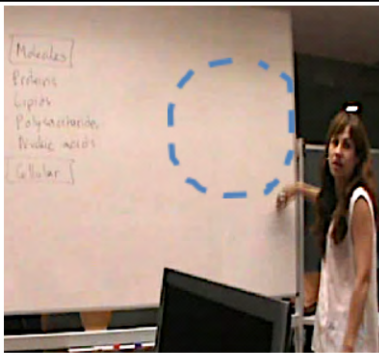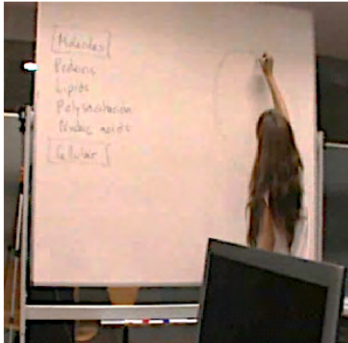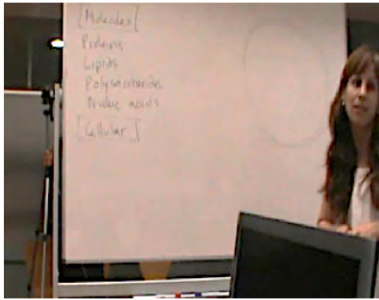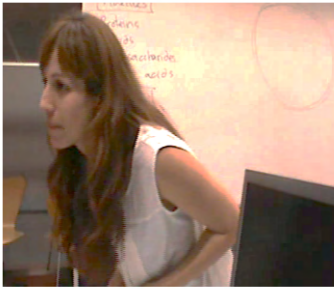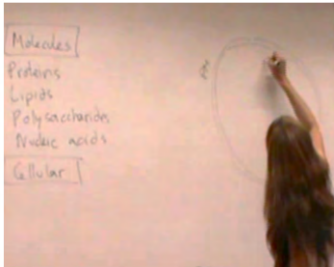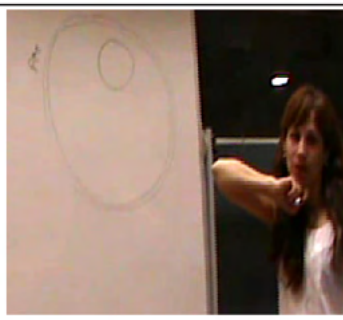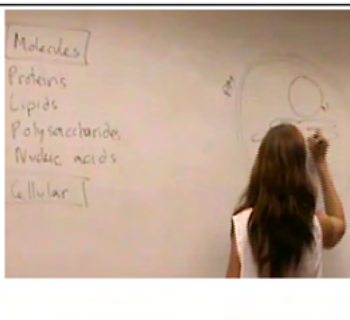
Excerpt 2

Before this excerpt 2, DF had successfully elicited a list of macromolecules from the students, which she wrote on the whiteboard as they were being offered. Using this previously generated list, DF uses the resource of 'collaborative' diagram drawing to continue to draw in student participation and activate their prior knowledge.

```
(1)     these molecules are part of the cells
(2)     and are organised in different organelles
(3)     which organelles do you know ((she inscribes a circle))
(4)     for example what's this
(5)     imagine that (.) I know I am not a very good a drawer but
```

```
(6)      this is the↑ (2.0)

(7)      ST: (xxxx)

(8)      sorry

(9)      plasma↑ (1.5) what's the this name

(10)     ST: (xxxx)

(11)     plasma membrane (.) ok↑

(12)     this one is the plasma membra::n:e

(13)     and here there is the↑

(14)     what's this

(15)     inside this we have the acid n- nucleic acids↑

(16)     this is the↑

(17)     ST: (xxx)

(18)     nucleus
```

Fig. 2.1 Traces circle on board on line 2	Fig. 2.2 Draws circle (faint) on line 3	Fig. 2.3 Draws inner circle on line 4
Fig. 2.4 Wait time for response with hands clasped on line 6 (monitor obscures visualisation)	Fig. 2.5 Candidate answer from student.	Fig. 2.6 Draws next organelle (nucleus)

Fig. 2.7	Fig. 2.8	Fig. 2.9
No response after wait time, prompts by pointing and reminding them of nucleic acids.	Poised to label the diagram as she awaits the student to answer.	Drawing in the endoplasmic reticulum in response to the student.

In this Excerpt, the teacher changes the focus granularity from cellular macromolecules to the cellular organelles they compose. First, she runs her hand down the list of cellular macromolecules written on the whiteboard as she utters "these molecules are part of the.." (line 1), and then on "cells" she sweeps her hand to the empty space on the right of the list and holds it there, whilst looking at the students over her shoulder. On line 2 she gestures a large circle on the board. This gesture initiates a change to a relatively macro perspective (Fig. 2.1). There seems to be a mismatch between the utterance of line 2 where she refers to "different organelles" (plural) and yet gestures a single large circle. However as she utters line 3, she draws the circle she had just gestured with a marker (Fig. 2.2) which seems to foreshadow how this activity will proceed.

Although line 3 is a question, she does not pause for an answer but rather proceeds to draw an inner circle as she asks students to identify this double-layered structure (line 4, Fig 2.3). She then turns to face the class as she stays within her instructional space next to the diagram. In line 5, DF makes a remark about her drawing ability with a deprecatory smile, but then she leaves her instructional space on "but" and steps forward into the interactional space to utter line 6. In line 6, she gets back to the business of elicitation. She uses unfinished sentence frames to prompt students to complete the sentence. Her intonation rises on "the" and her voice trails off (line 6) and her hands clasp around her marker pen (fig. 2.4). A pause follows "the", and she is spatially oriented to the whole class (fig. 2.4), this ensemble of embodied behaviours contour a TRP. After a 2-second wait, a student offers a candidate answer. It seems that DF does not catch the student's utterance and so she re-elicits the answer with "sorry" (line 8) while moving into an interactional configuration with the students in front of her. To re-summon the answer she repeats the desired answer as an unfinished phrase "plas*ma…*" (line 9) with rising intonation on the last syllable. At this point she deploys a rotational gesture to encourage an answer. The student complies and repeats their answer in line 10, while DF leans in closer to listen (fig. 2.5).

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DF moves back to the whiteboard and emphatically repeats "plasma membrane, ok" (line 11) while pointing to the structure and gazing at the student momentarily. She then proceeds to label the inner circle with 'PM' (Fig. 2.6). In uttering "plasma membrane" (line 11) from her instructional space by the whiteboard (and say, not from the interactional space with the particular student) she is placing the candidate answer in the domain of the whole class. She proceeds to write in 'plasma membrane'; she repeats it once more (line 12), stretching the sound of "membrane" to coincide with the time it takes to write "PM".

Almost immediately after labelling the plasma membrane with the initial PM (seen on the upper left part of the diagram of fig. 2.6) DF sets about drawing a small circle in the upper area within the larger structure. When she completes it, she steps away from the whiteboard turning to the students and utters "and here there is the …" (line 13), again with rising intonation on "the". She briefly pauses in a position like that shown in fig. 2.8; looking at students with a marker pen poised in readiness to write their contribution. In that position, she re-prompts with "what's this" (line 14). After a 2-second pause, in line 15, she moves near the whiteboard and she prompts again "inside this", she points to the small circle in the large one, and then points to 'nucleic acid' in the list, "we have got the acid n- nucleic acid" (Fig. 2.7). She immediately self-repairs L1 interference by recasting *acid n-* to *nucleic acid*. She then proceeds to elicit the name of the structure with 'this is the…' in line 16. She pauses for a beat then labels it with 'N' for nucleus, in response to a student, but it is barely audible in the recording.

The data ends at this point, however we can see in fig. 2.9 she has labelled the small circle with the N for nucleus. She continues eliciting organelles until the diagram is complete. There are two patterns DF follows; she either draws the structure, and then asks students to identify it, or she first asks for names of organelles which she then draws into the diagram. Fig. 2.9 shows her drawing the cell's *endoplasmic reticulum* as a contribution from a student. She enacted this exercise by turning to the students and then turning to the board and writing and drawing their input. As she transfers the information, she is resemiotizing their answers onto the white board, from talk to image. The result is a co-constructed diagram the activity of which mediated a recall experience. Although rudimentary, the diagram performs the vital function of giving shape, position and the relative size of the various organelles within the cell membrane (Kress, 2014), thus extending the knowledge embodied in talk (Goodwin, 1994). The individual contribution of each student depicted together composes a public artefact of collective knowledge, and DFs embodied actions played a fundamental role in this achievement.

This excerpt showed the role of material objects in mediating learning, and in mediating turn-taking in particular. DF led the co-construction of a graphic representation of scientific knowledge around which turn-by-turn discourse emerged. Turn openings were successfully indicated through restrained gestures, spatial orientation to students, panning gaze and the insertion of pauses, all of which constructed TRPs. As a result, the diagram materialised from speakership opportunities and displayed and confirmed the teacher's listenership. Whilst this teacher manifested some insecurity in the opening phase of this class and in relation to her artistic abilities (deprecatory comments and smiles), she seemed comfortable and confident in this phase of building subject matter knowledge. The rising intonations on designedly unfinished sentences, the pointing, the diagrams, the systematic moving between the instructional and interactional space and the diagram labelling with student contributions all together clearly display an ability to interact with the students through the creation of unambiguous TRPs.

5.8   Discussion and conclusions

The main concern of this chapter was to explore how the construction and management of participation frameworks in a university classroom were brought into being through embodied modes to gain insight into the effectiveness of the teaching-learning experience brought about by users of English as a lingua franca. This first analytical chapter has tackled some fundamental aspects of the classroom such as the teachers' ability to establish and sustain a student-convergent space and construct pedagogical content and linguistic knowledge within that space. In other words, the concerns focus on the ability of the ELF-EMI teacher to display interactional competence, through creating coherent objective-driven space in concert with co-participants, the students. For this space to come about, the multimodal signs and symbols that embody teacher actions need to be recognised by co-present others, as do those that embody student actions. The theoretical framework outlined the notion of participation frameworks in section 3.1.4 as the 'housing' for teaching-learning activities where institutional and goals drive and shape interaction are made visible. The following discusses the questions posed in section 5.2 to bring the findings to the fore.

SRQ 1 How do participants co-construct a context and manage that space for teaching-learning.

The answer to the first question comes implicitly in the analysis of each case. The notion of classroom arrangements whilst not made explicit in the introduction of this chapter was duly outlined in section 3.1.3 in chapter 3. With regards to this sub-question, the most salient

observation is related to the positions each of the actors have taken within the physical space of the classroom. The students have taken their seats amongst the rows available to them and which face the teacher, and the teacher takes up their position in the *teacher's domain,* in the front where they are visible to the students, thereby creating the familiar teacher-fronted classroom arrangement. Case 3 presents a variation as DF utilizes the side of the classroom and not the front to conduct the lesson, but it is nonetheless her domain as from there she is visible to all the students. The configuration of teacher standing and students sitting is consistent with expectations that teachers ought to be visible to students. The standing position in the teachers' domain in this context also speaks of institutional authority, a universally familiar image in education worldwide, and which provides a visible definition of roles. Therefore the context is the classroom with its table and chair arrangements, and the positions each actor take within that space. This set-up is common across the cases presented in this chapter as well as in those presented in chapters 6 and 7. Furthermore, individuals display awareness of each other and to the implicit group goals (section 3.1.4).

The second part of question SRQ1 refers to how space is managed for teaching and learning purposes. To answer this question, four distinct yet interrelated dimensions of classroom activity will be addressed as sub-questions below:

SRQ 1.1   How is participation acknowledged?

In the first case, the discourse presented in excerpt 1 to 4, JM opens the class phase by first of all acknowledging the students' right to participate in the learning experience of the classroom. His discourse centred around the notions that students have not only a decisive role in the evolution of the class but have a responsibility to themselves and to the teacher to externalize their questions and doubts. All the excerpts in sequence 1 showed embodied actions of emphasis and depictions of giving, thus providing nuanced meaning to the talk. The excerpts presented in sequence 2 show the intricate moves involved in transferring speakership to a student, and in excerpt 8 of the same sequence JM's gesture is consistent with his previous inclusive discourse (sequence 1), and through gesture he acknowledges that the resulting lexical item "rejection" was sourced from the student's participation.

In case 2, MP acknowledges participation of students in excerpt one by orienting to the sequential organization of the subject, and facing the students as she addresses them, thereby enabling her to monitor their reactions to her. In Excerpt 2 she briefly uses a rhetorical question to introduce the notions displayed on her slide, to prime students. So like case 1, students are acknowledged as 'silent' participants towards whom talk is designed and shaped. In excerpt 3 MP acknowledges students capacity to participate vocally to contribute to the pool of content

being recalled. She insists on their capacity to do so by her extended wait times and her re-summoning strategies using the counting down resource offered by her fingers. Making the hand-mediated activity visible to the rest of the class ratified them as participants. Finally, in excerpt 4 she MP creates a momentary exclusive interactional space with a student to receive his candidate response, but soon enlarges that space to include the whole class as seen in excerpt 6 and 7 of case 1 sequence 2. In excerpt 4 MP dealt with the students dispreferred response with mitigating devices (smiles and gesture).

In case 3, DF acknowledged student participation in excerpt 1, when she asks students what they expect of the course. Although they did not respond to these questions, DF nonetheless had shown an orientation towards the students and paved their way for their thoughts on the matter. In excerpt 2, student participation is sought through a recall activity. DF kept her mobility and movement minimal as she prompted and re-summoned contributions; she would be poised at the whiteboard ready to draw and write. When a student offered a candidate answer, she ensured she had heard it right through re-summoning and creating an interactional space. Answer in hand she would transfer it to the whiteboard for the benefit of the entire class (Streeck & Kallmeyer, 1999). In all three cases acknowledgement of student participation came through an embodied discourse that nominated them as (1) active participants and (2) sought their participation through, and (3) had an embodied response to the students' participation.

SRQ 1.2   How is speakership managed?

The classroom as a participation framework is driven by sets of pedagogical and institutional roles. In line with those shared goals (teacher teaches, students learn) is the shared notion of turn length, where the teacher's long turn is not questioned in any of the excerpts presented for analysis. In all cases speakership was not only made visible through the issuing of sounds, but also through the embodied actions that accompanied talk. There was no lack of gesture of any type whilst the teachers in all cases held the floor. Gestures mobilized were metaphorical (case 1, excerpts 1-4), iconic (case 2, excerpt 2) and beat (case 3, excerpt 1). Talk and embodied conduct were part of the ensemble of holding the floor. As noted in section 3.2.1, gesture has an outward communicative function but it also has an intrapersonal function where the movements give the speaker access to their thoughts (Alibali et al., 2001; Goodwin & Goodwin, 1986), See case 1, sequence 1, excerpt 3. Hence speakership is managed through gesture deployment, as well as with spatial behavior. In all 3 cases the lecturers desired student participation and therefore speakership was managed such that TRP would be appropriately introduced at particular times during the discourse. Furthermore, speakership management is an ongoing

adaptation of the visual cues received by the teacher as he or she monitors the students. In answering the next sub-question, student speakership will be addressed.

SRQ 1.2.1   How is speakership transfer projected and effected?

Case 1 sequence 1 did not present any attempt to transfer speakership right, however he did announce that sharing the floor would be an prevalent aspect of the class. In sequence 2 of case 1, speakership transfer is projected through the use of a question, plus a reformulation of the question to prompt students into answering. The question was followed by a deictic-like bow and orientation towards the whole class, and then a pause in talk, all of which contoured a TRP. Across all excerpts presented, questions were used to open a TRP as part of an embodied ensemble of modes. The TRPs were contoured with questions, followed by pauses, but most interestingly, the pauses were not only auditory; in each of the three cases, previously gesturing hands were retained in a clasp when speakership transfer was sought (case 1, figs. 5.1 onwards, Case 2, 3.3, 4.3, 5.4, Case 3, 1.1, 1.3, 2.4. The image in 2.8 shows DF poised with a marker in hand creating the TRP). *Non*-gesture at the TRP was found to be a common feature across all the cases in this chapter. Furthermore, as teachers awaited a response from the students, they did not move from where they were standing, unless they sought to re-summon participation through a repetition or reformulation of the question. Gaze in this case participated to pan and thereby address the entire room.

Students responded to the pauses created in TRP and in all cases self-selected, as opposed to waiting for teacher nomination. Nonetheless, such as in Case 1, excerpts 6-8 the student awaited for full teacher attention in a focused interactional space, and an embodied display of granting speaker rights (gesture) before initiating his turn. Case 2, excerpt 4, a similar situation arose with a self-selecting student who waited for the teacher's full attention. Gesture in both cases played a role in encouraging the respective students to initiate their turns (Case 1, fig. 6.5 and Case 2, fig. 3.5, 3.6, 4.4). It seems that there is a preference for focused interactional space for next speaker transfer (Case, 1, figs. 6.2 – 7.2; Case 2, figs. 4.3 – 4.5; Case 3, fig. 2.5). In an awareness of their 'borrowed time' on the floor, students offer their contribution and promptly withdraw. Teacher's attempts to transfer speakership rights are carefully coordinated multimodal ensembles of space delineation, eye contact, gestures, *no* gesture, and encouraging smiles.

SRQ 1.3   How are student contributions shaped as relevant pieces of knowledge?

Case 1, excerpts 7 and 8 are perhaps the most revealing in relation to the turn-by-turn shaping of a student's contribution ("reaction") to the more precise term "rejection". The teacher in this case took up the student's term, handled it in subsequent utterances (lines 17 and 18) as he shaped it into the desired term, whilst mitigating through gaze, head and shoulders embodied actions. The teacher used the resulting term "rejection" to underscore the need for this subject in their professional development in the common enough situation that patients reject dental implants. However, the embodiment of this sequence placed the interaction in the domain of the whole class. In a similar vein, in the recall activity of case 2, excerpt 3, MP elicits the four main objectives of psychology given the previous day from the students, her fingers acting as (1) an eliciting device, (2) a check-off list. When MP received the answer, she would repeat it as she counted off a finger; repeating the answer transformed the utterance into an evaluative activity, affirming that the item offered is correct. At the end of the activity, she reads off the four objectives before launching into the subsequent part of her teaching plan.

Case 3 DF firstly elicits the names of macromolecules, which she writes on the board as the students are offering them. She then uses that list to prompt students into recalling cellular structure – the organelles that sit within the cell membrane. Hence the initial contribution of macromolecules was used by DF to co-construct a basic diagram of the cell. Although basic, it nonetheless revealed information about the relative size of organelles, where they might sit in the cytoplasm (cell's matrix) and what shape each had (Kress, 2003, 2015). The activity was conducted as a collaboration (Case 3, excerpt 2), where student contributions were integrated into diagrammatic schemata and not remain as a list on the board.

SRQ 1.4   How does gesture participate in knowledge construction?

To start, knowledge refers to procedural knowledge as well as knowledge related to the subject matter. In case 1, sequence 1 the gesture used by JM to establish the engaged type of dialogical classroom experience indicated outward, giving notions that were also quite emphatic. Therefore these energetic gestures communicated how strongly JM felt about an interactive learning experience. In the second sequence of case 1 gesture participated by not participating in talk, that is, gesture was 'quieted' along with talk to give students an opportunity to take the floor. Then the gesture participated as a quick upward sweep to encourage the student to initiate his turn, which he did and the hand returned to its clasped position. Student gesture depicting expansion or explosion seems to provide an indication to JM of what the student was trying to

express. Finally, as JM introduces the new term "rejection", through a swift deictic gesture, JM attributes the term to the student before the attending class.

Case 2 excerpt 1, MP gestures the scope of the topic of psychology as wide, despite uttering the focused approach she plans to take to 'Development'. The gesture indicates the topic is a broad one. In excerpt 2 she gestures human development from infancy to old age; figs. 2.2 – 2.5 show her gradual upward sweep of the hand 'transduce' or animate the image on her slide of people at different life stages; as we get older, we get taller. Her downward cupped hand at the height of the stroke reflecting that there is an end at the old age stage of life. So her gesture in this case animated the image and common knowledge about the end of life. In excerpt 3, we see again a restraining of gesture at the TRP as in case 1 and in case 3. Case 3 withholds gesture at the TRP and uses a combination of deictic and iconic gesture (fig. 2.1) to elicit macromolecules and collaboratively construct the diagram.

To sum up, the enactment of teaching as presented in this chapter is an activity beyond the verbal transmission of knowledge; the body plays a central role in shaping the discourse and in organizing the sequential unfolding of the interactional encounter through proxemics, gesture and gaze. It is through embodied actions that the spaces for learning are constructed and dissolved. The capacity of teachers to concurrently orient to two participation frameworks, interacting more intensely with the individual nearest, but displaying whole class awareness through the body torque is an achievement in sustaining the overarching PF. Within that PF sensitive and contingent teaching actions were enabled through such resources as gesture, gaze and the prosodic features of speech. Therefore embodied actions are not accessory but rather are fundamental to the enactment of teaching.

The pedagogical affordances of teacher sitting in the university classroom

6.   Introduction and chapter overview

Instances of teachers sitting on the corner of their desk across the data corpus were salient enough to catch my attention and subsequently motivated informal conversations with content specialist teachers and language specialist teachers at the university health science campus. Some polling of teachers during our informal encounters in corridors or classrooms, about this practice during instructional phases of class time, evoked expressions of uncertainty whether it was acceptable, and some guilt. When I asked these teachers about the effect this practice may have on classroom dynamics, they responded they were not sure. They all admitted to sitting at one point or another, mostly claiming tiredness as the 'culprit'. The association made between motivation and this embodied action is therefore unsurprisingly negative and speaks of traditional authoritarian paradigms of classroom order where a teacher stands and students sit (Manke, 1997). Although alternatives to the formal university lecture have emerged as less formal teaching formats, such as dialogical style seminar type encounters (Malavska, 2016; Arminen, 2017; Lee, 2009), the conversations aforementioned seem to indicate a deeply held belief that a teacher sitting in the classroom is an inappropriate behaviour. And yet the action of (teacher) sitting on the edge of their desk (for whatever reason) was admitted to by almost all teachers with whom I conversed about this, and it seems to be a common enough practice in the data corpus, as mentioned at the start of this section.

A search through the literature retrieved studies on sitting mainly from a physiological perspective and addressed issues of posture and back pain. Including the key word 'classroom' turned up studies on the effects of sitting arrangements on learning outcomes in young learners. *Teacher* AND *sitting* AND *classroom* yielded studies on power relations between students and teachers in primary education. One study (Manke, 1997) looked at behaviour control in primary school children through seating arrangements. Likewise a study by Erickson (2008) which looked at teacher-student classroom interaction only referred to sitting arrangements in the context of interaction between peers. Only one instance of an SLA teacher sitting on her desk is anecdotally recorded by Wilson (2020). She tells of an engaging productive discussion with her

students, where one older student came back to mention the fact she had sat on the desk and how enjoyable the discussion had been.

No study to my knowledge has focused on the phenomenon of *the teacher* sitting momentarily during the class and how that bears on the interaction with the students in any level of education. A quick look at quotes about sitting by well-known artists, politicians, intellectuals and writers confirmed that *sitting* is a profound socio-cultural thing, associated with reflection and the development of wisdom and insight, but also with the less edifying notion of idleness. These cultural notions could explain the poor light with which the teacher sitting in the classroom might be seen. This chapter is not concerned with the reasons that induce a teacher to sit, rather it asks what kinds of actions teacher sitting can bring about in a classroom and what effect does that configuration have on pedagogy.

This chapter is organised as follows. Section 6.1 sets the analytical lens to bring the phenomenon into focus through notions introduced in chapter 3, section 3.2.5 and section 3.3.3. Section 6.1 will connect the underlying premises of conversation analysis – CA, to its phenomenological roots. In turn enactive intersubjectivity is discussed with resonance behaviours in order to access an understanding of the perception-behaviour loop as the mechanism behind mirror behaviours. Thereafter section 6.2 recalls the participation framework (PFs) as an institutional space and the source of behavioural constraints thereby providing the means to detect shifts in footing through shifts in physical behaviour, sitting in this case. To make sense of sitting as a spatial and postural behaviour, Section 6.3 looks at work by Straus (1950) on the indexicality afforded by the human body schema. In particular human verticality shows how our anatomical design serves as a referential plane and importantly how changes in our verticality convey social meaning. Therefore this section examines why sitting and standing within a group configuration is infused with meaning from a historical and ontological perspective. Section 6.4 presents the research objective and questions for this chapter as well as specifies methodological consideration. Section 6.5 presents 3 cases organised into three subsections. Finally section 6.6 discusses the findings in each of the cases in light of the research questions guiding this chapter, thereby yielding a set of conclusions.

6.1   Interactional competence through phenomenology and cognition

Conversation analysis (CA) provides a toolkit for the methodical and sequential study of the interactional co-construction of social actions. The philosophical foundation of CA draws significantly from phenomenology and its approach to naturally occurring phenomena in interactional analysis (Maynard, 2013; Mondada, 2013). CA is an emic approach that offers a

means to construct a first-hand account of one's lifeworld, and secondly in more recent times through the advent of audio-visual recordings, brings together the mind and body as *interrelated* entities in meaning-making actions (Gallagher & Zahavi, 2008; Mondada, 2018). This approach stands in contrast to historical Cartesian notions of mind and body as two mutually exclusive entities (Duranti, 2010).

Largely inspired by *Phenomenology of Perception*, the landmark work by Merleau-Ponty (1945/2012), the dimensions that were revealed that compose our sense of perception, have been subsequently employed in understanding our own experiences in forming perceptions (Gallagher & Zahavi, 2012). If through an analytical lens, a particular phenomenon can be delineated from other life happenings (a greeting, acknowledgement, or a claim to knowledge), that phenomenon can be an object of perception, and as such its constituent parts could be the focus of analysis. Notwithstanding, phenomena are rooted in their social context, and the analytical tools ought to analyse the object *within* and not *isolated* from its context.

These tools, or dimensions, are *intentionality, spatiality and temporality. Intentionality* is understood as the driving purpose of an action; what we think, judge, imagine, want or aim at, it is about something or someone, these actions are directed at something or someone. The intentionality in perception entails a work of interpretation that relies on life experience. Gallagher (2008) succinctly illustrates the difference between seeing and perceiving by comparing the description of a large red object with two black circular objects at either end of its base, and transparent material at different points around the upper part, with the understanding that this object is one's car. It is not seen as a sum of its parts, but as a whole – a perceptual gestalt if you will. The fact the description of the car reported two and not four wheels alludes to the dimension of *spatiality* – where I am, what my position is, physical or social, will determine how I am able to access and perceive a phenomenon. As a result of experience, which has given me access to all angles of my car I have an integrated vision of my car, so much so that although I see two wheels, I describe the object as having four. I am able to recognise other cars as cars. I now understand *car-ness*, and this becomes tacit knowledge.

Leaving the analogy of the car behind, our tacit knowledge structures our *temporal* relationship with experience, in the sense that we have expectations about what happens next. But experience is embedded, indeed, shaped by the world, so meaning in perception is a visual *and* a socio-cognitive event (Gallese, 2001). For instance, the perceiver is in the world and the question is how one can describe their world experience being themselves part of it. In this sense, a certain distance is perhaps warranted in order to describe phenomena in an objectified

way. The perceptual object under study in this chapter is the phenomena of a teacher sitting in a classroom.

Perception is a driver in interaction, and the desire to gain a deeper understanding of interactional competence – IC, has led this thesis to explore the contributions of social cognition and neurocognition to IC. *Social cognition* is the psychological perspective on how an individual understands emotions, intentions and actions in another and more recently, *with* another (De Jaeger et al., 2010). This field has itself evolved away from an exclusive focus on studies of the individual mind in solitude and has instead broadened its scope to look at embodied participation in the development of interactional *know-how* (De Jaegher et al., 2010; Heyes, 2010). This route gives access to explanations of the mechanisms underlying *confluent* reciprocal behaviours between interacting individuals

For instance, I offer a hand in a handshake and recognising the intention of the gesture you socially comply with it by offering yours. Hence, successful interaction relies on the ability to grasp the intention of the other. Mirror neuron theory has been offered (Fuch & De Jaeger, 2009) to explain motor-spatial learning through imitation and the subsequent development of empathy (Iacoboni, 2009), a cornerstone for the building of *intersubjectivity* (the potential for shared meaning) and IC. Although mirror neurons were discussed in chapter 3 (section 3.2.1) in relation to gesture, a brief recapitulation will bring the main notions back into focus to apply them to the phenomenon of IC. Mirror neurons found on the premotor cortex, primary somatosensory cortex and the inferior parietal cortex of the human brain, fire in the individual on performing an intentional act such as grasping an object (Iacoboni, 2009; Rizzolatti et al., 1999). These same neurons fire in the individual on watching the same action performed by another, as in the example above of a handshake. The mirrored action leads to a sense of the other's intention.

Over decades, the studies on mirror neuron systems have been mostly conducted in primates in which they were first discovered, however, some functionally corresponding mirror neurons have been found in humans also (Fogassi & Ferrari, 2007; Iacoboni, 2010). In both primate and human cases, the neurons did not fire when a grasping action is performed in the absence of the object. If our interaction with objects signals our agency, perhaps in the absence of an object, agency is not expressed and mirror neurons do not fire in the presence of 'meaningless' movements – movements that have no apparent purpose (Agostini et al., 2018). For instance, a mug has a telling functional design and grasping it by the handle would lead to some inference about some possible next actions and hence intentions, such as the possibility of raising it to one's mouth and taking a drink of its contents (Buxbaum, Kyle & Menon, 2005; Gallese, 2001).

On the other hand, grabbing the mug around the middle, and raising it high past one's head may speak of a different intention. Buxbaum et al. (2005) therefore link perception and action, and posit the mirror function suggested by this link to be a 'basic organising principle of the brain' (p. 237).

In a paper linking mirror neurons and the evolution of embodied language, Fogassi and Ferrari (2007), further develop the argument that the mirror function of our brains helps us perceive phenomenon and grasp the intentionality behind the actions of others. For instance, in their work, they establish a correlation between activation of certain muscle groups in the tongue upon hearing words (as compared to non-words) with the phonemes that would require the activation of those muscles. This phenomenon is called *phonological resonance* and it seems to involve an element of word recognition, which would fit in with notions of the perception of recognisable actions. Fogassi and Ferrari also suggest that action sequences correspond to neuronal chains which code for a specific goal. Hence performing goal-directed sequences of actions and observing them in others seem to activate the same motor sequence (see also Iacoboni, 2009).

But where do we go from here in the endeavour to understand interactional competence as a way to successfully function within our social spaces? Gallese (2001) offers insights through his work on the '*Shared Manifold' Hypothesis* (SMH). As mentioned earlier, because much of the research on mirror neurons was initially conducted in primates, Gallese points out that while animals learn behaviour through observation, humans, in addition, have unique cognitive processes based on inference, rationality and the recognition of agentive intention in others; for instance, we can distinguish between goal-driven actions (kicking a ball) and accidents (tripping over the ball) on the basis of the observed situated behaviour. In terms of agentive action, studies show that young children are able to successfully re-enact a new action involving the manipulation of a toy when demonstrated by an adult, even though the demonstration was enacted as a failed attempt. Whereas the children could not re-enact the action brought to successful completion when the demonstration had been done by a machine (Meltzoff, 1995, as cited in Gallese, 2001). These findings suggest that agentive action is informed by the human embodiment of the action and by the motor body schema of the agent, where the observer is then able to match the observed motor repertoire and map it onto their own for the completion of a task.

If we are inwardly reproducing an action observed in others we are somehow projecting ourselves into that person, or that individual inhabits us to a certain extent, and our experience

of the other comes through our perception of him or her (Merleau-Ponty, 1962 as cited in Tanaka, 2017). Fuch and De Jaeger (2009) call this phenomenon *mutual incorporation* to which they link the notion of empathy. Empathy in this sense goes beyond the psychological idea of grasping the feelings or emotions of another. Through mutual in-corporation, *likeness* is recognized in the other, enabled by the mechanisms of mirror neural circuits (Iacoboni, 2009). It can be argued that empathy and intersubjectivity emerge as *embodied* phenomena and not (only) cognitive ones. Iacoboni et al. (2005) argue that one can grasp the intentions of others through our own mirror neuron system. Tanaka (2017) points to Merleau-Ponty's (1945/2012) notion of *intercorporeality* as the concept of embodied intersubjectivity, where 'Intercorporeality focuses on the relationship between one's own body and that of the other in order to illuminate intersubjectivity and social understanding in an alternative manner' (Tanaka, 2017, p. 339).

In relation to the mechanisms underlying intercorporeality*, resonance behaviours* may provide some further insight. Resonance behaviours were described by Rizzolatti, Fadiga, Fogassi and Gallese (1999) in their work on mirror neurons as those behaviours 'reproduced overtly or internally as a neurophysiological response to actions produced by another' (p. 85). The more philosophical notion of intercorporeality likewise contemplates this very phenomenon as the *perception-action loop* between the self and the other (Tanaka, 2014, 2015 in Tanaka, 2017). The *perception-action* loop describes how one perceiving an action in another prompts the same action in that one; for instance, yawning when observing someone yawn, or possibly smiling when smiled at. Yet another example would be, when speaking to another and seeing they cross their arms in the course of the interaction, feeling compelled to cross one's own arms, in an unconscious move to either align with or react to what has been perceived as the other's shift in stance. Tanaka (2017, p. 339) explains the phenomena described above with Merleau-Ponty's (1945/2012) concept of *intercorporeality* - the mutual visual incorporation of one into another. Merleau-Ponty understood that one recognised one's own actions through observation of the action given in response by another:

> '[…] through this resonance between bodies, we can directly grasp the intention of another's action […] the most primary form of social understanding involves directly grasping another's actions through one's own body, and finding one's own possibility of action in another's body'

Hence, p*ostural congruence*, the adoption of a similar physical position or behaviour between co-present participants, could find its explanation in resonance behaviours as explained through the perception-action loop. For instance, postural congruence could be the action of sitting in response to the presence of sitting others, or as mentioned above, crossing one's arms in

response to the crossed arms of another. There is a form of interpersonal alignment through resonance behaviours. Adopting a similar posture or embodied behaviour displays a 'like-mindedness', or empathy between co-present persons, and as such represents a physical display of intersubjectivity (Iacoboni, 2009). This is the main lens that will be applied in this analytical chapter to understanding the action of the teacher sitting in the classroom (see Meyer, Streeck & Jordan, 2017 for a comprehensive treatment of intercorporeality).

Moreover, evidence shows that these neural systems can only be developed, sustained and modified through direct social interaction (Fuch & De Jaeger, 2009). Interestingly, the phenomenological perspective insists on face-to-face interaction for social understanding to take place, as opposed to accessing social understanding through theoretical abstractions of the other's mind (Froese & Gallagher, 2012; Gallagher, 2008) Striving for intersubjectivity not only mediates social interaction, but intersubjectivity also emerges as a result of engaged embodied interaction with others (De Jaeger, Di Paolo & Gallagher, 2010; Meyer et al, 2017), In what Fuch and De Jaeger (2009) also call 'participatory sense-making'.

The perspective on intercorporeality from phenomenology is consistent with the findings from modern-day imaging techniques in cognitive neuroscience, which have revealed the firing of mirror neurons related to predicting other's behaviour (Gallese, 2001). These findings provide a biological basis for intercorporeality or embodied intersubjectivity. Perception and movement are coupled systems, and neuroscience has provided evidence of intercorporeality beyond a theoretical abstraction and has shown that indeed there is a 'primal, preconscious plan of body to body understanding in interaction' (Streeck, 2013, p. 88)

6.2   Participation frameworks and shifts in footing

As argued throughout chapter 3, meaning-making is a situated, profoundly contextualised achievement where constraints, such as a sense of identity, and institutional goals and rules, bear on meaning-making endeavours. In other words, meaning comes from the relationship between embodied actions and the context in which they unfold, as they are in fact largely co-constitutive; the individual embodies an action with their bodies and with their environment. This notion leads again to the idea of *participation frameworks* (Goodwin & Goodwin, 2004; Goffman, 1981, p. 124-159) to describe the situated ecology of participants aligned to a common goal. In this section, I will centre on one specific aspect of participation frameworks namely the notion of *footing*, and in particular, the embodied display of *shifts* in footing. *Footing* refers to the way we frame our perceptions of events and actions, the orientation we

hold at a specific moment in time. The underlying premise regarding footing is that interaction with others is dynamic, with changes in tone, perspective or direction. Examples of shifts in footing are after-thoughts, interjections, questions, interruptions, displays of change of knowledge status, code-switching of all types (language, discourse and register), shifts along the awareness-attention continuum, and changes in speakership (Goffman, 1981; Goodwin & Goodwin, 2004; Streeck et al., 2011). Gumperz (1976, as cited in Goffman, 1981, p. 127) further notes that shifts in footing also occur in changes from 'direct to reported speech; at the selection of a recipient […] distinguishing new from old information; switches from lecture to discussion'.

Each embodied turn can bring with it a shift in footing – a change in perceptual alignment with co-participants. So, in what ways are these shifts in footing visible and to what effect? Goffman opens his chapter on Footing (1981, p. 124) with an example of Richard Nixon who – in the middle of a press conference – remarks on a female journalist's sense of dress. His attention shifted from the collective group to then single out a female individual, and his discourse changed from institutional to personal. Goffman notes in brackets (p.126) that Nixon may have possibly risen from his chair thereby *matching* the position of the female journalist in a display of *postural congruence*. Through this remark, Goffman expressed interest in the embodied ways shifts in footing are manifested.

Interactional analysts these days recognise the essential role of embodied actions in displays of orientation such that these become visible to others. These postural changes are automatic and 'honest' in what Chartrand and Bargh (1999) call 'the unbearable automaticity of being' (as cited in Streeck, 2013). As Streeck et al. (2011) note, 'When we observe conversations among people who are standing, we can indeed read off changes in footing from the reshuffling of the participants' feet, as they reconfigure their spatial arrangement' (p.6). When applied to the data examined in this chapter, although the analysis is centred on sitting, the position of the entire body is contemplated in the analysis.

6.3   The ontology of sitting

To understand *sitting*, an appreciation for the human preoccupation with verticality is necessary. In an exposé on human verticality titled 'The Upright Posture', Straus (1950) explains the implications for human communication as a result of this posture. He argues that evolving into bipedal creatures freed our hands to use as tools, eventually to fashion tools, and importantly to engage hands in gestures. Another significant development that came with the upright position, according to Straus, is the height it afforded to our heads, and consequently the view of the

world from a higher perspective. So, the world of the bipedal being is a world constructed on the premise that the upright position is the ultimate goal of human development. This notion sets the foundation for 'biologically-oriented psychology' (p. 532) and language.

As Straus points out, standing upright (and walking) is a skill that needs to be learnt, and throughout our lives, energy is required to counteract gravity to maintain those positions and execute those actions. Due to our common lived experiences, and shared cultural notions we tend to understand the range of actions signified by standing, sitting or lying. If standing is resisting gravity, sitting is a partial succumbing to it. Uprightness has come to inscribe sociocultural meaning into our collective psyches: high-low, moral-immoral, superior-inferior, look up to-look down on, climbing-falling, elevated-downcast, success-failure, and other vertico-spatial notions of emotions and stances. Think of the symbols of lower social positions, humility and shame; protocolarian bows and curtsies before royalty – even today, or bowing one's head in prayer, or lowering one's head and averting gaze in shame, and so forth. So, while an upright posture may signal authority, superiority or even remoteness, matching the height of someone positioned lower than you, can mitigate psychological and power distance. The downward head nod to show deference to another is an example of how a deviation from the vertical signifies a form of submission, if you will, whereas the doctor meeting a recumbent patient at eye level to discuss matters of their health is a respectful display of reduced power distances, which these days commonly forms part of medical bedside manner training.

Perception and movement together form an ecological, integrated coupled system with a feedback loop, where perception relies on movement and movement on perception (Gallese, The analysis in this chapter centres on teachers' situated *transitions* from standing to sitting, and the way the sitting phase, (and subsequent standing in case 1) configures the participation framework and the implications for pedagogy.

6.4 Methodology

The above discussion has focused the analytical lens to examine the effect of teachers momentarily sitting in the classroom, and if its affordances could in any way constitute a pedagogical strategy in an EMI setting where English is the lingua franca of instruction. These questions have been refined into the objective and questions driving this chapter as presented below:

Specific research objectives and questions

*SRO 2***:** To explore the management of power relations through spatial behaviour and its affordances on pedagogical moments.

*SRQ 2***:** How does the configuration of a teacher's action of sitting (momentarily) in the classroom contribute to pedagogy?

        SRQ 2.1: What effect does this action have on the participation framework?

        SRQ 2.2: What effect does it have on the ensuing discourse?

        SRQ 2.3: What effect does the teacher's action of sitting have on speakership rights?

        SRQ 2.4: How might this action affect issues of power?

Data analysis

Interactional analysis necessarily relies on audio-visual recordings of the classroom. The video camera in all cases presented in the next sections was set up at a mid-distance from the front of the classroom, in order to capture teacher trajectories across their domain. The video camera was trained on the lecturers therefore the focus of the analysis is on the lecturers and does not include footage of the students. The phenomenon of sitting was delineated at the point in which the action was being projected, and in case 1, when JM resumed a standing position. Transana™ (Woods, 2019, Basic Version 3.30) was used to integrate first order (recording) and second-order (transcripts) entextualization for the process of analysis.

Data is presented in the same way as in chapter 5. First, excerpts containing the transcripts of talk are provided in order to set the contrast between what we read as being said, and what we can see as being done. Second, video grabs composed into vignettes are given as evidence of embodied actions with pertinent captions and supported by the description of the action sequences.. Where the quality of the video permitted, the images were enlarged and cropped to focus on the phenomenon, however, this practice may change perceptions of the data.

Interactional competence of students is displayed in their compliance with the conventions of the classroom. As in analytical chapter 5, the first case serves to unpack the main notions presented in the discussion above, and follow up cases serve to highlight the similarities and differences in embodied actions. Summarized below is the profile of the participants, which will be explained in more detail in the presentation of each case.

Table 7
Characteristics of participating lecturers and their students

aspect	Case 1 (JM)	Case 2 (DM)	Case 3 (LD)
subject	Immunology and Microbiology	Dental materials	Dermatology- Leprosy
students	1st -year Dentistry students	1st -year Dentistry students	5th -year Medical students
experience & CEFR	3 years EMI experience < C1	1 year EMI experience < C1	1 year EMI experience = C1

6.5   Case 1: Information for the immune system
       Assessing knowledge status across a reduced power gradient

JM is a research scientist who teaches the subject 'Immunology and Microbiology' in both the English-track and Spanish-track programs of first-year dentistry. This was his second year teaching this subject in English of the 8 years prior teaching experience. JM had participated in the EMI Development Group Program provided by the Department of Applied Linguistics in the previous year under the auspices of the University Strategic Plan for quality teaching and internationalisation. He was deemed a suitable candidate for this study based on positive student feedback and his expressed ease with his being recorded during a teaching session. He had recently obtained B2 (CEFR) certification in general English language proficiency at the time of recording in January 2017

The sequence presented for this case is composed of two excerpts.

> *Excerpts and the analytical focus of each:*
> Excerpt 1: Sitting to open the floor for dialogic interaction
> Excerpt 2: Standing to resume previous discourse trajectory

Excerpt 1: Sitting to open the floor for dialogic interaction

The sequence analysed here is drawn from the same opening lecture by JM as the sequences examined in Chapter 5. It shows him teaching the basics about the function of the immune system by presenting its different components metaphorically as a type of factory production line; receivers, senders, managers and so forth. Once he has described the system setup he turns to what this system 'processes'.

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Rather than outlining what constitutes information for the immune system, JM seemingly seeks to activate any previous knowledge in the students. This sequence shows how he launches a question, embodies a TRP and how he deals with the student's contribution. We can see how an embodied shift in footing adjusts his institutional status which ushers in dialogical interaction.

Transcript excerpt 1

```
(1)        JM      eh what do you think
(2)                regarding information
(3)                what(.)ki::nd↑
(4)                >general<(.)types of information
(5)                are relevant for the immune system (0.2)
(6)                in general not °y'know°
(7)        ST1:    temperature
(8)        JM:     <temperature> for the immune system
(9)                more general
(10)               actually the immune system
(11)               is taking advantage of the temperature
(12)       ST1:    =yes
(13)       JM:     as a tool(.)as an effector
(14)       STS:    (xxxx)
(15)       JM:     but not as
(16)               the immune system is not(.)sensing temperature
(17)               the temperature is sensed [by eh
(18)       ST2:                              [damage
(19)       JM:     the brain
(20)       ST2:    damage
(21)       JM:     damage
(22)               which kind of(.)
(23)       ST2:    like cuts
```
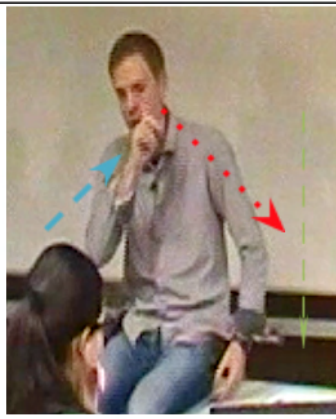
Case 1 vignette, excerpt 1
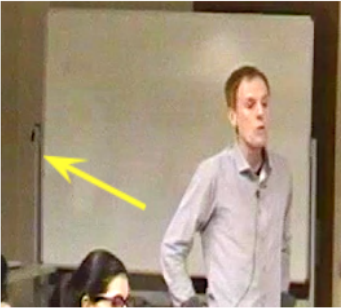
Fig. 1.1 Locating self-selecting student.	Fig. 1.2 Mobility pause on "temperature" Line 7.	Fig. 1.3 Evaluation in line 8. Disengages gaze adopts mid-distant gaze.
Fig. 1.4 After "more general" line 9. Waits.	Fig. 1.5 Shift in footing. No talk.	Fig. 1.6 Utters "actually" *after* the shift in posture.
Fig. 1.7 Line 11, finger raised on "of"	Fig. 1.8 line 15, Finger wag on 'not'	Fig. 1.9 Temperature is sensed by eh the brain.

Fig. 1.10
Line 18 student's candidate answer 'damage' overlaps with teacher talk. Teacher re-elicits answer with gaze

In lines 1-5, JM poses a question to trigger any previous knowledge students might have regarding what constitutes information for the immune system. In line 4 he specifies that the answer should be general, and in line 6 he reiterates this idea as a form of summons. He stands in front of his desk, an off-centre authoritative space, spatially oriented to the class with thumbs tucked into his jeans back pockets (see fig. 1.1) as he projects and contours this TRP with a pause and restrained hand movement. A student displays signs of self-selection to which JM responds by raising his chin in a deictic movement, secures his gaze presumably on the student and spatially orients to them (fig. 1.1). JM initiates a trajectory towards the student from his desk area and in so doing projects a focused interactional space (fig. 1.2). The gaze and move towards the student seem to (re-)summon a response. At this point, the student is heard to offer "temperature" as a candidate answer (line 7).

Upon receiving the candidate answer JM halts in a mobility pause (fig. 1.2). Interestingly, a number of actions come into play at this point (see line 8, fig 1.2 and 1.3): JM stops the projected course and repeats the student's candidate answer embedding it into a longer contextualising statement (line 8) (Greer et al., 2009). As he utters "temperature for the immune system", he backs into the authoritative space by his desk (fig. 1.3), disengages his gaze from the student and adopts an upward mid-distance gaze, tilting his body to one side in the way one would tilt their head in contemplation or uncertainty (fig. 1.3). JM 'takes' that answer with him to the instructional space whereby the reformulation of "temperature" was recast as an audible contemplation and evaluation of the candidate answer.

The move toward the student displayed an orientation of potential alignment and the move back to the instructional space signalled a shift in footing in which misalignment was displayed through increasing the institutional distance and anticipating his instructional role. JM responds to 'temperature' by guiding the next attempt at a candidate answer with 'more general' (line 9). He pauses for a bit with thumbs in his pockets as before (fig. 4), akin to clasped hands perhaps (see chapter 5, e.g., case 1, excerpts 1-3), in preparation for another candidate answer.

However, a sudden recognition of the pedagogical opportunity seems to come upon him and therefore he takes the floor – sitting (fig. 1.4 – 1.10). In lines 10-16, JM reframes the student's

contribution and situates "temperature" within the functions of the immune system, thereby schematizing the students' understanding and knowledge of temperature as it relates to the immune system. Lines 10-19 show a discursive display of epistemic authority in the 'rights to a superior competence and knowledge ownership' (Sharrock, 1974, as cited in Ekström, 2013), conferred by his institutional role and status as a scientist. The discourse hence 'puts things right'.

But how this sequence is *embodied* reveals a layer of otherwise undetected social actions. Fig. 1.4 shows JM standing by the desk as he utters "more general" (line 9), however as the pedagogical opportunity seems to dawn on him, he manoeuvres to sit on the desk (fig. 1.5). Fig. 1.6 shows him settle into a sitting position as he utters "actually" (line 10). This is consistent with Streeck (2013) who describes the expression of a thought instance as marked first with action and only then the utterance comes. He deals with the dispreferred situation – dealing with an incorrect answer – in a sitting position, where other embodied actions also come into play.

As he utters line 11 in which he establishes the relationship between temperature and the immune system, his hand comes up in front of his face, palm out and index finger up, in a highlighting gesture (fig. 1.7). The gesture deploys on the relational preposition "of" affording emphasis to the nature of the said relationship. The gesture is positioned at his eye level so essentially placed between the student and himself. This position provides a means to depersonalise the statement, such that his hand is at the foreground of the modal ensemble at play and in some ways, it stands in for him.

In line 12 the student signals their listenership with "yes", and in line 13 JM states that the immune system uses temperature as a "tool*"*, a generic term, which introduces the general functional idea. He then reformulates the term as *"effector"* (line 13), a specific kind of molecular agent that regulates biological activity. The change from "tool" to "effector" presents another example of concept-centred linguistic pedagogical work in this EMI setting like that shown in case 1, sequence 2. In lines 15 and 16, he drives home the point that temperature is not a trigger for the immune system, whereby he wags his finger on both instances of "not" on those lines (fig. 1.8 shows the instance of line 15). These 'corrective' actions are carried whilst 'perched' on his desk. To *perch* refers to informally sitting or settling on an elevated position.

In sitting, JM adopts a postural position similar to that of the students and he does so at a particular time in the classroom discourse. As a primary element of the modal ensemble at play, sitting reduces JM's height with relation to the students, consequently it also reduces the power

distance. His authoritative status is mitigated by the reduction in height and through his postural congruence with them. His sitting would appear to be a response within the perception-action loop where he mirrors the position of the students in a wish to 'be more like them', as JM reported in conversation. Hence, this is a display of corporeal intersubjectivity – *intercorporeality*, which speaks of striving for a sense of empathy and of a shared perspective. So, sitting as a visible semiotic resource marked the onset of a differentiated discourse and created a mitigated institutional context, where JM reduces the power gradient during a pedagogical sequence that arose from a somewhat dispreferred response. So, when he wags his finger on "not", that 'negative' action is assuaged and mitigated by his sitting. So by sitting he initiated a stretch of fresh 'unscripted' talk.

The reduction in power distances and display of congruence, solidarity and rapport with the students through sitting reconfigures the local desk space. According to Lim et al. (2012), the teacher's desk is a locus of authority, however, by sitting (or 'perching') on it and conducting a dialogical interaction with the students, the space has been converted to one of interactional proximity. His talk is directed to an individual student, visible in the orientation of his gaze, gestures and the position of his left arm, which is extended a little behind him (fig. 1.8). Overall the position creates a subtle but nonetheless visible focused interactional space with the student being addressed (fig. 1.7 and 1.8). However, JM continues to display whole class awareness; although sitting, JM continues to be visible to the class due to his 'perched' elevated position, therefore this interaction is played out for the entire class, where the orientation of his torso, knees and even his head sustain the collective participation framework.

Fig. 1.9 shows JM run his hand over his head in a deictic action as lines 17 and 19 are uttered, clarifying that temperature is detected by the brain (and not the immune system). The gesture is vague (fig. 1.9) as is his description (line 17), which he reports to have done deliberately in order to not impose himself on the moment and take over the floor. In line 18, a momentary hesitation by the teacher is indexed by 'eh'. Viewing it as a potential TRP, at once a different student (ST2) offers the candidate answer "damage" to the *initial* question of what information is for the immune system. In line 19 JM finishes his through with "the brain" in an overlap of turns.

Because of the overlap in talk in lines 17 and 18, the teacher gazes at the student, which re-elicits his response (line 20, fig. 1.10). JM's repetition of the student's contribution (line 21) projects the item to the whole class whilst also being an action of evaluation. JM asks the student to be more specific (line 22). The request is incomplete, however, the student has understood he is being asked for an example and complies with "like cuts" (line 23).

The student who offered the answer 'damage' did not wait to be granted speakership rights but seemed to understand that the floor was open to participation, that the interaction was taking place across a flatter gradient. This contrasts with the sequences presented in case 1, sequence 2. In this sequence, we see how two participation frameworks were concurrently sustained (fig. 1.7). This is evident in fig. 1.10, which shows that he has brought interaction with ST1 to an end, and his body reconfigures a new sub participation framework as he interacts with ST2 sitting elsewhere.
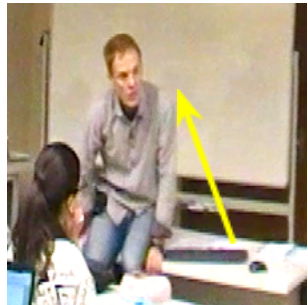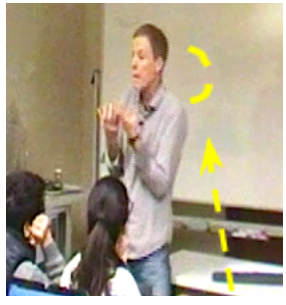
Excerpt 2. Standing to resume the previous trajectory

In this excerpt, JM has just completed an elaborate explanation of how a cut in the skin becomes a portal for microorganisms into the body, and how those microorganisms are detected as foreign bodies by the immune system. The presence of foreign bodies constitutes information for the immune system which causes it to respond. In this excerpt we see JM bring this particular focus to an end by standing.

Transcript excerpt 2

```
(1)  and this is information that it is relevant
(2)  for the immune system
(3)  so the immune system..
```

Case 1 vignette, excerpt 2

Fig. 2.1 'and this is information that is relevant..'	Fig. 2.2 ..for the immune system'	Fig 2.3 'So the immune system…'

This excerpt shows a shift in footing in relation to the previous excerpt. Once JM established what constitutes information for an immune system, he signals the end of the dialogical session. As he utters lines 1 and 2, he simultaneously starts resuming his standing position (fig.2.1 and 2.2). As he does so, he directs the utterances of lines 1 and 2 to the side of the room which had offered "temperature" as an answer in excerpt 1, as seen by his gaze and spatial orientation. In other words, the embodiment of lines 1 and 2, were uttered to a particular audience *before* he

had completely stood up. As he assumes a completely upright position he utters line 3 (fig. 2.3). Line 3, starts with "so", hence in this turn JM projects the topic of the ensuing talk, probably how the immune system responds to foreign bodies. We can see in fig. 2.3 that JM has adopted a fully upright position and orients to the rest of the class, thus altogether visibly completing the shift in footing, and resumes the discursive trajectory. These closing lines together with the action of standing seem to draw a closing bracket around the dialogical session

To sum up, this sequence has shown a shift in footing within the participation framework from using IRF format questions to engaging in more dialogic interaction with students. We see how JM handles a response from a student that displays a deficiency of knowledge. Although JM has the institutional obligation to evaluate and redirect student knowledge, it is nonetheless reported as a dispreferred experience (Pomerantz & Heritage, 2013), especially as the exchange occurs on the first day of the course. When JM returns to his instructional authoritative space, he reconfigures the space through a mitigating display of postural congruence with the students – sitting. This position reduces the power gradient and a different type of discourse is ushered in: less formal and more dialogically interactive with the students. The shift from standing to sitting served as a visual levelling of the field which mitigated a dispreferred response and (possibly as a result) encouraged contributions to the discussion. Therefore the vertical change of sitting served as an effective pedagogical resource.

Furthermore, from this position, he was able to manage two attention foci: the individual participation structure and larger collective class participation framework. The dialogical exchange with the students revealed, extended and shaped their knowledge about immune system information. With a more accurate understanding of 'information', JM could continue building the content (line 3, fig. 2.3). Standing at this point brought the exchange to an end so that sitting and then standing visibly *bracketed* differentiated talk and interaction from the surrounding talk and interaction.

6.6 Case 2: The light-curing unit in gestures - Responding to a request to repeat information

Case 2 presents DM, an experienced lecturer in Dental Materials with over 5 years of teaching experience, two previous years in EMI. Her self-perceived ability in general English was rated as 'medium', hence she sought the support of the Development Group Program offered by the university (Chapter 4, section 4.2). Incentives in the form of reduced teaching loads for instance are provided by the university to encourage teachers to take up EMI, however, to access any

incentive the teacher first needs to pass an EMI capacity exam (CLUC-EMI: Certificat de Llengües de les Universitats Catalanes). The oral part of the exam consists of various academic-related tasks such as giving a 4-minute talk on an area of expertise. At the time of the data collection for this project, DM had not passed the exam.

This section presents a single excerpt taken from a class on Dental Materials given to 1st-year English-track dentistry students. Dentists work with a number of materials that need to be mixed on-site in the surgery to then apply while still soft to a structure in the patient's oral cavity. Some of these materials contain photosensitive elements causing them to harden when they are exposed to a certain frequency of light, in what is called a *polymerisation reaction*. The instrument dentists use to initiate a polymerisation reaction is called the *light-curing unit*. In the excerpt presented, DM has just explained *the light-curing unit*, and when moving to the next related topic, *photoinitiators*, which she indexes by changing to the next slide, a student interjects to request DM repeat the explanation of the previous slide. DM had already just started the next subtopic.

Transcript excerpt

```
(1)    DM:    the initiators[(xx)
(2)    ST:           sorry cou[ld you repeat the previous slide=
                      please↓
(3)    DM:    yes
(4)           this one↑
(5)    DM:    when we a start the light
(6)           when we start the lamp
(7)           the:: light curing unit(.)ok
(8)           generate light
(9)           and this light have(.)erm
(10)          when the light(.)in(.)in the composite for=
                example ok
(11)          when the composite we put the light over
```

 Fig 1 Confirms slide requested line 4 "this one?" Knocks on whiteboard	 Fig 2 "when we start the lamp…the ." line 6	 Fig 3 "..the light-curing unit..ok" line 7
 Fig 4 "generate light" line 8 Fingers of one had to make a small circle.	 Fig 5 "and this light have…erm" line 9 Fingers together to create a bigger circle. Gesture continues through lines 10 and 11.	 Fig 6 Responds to a student's visual or verbal signals. Grants speakership. (not transcribed)

Fig. 7
Standing and resuming previous content trajectory

As DM moves to the next part of the topic (line 1), a student interjects with 'sorry' (line 2) displaying an awareness that she is interrupting teacher talk, and then continues with her request for a repetition of the previous slide. In a series of overlapping talk, DM responds immediately (line 3) and correctly interprets the request to mean a repetition of the explanation supported by the previous slide. From her central position in the classroom, DM returns to the lateral position to change the slide, and then turns and gazes at the student to confirm if this was

the slide she was referring to. She does this verbally (line 4) and through a deictic adjudicating knock on the whiteboard on 'when' in line 5 (fig. 1). She stays by her desk, her authoritative space, from where she reformulates her previous explanation (lines 5-11), and proceeds to sit on the corner of her desk to do so (figs. 2-5). The following analyzes the actions in detail.

In what appears to be a series of false starts, each utterance shown in lines 5-7 is a repair or a refinement of the previous utterance. Firstly, she refers to 'light' in line 5, then in line 6, she repeats the phrase but exchanges 'light' for 'lamp'. Finally in line 7 the prolonged 'the::' replaces the initial "when we start.." of the previous utterances and she then replaces both "light" and "lamp" with "light-curing unit", which is the proper name for the device in question, that is indeed a light in a particular type of lamp. Although the utterances presented as a false set of starts, for DM these inadvertently served to unpack what a *light-curing unit* is to the benefit of the attending students. In other words, she unwittingly described the device. Now a description of how this sequence was embodied will reveal a new layer of social action.

During lines 5 and 6, DM is standing (fig. 2), but during the production of line 7, she perches herself on the corner of the desk (fig. 3). From this sitting position, she emphasises the main ideas presented through the slide as seen in lines 8-11. This is fresh off-script talk which requires some paraphrasing. She draws heavily on iconic gestures to build an image of the light-curing unit and its projection onto the material (Chue et al. 2015). In fig. 4 the fingers of one hand meet together to aid her explanation, however, she struggles to verbally formulate the idea. She attempts this again by dissolving the gesture, puts down the marker she had in the other hand, and reattempts to depict the light-curing unit by joining the fingers of both hands (compare figs. 4 and 5). Through her gesture and the height of her hands, she illustrates the position it is to be held over the material. Mori and Hayashi (2006) report on the increased use of depictive gestures in L2 users of English. She holds this depiction of a light-curing unit over the material through lines 10 and 11 when she then refers to the composite the unit is to harden.

Although speaking from her instructional space, sitting reduces her relative height and it mirrors the position of the students, as was the case with JM in excerpt 1. The effect is one of a shortened power distance. The change from standing to sitting highlighted the shift in footing as semi-unscripted talk is introduced (a reiteration of the previous talk), thus visibly bracketing the current talk from the previous discourse. Although she is responding to the request of an individual student, the interaction is on display to the rest of the class as she creates and sustains two participation frameworks. DM's gaze is on the student yet her body is slightly turned away from her which reduces interactional intensity and exclusivity. Moreover, DM's right knee

points in the direction of the whole class (fig. 4 and 5). Her head is upright and slightly cocked towards the right so that her entire left side seems to display attention to the class, which has a summoning effect, while on the right she conducts a momentarily focused interaction. The class reciprocates with due silence.

On completing the explanation she remains sitting in silence in the same position, but with hands clasped on her lap. After a few seconds, a student asks a question. In fig. 6 we see DM orient to the student with gaze and head tilt back, possibly indicating that the student is not in the front set of rows. It seems that the teacher's sitting configuration with the pause is generally understood to be a time for dialogical interaction. In sitting, the teacher mirrors the students and formality is toned down, a position that seeks to establish elements of rapport in interaction. Upon completing the interaction with the second student (not transcribed), DM stands up. Standing visibly brackets off the dialogical session (fig.7) and she resumes the trajectory of the subject matter from where she had left off. The transcript of the interaction with the second student has not been included (although very interesting) as the focus being made here is that teacher sitting can induce spontaneous student participation.

This excerpt is one of several in the corpus that showcases an instance where sitting embodies a shift in discursive orientation (footing). The empathetic response of mirroring the position of the students during this time enables talk to be conducted across a flatter epistemic and institutional gradient. In this case, DM is responding to a student who has not grasped the content well enough to continue. By sitting, DM displays a relaxed attitude, in a sense communicating that clarifying doubts is important, a meeting of where the student is at. Nevertheless, the exclusivity of the interaction is managed by the simultaneous embodied display of attention to the two interrelated participation frameworks, such that the interaction is played out as a classwide display. Teacher sitting seems to be perceived as a signal welcoming student participation through a means that is nonverbal and less formalised than times when the teacher is standing. In this excerpt as in excerpt 2 of the previous case, the act of standing visibly brings the dialogical episode of off-script talk to an end.

6.7   Case 3: You won't get leprosy - reassuring medical students

This last case presents a single excerpt taken from a short session on leprosy that was part of the subject of dermatology given in the 5th year of the medical program. The course is given entirely in Catalan or Spanish, but in response to calls for internationalisation in the medical degree, the lecturer, LD, decided the topic of *Leprosy* would be the most appropriate to be given in English.
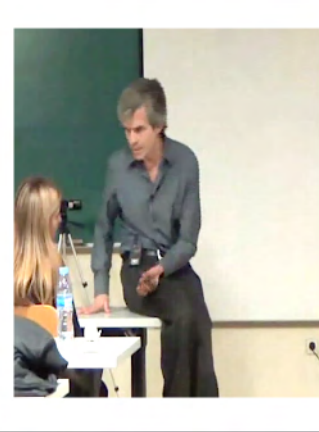
The reason being that leprosy is uncommon these days, so students would unlikely encounter a case in their clinical experience unless they specialised in dermatology. Therefore if any student could not follow the session because it was delivered in English would not impact their performance on the course significantly. Although instruction was in English, the slides were all in Spanish. The session lasted 30 minutes and 14 instances of teacher sitting were observed in that time. The lecturer is a medical doctor specialised in dermatology. He has over 5 years of experience teaching in the Faculty of Medicine and Health Sciences and is certified with a C1 (CEFR) level of general English.
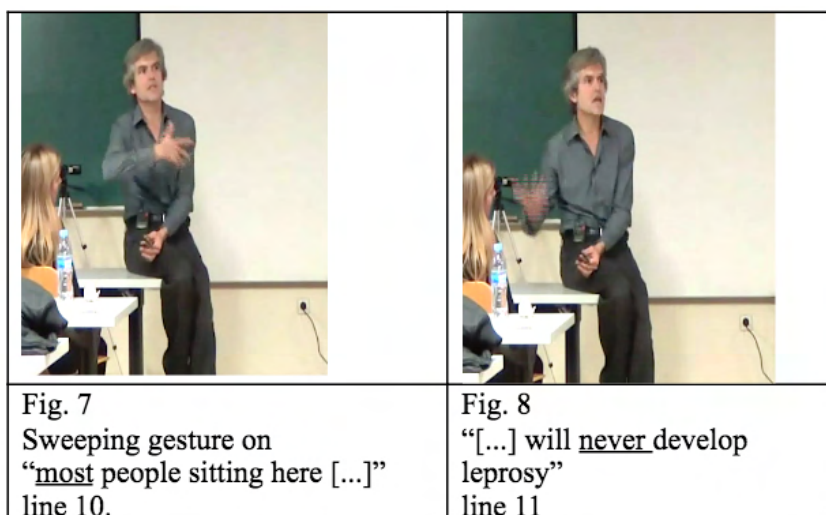
The instance presented here occurred at the end of the session, just after LD had summed up the content they had covered. For its ability to showcase a shift in the discourse upon sitting, as did the excerpts of case 1 and 2. The excerpt shows a pedagogical use of space, the projection of a TRP, a substrate (Goodwin, 2013) type of reformulation of a student's question, and sitting to answer the question.

Transcript

```
(1)    LD:   So do you: have..any question (xx) leprosy (.)
(2)          or (sequela)↑
(3)          ok
(4)    ST:   (xxx)if someone is treat[(xxx)
(5)    LD:                          [if someone is properly treated↑
(6)    ST:   you can still can get-
(7)    LD:   you can get leprosy if someone is properly treated
(8)          but you have to have a special immune system
(9)          which is not very common↓
(10)         most(.)people sitting here::
(11)         if you get in contact with leprotic patients
(12)         will never develop leprosy
```

Case 3 vignette

Fig. 1 Summarises main points from 'teacher' space	**Fig. 2** Invites questions from the student space. line 1.	**Fig. 3** Returns to teacher space. ST asks a question as he pauses in front of her. Line 2 "ok"
Fig. 4 Enlarges focused space; "you can <u>get</u> leprosy if someone is properly treated…" line 7.	**Fig. 5** Moves into student space; "but you have to have a special immune system…" line 8.	**Fig. 6** Reassures; "Which is not very common" line 9.

| Fig. 7
Sweeping gesture on
"<u>most</u> people sitting here [...]"
line 10. | Fig. 8
"[...] will <u>never</u> develop
leprosy"
line 11 |

In fig. 1, we see LD recapping on the main points of the session, which he does from a mitigating off-centre position in his instructional-authoritative space. Before he brings this phase of the lecture to an end, he opens the floor to invite any questions the students might have about the topic (line 1). He creates this TRP in the student interactional space where he 'loiters' for a moment, pauses and holds his hands still (fig. 2). He then returns to the instructional space, which is a slightly elevated podium. In fig. 3, a student signals the wish to speak just as he stops in front of her. He issues speakership rights to her through gaze and the particle 'ok' (line 3, Fig. 3). His hands remain stilled (fiddling with microphone cable) as he listens.

However, as the student attempts to formulate a question (line 4), LD intuits the notion and performs some linguistic work in completing the student's preface to the question. He adds the adverb 'properly' and makes a grammatical adjustment to 'treat' (line 5). In repairing the statement, he simultaneously projects it to the rest of the class as a ratified contribution. However, his downward contouring of this reformulation indicates that the student still has the floor. The reformulation was a display of his active listenership and his role to relay the information to the rest of the class. Fig 4 shows that during this time LD has enlarged the interactional space with the student having retreated into the authoritative-instructional space, in this way including the whole class in the interaction. In line 6, the student continues "you can still can get", then LD interjects with line 7 "you can <u>get</u> leprosy if someone is properly treated". Again, LD intuits her intention and carries out content-related linguistic work, and in building on her construction she is able to recognise her utterance in his, and thereby detect how he has shaped her initial contribution (Goodwin, 2013; Greer et al., 2009). His reformulations of the student's question perform the additional action of answering the question and expands on the notion in line 8.

In line 8, LD reassures that to get leprosy you would need a 'special' immune system. Often 'special' in Spanish or Catalan is used when one wishes to be vague or diplomatic about a negative trait or quality in someone or something. In this case, 'compromised' *or* 'specifically vulnerable' may have been good candidates for "special". So this L2 lexical item, in theory, is understood by the students who are mostly Spanish nationals. As he utters line 8, he manoeuvres to the side of the student's desk which represents the cusp between the teacher's domain and the student's domain (fig. 5). His hands are held in an upward position on "special" indicating the body, and beat to emphasise "special" (fig. 5).

He sits on the edge of the student's desk (fig. 6) and directs the comment of line 9 "which is not very common" to the student author of the question. The comment of line 9 seems to be designed to offer reassurance to the medical students, and his sitting during this utterance shortens the institutional distance and speaks of closeness. At this moment LD distributes his attention across the class as displayed by his body torque; legs and shoulders point in the general direction of the class, while the head, gaze and arms form a momentary interactional structure with this student (fig. 6).

On "most" of line 10 he straightens his posture and re-directs his gaze and his spatial orientation to the collective class. He continues "[...] people sitting here", which synchronises with a wide deictic sweep of the hand (fig. 7 and 8), and then on "[...] will never develop leprosy" (line 12) he shakes his head slightly and his hand is held in a hold position to the side (fig. 8). The sweeping hand gesture could communicate two complementary ideas: the deictic gesture to reference all the students sitting before him, but also the same gesture could be metaphorically 'sweeping away' the possibility of their getting leprosy, as per line 12.

The student's question asked about the risk of acquiring the disease, even when the patient is being treated. On hearing the concern he reassured her, and the class, by indicating the remoteness of the risk. Of interest is how the reassurance action sequence is embodied. The transition to a sitting position marks the shift in orientation from listening to and formulating the student's question, to providing reassurance. His sitting configures a space in which the power distance is reduced and therefore the reassurance being offered seems more credible than given from a more authoritative stance. LD continues explaining just how remote the risk for contracting leprosy is even for clinicians who work in leper colonies, which he then stands to do, and soon after starts to bring the entire session of leprosy to an end.

6.8   Discussion and conclusions

The phenomenon of teachers sitting during instructional time in the classroom had not been explored from a socio-constructivist perspective to my knowledge, and therefore the results presented here contribute a new vision of this common behaviour. Notions of phenomenology provide a prism to approach the sitting (and then standing) in relation to sitting Others, as a move that attempts to establish rapport, solidarity and oneness according to the paradigms of intersubjectivity and moreover those of intercorporeality. The intercorporeal paradigm transmits a sense of being 'like you', even though the occasion is mediated by features of the institutional context; the teachers are perched on their desks and therefore visible to the class, and the class is visible to the teacher due to the elevated position afforded by the teacher's desk, a place that confers authority. Therefore a 'tension' emerges between the sense of rapport and solidarity, and the teacher's continued authorial status. And yet, the action of sitting occurs as an automated subconscious response of the body and mind, where our actions are triggered by cognitive processes that take place outside our sphere of awareness (Iacoboni et al., 2005; Tanaka, 2017). Whilst there is mutual incorporation of others, our response incorporates the affordances of material objects - like the desk.

Sitting, or perching, occurred on the desk, where the potential of this social action could only be realised as a result of the *presence* of the desk and recognition of its *deskness*. Firstly, a desk has a hard, strong, stable weight-bearing surface, and secondly, desks are generally designed for sitting behind them on a chair where the surface acts as a support for materials, rather than sitting directly upon it. In the classroom, the teacher's desk is in the teacher's domain and hence represents a place of authority, as mentioned above. However, how one reconfigures the desk space through how they interact with and around the desk is a matter of current interest here. Sitting *on* the desk rather than *behind* it reconfigures the space, from one of authority, should one stand around or sit behind it, to one of nearness and approachability. The creation of different levels of formality and distance generate distinct dynamics as has been seen in the data sets presented across the three cases.

Sitting ushers in a perceivable shift in stance. The transition from the more 'authoritative' standing to the more proximal sitting speaks of accessibility and opportunities to participate in one's own learning experience through dialogical exchanges that will be met in a space of reduced power and therefore within an approachable and safer learning space. Nevertheless, the teacher perching themselves on their desk, speaks of *reduced* formality and power distance; all teachers remain higher than the students, and they sit on the teacher's desk, with the exception

of Case 3 who perches himself on the corner of a students desk, where the said desk is in the front row.

Although an institutional setting in which the position of the student as one of novice and therefore somewhat vulnerable is taken for granted, face value – in short, our pride and dignity – is still an integral feature of our being (Goffman, 1967). An environment in which the teacher is demonstrating empathy and rapport through postural congruence is more likely to encourage student participation, as the risk of 'correction' is potentially reframed as 'guidance'. Case 1 illustrated this latter point, whilst in Case 2 the student's request deserved time and attention, and in her continued sitting and extended pause, DM afforded the possibility for other students to ask questions or to make comments. So, whilst in case 1 students were coming forward with candidate answers, in case 2 a student came forward with a question that required a reformulation of information already given, and another came forward thereafter with a useful follow-up question.

Case 3, displayed a slightly different action, in which LD sat when he initiated a *reassuring* explanation regarding the risk of contracting leprosy. So, the data showed the mutually elaborating and co-constitutive relationship between discourse and embodied action. The three cases examined in this chapter illustrate three ways in which teacher sitting constructs meaning and how all three reside in the common element of reducing the power distance. Through embodied behaviour that communicates approachability, the teachers' ensuing talk responds to the knowledge status revealed in the questions students pose in that time.

This highlights mediated interaction as paramount in bringing to the fore student knowledge such that teachers consequently adapt and accommodate the discourse, building on contributions in visible ways, speaking of a shared classroom and shared learning experience. The notion of intercorporeality establishes the empathetic ties between the two different actors, each of which come to the institutional space (the classroom) with different roles, and related but perspectively opposing expectations; teachers are mainly set to teach, and learners are mainly set to learn. Bridging these orientations requires a common midway space in which these epistemic stances meet, mingle and even merge.

The participation framework as a co-constructed yet constantly evolving space is the meeting point of the teacher-expert and the student-novice as grounded in the pedagogical goals and institutional constraints, where shifts in footing are a response to and a driver of pedagogical interaction. While spoken discourse may present an audible shift in orientation, in the data excerpts examined it was the corporal behaviour that visibly preempted and signalled the

change in demeanour and stance and opened the way for differentiated student-centred discourse. Through the intercorporeality prism, the teacher's sitting produced a shift in the students' perspective of the teacher such that in observing the teacher align to them through sitting, students reciprocally realign to this shift. As Goffman notes, a change in footing can only be accomplished if everyone's previous orientations are redirected so that 'everyone is moving together in the same direction' (1981, p. 130).

Flowerdew and Miller (1996, p. 34-35), in their paper on the teaching of listening comprehension skills, noted the paramount importance of embodied actions to the construction of meaning in a lecture:

> 'At the discoursal level, for example, shifts in position or posture of the speaker may signal change of topic, while increased body movement may be a way of indicating that speakers consider what they are saying to be important. […] Kinesics are clearly important in the lecture context and yet they are absent from EAP listening texts, unless, of course such materials are accompanied by a video recording.

The discussion in this section has aimed to align with this chapter's research objective and related research questions as presented in section 6.4 and which I reproduce below as follows:

*SRO 2***:** To explore the management of power relations through spatial behavior and its affordances on pedagogical moments.

SRQ 2: How does the configuration of a teacher's action of sitting (momentarily) in the classroom contribute to pedagogy?

    SRQ 2.1: What effect does this action have on the participation framework?

    SRQ 2.2: What effect does it have on the ensuing discourse?

    SRQ 2.3: What effect does the teacher's action of sitting have on speakership rights?

    SRQ 2.4: How might this action affect issues of power?

In light of these questions and the discussion above, the main findings of this chapter on the pedagogical effects of teachers sitting in the classroom, are summarised under four different but interrelated headings, *bracketing, resonance behaviours, reduced power distance* and *promoting participation*.

Bracketing

The sequences presented in the three different cases demonstrated sitting as the visual onset in a teacher's change in orientation, in response to student input. Subsequent standing (most clearly evidenced in case 1) signalled another shift in orientation, specifically the closure of the side-sequence - the divergence from the main discourse trajectory, where the original trajectory is then resumed. Therefore, sitting and then standing *bracketed* a temporary tangential digression, such as off-script talk, from the more enduring discursive trajectory.
This would answer SRQ 2.1 and 2.2.

Resonance behaviour

In adopting a posture of being 'like the students', a congruence arose that speaks of a meeting of minds through this meeting of posture. This intercorporeal resonance between participants laid the groundwork for intersubjective strivings in the interaction. The 'mirroring' or resonance behaviour worked both ways: the teacher responded to the need to connect to the students by sitting, and students responded to the teacher sitting by coming forward to participate as illustrated in cases 1 and 2.
This would answer SRQ 2.1 and 2.3.

Reducing power distance

There is a general association with authority and knowledge with relative vertical height. And in the presence of sitting Others, the teacher adopting a sitting position reduced their vertical height and consequently reflected a reduced power gradient. Hence, sitting mitigated their position of authority, a potentially intimidating stance when dialogical interaction is sought.
This would answer SRQ 2.3 and 2.4

Promoting participation

The evened ground seemed to usher in participation from the students in a context that seemed less face-threatening. The relative informality created by teacher sitting may have encouraged questions and comments that might not have been offered in situations where the power distance was perceptibly greater.
This would answer SRQ 2.1, 2.2 and 2.3.

To conclude, sitting in the specific context under scrutiny seems to converge these four actions, creating meaning, enriching understanding and unburdening the senses (Flowerdew and Miller, 1996, p. 35). This chapter, together with chapter 5 illustrate that limited or no access to the myriad embodied actions that comprise lectures results in encounters that are comparatively impoverished in meaning. Specifically to this chapter, a non-threatening space in which students

can participate more freely might yield valuable insights into their true knowledge status and thinking, benefitting both the teacher and the student. From this mitigated and approachable position, teachers have greater access to student knowledge and hence they have the opportunity to shape and extend it; the atmosphere created by the teacher (momentarily) sitting offers what Goodwin (2013, p. 10) calls '*cooperative transformation zones*'.

Student agency and epistemic tensions

7.   Introduction and chapter overview

The concerns raised among stakeholders regarding the quality and effectiveness of teaching through ELF are based on traditional assumptions of the university classroom as a monologist event in knowledge transmission (Maphosa & Ndebele, 2014; Morell, 2007, 2018). Yet, sociocultural multimodal prisms bring into relief the interactive reality of the university lecture as both a content-focused text and a personal spatio-temporal encounter (Thompson, 1994; Goffman, 1981). Two previous analytical chapters have foregrounded the many layers and dimensions that are animated through social interaction. The encounter perspective implies involvement by more than one party, thereby suggesting that learners, i.e. novices, and not just the teachers, i.e. experts, construct the learning space in their dialogical interaction and simple co-presence (Pekarek Doehler, 2002).

Students come to higher education with an understanding and expectations of the overarching pedagogical and institutional goals of the university (Hofstede, 1986), where teachers have epistemic authority through their content knowledge status. However, the EMI context creates opportunities that might challenge traditional notions about the teacher as sole expert and the student-novice position as exclusively inhabited roles. A complex situation could arise when, for example, students have higher general English language proficiency than the lecturer. Such being the case, is the teacher's content knowledge and related epistemic status and authority undermined? How do students and the teacher orient towards each other under these circumstances? These questions shift the attention to teacher and student identities and how these bear on the interaction in class. A search in the literature did not produce any study that has investigated how identities are visibly constructed and oriented to as interactional competence in an EMEMUS classroom where English is the lingua franca of instruction and where students' possess greater English language proficiency than the teacher.

An overview of the shortest chapter in this thesis is provided as follows. Section 7.1 is the first notion of the theoretical framework to approach the data of this chapter and it begins with a description of Levinson's (1992) concept of *activity type* to highlight the constraints that differentiate the classroom setting from another type of activity. Hence, behaviours are mediated by the conventions that define a particular context, and therefore such constraints will bear on

the capacity and expression of agentive action (section 7.1.2). Agency is explored through two lenses; firstly, through Ahearn's (2001) broad notion of one's socio-cultural capacity to act, and secondly, through the phenomenological lens of *intentionality* to gain insight into the emergence of social actions in and through interaction (Gallagher & Zahavi, 2012). Thereafter section 7.1.3 examines the mediating forces in institutional interaction, closer, leading the discussion to issues of epistemic status, authority and primacy in section 7.1.4. At this point, the research objectives and questions, and methods are presented (section 7.2). In light of the research questions and objects and the preceding discussion, Membership Categorisation Analysis (Sacks, 1972; Schegloff, 2007; Stokoe, 2012), Positioning (Depperman, 2013; Antaki et al. 1996) and Multimodality are presented as the toolkits to identify the emergence of identity in interaction and detect any power shifts between teacher and students (section 7.3). Sections 7.5 presents the data and the analysis, revealing the intricacies of identity management. Finally, section 7.6 states and discusses the findings, research contributions, and their implications to educational contexts such as this one under scrutiny.

7.1   Activity type and constraints on agentive actions

Levinson (1992) states that 'having a grasp of the meaning of utterances involves knowing the nature of the activity in which the utterances play a role' (p. 66). His concept of activity type is defined as follows:

> 'I take the notion of activity type to refer to a fuzzy category whose focal members are in goal-defined, socially constituted, bounded, events with *constraints* on participants, setting and so on, but above all on the kinds of *allowable contributions*' (1992, p. 69; second *emphasis* mine).

Goal-related behavioural constraints on the actors involved in an activity are what characterises and differentiates one activity type from another. For instance, buying cheese (Mondada, 2019) is bound and characterised by one set of goal-oriented behavioural constraints whilst seeking to participate in a classroom (Evnitskaya & Berger, 2017; Koole, 2013) by a completely different set. Therefore, if an activity type is defined by accepted social constraints, then these bear on the scope of the agentive capacity of the actors involved (Ahearn, 2001; Latour, 1996). Agentive actions within an activity type such as the classroom involve how action might be issued and received and the inferences thereof (Ahearn, 2001). The construct of recipient design will take this notion further. The seminal work by Sacks et al. (1974) in identifying the reciprocity of human interaction within the sociolinguistic paradigm underpins the assumptions of interactional competence in that coherent meaning-making is a mutually elaborated

achievement. Here we are concerned with identifying the constraints described above as mediating forces.

The educational setting is driven by a number of pedagogical and institutional roles which mediate the interactional dynamics between the different actors. These dynamics are descriptive of the teacher-expert and the student/learner-novice roles (Woods et al., 1976; Rojas-Drummond & Mercer, 2003), that is, how each orients to the other reveals their understanding of the context – the activity type. Teachers and students occupy the same space, they are co-participants in the classroom encounter, however with vastly different objectives: the teachers to teach and the learners to learn. The enactment of teaching and the enactment of learning are two different but complementary activity types. The embodiment of these two roles is visible in how a turn is taken, granted and designed (see chapters 5 and 6). There is mutual monitoring for displays of listenership, change of state (Gardner, 1998, 2007) and other signs of alignment, whereby the next action is contingent on the perception of the previous action, and perception relies on our embodied conduct (Gallagher, 2008).

Hence, the university classroom is a space in which participants embody their roles and strive for intersubjectivity (Fuch & De Jaeger, 2009; Tanaka, 2017). Further developing this line of thought, the classroom is a mutually constructed activity type, that is, both constructed and defined by a series of institutional constraints and social mores. Consequently, as Pekarek Doehler (2002) points out if the activity is mutually constructed, it is also in effect '*mutually regulated*' (p. 37). If so, then both the teacher and student actors are agentive in this regulation, each within the boundaries that define their positions (Housley & Fitzgerald, 2015). Their acting *in* the activity acts *on* the activity. Therefore, an activity is not a predefined entity, instead, each of the actor's goal-related identities and positions is revealed in interaction. Hence, one expression of agency is the expression of identity in interaction.

7.1.1   Social action and agency

In a paper reviewing perspectives on agency, Ahearn (2001) provides a preliminary and overarching definition of *agency* as a point of departure, as 'the socioculturally mediated capacity to act' (p. 112). In sociolinguistics, the notion of agency revolves around the use of verbal and written language to construct and navigate life, hence Ahearn (2001) takes agency as a social action afforded by language. Bakhtin (1981/2010), reminds us that 'All words have the 'taste' of a profession, a genre, a tendency, a party, a particular work, a particular person, a generation, an age group, the day and hour. Each word tastes of the context and contexts in which it has lived its socially charged life […]' (p. 293). In light of this, Bourdieu (1977) points

out that power dynamics are inherent in our talk, and hence power dynamics underscore our sense of agency and are present in how we (inter)act. Ahearn critiques the possible definitions arising from perspectives such as the expression of free will. From this perspective (free will), an attempt is made to distinguish one's deliberate actions from life happenings, for instance, going to class versus stubbing one's toe. From this view, agentive actions require a mental orientation to *intention* (Davidson, 1980 as cited in Ahearn, 2001). This notion is developed further below.

The prism of agency within institutional power arrangements such as a classroom moves the focus from context as a mutually elaborated activity to one where intentional agentive actions have a transformative and decisive capacity in the unfolding of the activity (Klemencic, 2017). The phenomenological notion of *intentionality*, the goal-directed orientation in action (Gallagher & Zahavi, 2012), underpins an understanding of agency in the construction of social actions. This view is possible due to the emic approach taken to the data, an approach that provides access to how actors grasp each other's intentions through how they respond to the actions. Hence, this emic and multimodal study approach allows the observation of agency as embodied in the situated intentionality of social actions.

Work by Gallagher and Zahavi (2012), addresses agency from a deep place driven by intentionality. They build on Merleau-Ponty's idea of *being-in-the-world,* which posits that we do not approach life with abstract theoretical lenses, but rather our lives are conducted through the practicalities of our day-to-day negotiations with a physical world. Many of these dealings occur with objects and people, and, furthermore, they occur pre-reflexively so that our actions and reactions are products of a subconscious process. For instance, we return a smile with a smile and a wave with a wave, being these the *preferred* second pair parts of an embodied adjacency pair. Both these actions are deployed with little conscious thought. The previous discussion on mirror neurons and the perception-action loop (see chapter 3, section 3.3.3 and chapter 6, section 6.1 and 6.2.) provides an explanation for these resonance behaviours. Experience also informs our interactions with people and objects. For instance, the way we shape our hand as we approach a door handle (Streeck, 2009) speaks of our familiarity with the shape and function of door handles and therefore speaks of the intention we have in approaching the door handle with a ready hand. However, how the action is perceived depends on what intention is perceived; to push on a door handle to open the door or to go outside. This idea relates to how a range of different actions can be perceived in the classroom.

Agency can be defined by the intentionality that motivates the action. Whilst Gallagher and Zahavi (2012) illustrate this point through the physical act of opening a door, their argument

might be applied to a classroom context to situate the nature of agency within the present dissertation. In the classroom, (inter)actions are generally inspired by educational goals in which a common practice for teachers is to ask students questions. This move may be motivated by several different objectives: to evaluate students' knowledge status, as a strategy for student empowerment, or it may be used to disclose students perceived as not engaging. The question might be identical in formulation, however, in each case the intention behind the action is different. In this sense, agency is not found in the action *per se* but rather in the underlying *intention*, as situated in time, place and person.

But what of *students* asking questions in class? Different intentions could motivate this action: to fill a knowledge gap, to display a (superior) knowledge status in relation to the rest of the class, or even to disclose a teacher's lack of knowledge. Although social actions (activities) are multidimensional layered phenomena, they are generally explained by higher-order rationales (Norris, 2004). For instance, an explanation for why we have asked a question does not normally draw on neuroscience, nor focus on a compositional part of the actions, but rather on the ultimate social goal. If we were to ask someone who was opening a door what they were doing, they would most likely provide a higher-order rationale (getting fresh air, going outside) and not give a lower-level action (opening the door). In other words, we identify our actions in terms of the highest order rationale, although composed of smaller actions such as raising hand and/or issuing pre-utterance sounds to indicate a desire for speakership (Norris, 2004).

Along these lines, agency is then identified through an understanding of the social context in which actions are realised (Gallagher & Zahavi, 2012). Therefore, agency involves situated consciousness of intention, whether simply as the emerging thin awareness from the pre-reflective state or as a thoroughly premeditated decision-making process (Escribano, 2004). In an expression of agency one ought to have a *perceptual* sense of the effects their actions have in their environment (Gallagher & Zahavi, 2012), 'Just as my intentions are explicit in my actions, I understand your intentions to be explicit in yours. Intentions are not hidden in the mind but expressed in behaviour' (p. 167).

To sum up, agency here is understood as embodied in goal-directed actions that are motivated by intentionality, i.e. actions directed at or to something (Mercer, 2012), and if you will, *for* something. These actions are displayed as embodied behaviours; in talk and corporeal conduct. Returning to Ahearn's broad definition of agency 'as the sociocultural mediated capacity to act' (2001, p. 112), the question now turns to *what* forces mediate the capacity to act and effect agentive transformation.

7.1.2 Mediating forces and interactional constraints

As already argued earlier, the teacher and student actor roles in education are complementary to each other. In the traditional sense, the teacher is the expert and the student is the novice-learner (Hofstede, 1986). Yet, different educational models confer different role styles (Malvaska, 2016), such as, for example, the facilitator notion which seeks to work with students across a reduced power gradient (Arminen, 2017; Lim et al, 2012). Nevertheless, whether traditional teacher-fronted arrangements or workshop-style facilitator style, the expert remains a figure of epistemic authority (Heritage, 2012) from whom ultimately the learner seeks to learn (Seedhouse, 2004).

In the EMI context, the content specialist is an expert in a disciplinary field in relation to the students. Their knowledge of subject matter extends to the discourse, which holds, shapes and brings that knowledge into being. How a field is spoken about bears the signs of how each disciplinary community has conceptualised that area of knowledge (Airey, 2009; Bakhtin, 1981/2010). The discourse consists of, on the one hand, ratified terminology and syntactic arrangements, but also of the stance taken in relation to an issue (Hyland, 2005). So, expert discourses use rhetorical devices to display certainty and authority (Schriver, 2012). On the other hand, learners' assimilation of content knowledge is an assimilation of the specific language of that field, hence learner discourse may indicate uncertainty through verbal and non-verbal means (Roth & Lawless, 2002). Thus, subject content matter is one epistemic domain and if we side with the assumption that language indexes 'ways of knowing' (Airey & Linder, 2009), an expert in the subject matter should also be an expert in the language of the field.

Recalling that discourses are domain languages in natural languages (Blommaert & Rampton, 2012; Swales, 1988; 1990), if teacher's L1 is, for example, Spanish or Catalan, as is the case of the lecturers in this dissertation, however teaching is conducted through English, due to the internationalised nature of the professional and scientific activity (publications and conferences or international collaborations, for instance), the teacher's scientific discourse in English ought to be more proficient than their general English. The inverse is true for international and some domestic students; they might have a proficient level of *general* academic English, but not of the content matter in any language. Hence, content matter is a domain of (linguistic) knowledge in which the teacher is an expert, and English is a domain of knowledge where students and teachers have a varying command thereof. Successful EMI thus requires the convergence of these two knowledge domains to produce field-specific discourse. However, if a teacher has a

rather low command in general academic English, whilst the essential terminology may be present, the message as a whole may nonetheless lack the necessary instructive power.

7.1.3   Epistemic status and power

The institutional expectation is that teachers ought to be experts in the knowledge field and in the language of that field; it is their responsibility to know it and teach through it (Stivers et al., 2011). Epistemic territory refers to a knowledge domain (Heritage, 2012) or 'epistemic domains' (Stivers & Rossano, 2010, as cited in Heritage, 2012, p. 4), and *K+* and *K-* symbols indicate the relative knowledge status between individuals or groups. In other words, these symbols represent the positions individuals occupy on an epistemic gradient in relation to each other, where K+ means 'more knowledgeable', and K- means 'less knowledgeable' in a given matter (Heritage, 2012, p. 4). Hence, in the dataset examined in this chapter, the teacher is K+ in content matter and K- in general English. From an interactional perspective the K+/K- gradient is one driver in the pursuit of epistemic progression (Balaman & Sert, 2017; Heritage, 2012).

That said, what indeed happens when students are K+ in general English? Could displays of the linguistic K+ in the students potentially undermine the teacher's authority and status? If so, could this lead to a transgression of traditional institutional roles, and could this, in turn, further lead to altered power relations (Bourdieu, 1991). In terms of epistemic primacy and responsibility, the teacher is entitled to teach, but are students entitled to that role? Should a student initiate a language-related repair sequence, are they committing 'epistemic trespassing' (Stivers et al, 2011, p. 19)? The expression of student agency in these circumstances, whilst driving interaction, could challenge institutional roles and positions. However, recalling the argument that the university lecture is an interaction (see chapter 3, section 3.1, 3.2 and 3.3), we follow Pekarek Doehler (2002) who casts a hopeful and constructive perspective on this potentially tense situation:

> […] reciprocity of the social agent's actions and perspectives, understood as the fundamental template for social interaction […] dialogue as well as collaborative problem-solving imply not simply the roles of knower versus not-knower, but for instance, the ones of thematic guide versus follower, of questioner and respondent, of co-constructor of activities and so on. In the dynamic course of interaction, roles mingle, their boundaries dissolve and they give place to a reciprocal shaping of mediational processes (p. 25-26)

In the epistemic complexity of the EMI classroom, the orientation to two interrelated domains of knowledge can lead to tensions when in balance with institutional roles. This chapter describes thus a complex situation in which student agentive actions navigate the epistemic status of each actor and their institutionally conferred roles. Do roles mingle? Do the boundaries become blurred between teacher and learner in moments of linguistic orientation? In this case, interactional competence is regarded through agentive actions that display awareness of the context, and through the response given to such agentive actions in recognising the underlying intentionality motivating the action (Mercer, 2012).

7.2   Methodology and specific research objectives and questions

This section starts with stating the research objectives and questions specific for this analytical chapter, followed by the two main constructs comprising the analytical lens, namely MCA, to observe how identities emerge, are oriented to and acknowledged in interaction, and multimodality, to offer a means of uncovering the subtle ways these orientations and acknowledgements are accomplished.

This chapter seeks to examine how students visibly orient their expressions of agency in the epistemic duality of the EMI context and is therefore driven by the specific objectives and research questions stated as follows:

SRO3:   To explore the effect of student agency as it orients to institutional roles and constraints.

> *SRQ3:*   How do linguistic *K+*/content *K-* students orient their agentive actions to a
> linguistic *K-*/content *K+* teacher?
> -   SRQ 3.1: What circumstances activate student agentive action?
> -   SRQ 3.2: How are any epistemic tensions managed?
>   SRQ 3.2.1: How are they embodied and displayed?
> -   SRQ 3.3: How is linguistic and content knowledge co-constructed under these
>   circumstances?

7.2.1   Membership Categorisation Analysis (MCA)

Chapter 4 has provided a more general discussion on MCA in terms of the categorical issues that reflect the common sense workings of society. As a short reminder, MCA was developed by Sacks (1972) to serve as an analytical apparatus that reflects on and gives access to issues of identities-in-interaction. It is an empirically tractable method for studying issues of categories

from an emic perspective, i.e. as understood by the members, rather than through the external lens of the analysts' categories (Stokoe, 2012). Hence, MCA concentrates on the participants' turn-by-turn orientation to the other in a display of their understanding of each other and the context (Housley & Fitzgerald, 2009, Depperman, 2013).

Although Membership Categories are implicit in day-to-day life workings, the analyst watches and listens for participants' categorisation of each other, hence categories, and other topical issues, are made explicit and observable through multimodal conversation analysis. According to Sacks (1992), 'Categories store a great deal of the knowledge that members of a society have about the society' (p.40). This idea seems to manifest in how the actors, as part of a large social system (Latour, 1996, 2012), orient to each other, and in the specific context of this doctoral thesis, how teacher and student actors accommodate to each other's institutional roles and epistemic status (K+ or K-). Hence, through MCA we can see the intricacies of turn-generated identities in interaction and *for* interaction (Depperman, 2013; Stokoe, 2012).

Seeing how and in what capacity participants display their mutual orientation in the exercise of their agency is made possible through the observation of how embodied modes form meaning-making gestalts within the context of the participation framework (Mondada, 2018; Goodwin & Goodwin, 2004). The analysis of the synergic interplay of gaze, gesture, proxemics and prosody together with the incorporation of objects gives insights into these instances (Norris, 2004). In this way, the stance, position and understanding of the system from which agentive actions are put in motion are made visible.

7.2.2 The participants

The data was taken from a 45-minute class on Dental Materials given to 1st-year English-track dentistry students. The recording was made in the middle of the semester, therefore the relationship between the teacher (DM) and the students had been long established and their particular interactional dynamics were in place. Students were from France, Italy, England and the Middle East mostly, according to DM. The overall level of general English language proficiency was C1 (CEFR) according to the test taken on admission.

The teacher's level of English language proficiency at the time was below B2. DM was experienced in teaching the subject of dental materials in Spanish and Catalan but had only one year's previous experience teaching it in English. This was the reason why she had requested assistance from the Department of Applied Linguistics to prepare for the EMI version of this class. She undertook the Development Group Program with a member of the Department of

Applied Linguistics. Furthermore, DM prepared for and underwent the CLUC-EMI exam to certify her capacity to teach subject matter in English, though she was not successful. Despite the latter, the practices revealed in the recording show that this teacher's classroom is a highly interactive environment and clearly showcase her particular 'modus operandi'. More specifically, DM speaks at a measured pace and interacts effectively with the slide contents as she speaks. She rarely asks students questions, instead, students interject during pauses in her long turn to ask questions or make comments (see also chapter 6, case 2). These interjections are the locus of analysis into student agency here.

7.3 Case analysis

The data collected showed at least 10 instances of student agency. This chapter presents two excerpts that best showcase the phenomenon of interest (balancing epistemic positions). As in the case of the previous two analytical chapters, linking software (Transana™ Basic Version 3.30) facilitated the process of repeated viewing of the recorded dataset (the first order entextualisation), subsequent and concurrent transcription of spoken text, annotations of embodied actions and the production of vignettes from video grabs (second-order entextualization) (Hazel et al, 2012). The excerpts are listed below with a brief description of their analytical focus.

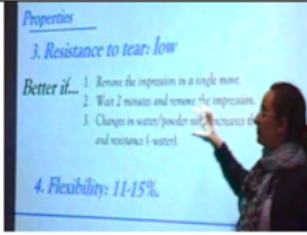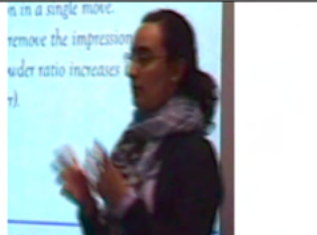| *Excerpt*	*Analytical focus*
Excerpt 1 "Tear"	Linguistic K+ student's display of subject matter K- whilst orienting to teacher's subject matter K+/linguistic K-
Excerpt 2 "Borax"	Student insistence on teacher's display of subject matter language K+

7.3.1 Excerpt 1 "Tear"
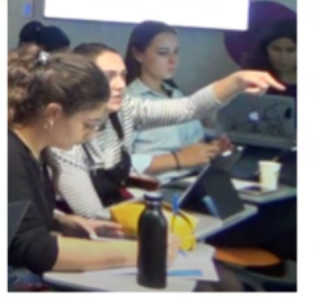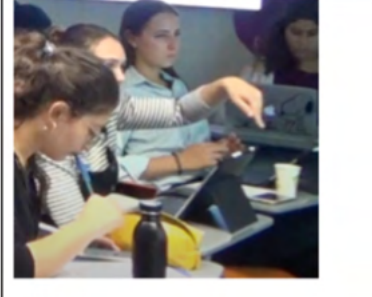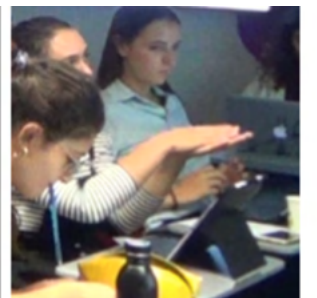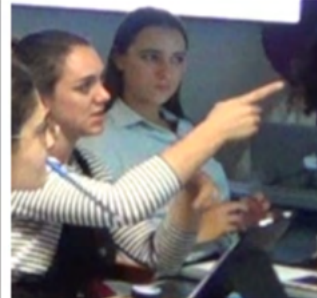
As a part of their professional practice, dentists need to make impressions of teeth in order to fashion corrective apparatus for their patients. The substance they use is alginate which comes in powder form and needs to be mixed with water. The water to powder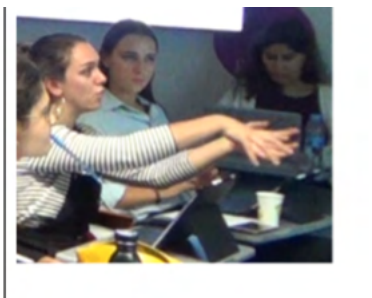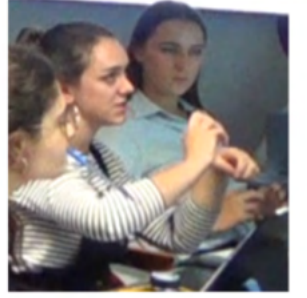 ratio determines the moulding properties of the material and its strength. During the teacher's explanation of this procedure, a student interjects and asks DM to clarify the water to powder ratio in relation to the property of strength. The sequence shows how meaning is negotiated and knowledge is constructed and how the student displays a duality of orientation, to both the teacher's linguistic K- and to her content K+.
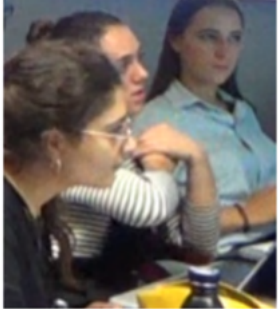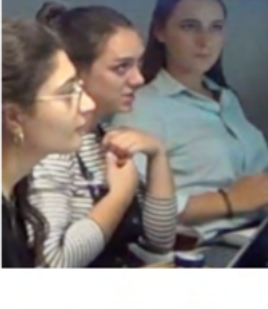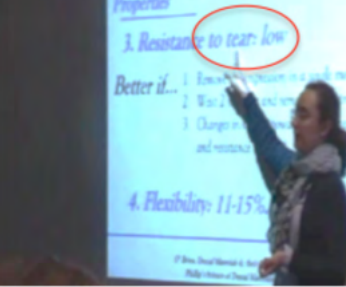
Transcript excerpt 1

```
1)   T:      the deformation- the permanent deformation
2)           and the resistance to /tir/
3)           are very close (1.0) one to each other↓ (0.4) ok↑
4)   ST1:    wait (.) so you mea:n
5)           more water (0.7) makes it er more likely to tear↑
6)   T:      more water what↑
7)   ST1:    so (.) mo:re water=
8)   T:      =y[es
9)   ST1:      [more concentration of water
10)  T:      yes=
11)  ST1     =water to powder mixture (.)
12)          would make it (.) <mo::re
13)          or less resistent> (.) t'tear
             (3.0)
14)  T:      °it's less resistant↓°
15)  ST:     less↑ resistant
             (2.0)
16)  T:      no (2.0) yes because (.) I said
18)          if you change the (if you::)
19)          put less water
20)          you increase the strength (.) and
21)          the resistance to °tear↑°
22)  ST1:    yeah↑
```

Vignette excerpt 1

Fig. 1 Hand in claw shape on "deformation" Line 1 and 2	Fig. 2 Hands close in rotating gesture. Line 3	Fig. 3 Visual contact with student on sts' "wait" (line 4) (see fig.4 student view)
Fig. 4 Line 4 "wait" Student issues auditory and visual cues	Fig. 5 Downward gesture on "water". Line 5 ' more water'	Fig. 6 Downward gesture on "tear" Line 5 "more likely to tear?"
Fig. 7 left hand represents water. Line 7 "mo:re water"	Fig. 8 Right hand represents powder. Line 11 "Water to powder mixture"	Fig. 9 hand Line 12 "……mo::re"
Fig. 10 Line 13 "or less resistant"	Fig. 11 Point to 'tear' on slide. Line 13 "t'tear" Left hand coming up.	Fig. 12 (teacher view) "t'tear"

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Fig. 13 bodily withdrawal on speakership cessation

Fig. 13a DM gaze follows deictic gesture (view with teacher)

Fig. 14 "less resistant" Upward gaze

Fig. 15 DM formulating answer. Iconic deictic gesture signaling start of her explanation.

Fig. 16 points to tear, when uttering line 21 'tear'.

DM has explained the relationship between the material's moulding capacity, referred to as "deformation", and the strength of the materials in terms of its ability to "tear" (Figs. 1-2, lines 1-3). At the end of line 3, DM checks understanding with a rising "ok". This "ok" would signal a transition relevance place (TRP), however in line 4 a student utters "wait", indicating interjection rather than turn initiation. Upon "wait", the student leans forward and holds out her hand in a 'halt' gesture (Fig. 4). The student follows "wait" with "so you mean.." (line 4). In CA terms, the preface "so you mean" indexes trouble and the initiation of a repair sequence (Schegloff, 2007). Meanwhile, her arm continues extended as she gestures through line 5 seemingly interacting with the content of the slide from a distance; on "water" (Fig. 5) and on "tear" (Fig. 6), her hand sweeps downward synchronising with her contouring of pauses, her head slightly cocked to the side (Fig. 6) as she presents her knowledge status for evaluation. Here the student is orienting to the teacher's content K+ status and her right and role to evaluate student input, thereby orienting to her own K- status.

However, what follows shows that DM has either not understood the question or did not hear it completely. She requests clarification by repeating the first part of the question indicating the fragment she has understood, "more water.." and tagging "what" with rising intonation at the end (line 6). As she utters it, she moves from her position seen in Fig. 3 to the position in front of the student shown in Fig. 12, thereby creating a focused interactive space to receive the student's clarification and question. When the teacher re-positions herself, the student displays

understanding of what is being requested and proceeds to reformulate the question in a very deliberate, skilful and embodied way. Namely, she builds up the question in step with the teacher's verbal and visual displays of understanding (lines 7-13; Figs. 7-13), as detailed below.

In line 7, the student opens with a "so" plus a micro-pause to summon attention to "more" which she additionally stresses through a prolonged vowel sound. As she talks, she is holding out her left hand palm up which seems to represent the water (Fig. 7). In line 9, she reiterates the idea of "more water" by reformulating it to a more specific and technical expression – "more concentration of water", while keeping her left hand held out and a monitoring gaze on the teacher. After DM indicated her understanding with 'yes' (line 10) and forward head nods, in line 11, the student pursues her intention of clarification with "water to powder mixture". At this point, the student lays her right hand on the left, as though adding the powder to the water (Fig. 8). After gesturing the addition of powder to water (which mismatches her words "water to power" line 11), she then formulates the core matter in line 12.

As she poses the question, on the stressed and prolonged "more", her hands extend out in front of her, almost invading the teacher's space (Fig. 9). Then as she emphatically presents the other option, "less resistant" (line 13), she pulls back her hands to her body (Fig. 10). This way, *more* is represented by the extension of her arms and *less* by a recoiling of her arms. Her gestures trace a large trajectory. With her hands close to her, on "t'tear" (line 13), she points to the word on the slide (Figs. 11/12), then pulls back her hand and clasps it with the opposite hand (Fig. 13). This seems to mark the end of her speakership and this withdrawal is understood. Chapter 5 and 6 showed how clasping hands was a recurrent phenomenon when creating and sustaining a TRP. Here the retraction of the gesture coincides with the end of her question.

Although one reason for having to repeat the question could have been due to a mishearing, the student's gradual construction of the question showed an orientation to the teacher's linguistic K- status and content K+ status. Firstly, each speech unit was followed by a pause and visual monitoring of the teacher's understanding. The teacher's "yes" participates in the continued construction of the question. The student's *original* question formulation included the term 'likely' and the word 'tear' (line 5). *Likely* is not a cognate of latinate origin, and the teacher's own pronunciation of *'tear'* as /tir/ (line 2) could have made the student's (British) pronunciation of "tear" (rhyming with 'air', no 'r' sound) unrecognizable to DM.

The student seems to intuit that these two terms (*likely* and *tear*) are possible sources of trouble, as seen in the design of the reformulation and specifically in her choice of words in line 13; the student drops 'likely' and replaces it with the latinate "resistant", and on "tear" she gazes and

points to the word on the slide (Fig. 11/12), as both gaze and pointing are deictic resources, the teacher turns back to look at the slide (Fig. 13a). This is an example of a pedagogical approach on the part of a student to deal with an assumed linguistic K- in order to access the teacher's content K+. The student's demeanour in this section does not indicate a desire to create any type of power shift. Whilst her gaze was on the teacher, her expression was not 'cocky', and the gesture was promptly retracted as soon as she completed her question. Also, she fiddled with the chain around her neck whilst awaiting an answer.

The student's agentive action initiated in line 4 and again in line 7 seems motivated by a need to fill a knowledge gap. In positioning herself in the learner role, she then positions DM in the teacher role. These are appropriate orientations to corresponding membership categories. The participation of gestures in Excerpt 1 served a beat function as a pacing device with talk, in addition to illustrating the mix of substances, and depictions of the quantities of "more" and "less". The downward gesture on "tear" in line 5, fig 6 seems to depict the action of a tear from top to bottom.

After a three-second pause (between lines 13 and 14), DM supplies an answer. The voice quality is lower in volume and therefore seems to indicate a degree of uncertainty (line 14). On the teacher's suggestion that the mixture is less resistant to tear, the student again interjects with an emphatic "<u>less</u> resistant?" (line 15). However, she lowers her head slightly and peers up at the teacher whilst keeping her hands clasped close to her chest (Fig. 14). In her interjection in which she responds to this unexpected answer, the student is exerting again her agentive capacity in this classroom. It orients to the teacher's K+ subject matter knowledge as well as to the teacher's epistemic responsibility.

After a 2-second pause, in line 16, DM responds first with a "no", then after another pause, she changes to a "yes because (.) I said..", at which time she marks the beginning of her explanation with a metaphorical deictic gesture (Fig. 15). In this action, DM reclaims her epistemic status and authority as she reiterates her explanation confirming her answer to the student as correct (lines 18-21). Her reiteration is accompanied by sequential interaction with the content on the slides. When she comes to "tear", it is uttered more quietly (line 21) and she points to the word 'tear' on the slide (Fig. 16). At this point, DM has been exposed to a British pronunciation of 'tear' twice (lines 5 and 13), and her pronunciation in line 21 seems mildly altered. When DM affirms her answer she does so assertively until she comes to the word "tear"; she points to it and her voice becomes quieter. Here she seems to momentarily embody the position of the learner and not the teacher as she orients to the students linguistic K+ status in this minute instance.

DM skilfully navigates the slide contents in a particular sequence to support her explanation, therefore the slides seem to be the teacher's domain. To the student, on the contrary, the screen is the interface that visually assists their learning through organisation and categorisation. When the student points to the screen in Fig. 11/12, after breaking down the question for the teacher, embodying an instructional role and using the teacher's visual aid, there seems to be an awareness of her 'crossing the epistemic line'. This particular interaction nicely showcases an instance of intermingling roles, where a student orients to a teacher's linguistic K- to access the content teacher's K+, and the teacher's orienting to the student's linguistic K+ in her enactment of epistemic authority.
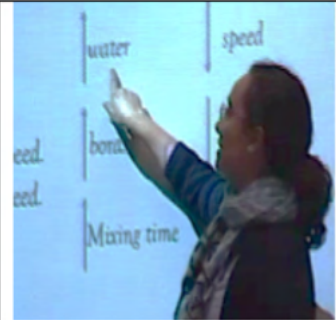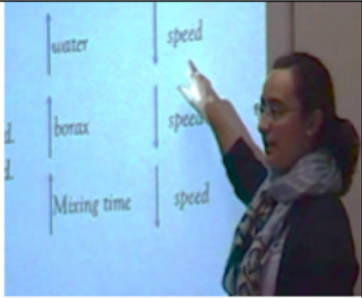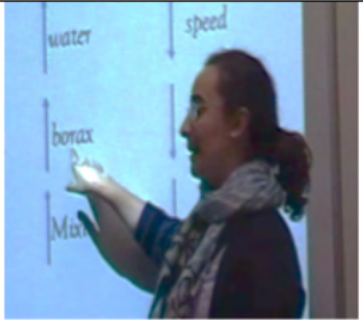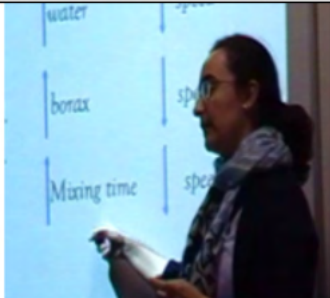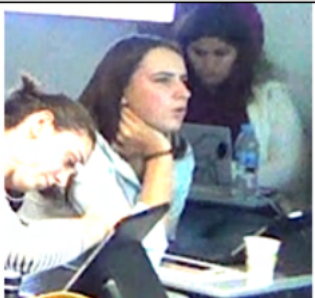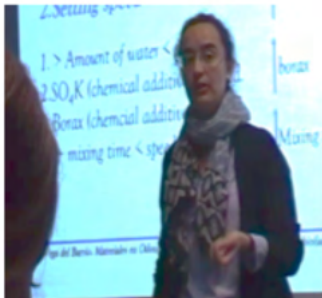
7.3.2   Excerpt 2 "Borax"

Setting times are important for dental materials as they determine how, when and with whom they can be used. In this sequence, DM explains the compounds added to the gypsum mixtures to either speed up (accelerate) or slow down (retard) setting times. The substance used to slow down setting times is Borax, known as a *retarder*. This sequence shows how one student's interjection inquiring into the nature of Borax leads to another student's mitigated insistence the term retarder be utilized by the teacher.

Transcript excerpt 2

```
1)   T:     if the composition of the manufacturer
2)          have a:: a percen- a high percentage of borax
3)          in the composition
4)          the:: the: gypsum reduce the s- the: setting /espeed/
5)   ST1:   sorry (.) what is borax
6)   ST2:   borax is the retarder right↑
7)   T:     borax is a one component it's [a..
8)   ST2:                                 [a retarder right↓
9)   T:     yes it's the retarder↓
10)         for this reason it depending on the
11)         percentage of the: each manufacturer
12)         put in the composition..ok↑
13)         decrease the speed↓
14)         because is a retarder
```

Vignette excerpt 2

Fig. 2.1 (pre-transcript)	Fig. 2.2 (pre-transcript)	Fig. 2.3 line 1
Fig. 2.4 Line 2 and 3	Fig. 2.5 Line 4. Marks end of explanation with a knock on the board.	Fig. 2.6 Line 5 'sorry, what is borax?' Head resting on hand.
Fig. 2.7 Line 6 'borax is the retarder, right?'	Fig. 2.8 gaze at student 2	Fig. 2.9 gaze at student 2
Fig. 2.10 'a retarder right' (student 2)	Fig. 2.11 Line 9 'yes it's the retarder'. Head nod.	Fig. 2.12 Line 14 'because is a retarder' Pointing to Borax.

Figs. 2.1-2.4 show DM systematically explain the substances added to gypsum to either accelerate or slow down setting times (water and borax slow down setting times according to

the slides). Her interaction with the slide contents is clearly synchronized with her explanation as she highlights the key term for each point of her explanation (Goodwin, 1994). In line 1 she comes to explain how a greater quantity of borax in the commercially sold mixtures of gypsum will slow down setting times (lines 1-3, Figs. 2.3-2.4). During DM's pause, student 1 interjects with a question (line 5) that shows she does not remember what borax is, or had not caught it when it was addressed previous to this sequence. She summons the teacher's attention (Fig. 2.5) with "sorry" followed by a micro-pause and then produces her question about what Borax is (line 5, Fig. 2.6).

However, instead, student 2 interjects and supplies the answer immediately (line 6). As she does so, she momentarily turns her head and gaze to student 1 on 'borax is the retarder' (Fig. 7) whereby she draws the attention of both the teacher (Fig. 2.8) and student 1 (Fig. 2.9). Then, on the question tag 'right', she turns her attention exclusively to DM (the same position as in Fig. 2.10). Student 2 downgrades her interjection with a *rising* intonation on the question tag "right" (Stivers et al. 2011; Heritage & Raymond, 2005). This way student 2 defers to the teacher's epistemic status and authority, and re-positions herself as a learner who is soliciting the teacher's expert evaluation; the first part of her interjection was an assertion ("borax is the retarder") and the second is the mitigating question tag, "right" (line 6). She thereby deflects onto DM any authority she conferred upon herself by answering a question not addressed to her.

DM aligns with the question tag and initiates an explanation of borax in line 7. However, in line 8, student 2 interrupts during the teacher's turn and completes it with "a retarder, right". This time the intonation on the question tag "right" turns *downward* and the student gazes at the teacher (Fig. 2.10). The student has insisted on the use of the term *retarder*, which she had previously supplied in her response to the inquiry from student 1. DM responds collaboratively and aligns to student 2 (line 9, Fig. 2.11). However, in lines 10 to 13, DM reclaims her epistemic status and authority by referring again to the percentage of borax in the composition, in other words, with talk that establishes her epistemic K+; in line 13, the teacher explains that borax decreases the speed, and in line 14, while pointing to the word *borax* (Fig. 12), she incorporates the term 'retarder', thereby through her interaction with the slide she pedagogically links the idea of borax slowing the setting speed and its categorisation as a retarder. While the action enacts a clearly pedagogical function, it also allows her to reclaim her epistemic status and authority in the classroom.

On the other hand, the action of student 2 insistently sought the incorporation of a specific term "retarder", thereby displaying an inherent understanding of the role of discourse in creating a disciplinary perspective in knowledge construction. Her ensuring the teacher uses the

field-related term reassures the student that they are indeed being exposed to the right discourse. Nevertheless, DM seems to embody a relaxed attitude during this sequence, somewhat "taking it in her stride" as part of her modus operandi. Her talk is not forceful as she goes back to her domain next to the slide and consolidates the point of slowed setting times whereby she incorporates "retarder". She is orienting to her membership category, i.e. that of an expert-teacher, whilst at the same time displaying an orientation to student participation and the student's sense of responsibility for knowledge construction.

This excerpt presents two instances of student agency in the form of interjections. The first interjection was seemingly driven by the intention to fill student one's information gap made evident in the response of student 2, although she mitigates her action by orienting to the teacher's epistemic authority and to her position as a student-novice in her upward question tag "right". Student two's interruption in line 8 seems to reflect a concern for the use of the right terminology "retarder". The question tag "right" contoured downwards in orientation to the teacher's content K+ status, but the student does not seem to seek evaluation. In terms of how these instances are embodied, student 2 at all times sits with her chin leaning in her hand, and her face carries a look of engagement. How the instances are embodied do not suggest a challenge of the teacher's status although some epistemic 'trespassing' was committed on both agentive occasions. One could posit that Student two's agentive actions in lines 6 and 8 do not orient to the teachers linguistic K-, but to her desire to display her own K+ in relation to other students as a sign of her attentiveness in a previous class perhaps.

7.4   Discussion and conclusions

The two excerpts presented in this chapter showcase two of 10 instances of student agency in a 45-minute class on dental materials. The interactive nature of the class is part of a well-established set of participation framework dynamics that give students a degree of autonomy in the shaping of the class. DM uses the primary strategy of pacing to open interactional windows in the stream of her long turn. How these strategies emerged as part of her teaching modus operandi would be an interesting focus of longitudinal research. For now, the discussion of the findings will seek to explicitly address the research objectives and questions reproduced below from section 7.2 to guide the discussion. Then the discussion will address how students oriented to the teacher's linguistic K- status, followed by how they oriented to her content expertise (K+). The conclusions will contemplate the implications the findings of this chapter have for EMI teaching.

SRO 3: To explore the effect of student agency as it orients to institutional categorical roles and constraints.

> *SRQ 3:* How do linguistic *K+* / content *K-* students orient their agentive actions to a linguistic *K-* / content *K+* teacher?
> - SRQ 3.1: What circumstances activate student agentive action?
> - SRQ 3.2: How are any epistemic tensions managed?
>> SRQ 3.2.1: How are they embodied and displayed?
> - SRQ 3.3: How is linguistic and content knowledge co-constructed under these circumstances?

SRQ 3.1: What circumstances activate student agentive action?

In the classroom in which the students possess greater linguistic competence than the lecturer, students were seen to orient to the teacher's *linguistic* competence by using their agentive capacity to overcome trouble and initiate repair sequences in the construction of classroom discourse. In doing so, they contribute and participate in the unfolding of the class. The students do not respond to the teacher's unconventional use of English for the matrix function of specialised language, in which they seem to apply the 'let it pass principal', which is the normalisation of ELF within a paradigm of pragmatic use (Firth, 1996). This principle may be operational in the class because of all the other interactional elements that support talk. So, in relation to SRQ 3.1, the triggers of student agentive action, the interjections students activated seemed to occur only when essential content and discursive knowledge learning was at stake.

SRQ 3.2: How are any epistemic tensions managed?

The two cases showed students also mobilise interactional resources. In the first case in particular (Excerpt 1), the student-oriented to the teacher's assumed linguistic K- status by reformulating the question, replacing non-latinate with latinate terms and breaking down the questions to its constituent parts in separate turn construction units (TCUs). The unit design contained some redundancy allowing the idea, or the message, to be gradually unpacked. However, it is the use of gestures and the student's gaze that makes the positioning of herself visible. While her gestures depicted the combination of the substances and added visuals to quantifiers and point to terms, significantly they made her orientation to teacher epistemic authority visible in how she retracts and retrains her hands back into her own personal space, her gaze bearing no sign of haughtiness and therefore potential tensions averted. Nonetheless, when DM reclaims her epistemic authority towards the end of the sequence, it seems to realign

roles to membership categories and thereby offsetting any tension, should any have been built up.

Student 2 in excerpt 2 orients to the teacher's displayed linguistic K- as it relates to the use of a disciplinary-specific discursive term, and not to any general use of English, as in the first excerpt. The term "retarder" is a term DM had taught them about previously, so it is not quite accurate to say that DM's lack of current employment of the term was due to linguistic K-status. Student two's embodiment of these assertive instances bore signs of respect for the teacher's content K+ status; a pensive look of concentrated engagement as evidenced in her furrowed brow and head resting on her hand. Therefore, any tension that could arise from this interaction is diffused through, first, the mitigating question tag and, second, displays of earnestness. In both sequences, any epistemic trespassing in orienting to the teacher's linguistic K- or choices is mitigated in interactional embodied actions that align to the membership category of the teacher and theirs as students.

SRQ3.2.1: How are they embodied and displayed?

In accommodating the teacher's linguistic K- status, there is an inherent *recognition* of the teacher's status and authority. The ways in which intervening students orient themselves to the teacher's *subject matter expertise* are found in the specific modes of mitigating their agentive actions. For instance, questions and statements were presented for evaluation, thereby orienting to teacher content K+ status. Question tags were used to downgrade statements as was rising intonation. Embodied actions included monitoring gaze and restrained gestures, especially when promptly withdrawing from the floor (excerpt 1). There was no gesture use in excerpt 2 by student 2 and her interjecting did not intend to take the floor. Gesture or interaction with the slides was conducted by DM with her talk. Therefore there were no signs of overt power shifts in favour of students' linguistic K+. Even in their orientation to the teacher's linguistic K-status, students ultimately displayed a strong orientation towards her content K+ and general institutional authority.

SRQ3.3: How is linguistic and content knowledge co-constructed under these circumstances?

Thus agentive actions were appropriately accompanied by mitigating devices to which the teacher appears to respond with constructive behaviour whilst orienting to each actor's membership category. The use of mitigating actions allowed student's expression of agency in an institutional epistemically biased context. This capacity for constructing these appropriate social embodied actions confers on them situated interactional competence. The response of DM to these mitigated agentive actions aligned her with the student's intention and led to the

co-construction of disciplinary classroom discourse in which both teacher *and* students participated in instructional sequences and learning opportunities. The linguistically K+ students not only gained access to content knowledge but also were exposed to the experience of pedagogical strategies.

To conclude, firstly, students oriented to the lecturer's K- linguistic competence by using their agentive capacity to initiate repair sequences only when content knowledge learning is at stake. They do this through reformulations, a slower pace of talk and the introduction of redundancy. Particularly in excerpt one, gesture was used to accompany talk to depict concepts and point to the terms on the slide. Secondly, students oriented to the teacher's *subject matter expertise* by *mitigating* their agentive actions; statements were presented for evaluation (rising intonation and downgrading with questions tags), slightly averted or upward gaze and restrained gestures and prompt withdrawal from the floor. Therefore no power shifts produced as membership categories embodied in interaction. Furthermore, according to the data, there was a dominant orientation to the teacher's content K+ status.

A high proficiency level of general English might be ideal but is not absolutely necessary in EMI contexts, as talk revolves around discursive topics for which EMI teachers are generally equipped (Macaro, 2018). Furthermore, an interactive classroom draws on and hones implicit linguistic, social and content-related knowledge of all participants, such that interaction mediates learning for all participants. Talk in the EMI context has been noted as more efficient, with fewer digressions or less redundancy, for instance (Airey, 2012). However, the efficiency of talk and the trouble it might create *opens* the opportunity for student agentive participation; an empowering position for the student and the teacher. In this sense, conceptualising the use of English in the EMI university classroom as ELF places teachers within a 'can do' paradigm (Firth, 1996) and empowers and permits EMI teachers to consider and harness student agentive actions.

Discussion and conclusions

8.   Introduction and chapter overview

The central question posed in this study was how the deployment of multimodal resources contributed to teacher-student interactional competence in a setting where the language of instruction was English as a lingua franca and the learning objectives were orientated to the construction of discipline-specific knowledge. With this aim, fine-grained multimodal analysis has been carried out to answer if and how teachers and students embody interactional competence in the ELF-EMI classroom. The overarching research objective and question generated a set of 5 topics addressed in three sets of specific objectives and questions which guided the analysis and subsequent discussion of the obtained findings in each of the analytical chapters. Therefore, this chapter offers a broader and more ample discussion in order to ultimately provide answers to the overarching research objective and questions.

This chapter is structured as follows. Section 8.1 the discussion addressing the overarching RO and RQ in light of the findings yielded from the three analytical chapters will be organised under the 5 topics generated from the RO and RQ (chapter 4). Section 8.2 will describe how this study has contributed to the fields of EMI education, multimodality and interactional competence, whilst section 8.3 will highlight the strengths of the given dissertation and deal with some of its limitations. Having put the findings in research perspective, section 8.4 will suggest a series of implications and recommendations for EMI training programs. Finally, section 8.5 will point to future directions in related research lines, before summing up with a concluding paragraph in section 8.6.

8.1   Main findings

a.   *The enactment of teaching moves and student responses*

First of all, the moves that were the focus of analytical attention in this study were both 'macro' high-level activity moves (Norris, 2004) such as starting a new topic, ushering a new phase into the class session, and lower-level activity moves such as turn-taking, speakership transfer, orientations to interlocutors in stretches of talk in which describing or explaining were taking place. These moves were verbally indexed using appropriate discourse markers such as "so" and "first thing", "let's start" and were then frequently followed by a question. The verbal discourse was inflected with prosodic features that contoured each intonational unit, thereby signalling

either the teacher's continued talk across TRPs or the creation of a TRP for speakership opportunities.

These moves were embodied by gesture, gaze and spatial orientation during explanations and descriptions, or no-gesture as part of the verbal and mobility pauses contouring a TRP. From the available data, it has been observed that students seem to respond coherently to their teacher's enactments of pedagogical moves, showing interactional competence through their general compliance to the institutional norm of remaining silent whilst the teacher talks, moves through their domain and interacts with whiteboards and PowerPoint slides, and then participating when summoned to do so. The data showed how talk provides one aspect of knowledge and embodied actions adding dimensions of meaning beyond the reach of talk alone. Therefore, the three chapters with data analysis showed that teaching is enacted as a series of embodied *moves* and embodied *pauses*.

b.   The co-construction of spaces for learning.

Whilst talk and gesture are content-carrying modes (and fleeting), content requires a context, a goal-defined space for it to be meaningful - a participation framework. Therefore educational spaces for learning refer to more than the four physical walls of the classroom space. The data examined shows spaces for learning to be highly dynamic and constructed between participants. There are two broad categories of designated discourse-related spaces: instructional and interactional. The instructional space was sustained by the teacher's occupation of that domain (near the desk or projected slides) and the student's attention displayed towards the teacher whilst in that space. The teacher had the floor and the students coherently attended. Moreover, mutual gaze and body orientation were fundamental to establishing the instructional space. For example, within their domain space, the teacher moved and interacted with such material objects as PowerPoint slides but simultaneously maintained a split body orientation with the whole class to sustain the overall participation framework space for learning.

Interactional spaces, however, emerged when students vyed for speakership and due attention was paid by the teacher. The latter would move in closer to the student, thereby spatially orientated to each other and with gaze securing each others' attention, a focused interactional space arose. Aware that this space, this sub-participation framework, formed part of the larger classwide participation framework, the exclusiveness of the space would be dissolved promptly through the teacher's enlarging of the space between them and the student in question. The teacher would partially and spatially orient to the rest of the class to make them participants in the local interaction.

Spaces for learning, in particular, focused interactional spaces, seemed to provide the (safe) conditions for students to make a contribution to the classwide knowledge building.

Therefore, learning spaces *are*, first of all, co-constructed, primarily because these spaces emerge from a shared set of institutional and pedagogical objectives among interested parties, as exemplified in all three data chapters (see chapter 5, case 1, excerpt 5-8, as one example), whether the space is large and all-inclusive as in an instructional moment, or small and momentarily exclusive as in an interactional moment. The physical display of these spaces come through the securing of mutual gaze followed by spatial readjustments of body position, distance and posture, mainly from the teacher and in accordance to the pedagogical moment. Nevertheless, because meaning-making is such a highly situated endeavour, spatial behaviour also served to reconfigure designated authoritarian-instructional areas in the classroom to instructional spaces, through, for instance, sitting on the desk to assess, reformulate and reassure (chapter 6, cases 1, 2 and 3, respectively) or move from an interactional space to an instructional space to elicit student participation (chapter 5, case 2). So, learning spaces are constructed through the embodied attention participants pay to each other, and sustained through the confluent goal-driven interaction that plays out therein.

c.   Gaze, gesture, spatial behaviour and prosodic features of speech as pedagogical resources

Whilst each of these modes has its own set of affordances, it is their synergic interplay as multimodal ensembles where they become powerful and empowering meaning-making systems. As discussed in chapter 4, the interaction between participating modes is dynamic, and as such one mode can gain primacy over the other modes in an instance of meaning-making. Gaze, for instance, recruits attention either to one's self, to someone else or towards a material object. Therefore, gaze is deictic in nature. Gaze, together with other facial expressions, indicates alignment, uncertainty and a host of other stances and emotions. Therefore in the act of teaching, and together with head nods and recipient tokens (e.g., hmm mm, okay), gaze can be a participating mode in the embodiment of evaluative actions, affiliation, disaffiliation and general alignment. Gesture has been classified into four categories: metaphoric, iconic, deictic and beat. However, the study results have shown that McNeill's denomination of gesture *dimensions* (for instance, icon*icity*) is a more accurate representation of the function of gesture, for instance, a gesture can perform a deictic function whilst carrying iconic content (Chapter 5, case 2, fig. 4.1). The analysis in this thesis has shown how gesture can highlight (Chapter 7, excerpt 1, fig. 16), depict a stance (chapter 6, case 1 fig. 1.7), show magnitude (chapter 5, case 2, figs. 1.1 and 1.2), depict processes (chapter 7, figs. 7, 8), give emphasis to talk (Chapter 5,

case 1, figs. 4.1 and 4.2), and depict an object (Chapter 5, case 3, figs. 2.1).

Gesture enriches talk by making visible the internal modular structure of a concept held by the speaker as seen in Chapter 5, case 1, excerpts 1-4. It also makes communication more efficient when gesture unburdens talk from being the sole bearer of meaning as seen for instance in Chapter 6, case 2. Exposure to gesture leads to better and longer-lasting learning outcomes (Kendon, 1994) and more recently a study by Zhang et al. (2021) showed that students` own gestures led to improved learning outcomes. This is consistent with Roth (2000, 2001) which showed how students gesturing and drawing a scientific concept can lead to the development of the discourse around that concept. The point being that learning outcomes as a result of exposure to gesture were not measured in the students participating in this thesis, however, previous research provides evidence of its significance in the classroom. The teacher's in this thesis displayed a range of deictic, metaphorical, iconic and highlighting gestures with and independently of their spoken discourse.

Spatial behaviour has been dealt with in the previous question as a means to create and manage spaces for learning, classwide or with an individual student. Spatial behaviour combined with gaze and gesture form a communication ensemble where the orientation of the teacher is carefully distributed amongst the students. Thus, as an embodied resource, it is highly dynamic and responsive to the pedagogical purpose of the moment. The most remarkable example of spatial conduct for pedagogical purposes in the dataset examined was the phenomenon of a teacher sitting (perching) on their desk, and the effect this action had on the teacher-student power gradient (chapter 6).

Prosodic features of speech were accompanied by other embodied resources, such as gaze and gesture, in the action of emphasising or contouring TRPs, for instance as seen in chapter 5, excerpt 5 where the teacher uses downward intonation followed by both vocal and gestural pausing. Other meaning-making was seen to be accomplished through prosody; emphasis was achieved through a louder (chapter 5, case 2, excerpt 3, line 7) or slower and more careful articulation of a word (chapter 6, case 1, line 8), or through stretching one of its syllabic sounds (Chapter 7, excerpt 1, line 12). These prosodic features as automatically integrated into speech (Couper-Kuhlen, 1998) served to highlight important concepts in the stream of talk, stress keywords, and recruit student attention (Goodwin, 1980) in a way that displayed an orientation to the local goal (Couper-Kuhlen, 2014; Walker, 2013).

d.   The orientation students and teachers display to each other's (epistemic) status

Chapter 7 dealt most specifically with this research sub-question, and in order to avoid repeating the discussion developed at the end of that chapter, here attention will be given to the ways in which teachers and students displayed their mutual regard for each others' roles in the datasets analysed in Chapters 5. Case 1, sequence 1 in chapter 5 started with a teacher's appeal to students to participate in the co-construction of the classroom learning experience. He oriented to their capacity to co-lead and not just co-participate and therefore was pointing to the responsibility they had as students to construct their learning pathways. The excerpts of sequence 1 did not focus on students. However, in sequence 2, one student did participate when a speakership opportunity was presented. The student oriented to the teacher's expertise by monitoring displays of listening produced by the latter (when the teacher's gaze was intermittent), as well as 'allowing' teacher interception when his own ideas began to falter (excerpts 6-7, sequence 2). Gesture proved to supply the teacher with the material of his ensuing talk in that sequence. Cases 2 and 3 in chapter 5 showed the teachers elicit the participation of students in co-constructing the class session, thus orienting to their capacity to contribute to the unfolding of the class. Students oriented to the teacher's (epistemic) status and authority by complying with the activities and making the expected contributions.

e.   The embodiment of institutional roles and positions by teachers and students

There are obvious but often taken-for-granted aspects to the institutional display of teachers and students. First of all, the data showed teacher-fronted arrangements. The teacher is visible to all, and the students are visible to him or her. Next, students remain generally silent and seated during teacher talk; students have a goal, which is to learn, and their spatial position and posture, their gaze and note-taking are the silent but *active* ways in which they are participating and orienting to their own institutional positions or *membership category of learners*. Because interactional competence is a mutually constructed phenomenon, these actions in turn orient to the institutional position of the teacher and his or her role as the expert in such educational context as the classroom. As such, teachers enacted their institutional roles through the choice of subject content and how it was presented and organised, including the choice of language complexity (chapter 5, case 1, excerpt 8; chapter 7, excerpt 2, for instance).

The teachers recognised the value of dialogical interaction with students, to assess knowledge status, to activate previous knowledge and to prime students for ensuing talk. The dialogical episodes were carefully managed through the control of space and gesture to time transfer of speakership and the re-claiming of the floor. Teachers displayed expertise in how they were

exploiting students' contributions in the unfolding lesson, acknowledging the value in student participation. Concretely, the teachers in this thesis visibly acknowledged student interventions, through deictic gesture, counting off fingers with each contribution (chapter 5, case 2, excerpt 3), through the co-construction of a diagram (chapter, 5, case 3, excerpt 2), through sitting to carefully consider an idea, and through the uptake of student input in their ensuing discourse (chapter 7, excerpt 2). Due to the institutional and goal-driven rights conferred on teachers, they nonetheless held the floor during their long-turn or during dialogical interaction. In every case, this arrangement was not challenged by any student. The interjections made by students in chapter 7 were part of the established dynamic with that teacher in particular, in other words, there was unspoken ratification of this modus operandi *by* the teacher. Nevertheless, even in those interjected moments, the students showed embodied forms of mitigation; verbally with "sorry" or with question tags, and physically in upward gaze, promptly withdrawn gesture, engaged face expression and general embodied learner demeanour.

Overarching RO: *How do lecturers and students using ELF embody interactional competence in an EMI classroom?*

In conclusion, and in answer to the overarching research question, 'How do lecturers and students using ELF embody interactional competence in an EMI classroom?', as already exposed in the discussions at the end of each analytical chapter and in the discussion above, the findings reveal that ELF-EMI teachers display interactional competence in their institutional roles through verbal and embodied means; while students, likewise, showed adherence to their own institutional category. Teachers were able to spontaneously and pre-reflexively deploy and mobilize multimodal ensembles in their construction of such social actions as mitigating their authority (chapter 6) or claiming epistemic authority (chapter 7). In no case was a compensatory use of embodied conduct identified, rather, embodied actions were both complementary to talk as well as meaningfully emancipated from talk.

Multimodality is a vision of the interplay of modes for meaning wholeness. Nevertheless, below is a description of the affordances provided by each mode, as seen in the data, when it has primacy in an embodied action ensemble. This list does not intend to be exhaustive in any way, instead, it draws on the empirical findings of this thesis of how modes contribute to communication and therefore to interaction.

Gesture: Carried subject content information by depicting concepts, proportions, processes, and relationships. It served to highlight information and make stances clear.

Proxemics: Established and modified physical interactional spaces for learning. Management of distance enabled the focus of attention on one student or the entire class. Enabled the management of two interactional foci along the awareness-attention continuum. Displayed power relations with students, through distance and height difference.

Gaze: Drew people and things into relevance as it was strongly deictic in nature. It secured an interaction and was the fundamental means by which individuals acknowledged one another, and established attention ties.

Prosody: the musicality of prosody created the intonational units which separated a stream of talk into 'information bytes'. Stress on particular words served to draw attention to those items, allowing them to stand out from the surrounding talk. However, prosody was found to be accompanied by physical conduct such as gesture or proxemic behaviour.

To reiterate, as evidenced in the datasets examined in this thesis, modes do not act alone but, instead, interplay as modal ensembles acting as powerful meaning-making systems in social interaction with other individuals and in interaction with material objects (slides, tables, pens).

8.2   Contributions to the knowledge field

This study followed the case study design applying emic frameworks to gain insight into how participants co-construct meaning in their interaction with one another. This study also took into account how institutional constraints bore on the dynamics and were factored into the analysis. Drawing on the labour intensity of preparing data corpus, selecting datasets and analysing them, this thesis presents 7 cases with a total of 20 excerpts from longer sequences with embedded images as supporting evidence. Another source of strength in this dissertation is the comprehensive rendition of the context and the interlocking theoretical framework.

As native-like speakerness seems to continue to be the benchmark against which language users are held, even in higher education, this study aimed to demonstrate how the mobilisation, by the teachers and students, of a range of semiotic resources in the EMI classroom contributes to nuanced meaning-making and the creation of the interactional spaces that are conducive to learning within the broader framework of the lecture, and that high academic standards are indeed achieved. This research project makes a number of contributions to different but related fields which are addressed as follows:

To research on social interaction, and specifically to classroom interaction by advancing the study and understanding of multimodality as a system of meaning-making beyond the language paradigm; showing that meaning does not rest on verbal production alone but on

how the body, in particular, participates the sequenced construction of social actions. This thesis also demonstrated that clear communication is not the ultimate goal in teaching, but rather successful progressive, coherent, confluent and mutually constructed interaction is.

To the study of English-medium instruction within the context of internationalised higher education with a multimodal social interactional perspective. Consequently, this view contributes to related university language policy by providing evidence to rebut native-speakerness as essential or ideal in contexts such as the one studied. This thesis showed how ELF teachers with officially rather low language proficiency in English mobilise specialised discourses successfully and apply creative and effective pedagogical strategies to teaching. Furthermore, the teachers (and students) in this study displayed a high level of interactional competence through embodied actions.

To educational science, by demonstrating the role of multimodal resources, both embodied and material in the construction of effective pedagogical strategies. This thesis was mainly written during the COVID-19 global pandemic when there was a noticeable loss of teacher and student visible input in the move to the online modes of teaching. Students were not exposed to teachers' embodied actions, and teacher's lost the vital input of student visual cues, altogether which made following the content of the classes poorer and more challenging[1]. Therefore this dissertation seeks to stress the fundamental role and impact of the face-to-face mode in education.

To research on multimodality by providing a scholarly contribution that endevours to understand the role of signs, symbols and movement in social-cultural meaning through theoretical perspectives such as *direct perception* and phenomenology. Furthermore, this study contributes to the growing body of multimodal studies that examine the accomplishment of institutional interactional competence, but it is the only one, to my knowledge, that investigates the particular context of ELF-EMI in higher education through the prism of embodied actions.

To previous research on interactional competence by providing and applying a multimodal conversation analysis perspective to long stretches of discourse and revealing the ways in which interactional competence is accomplished largely by embodied modes. Through interactional competence, classroom discourse was developed and knowledge honed.

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[1] Personal communication: comments from teachers and students in university online meetings.

Therefore, this thesis has not endeavoured to downplay the central role of spoken discourse, instead, it has sought to show the myriad ways meaning is made which lead to the construction of specialist discourse and knowledge in the specific context of ELF-EMI classrooms.

8.3   Study limitations

One of the main limitations concerns the quality of the audiovisual material obtained for this study because some were collected personally and some were part of the corpus of EMI training videos. The lectures recorded personally were accompanied by field notes documenting occurrences, attitudes and other aspects not registered on the video medium. Therefore, those data were approached with greater insight into the classroom encounter (videos for JM, DM and MP). On the other hand, those recordings taken from the corpus of EMI training materials were subjected to unmotivated looking, hence contributing to the study robustness and being in fact a strength in the study design. Yet, since those videos were mainly recorded for EMI training purposes, the cameras were always focused on teachers and there is a lack of recordings showing the students. Therefore, the analysis focused largely on teachers' embodied actions, and assumptions made on students' responses derived from teachers' ongoing turn design.

8.4   Recommendations for EMI teaching and training

From cognitive to sociocultural paradigms

As mentioned above, this study does not intend to downplay discursive elements in teaching, but rather highlight all the different semiotic resources that participate in situated and locally constructed pedagogy. EMI training ought to begin with a move away from cognitive paradigms of teaching and learning, and instead introduce socio-constructivist frameworks to guide teaching strategies, introducing the classroom as an interactional event (Moore et al., 2012). The data in this dissertation has shown the successful deployment of constructivist approaches, as validated by the response given by students showing positive academic and interactional outcomes.

From written to spoken texts

Secondly, a grasp of specialist discourse does not present itself as a problem amongst the teachers in this study, however, pronunciation could hinder understanding, even though there was only one instance of this in the data (chapter 7, excerpt 1). The main exposure to English for many non-Anglo academics is through written and spoken academic genres, therefore EMI training could include work to help teachers transform academic/scientific knowledge into pedagogical content. This would include work on paraphrasing and reformulations, and on

ensuring the discourse is free of complex sentences that are difficult to follow. Furthermore, teachers should be presented to the notion of language as a social *instrument* and the notion of ELF as empowering perspectives on themselves as competent users of English and not deficient learners of English.

Material objects and the role of embodied actions

Last but not least, training ought to make salient the participation of material objects in the business of teaching and learning. Slide design and *interaction* with slide contents provide significant visual support for students. Therefore, an integral part of EMI training should focus on the interaction with such material objects. Highly recommended is the use of joint video viewing so lecturers are able to see the extent to which their embodied actions form part of the teaching and learning interaction with students. An exercise of this kind would demonstrate to teachers how much of their classroom management rests on their embodied actions; the constructions of spaces for learning, the dissolution of spaces, gesture, gaze and so forth, integrations of content aspects of the class with managerial ones.

Although a minimum level of English language proficiency for academic lecturing/teaching in HE is ideally C1, the data has demonstrated that successful teaching sequences rely on how teachers interact with students and material objects, rather than excluively on their level of language proficiency.

8.5   Future directions

Investigation into interactional competence in EMI requires more data from the student perspective, therefore future data collections will involve a dual-camera system as was in fact used to record the session in Chapter 7. Research into university educational settings ought to include such areas as laboratories and simulation spaces and not only the classroom. These other educational settings of the university offer a fascinating context to explore how teachers and students interact with each other and material objects (laboratory equipment), providing access to how teaching and learning are multimodally accomplished. Research into social interaction between teachers and students in such spaces will provide valuable information about how material objects mediate and participate in teaching-learning processes, and can inform future pedagogical strategies for these environments. This proposed research will explore how identities are forged and expertise emerges and develops through these multimodal and multisensory experiences. This line of research is conceived to complement research conducted in the traditional classroom, and responds to enquiries by the Faculty of Medicine and Health

Science regarding how learning takes place and identities expressed in the health science simulation facilities of the university.

8.6   Conclusion

To conclude, through the dynamic and situated deployment and mobilisation of gaze, posture, spatial position, gesture and talk, the participants of this thesis displayed interactional competence and the ability to construct a successful student-convergent space in an internationalised classroom where English as a the lingua franca was the medium of instruction. Furthermore, this thesis has demonstrated that embodied modes and material objects are not accessories in the act of teaching, but are absolutely central to the construction of learning experiences.

References and bibliographical information

Abercrombie, D. (1968). Elements of general phonetics. Edinburgh: Edinburgh University Press.

Adami, E. (2017). Multimodality and superdiversity: Evidence for a research agenda. *Tilburg Papers in Culture Studies, 177* Retrieved from http://eprints.whiterose.ac.uk/113051/

Adel, A. (2010). Just to give you kind of a map of where we are going: A taxonomy of metadiscourse in spoken and written academic English. *Nordic Journal of English Studies, 9*(2), 69.

Ahearn, L. M. (2001). Language and agency. *Annual review of anthropology, 30*(1), 109-137.

Airey, J. (2012). "I don't teach language": The linguistic attitudes of physics lecturers in sweden. *AILA Review, 25*(1), 64-79. Retrieved from http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-192056

Airey, J. (2016). EAP, EMI or CLIL? In K. Hyland, & P. Shaw (Eds.), *Routledge handbook of English for academic purposes* (pp. 95-107) Routledge. Retrieved from http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-276289

Airey, J., & Linder, C. (2008). Bilingual scientific literacy? *Nordic Journal of English Studies, 7*(3), 145. Retrieved from http://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-85731

Airey, J., & Linder, C. (2009). A disciplinary discourse perspective on university science learning: Achieving fluency in a critical constellation of modes. Journal of Research in Science Teaching: *The Official Journal of the National Association for Research in Science Teaching, 46*(1), 27-49.

Aliakbari, M., Elham, F. and Pourshakibaee, P. (2011). Investigation of the proxemic behavior of Iranian professors and university students: Effects of gender and status. *Journal of Pragmatics, 43*, p. 1392-1402.

Alibali, M. W., Flevares, L. M., & Goldin-Meadow, S. (1997). Assessing knowledge conveyed in gesture. *Journal of Educational Psychology, 89*(1), 183-193. doi:10.1037/0022-0663.89.1.183

Alibali, M. W., Kita, S., & Young, A. J. (2000). Gesture and the process of speech production: We think, therefore we gesture. *Language and cognitive processes, 15*(6), 593-613.

Alibali, M.W., Heath, D.C. and Myers, H.J. (2001). Effects of visibility between speaker and listener on gesture production: Some gestures are meant to be seen. *Journal of Memory and Language 44*, 169-188.

Allan, W & Bradbeer, M (2019, April 4). *The role of serial and one-off observations in EMI lecturer development* [paper presentation]. EMI Practices In Europe. University of Copenhagen, Denmark.

Altbach, P. (2004). Globalisation and the university: Myths and realities in an unequal world. *Tertiary Education and Management, 10*(1), 3-25. doi:TEAM.0000012239.55136.4b

Altbach, P. G., & Knight, J. (2007). The internationalization of higher education: Motivations and realities. *Journal of Studies in International Education, 11*(3-4), 290-305. doi:10.1177/1028315307303542

Antaki, C., Condor, S., & Levine, M. (1996). Social identities in talk: Speakers' own orientations. *British Journal of Social Psychology, 35*(4), 473-492. doi:10.1111/j.2044-8309.1996.tb01109.x

Arminen, I. (2017). Classrooms and the transmission of knowledge and expertise. In I.Arminen (Ed.) *Institutional interaction;* 112-134, NY:Routledge.

Bagarić, V. and Mihaljevic, J. (2007). Defining communicative competence. *Metodika, 8*(1), p. 94-103.

Bakhtin, M. M. (2010). *The dialogic imagination: Four essays* (Vol. 1). University of Texas Press.

Balaman, U., & Sert, O. (2017). The coordination of online L2 interaction and orientations to task interface for epistemic progression. *Journal of Pragmatics, 115*, 115-129.

Bamford, J., & Bondi, M. (Eds.). (2005). Dialogue within discourse communities: Metadiscursive perspectives on academic genres. De Gruyter.

Berkenkotter, C. (2008). Genre evolution? The case for a diachronic perspective. In V. K. Bhatia, J. Flowerdew & R. H. Jones (Eds.) *Advances in Discourse Studies* (pp. 178-191). Routledge.

Bernad-Mechó, E. (2015). A multimodal discourse analysis of linking metadiscursive elements in two opencourseware lectures (MOOCs). *Procedia - Social and Behavioral Sciences, 212*, 61-66. doi:10.1016/j.sbspro.2015.11.299

Bernstein, B. (1999). Vertical and horizontal discourse: An essay. *British journal of sociology of Education, 20*(2), 157-173.

Bezemer, J. & C. Jewitt (2010). Multimodal Analysis: Key issues. In: L. Litosseliti (ed), Research Methods in Linguistics. (pp. 180-197). London: Continuum. .

Bezemer, J. and Jewitt, C. (2010). Multimodal analysis: Key issues. In: L. Litosseliti (Eds.) (pp. 180-197)*Research methods in linguistics. London:* Continuum. .

Bezemer, J., & Kress, G. (2016). *Multimodality, learning and communication: A social semiotic frame*. Routledge.

Bezemer, J., & Mavers, D. (2011). Multimodal transcription as academic practice: A social semiotic perspective. *International Journal of Social Research Methodology, 14*(3), 191-206. doi:10.1080/13645579.2011.563616

Bhatia, V. K. (1991). A genre‑based approach to ESP materials. *World Englishes, 10*(2), 153-166.

Bhatia, V. K. (2008). Towards critical genre analysis. In V. K. Bhatia, J. Flowerdew & R. H. Jones (Eds.) *Advances in Discourse Studies* (pp. 166-177). Routledge.

Bhatia, V. K. (2012). Critical reflections on genre analysis. *Ibérica*, (24), 17-28.

Björkman, B. (2010). So you think you can ELF: English as a lingua franca as the medium of instruction. *HERMES-Journal of Language and Communication in Business,* (45), 77-96.

Björkman, B. (2011). Pragmatic strategies in English as an academic lingua franca: Ways of achieving communicative effectiveness? *Journal of Pragmatics, 43*(4), 950-964. doi:10.1016/j.pragma.2010.07.033

Björkman, B. (2012): Linguistic Justice for Europe and for the World, *International Studies in the Philosophy of Science, 26*(3), 354-357.

Björkman, B. (2015). Deterding, David: Misunderstandings in English as a Lingua Franca. An Analysis of ELF Interactions in South-East Asia. *Journal of English as a Lingua Franca*, *4*(2), 385-389. https://doi.org/10.1515/jelf-2015-0031

Block, D., & Moncada-Comas, B. (2019). English-medium instruction in higher education and the ELT Gaze: STEM lecturers' self-positioning as NOT English language teachers. *International Journal of Bilingual Education and Bilingualism*, 1-17.

Blommaert J (2006), Language Ideology. In K.Brown, (Eds.) *Encyclopedia of Language & Linguistics, Second Edition, 6*, 510-522. Oxford: Elsevier.

Blommaert, J. M. E. (2014). From mobility to complexity in sociolinguistic theory and method. *Tilburg Papers in Culture Studies, 103*.

Blommaert, J., & Backus, A. (2013). " Superdiverse Repertoires and the Individual". In *Multilingualism and Multimodality*. Leiden, The Netherlands: Brill | Sense. Retrieved Apr 16, 2021, from https://brill.com/view/book/edcoll/9789462092662/BP000003.xml

Blommaert, J., & Horner, B. (2017). Mobility and academic literacies: An epistolary conversation. *London Review of Education, 15*(1), 2-20.

Blommaert, J., & Rampton, B. (2012). Language and superdiversity. *MMG Working Paper, 12-05*. Max Planck Institute. Göttingen, Germany.

Bologna Process and the European Higher Education Area. http://ec.europa.eu/education/policy/higher-education/bologna-process_en (last accessed July 30)

Bolsmann, C., & Miller, H. (2008). International student recruitment to universities in england: Discourse, rationales and globalisation. *Globalisation, Societies and Education, 6*(1), 75-88. doi:10.1080/14767720701855634

Bonacchi, S. And Karpinski, M. (2014) Remarks about the use of the term "multimodality". *Journal of Multimodal Communication Studies* (1). p. 1-7.

Bourdieu, P. (1977). The economics of linguistic exchanges. *Social Science Information, 16*(6), 645-668. doi:10.1177/053901847701600601

Bronckart, J. P. (2008). Actividad lingüística y construcción de conocimientos. *Lectura y vida*, *29*(2).

Broth, M. And Mondada, L. (2013). Walking away: The embodied achievement of activity closings in mobile interaction. *Journal of Pragmatics,* 47, p. 41-58.

Buxbaum, L. J., Kyle, K. M., Menon, R., M, K., Menon, & Rukmini. (2005). On beyond mirror neurons: Internal representations subserving imitation and recognition of skilled object-related actions in humans. *Cognitive Brain Research, 25*(1), 226-239. doi:10.1016/j.cogbrainres.2005.05.014

Canagarajah, A. S. (2006). Negotiating the local in English as a lingua franca. *Annual Review of Applied Linguistics, 26*, 197-218. doi:10.1017/S0267190506000109

Canagarajah, A. S. (2007). Lingua Franca English. Multilingual communities and language acquisition. *Modern Language Journal. 91* (focus issue), p. 923-939.

Carroll, D. (2012). Learning to see all over again: new approaches to working with multimodality. In Proceedings of the Symposium '*'Challenges and New Directions in the Micro-Analysis of Social Interaction''*. Kansai University International Symposium.

Cazden, C. B. (1988). Variation in lesson structure. In C. Cazden (Ed.) *Classroom discourse: The language of teaching and learning* (pp. 53-79). Heinemann: Portmouth, NH.

Chomsky, N. (1965). *Aspects of the theory of syntax* (1st ed.). Massachusetts: MIT Press.

Chue, S., Lee, Y., & Tan, K. C. D. (2015). Iconic gestures as undervalued representations during science teaching. *Cogent Education, 2*(1) doi:10.1080/2331186X.2015.1021554

Cioè-Peña, M., Moore, E., & Rojo, L. M. (2016). The burden of 'nativeness': Four plurilingual student-teachers' stories. *Bellaterra Journal of Teaching & Learning Language & Literature, 9*(2), 32-52.

Clua, M. (2017). *Classroom interactional competence in English-mediated instruction through the deployment of multimodal resources.* [unpublished Master's thesis]. Universtitat Autònoma de Barcelona.

Commission of the European Communities (1995). Teaching and learning: Towards the learning society. *White Paper on Education and Training*.

Cook, S., Tananhaus, M.K. (2009). Embodied communication: Speaker's gestures affect listeners' actions. *Cognition*, *113*, p. 98-104

Corrales, K. A., Paba Rey, L. A., & Santiago Escamilla, N. (2016). Is EMI enough? perceptions from university professors and students. *Latin American Journal of Content & Language Integrated Learning, 9*(2), 318-344. doi:10.5294/laclil.2016.9.2.4

Costa, F. (2012). Focus on form in ICLHE lectures in italy: Evidence from English-medium science lectures by native speakers of italian. *AILA Review, 25*, 30-47. doi:10.1075/aila.25.03cos

Cots, J. M., Lasagabaster, D., & Garrett, P. (2012). Multilingual policies and practices of universities in three bilingual regions in europe. *International Journal of the Sociology of Language, 2012*(216), 7-32. doi:10.1515/ijsl-2012-0037

Couper-Kuhlen, E. (1998). Coherent voicing. On prosody in conversational reported speech. In W. Bubiltz, U. Lenk and E. Ventola (Eds), *Coherence in spoken and written discourse*. Amsterdam: John Benjamins Publishing Company.

Couper-Kuhlen, E. (2014). Prosody as dialogic interaction. In D. Barth-Weingarten and B. Szczepek Reid (Eds). *Prosody and phonetics in interaction*. (pp. 222-251). Mannheim: Verlag für Gesprächsforschung.

Cowan, K. (2014). Multimodal transcription of video: Examining interaction in early years classrooms. *Classroom Discourse, 5*(1), 6-21. doi:10.1080/19463014.2013.859846

Crawford Camiciottoli, B. (2008). Interaction in academic lectures vs. written text materials: The case of questions. *Journal of Pragmatics, 40*(7), 1216-1231. doi:10.1016/j.pragma.2007.08.007

Dafouz, E. (2018a). English-medium instruction and teacher education programmes in higher education: Ideological forces and imagined identities at work. *International Journal of Bilingual Education and Bilingualism, 21*(5), 540-552. doi:10.1080/13670050.2018.1487926

Dafouz, E. (2018b). English-medium instruction in multilingual university settings; An opportunity for developing language awareness. In P. Garrett, & J. M. Cots, (Eds.). *The Routledge handbook of language awareness*, 170-185, NY:Routledge.

Dafouz, E., & Smit, U. (2014). Towards a dynamic conceptual framework for English-medium education in multilingual university settings. *Applied Linguistics, 37*(3), 397-415. doi:10.1093/applin/amu034

Dafouz, E., Núñez, B., Sancho, C., & Foran, D. (2007). Integrating CLIL at the tertiary level: Teachers' and students' reactions. *Diverse Contexts Converging Goals.Content and Language Integrated Learning in Europe, 4*, 91-102.

De Jaegher, H., Di Paolo, E., & Gallagher, S. (2010). Can social interaction constitute social cognition? *Trends in Cognitive Sciences, 14*(10), 441-447. doi:10.1016/j.tics.2010.06.009

De Ruiter, J. P., Bangerter, A., & Dings, P. (2012). The interplay between gesture and speech in the production of referring expressions: Investigating the tradeoff hypothesis. *Topics in Cognitive Science, 4*(2), 232-248.

Deppermann, A. (2013). How to get a grip on identities-in-interaction:(What) does 'positioning' offer more than 'membership categorization'? Evidence from a mock story. *Narrative Inquiry, 23*(1), 62-88.

Dewey, M. (2007). English as a lingua franca and globalization: An interconnected perspective. *International Journal of Applied Linguistics, 17*(3), 332-354. doi:10.1111/j.1473-4192.2007.00177.x

Doiz, A., Lasagabaster, D., & Sierra, J. (2013). Globalisation, internationalisation, multilingualism and linguistic strains in higher education. Studies in higher education, 38(9), 1407-1421.

Doiz, A., Lasagabaster, D., & Sierra, J. M. (2011). Internationalisation, multilingualism and English-medium instruction. *World Englishes, 30*(3), 345-359. doi:10.1111/j.1467-971X.2011.01718.x

Drew, P. (2013). Turn design. In J. Sidnell & T. Stivers (Eds.) *The Handbook of Conversation Analysis* (pp. 131-149). Wiley-Blackwell.

Drew, P., & Heritage, J. (1992). Analyzing talk at work: An introduction. In P. Drew, & J. Heritage (Eds.), *Talk at work* (1st ed., pp. 3-65). Cambridge UK: Cambridge University Press.

Duncan, S. D., Cassell, J., & Levy, E. T. (Eds.). (2007). *Gesture and the dynamic dimension of language: Essays in honor of David McNeill* (Vol.1). John Benjamins Publishing.

Ekström, A. (2013). Epistemic positioning and frameworks for participation: Learning to assess objects of craft in teacher education. *Learning, Culture and Social Interaction, 2*(4), 277-292. doi:10.1016/j.lcsi.2013.10.002

Escobar-Urmenta, C. E. and Walsh, S. (2016). Classroom interactional competence in content and language integrated learning. In A. Llinares and T. Morton (Ed.) *Applied linguistics perspectives on CLIL*. p. 183-201. John Benjamins Publishing Company.

Escribano X., Pérez-Bellmunt A. (2017) The Therapeutic Hand. In: Bertolaso M., Di Stefano N. (eds) *The Hand. Studies in Applied Philosophy, Epistemology and Rational Ethics, vol 38*. Springer, Cham. https://doi.org/10.1007/978-3-319-66881-9_8

Escribano-López, X. (2000). Gesto y palabra: La esencia emocional del lenguaje según Maurice Merleau-Ponty. *Themata. Revista de Filosofía, 25*, 175-185

Escribano-López, X. (2004). *Sujeto encarnado y expresión creadora: aproximación al pensamiento de Maurice Merleau-Ponty*. Prohom ed.

Evans, N., & Levinson, S. C. (2009). The myth of language universals: Language diversity and its importance for cognitive science. *Behavioral and brain sciences, 32*(5), 429-448.

Evnitskaya, N., & Berger, E. (2017). Learners' multimodal displays of willingness to participate in classroom interaction in the L2 and CLIL contexts. *Classroom Discourse, 8*(1), 71-94. doi:10.1080/19463014.2016.1272062

Evnitskaya, N., & Morton, T. (2011). Knowledge construction, meaning-making and interaction in CLIL science classroom communities of practice. *Language and Education, 25*(2), 109-127.

Fasel Lauzon, V. & Berger, E. (2015). The multimodal organization of speaker selection in classroom interaction. *Linguistics and Education, 31*, 14-29. doi:10.1016/j.linged.2015.05.001

Firth, A. (1996). The discursive accomplishment of normality: On 'lingua franca' English and conversation analysis. *Journal of pragmatics, 26*(2), 237-259.

Firth, A., & Wagner, J. (1997). On discourse, communication, and (some) fundamental concepts in SLA research. *The modern language journal, 81*(3), 285-300.

Flowerdew, J. (2015). John Swales's approach to pedagogy in Genre Analysis: A perspective from 25 years on. Journal of English for Academic Purposes, 19, 102-112.

Flowerdew, J., & Miller, L. (1997). The teaching of academic listening comprehension and the question of authenticity. *English for Specific Purposes, 16*(1), 27-46. doi:10.1016/S0889-4906(96)00030-0

Fogassi, L., & Ferrari, P. F. (2007). Mirror neurons and the evolution of embodied language. *Current directions in psychological science, 16*(3), 136-141.

Fortanet-Gomez, I., & Ruiz Madrid, N. (2014). Multimodality for comprehensive communication in the classroom. questions in guest lectures. *Iberica: Revista De La Associación Europea De Lenguas Para Fines Específicos, 28*, 203-224.

Froese, T., & Gallagher, S. (2012). Getting interaction theory (IT) together: Integrating developmental, phenomenological, enactive, and dynamical approaches to social interaction. *Interaction Studies, 13*(3), 436-468. doi:10.1075/is.13.3.06fro

Fuchs, T., & De Jaegher, H. (2009). Enactive intersubjectivity: Participatory sense-making and mutual incorporation. *Phenomenology and the Cognitive Sciences, 8*(4), 465-486. doi:10.1007/s11097-009-9136-4

Gallagher, S. (2008). Direct perception in the intersubjective context. *Consciousness and Cognition, 17*(2), 535-543. doi:10.1016/j.concog.2008.03.003

Gallagher, S., & Zahavi, D. (2012). *The phenomenological mind*. Florence: Routledge. doi:10.4324/9780203086599 Retrieved from https://www.taylorfrancis.com/books/9781134166220

Gallese, V. (2001). The 'shared manifold' hypothesis. From mirror neurons to empathy. *Journal of consciousness studies, 8*(5-6), 33-50.

Gardner, R. (1998). Between speaking and listening: The vocalisation of Understandings1. *Applied Linguistics, 19*(2), 204-224. doi:10.1093/applin/19.2.204

Gardner, R. (2007). The right connections: Acknowledging epistemic progression in talk. *Language in Society, 36*(3), 319-341. doi:10.1017/S0047404507070169

Gardner, R. (2013). Conversation analysis in the classroom. In In J. Sidnell & T. Stivers (Eds.) *The Handbook of Conversation Analysis* (pp. 593-611). Wiley-Blackwell.

Gee, J. P. (1989). Literacy, discourse, and linguistics: Introduction. *Journal of education, 171*(1), 5-17.

Gerdes, K. E. & Segal, E. A (2009). A social work model of empathy. *Advances in Social Work, 10*, (2), 114-127.

Gibbon, D. (2009). Gesture theory is linguistics: On modelling multimodality as prosody. Paper presented at the *23rd Pacific Asia Conference on Language, Information and Computation,* Hong Kong. 9-18. Retrieved from http://hdl.handle.net/2065/34300

Goffman, E. (1963). *Behavior in public places: Notes on the social organisation of gatherings.* The Free Press: NY

Goffman, E. (1964). The neglected situation. *American anthropologist, 66*(6/2), 133-136.

Goffman, E. (1967). On face-work. *Interaction ritual*, 5-45.

Goffman, E. (1981). Footing. In E. Goffman (Ed.), *Forms of talk*. (pp. 125-159). Philadelphia: University of Pennsylvania Press.

Goffman, E. (1981). The lecture. In E. Goffman (Ed.), *Forms of talk*. (pp. 162-195). Philadelphia: University of Pennsylvania Press.

Goldin-Meadow, S. (1997). When gestures and words speak differently. *Current Directions in Psychological Science, 6*(5), 138-143. doi:10.1111/1467-8721.ep10772905

Goodwin, C. (1980). Restarts, pauses, and the achievement of a state of mutual gaze at turn-beginning. *Sociological inquiry, 50*(3-4), 272-302.

Goodwin, C. (2000). Action and embodiment within situated human interaction. *Journal of Pragmatics, 32*(10), 1489-1522. doi:10.1016/S0378-2166(99)00096-X

Goodwin, C. (2002). Time in action. *Current Anthropology, 43*(S4). p. S19-S35.

Goodwin, C. (2003). The body in action. In J. Coupland and R. Gwyn (Eds.) *Discourse, the body, and identity* (pp. 19-42). Palgrave Macmillan, London.

Goodwin, C. (2007). Participation, stance and affect in the organization of activities. *Discourse & Society, 18*(1), 53-73. doi:10.1177/0957926507069457

Goodwin, C. (2010). Constructing meaning through prosody in aphasia. *Prosody in interaction*, 373-394.

Goodwin, C. (2013). The co-operative, transformative organization of human action and knowledge. *Journal of Pragmatics, 46*(1), 8-23. doi:10.1016/j.pragma.2012.09.003

Goodwin, C., & Goodwin, M. H. (2004). Participation. In A. Duranti (Ed.), *A companion to linguistic anthropology* (pp.222-244). Oxford UK: Blackwell Publishing. doi:10.1002/9780470996522.ch10

Goodwin, M. H. (1995). Co-construction in girls' hopscotch. *Research on Language and Social Interaction, 28*(3), 261-281.

Goodwin, M. H., & Goodwin, C. (1986). Gesture and co participation in the activity of searching for a word. *Semiotica, 62*(1-2), 51-75. Retrieved from https://search.proquest.com/docview/1298483821

Graddol, D. (2019). The decline of the native speaker. *Translation today* (pp. 152-167). Bristol, Blue Ridge Summit: Multilingual Matters. doi:10.21832/9781853596179-013 Retrieved from http://www.degruyter.com/doi/10.21832/9781853596179-013

Grandjean, D. (2020). Brain networks of emotional prosody processing. *Emotion Review*, 1754073919898522.

Greer, T., Bussinguer, V., Butterfield, J., & Mischinger, A. (2009). Receipt through repetition. *JALT Journal, 31*(1), 5-34.

Greiffenhagen, C. (2008). Video Analysis of Mathematical Practice. Different attempts to "open up" mathematics for sociological investigation. Forum: *Qualitative Social Research, 9*(3) art. 32.

Gumperz, J. J. (1968/2009). The speech community. *Linguistic anthropology: A reader, 1*(66), 66-73.

Haberland, H. (2012). The Politics of Transcription: Issues of Multilingual and Other Non-Standard Data. In Kansai University international symposium '*Challenges and new directions in the micro-analysis of social interaction' Symposium proceedings*. (pp. 3-8)

Hall, E.T. (1968). Proxemics (and comments and replies). *Current Anthropology, 9* (2-3). 83-108.

Hao, J., & Hood, S. (2019). Valuing science: The role of language and body language in a health science lecture. *Journal of Pragmatics, 139*, 200-215.

Harms, P. & Koole, T. (2018, June 6). Note taking as recipient action [paper presentation]. A video turn in linguistics. VALS-ASLA. University of Basel, Switzerland.

Hazel, S. (2014). Cultivating objects in interaction: Visual motifs as meaning making practices. In M. Nevile, P. Haddingston, T. Heinemann and M. Rauniomaa (Eds) *Interacting with Objects: Language, materiality and social activity* (pp. 169-194). John Benjamins.

Hazel, S., Mortensen, C., & Haberland, H. (2012). Transcription linking software: integrating the ephemeral and the fixed in interaction research. In Kansai University international symposium '*Challenges and new directions in the micro-analysis of social interaction' Symposium proceedings* (pp. 13-17).

Hazel, S., Mortensen, K., & Rasmussen, G. (2014). Introduction: A body of resources – CA studies of social conduct. *Journal of Pragmatics, 65*, 1-9. doi:10.1016/j.pragma.2013.10.007

Heath, C. and Luff, P. (2013). Embodied action and organisational activity. In J. Sidnell and T. Stivers (Ed.) *The Handbook of conversation analysis* (pp. 283-307). Sussex: Blackwell Publishing.

Heister, H. (2014). Mirror Neurons and Literature: Empathy and the Sympathetic Imagination in the Fiction of JM Coetzee. *MediaTropes, 4*(2), 98-113.

Helm, F., & Guarda, M. (2015). "Improvisation is not allowed in a second language": A survey of italian lecturers' concerns about teaching their subjects through English. *Language Learning in Higher Education, 5*(2), 353-373. doi:10.1515/cercles-2015-0017

Heritage, J. (2012). Epistemics in action: Action formation and territories of knowledge. *Research on Language & Social Interaction, 45*(1), 1-29. doi:10.1080/08351813.2012.646684

Heyes, C. (2010). Where do mirror neurons come from? *Neuroscience & Biobehavioral Reviews, 34*(4), 575-583. doi:10.1016/j.neubiorev.2009.11.007

Heyes, C. (2010). Where do mirror neurons come from? *Neuroscience & Biobehavioral Reviews, 34(*4), 575-583.

Hindmarsh, J., & Heath, C. (2003). Transcending the object in embodied interaction. n J. Coupland and R. Gwyn (Eds.) *Discourse, the body, and identity* (pp. 43-69). Palgrave Macmillan, London.

Hofstede, G. (1986). Cultural differences in teaching and learning. *International Journal of Intercultural Relations, 10*(3), 301-320. doi:10.1016/0147-1767(86)90015-5

Housley, W & Fitzgerald R. (2015). Introduction to membership categorisation analysis. In R. Fitzgerald, R., & W. Housley, W. (Eds.) *Advances in membership categorisation analysis.* (pp. 1-21). Sage.

Hubbard, A. L., Wilson, S. M., Callan, D. E., & Dapretto, M. (2009). Giving speech a hand: Gesture modulates activity in auditory cortex during speech perception. *Human Brain Mapping, 30*(3), 1028-1037. doi:10.1002/hbm.20565

Hülmbauer, C. (2011). English as a lingua franca (ELF): The mode and its implications. *A toolkit for transnational communication in Europe, 4*3, 68**.**

Hyland, K. (2002). Genre: Language, context, and literacy. *Annual review of applied linguistics, 22*(1), 113-135.

Hyland, K. (2005). Stance and engagement: A model of interaction in academic discourse. *Discourse Studies: An Interdisciplinary Journal for the Study of Text and Talk, 7*(2), 173. doi:10.1177/1461445605050365

Hymes, D. (1972). On communicative competence. In J.B. Pride & Holmes (Eds.) Sociolinguistics: Selected Readings. p. 269-293. Harmondsworth: Penguin.

Iacoboni, M. (2009). Imitation, empathy, and mirror neurons. *Annual review of psychology, 60*, 653-670.

Iacoboni, M., Molnar-Szakacs, I., Gallese, V., Buccino, G., Mazziotta, J. C., & Rizzolatti, G. (2005). Grasping the intentions of others with one's own mirror neuron system. *PLoS Biology, 3*(3), e79. doi:10.1371/journal.pbio.0030079

Iedema, R. (2003). Multimodality, resemiotization: extending the analysis of discourse as multi-semiotic practice. *Visual Communication 2*(1). P. 29-57.

Jacknick, C. M., & Duran, D. (2021). Transforming student contributions into subject-specific expression. *System, 98*, 102485.

Jakonen, T., & Evnitskaya, N. (2020). Teacher smiles as an interactional and pedagogical resource in the classroom. *Journal of Pragmatics*, *163*, 18-31.

Jakonen, T. (2020). Professional embodiment: Walking, re-engagement of desk interactions, and provision of instruction during classroom rounds. *Applied Linguistics, 41*(2), 161-184.

Jefferson, G. (1984) Transcription Notation, In J. Atkinson and J. Heritage (eds), *Structures of Social Interaction* (pp. 346-369). New York: Cambridge University Press.

Jefferson, G. (1996). A case of transcriptional stereotyping. *Journal of pragmatics, 26*(2), 159-170.

Jenkins, J. (2008). Current perspectives on teaching world Englishes and English as a lingua franca. *TESOL Quarterly, 40*(1), 157-181.

Jenkins, J. (2011). Accommodating (to) ELF in the international university. *Journal of Pragmatics, 43*(4), 926-936. doi:10.1016/j.pragma.2010.05.011

Jewitt, C. Bezemer and J. O'Halloran, K. (2016). *Introducing Multimodality. Routledge*; London and NY.

Jurado, J. V., Madrid, M. N. R., & Jacobs, G. (2018). Revisiting persuasion in oral academic and professional genres: Towards a methodological framework for Multimodal Discourse Analysis of research dissemination talks. *Ibérica: Revista de la Asociación Europea de Lenguas para Fines Específicos (AELFE), (35)*, 93-118.

Kääntä, L. (2012). Teachers' embodied allocations in instructional interaction. *Classroom Discourse, 3*(2), 166-186. doi:10.1080/19463014.2012.716624

Kendon, A. (1994). Do gestures communicate? A review. *Research on Language & Social Interaction, 27*(3), 175-200. doi:10.1207/s15327973rlsi2703_2

Kendon, A. (2004). *Gesture. Visible Action as Utterances*. Cambridge: Cambridge University Press.

Kerr, C. (2001). *The Uses of the University*. Cambridge: Harvard University Press.

Khondker, H. H. (2005). Globalisation to glocalisation: A conceptual exploration. *Intellectual Discourse, 13*(2), 181-199. Retrieved from https://doaj.org/article/cd42b0672be9477cb8ed9d005d5a9340

Kidwell, M. (2013). Framing, grounding, and coordinating conversational interaction: posture, gaze, facial expression, and movement in space. Body–Language–Communication. *An International Handbook on Multimodality in Human Interaction*, 100-112. Mouton de Gruyter.

Kidwell, M. (2014). The role of gaze in conversational interaction. Body–Language–Communication. In A. Cienki, E. Fricke, D. McNeill, C. Müller (Eds.). *An International Handbook on Multimodality in Human Interaction,* 2. Mouton de Gruyter.

King's College (no date) Part two: *Notes on prosody*.

Knight, J. (2003a.). Updating the definition of internationalization. *International Higher Education 33,* p. 2–3.

Koole, T. (2012). Teacher evaluations: Assessing 'knowing,' 'understanding,' and 'doing'. In G. Rasmussen, C. E. Brouwer & D. Day (Eds.), *Evaluating cognitive competences in interaction* (pp. 43). Amsterdam: Benjamins. Retrieved from http://gateway.proquest.com/openurl?ctx_ver=Z39.88-2003&xri:pqil:res_ver=0.2&res_id=xri:ilcs-us&rft_id=xri:ilcs:rec:abell:R04802755

Koole, T. (2015). Classroom interaction. *The international encyclopedia of language and social interaction*, 1-14.

Kramsch, C. (1986). From language proficiency to interactional competence. *The Modern Language Journal, 70*(4), 366-372. doi:10.1111/j.1540-4781.1986.tb05291.x

Kress, G. (2015). Semiotic work: Applied linguistics and a social semiotic account of multimodality. *Aila Review, 28*(1), 49-71.

Kress, G. R. (2003). *Literacy in the new media age*. Psychology Press.

Krummheuer, G. (2011). Representation of the notion "learning-as-participation" in everyday situations of mathematics classes. ZDM Mathematics Education, 43, p. 81-90

Lakoff, G. (2008). Women, fire, and dangerous things: What categories reveal about the mind. University of Chicago press

Lantolf, J. P. (2011). The sociocultural approach to second language acquisition. *Alternative approaches to second language acquisition*, (pp.24-47). Routledge.

Lasagabaster, D. (2015). Language policy and language choice at european universities: Is there really a 'choice'? *European Journal of Applied Linguistics, 3*(2), 255-276. doi:10.1515/eujal-2014-0024

Latour, B. (1999). On recalling ANT. *The Sociological Review, 47*(1), 15-25. doi:10.1111/j.1467-954X.1999.tb03480.x

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford university press.

Lave, J. and Wenger, E. (1991). Situated Learning: Legitimate peripheral participation. Cambridge, UK: Cambridge University Press.

LeBaron, C., & Streeck, J. (2000). Gestures, knowledge, and the world. *Language and gesture*, 118-138.

Lee, J. J. (2009). Size matters: An exploratory comparison of small-and large-class university lecture introductions. *English for Specific Purposes, 28*(1), 42-57.

Levinson, S. C. (1992). Activity types and language. In P. Drew & J. Heritage (Eds.) *Talk at work: Interaction in institutional settings*. (pp. 66-100). Cambridge University Press.

Levinson, S. C. (2013). Action formation and ascription. In J. Sidnell & T. Stivers, T. (Eds.) *The handbook of conversation analysis* (pp. 103-130). Wiley-Blackwell.

Lim, F. V., O'Halloran, K. L., & Podlasov, A. (2012). Spatial pedagogy: Mapping meanings in the use of classroom space. *Cambridge Journal of Education, 42*(2), 235-251. doi:10.1080/0305764X.2012.676629

Lindström, A., & Sorjonen, M. L. (2013). Affiliation in conversation. In J. Sidnell & T. Stivers (Eds.) *The Handbook of Conversation Analysis* (pp. 350-369). Wiley-Blackwell.

Ljosland, R. (2011). English as an academic lingua franca: Language policies and multilingual practices in a Norwegian university. *Journal of Pragmatics, 43*(4), 991-1004. doi:10.1016/j.pragma.2010.08.007

López-Deflory, E., & Juan-Garau, M. (2017). Going glocal: The impact of CLIL on English language learners' multilingual identities and attitudes in the balearic islands. *European Journal of Applied Linguistics, 5*(1), 5-30. doi:10.1515/eujal-2016-0015

Lotto, A. J., Hickok, G. S., & Holt, L. L. (2009). Reflections on mirror neurons and speech perception. *Trends in cognitive sciences, 13*(3), 110-114.

Low, S. M. (2003). Embodied space(s): Anthropological theories of body, space, and culture. *Space and culture, 6*(1), 9-18.

Macaro, E. (2018). *English medium instruction* (first ed.). Oxford UK: Oxford University Press. Retrieved from http://digitale-objekte.hbz-nrw.de/storage2/2018/12/02/file_10/8210648.pdf

Magnussen , S. Krajcik, J.Borko, H. (1999). Nature, sources, and development of pedagogical content knowledge for science teaching. In J. Gess and G. Lederman (Eds.) *PCK and science education.* p. 95-132. Netherlands; Kluwer Academic Publishers.

Malavska, V. (2016). Genre of an academic lecture. International Journal on Language, *Literature and Culture in Education, 3*(2), 56-84.

Manke, M. (1997). *Classroom power relations: Understanding student-teacher interaction.* Routledge.

Maphosa, C. and Ndebele, C. (2014). Interrogating the Skill of Introducing a Lecture: Towards an Interactive Lecture Method Instruction. *Anthropologist 17*(2): 543-550

Marginson, S. (2002). Nation-building universities in a global environment: The case of Australia. *Higher Education, 43*(3), 409-428. doi:10.1023/A:1014691304966

Markee, N. (2000). *Conversation analysis*. New Jersey USA: Routledge.

Marstaller, L. & Burianova, H. (2014). A common functional neural network for overt production of speech and gesture. *Neuroscience, 284*, 29-41. doi:10.1016/j.neuroscience.2014.09.067

Matsumoto, Y. (2019). Exploring epistemological expansions of English as a lingua franca. *TESOL Quarterly, 53*(2), 566-578.

Matsumoto, Y. & Canagarajah, S. (2020). The use of gesture, gesture hold, and gaze in trouble-in-talk among multilingual interlocutors in an. *Journal of Pragmatics, 169*, 245-267. https://orcid.org/0000-0002-6440-6400

Mauranen, A., Hynninen, N., & Ranta, E. (2010). English as an academic lingua franca: The ELFA project. *English for Specific Purposes, 29*(3), 183-190. doi:10.1016/j.esp.2009.10.001

Mavers, D. (2012). *Transcribing video*. University of London: Institute of Education.

Maynard, D. (2013). Everyone and no one to turn to. Intellectual roots and context for conversation analysis. In J. Sidnell & T. Stivers (Eds.) The Handbook of Conversation Analysis (pp. 11-31). Wiley-Blackwell.

McCafferty, S. G. (2002). Gesture and creating zones of proximal development for second language learning. *The Modern Language Journal, 86*(2), 192-203. doi:10.1111/1540-4781.00144

McCafferty, S.G. (2004). Space for cognition: Gesture and second language learning. *International Journal of Applied Linguistics, 14*(1), 148-165. doi:10.1111/j.1473-4192.2004.0057m.x

McCafferty, S.G. & Vegas, L. (2004). Space for cognition. *Gesture and second language learning.14*(1), 148-165.

McCarthy, M. (2006). Fluency and confluence: What fluent speakers do. *Explorations in corpus linguistics, 1-6*. Cambridge University Press.

McNeill, D. (1987). Gesture: a psycholinguistic approach. *The Encyclopedia of Language and Linguistics.* (incomplete reference)

McNeill, D. (1992). Gesture: *A psycholinguistic approach* 1., 1-15.

McNeill, D. (1999). Triangulating the growth point. Arriving at consciousness. In L. Messing and R. Campbell (Eds), *Gesture, Speech and Sign*, (pp. 77-92). Oxford: Oxford University Press.

McNeill, D. (2005). Gesture: A psycholinguistic approach. *The Encyclopedia of Language and Linguistics,* 58-66. Retrieved from http://lib.myilibrary.com?ID=196594

McNeill, D. (2008). *Gesture and thought*. University of Chicago press.

McNeill, D. & Duncan, S. D. (2000). Growth points in thinking-for-speaking. In D. McNeil (Ed.), *Language and gesture* (pp. 141-161). Cambridge: Cambridge University Press.

McNeill, D., & Duncan, S. D. (2000). Growth points in thinking-for-speaking. In D. McNeill (Ed.) *Language and gesture* (Vol. 2), (pp. 141-161). Cambridge: Cambridge University Press.

McNeill, D., Cassell, J., & McCullough, K. (1994). Communicative effects of speech-mismatched gestures. *Research on Language & Social Interaction, 27*(3), 223-237. doi:10.1207/s15327973rlsi2703_4

McNeill, D., Duncan, S., Cole, J., Gallagher, S., & Bertenthal, B. (2008). Growth points from the very beginning. *Interaction Studies, 9*, 117-132.

Mehan, H. (1998). The study of social interaction in educational settings: Accomplishments and unresolved issues 1. *Human Development, 41*(4), 245-269. doi:10.1159/000022586

Mehrabian, A. (1971). *Silent messages,* (Vol. 8, No. 152). Belmont, CA: Wadsworth.

Mercer, N (2000). The given and the new. In N. Mercer (Ed.) *Word and mind. How we use language to think together.* p. 53-54. Routledge: London.

Mercer, N. (1995). Guidance strategies. In N. Mercer (Ed.) *The guided construction of knowledge: Talk amongst teachers and learners*. (pp. 21-43). Multilingual Matters Ltd.

Mercer, S. (2012). The complexity of learner agency. *Apples-Journal of Applied Language Studies*, *6*(2), 41-59.

Merleau-Ponty, M. (1948/2004). *The world of perception*. Routledge.

Merleau-Ponty, M. (1968). *The visible and the invisible: Followed by working notes*. Northwestern University Press.

Meyer, C., Streeck, J., & Jordan, J. S. (Eds.). (2017). Intercorporeality: Emerging socialities in interaction. Oxford University Press.

Miller, C. R. (1984). Genre as social action. *Quarterly journal of speech, 70*(2), 151-167.

Moncada-Comas, B., & Block, D. (2019). CLIL-ised EMI in practice: Issues arising. *The Language Learning Journal,* 1-13.

Mondada, L. (2002, July). Describing surgical gestures: the view from researcher's and surgeon's video recordings. In *Proceedings of the First International Gesture Conference.* Austin.

Mondada, L. (2009). Emergent focused interactions in public places: A systematic analysis of the multimodal achievement of a common interactional space. *Journal of Pragmatics, 41*(10), 1977-1997. doi:10.1016/j.pragma.2008.09.019

Mondada, L. (2014). Instructions in the operating room: How the surgeon directs their assistant's hands. *Discourse Studies, 16*(2), 131-161.

Mondada, L. (2016). Challenges of multimodality: Language and the body in social interaction. *Journal of Sociolinguistics, 20*(3), 336-366.

Mondada, L. (2018). Multiple temporalities of language and body in interaction: Challenges for transcribing multimodality. *Research on Language and Social Interaction, 51*(1), 85. doi:10.1080/08351813.2018.1413878

Mondada, L. (2019). Contemporary issues in conversation analysis: Embodiment and materiality, multimodality and multisensoriality in social interaction. *Journal of Pragmatics, 145*, 47-62. doi:10.1016/j.pragma.2019.01.016

Mondada, L. & Pekarek Doehler, S. (2004). Second language acquisition as situated practice: Task accomplishment in the French second language classroom. The *Modern Language Journal, 88*(4), 501-518.

Moore, E., Nussbaum, L., & Borràs, E. (2012). Plurilingual teaching and learning practices in 'internationalised' university lectures. *International Journal of Bilingual Education and Bilingualism, 16*(4), 471-493. doi:10.1080/13670050.2012.702724

Morell, T. (2018). Multimodal competence and effective interactive lecturing. *System, 77*, 70-79.

Morgan, M. (2004). Speech community. In A. Duranti (Ed.), *A Companion to Linguistic Anthropology* (pp.3-22). Oxford UK: Blackwell Publishing. doi:10.1002/9780470996522.ch10

Mori, J. (2004). Negotiating sequential boundaries and learning opportunities: A case from a japanese language classroom. *The Modern Language Journal, 88*(4), 536-550. doi:10.1111/j.0026-7902.2004.t01-17-.x

Mori, J., & Hayashi, M. (2006). The achievement of intersubjectivity through embodied completions: A study of interactions between first and second language speakers. *Applied linguistics, 27*(2), 195-219.

Mortensen, J., & Haberland, H. (2012). English — the new Latin of academia? danish universities as a case. *International Journal of the Sociology of Language, 2012*(216), 175-197. doi:10.1515/ijsl-2012-0045

Mortensen, K., & Hazel, S. (2011). Initiating round robins in the l2 classroom--preliminary observations. *Novitas-Royal,* 5(1).

Mukherjee, J. (2007). Speech is silver, but silence is golden: Some remarks on the function(s) of pauses. Anglia. Journal of English Philology, 118(4). p. 571-584.

Negueruela, E., Lantolf, J. P., Jordan, S. R., & Gelabert, J. (2004). The "private function" of gesture in second language speaking activity: A study of motion verbs and gesturing in English and spanish. *International Journal of Applied Linguistics, 14*(1), 113-147. doi:10.1111/j.1473-4192.2004.00056.x

Neuroscientifically challenged (April 24, 2021) Know your brain: Broca's Area https://www.neuroscientificallychallenged.com/blog/know-your-brain-brocas-area

Nevile, M. (2015). The embodied turn in research on language and social interaction. *Research on Language and Social Interaction, 48*(2), 121-151. doi:10.1080/08351813.2015.1025499

Nilsson, B. (2003) Internationalisation at home from a Swedish perspective. *Journal of Studies in International Education, 7*, p. 27-40.

Norris, S. (2004). *Analyzing multimodal interaction* (1st ed.). London: Routledge.

Ortega, L. (2011). SLA after the social turn: Where cognitivism and its alternatives stand. *Alternative approaches to second language acquisition* (pp. 167-180). Routledge.

Otten, M. (2000). Impacts of Cultural Diversity at Home. *In Internationalisation at Home. A Position Paper.* European Association for International Education in cooperation with the academic Cooperation Association, IAK, IESEG, Nuffic, Katholieke hogeschool limburg, and Malmö university.

Park, J. S., & Wee, L. (2011). A practice-based critique of English as a lingua franca. *World Englishes, 30*(3), 360-374. doi:10.1111/j.1467-971X.2011.01704.x

Pavlenko, A. (2018). Superdiversity and why it isn't: Reflections on terminological innovation and academic branding. *Sloganizations in language education discourse*, 142-168.

Pekarek Doehler, S. (2002). Mediation revisited: The interactive organization of mediation in learning environments. *Mind, Culture, and Activity, 9*(1), 22-42. doi:10.1207/S15327884MCA0901_03

Pekarek Doehler, S. (2013). Social-interactional approaches to SLA: A state of the art and some future perspectives. *Language, Interaction and Acquisition, 4*(2), 134-160. doi:10.1075/lia.4.2.02pek

Pennycook, A. (2012). *Language and mobility: Unexpected places* (Vol. 15). Multilingual Matters.

Pillet-Shore, D. (2018). How to begin. *Research on Language and Social Interaction, 51*(3), 213-231.

Ping, R. M., Goldin-Meadow, S., & Beilock, S. L. (2014). Understanding gesture: Is the listener's motor system involved?. *Journal of Experimental Psychology: General, 143*(1), 195.

Pink, S. (2011). Multimodality, multisensoriality and ethnographic knowing: Social semiotics and the phenomenology of perception. *Qualitative Research, 11*(3), 261-276. doi:10.1177/1468794111399835

Pink, S., Sumartojo, S., Lupton, D., & Heyes LaBond, C. (2017). Empathetic technologies: digital materiality and video ethnography. *Visual Studies, 32*(4), 371-381.

Pinker, S. (2007). *The stuff of thought: Language as a window into human nature*. Penguin.

Ploettner, J. C. (2019). EMI teacher and student identities and linguistic practices: Tracing classroom tensions in a teacher development process. *Journal of Immersion and Content-Based Language Education, 7*(1), 115-141.

Pomerantz, A. & Heritage, J. (2013). Preference. In J. Sidnell & T. Stivers (Eds.), The handbook of conversation analysis (pp. 210-228). Wiley-Blackwell.

Rae, J. (2001). Organizing participation in interaction: Doing participation framework. *Research on Language & Social Interaction, 34*(2), 253-278. doi:10.1207/S15327973RLSI34-2_4

Randell, R., Honey, S. A., Hindmarsh, J., Alvarado, N., Greenhalgh, J., Pearman, A. & Dowding, D. (2017). A realist process evaluation of robot-assisted surgery: integration into routine practice and impacts on communication, collaboration and decision-making. *Health Services and Delivery Research, 5*(20).

Rhodes, R. A. (2014). 'Genre blurring' and public administration: What can we learn from ethnography? *Australian Journal of Public Administration, 73*(3), 317-330.

Rikowski, G. (2002). Globalisation and education. *Paper for the House of Lords Select Committee on Economic Affairs Inquiry into the Global Economy.* Retrieved from http://www.leeds.ac.uk/educol/documents/00001941.htm

Rizzolatti, G., & Arbib, M. A. (1998). Language within our grasp. *Trends in neurosciences, 21*(5), 188-194.

Rizzolatti, G., & Gallese, V. (1997). From action to meaning. *Les Neurosciences et la Philosophie de l'Action,* 217-229.

Rizzolatti, G., Fadiga, L., Fogassa, L., & Gallese, V. (1999). Resonance behaviors and mirror neurons. *Archives Italiennes De Biologie, 137*(2), 85-100.

Robichaud, D. & De Schutter, H. (2012). Language is just a tool! On the instrumentalist approach to language. In B. Spolsky (Eds) *The Cambridge Handbook of Language Policy* (pp. 124–145). Cambridge University Press; Cambridge.

Rojas-Drummond, S. and Mercer, N. (2003). Scaffolding the development of effective collaboration and learning. *International Journal of Educational Research 39*. P. 99-111.

Roth, W. (2000). From gesture to scientific language. *Journal of Pragmatics, 32*(11), 1683-1714. doi:10.1016/S0378-2166(99)00115-0

Roth, W. (2001). Gestures: Their role in teaching and learning. *Review of Educational Research, 71*(3), 365-392. doi:10.3102/00346543071003365

Roth, W., & Lawless, D. (2002). Science, culture, and the emergence of language. *Science Education, 86*(3), 385. doi:10.1002/sce.10008

Sacks, H. (1972). On the analyzability of stories by children. In J.J. Gumperz & D. Hymes, *Directions in sociolinguistics: The ethnography of communication* (pp.325-345). Holt, Rinehart and Winston, New York,

Sacks, H., Schegloff, E. A., & Jefferson, G. (1974). A simplest systematics for the organization of turn-taking for conversation. *Language, 50*(4), 696-735. Retrieved from https://search.proquest.com/docview/85328335

Saville-Troike, M. (1987). Bilingual discourse: The negotiation of meaning without a common code. *Linguistics: An Interdisciplinary Journal of the Language Sciences, 25*(1), 81. doi:10.1515/ling.1987.25.1.81

Schegloff, E. A. (1987). Analyzing single episodes of interaction: An exercise in conversation analysis. *Social Psychology Quarterly, 50*(2), 101-114. Retrieved from https://www.jstor.org/stable/2786745

Schegloff, E. A. (2007). *Sequence organization in interaction*. Cambridge UK: Cambridge University Press. Retrieved from http://www.vlebooks.com/vleweb/product/openreader?id=none&isbn=9781107159969&uid=none

Scheibman, J. (2002). Classification and coding of conversational data. In Joanne Scheibman (Ed.) Point of View and Grammar: *Structural patterns of subjectivity in American English Conversation*. USA/Netherlands: John Benjamin Publishing.

Schmidt-Unterberger, B. (2018). The English-medium paradigm: A conceptualisation of English-medium teaching in higher education. *International Journal of Bilingual Education and Bilingualism, 21*(5), 527-539. doi:10.1080/13670050.2018.1491949

Scott, P. (2000). Globalisation and higher education: Challenges for the 21st century. *Journal of Studies in International Education, 4*(1), 3-10.

Seedhouse, P. (2004a). Conversation analysis methodology. In P. Seedhouse (Ed.), *The interactional architecture of the language classroom: A conversation analysis perspective* (pp. 1-54). Boston, USA and Oxford, UK: Blackwell Publishing Inc. doi:10.1111/j.1467-9922.2004.00268.x Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-9922.2004.00268.x

Seedhouse, P. (2004b). The organisation of language classroom interaction. Conversation analysis methodology. Language Learning, 54 (51), p. 181-222.

Seidlhofer, B. (2004). 10 research perspectives on teaching English as a lingua franca. *Annual Review of Applied Linguistics, 24*, 209-239. doi:10.1017/S0267190504000145

Seidlhofer, B. (2009) Common ground and different realities: world Englishes and English as a lingua franca. *World Englishes, 28*(2), p. 236-245.

Sfard, A. (1998) On two metaphors and the danger of choosing just one. *Educational Researcher 27*(2), p.4-13. University of Pennsylvania Press.

Shriver, K. (2012). What we know about expertise in professional communication. In V. W Berninger,(Ed.) *Past, present, and future contributions of cognitive writing research to cognitive psychology* (pp. 275-312). Psychology Press.

Sidnell, J. (2013) Basic conversation analytic methods. In J. Sidnell & T. Strivers (Eds.) *The handbook of conversation analysis*, (pp. 77-100). Wiley-Blackwell.

Sidnell, J. (March, 2016) Conversation analysis. *Online publication*. DOI: 10.1093/acrefore/9780199384655.013.40

Skogmyr-Marian, K., & Balaman, U. (2018). Second language interactional competence and its development: An overview of conversation analytic research on interactional change over time. *Language and Linguistics Compass, 12*(8), e12285.

Spolsky, B. (2007). Towards a theory of language policy. *Working Papers in Educational Linguistics, 22*, 1-14. Retrieved from https://repository.upenn.edu/wpel/vol22/iss1/1

Stewart, F. (1996). Globalisation and education. *International Journal of Educational Development, 16*(4), 327-333.

Stivers, T., Enfield, N. J., Brown, P., Englert, C., Hayashi, M., Heinemann, T. & Levinson, S. C. (2009). Universals and cultural variation in turn-taking in conversation. *Proceedings of the National Academy of Sciences, 106*(26), 10587-10592.

Stivers, T., Mondada, L., & Steensig, J. (2011). Knowledge, morality and affiliation in social interaction. In T. Stivers, L. Mondada & J. Steensig (Eds.), *The morality of knowledge in conversation* (pp 3-24). Cambridge University Press.

Stokoe, E. (2012). Moving forward with membership categorization analysis: Methods for systematic analysis. *Discourse studies, 14*(3), 277-303.

Straube, B., Green, A., Bromberger, B., & Kircher, T. (2011). The differentiation of iconic and metaphoric gestures: Common and unique integration processes. *Human brain mapping, 32*(4), 520-533.

Straus, E. W. (1952). The upright posture. *Psychiatry quarterly 26*(501-4)51; (pp.529-56), ISSN. 0033-2720.

Streeck, J. (2009). Forward-gesturing. *Discourse Processes, 46*(2-3), 161-179. doi:10.1080/01638530902728793

Streeck, J. (2013). Interaction and the living body. *Journal of Pragmatics, 46*(1), 69-90. doi:10.1016/j.pragma.2012.10.010

Streeck, J., & Kallmeyer, W. (2001). Interaction by inscription. *Journal of Pragmatics, 33*(4), 465-490.

Streeck, J., Goodwin, J., & LeBaron, C. (2011). Embodied interaction in the material world: An introduction. In J. Streeck, C. Goodwin & C. LeBaron (Eds.), *Embodied interaction: Language and body in the material world* (pp. 1-26). NY: Cambridge University Press.

Stringer, E. T. (2008). *Action research in education*. Upper Saddle River, NJ: Pearson Prentice Hall.

Sun, D. (2014). From Communicative Competence to Interactional Competence: A new outlook to the teaching of spoken English. *Journal of Language Teaching and Research. 5*(5), p. 1062-1070.

Swales, J. (1988). Discourse communities, genres and English as an international language. *World Englishes, 7*(2), 211-220.

Swales, J. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.

Swales, J. M. (2004). *Research genres: Explorations and applications*. Cambridge University Press.

Szymanski, M. H. (1999). Re-engaging and dis-engaging talk in activity. *Language in Society, 28*(1), 1-23. doi:10.1017/S0047404599001013

Tanaka, S. (2017). Intercorporeality and aida: Developing an interaction theory of social cognition. *Theory & Psychology, 27*(3), 337-353. doi:10.1177/0959354317702543

Tannen, D., Hamilton, H. E., & Schiffrin, D. (2015). Gesture in discourse. *The handbook of discourse analysis* (pp. 262-289). Hoboken, NJ, USA: John Wiley & Sons, Inc. doi:10.1002/9781118584194.ch12 Retrieved from https://onlinelibrary.wiley.com/doi/abs/10.1002/9781118584194.ch12

Taylor, C., & Dewsbury, B. M. (2018). On the problem and promise of metaphor use in science and science communication. *Journal of microbiology & biology education, 19*(1).

Teekens, H. (2002). Teaching and learning in the internationalised classroom. In Internationalisation at Home. *A Position Paper. European Association for International Education in cooperation with the Academic Cooperation Association*. IAK, IESEG, Nuffic, Katholieke hogeschool limburg, and Malmö university.

Ten Have, P. (1997, June). In the presence of data: Conversation-analysis as 'empirical philosophy'. In conference on *Ethnomethodology, an improbable sociology*, Cerisy-la-Salles, France.

Tufte, E. R. (2006). *Beautiful evidence* (Vol. 1). Cheshire, CT: Graphics Press.

Valeiras-Jurado, J., Ruiz-Madrid, M. N., & Jacobs, G. (2018). Revisiting persuasion in oral academic and professional genres: Towards a methodological framework for Multimodal Discourse Analysis of research dissemination talks. *Ibérica.*

Van der Wende, M. (2003). Globalisation and access to higher education. *Journal of Studies in International Education, 7*(2), 193-206. doi:10.1177/1028315303007002006

Vollmer, H. J. (2006). *Language across the curriculum. expertise for the council of europe*. Strasbourg: Council of Europe.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* doi:10.1007/978-3-540-92784-6 Retrieved from http://www.amazon.com/dp/0674576292

Wächter, B. (2002). Internationalisation at Home: The context. In Internationalisation at Home. *A Position Paper. European Association for International Education in cooperation with the*

Academic Cooperation Association. IAK, IESEG, Nuffic, Katholieke hogeschool limburg, and Malmö university.

Wächter, B., & Maiworm, F. (2014). *English-taught programmes in European higher education: State of play in 2014*. Bonn: Lemmens Medien GmbH. Retrieved from http://www.fachportal-paedagogik.de/fis_bildung/suche/fis_set.html?FId=1061263

Walker, G. (2013). Phonetics and prosody in conversation. In J. Sidnell and T. Stivers (Ed.) *The handbook of conversation analysis* (pp. 445-474). Blackwell Publishing.

Walsh, S. (2012). Conceptualising classroom interactional competence. *Novitas Royal Research on Youth and Language, 6*(1), 1-14.

Wardle, E. & Downs, D. (2014). *Writing about writing: A college reader*. Bedford.

Wertsch, J. V. (1994). The primacy of mediated interaction in sociocultural studies. *Mind, Culture, and Activity, 1*(4), 202-208.

Wertsch, J. V. (2007). Mediation. In J. V. Wertsch, H. Daniels and M. Cole (Eds) *The Cambridge Companion to Vygotsky*, (pp. 178-192). New York: Cambridge.

Wertsch, J. V., Daniels, H., Cole, M. (2007). *The Cambridge Companion to Vygotsky*. New York: Cambridge.

Widdowson, H. (2019). Creativity in English. *World Englishes, 38*(1-2), 312-318. doi:10.1111/weng.12376

Wilkinson, R. (2018). Content and language integration at universities? Collaborative reflections. *International Journal of Bilingual Education and Bilingualism, 21*(5), 607-615. doi:10.1080/13670050.2018.1491948

Wilson, R. (2020). I sat down on the desk. In S.M. Steeg Thornhill and K. Badly (Eds), Generating Tact and Flow for Effective Teaching and Learning (pages not available). Routledge.

Wolff-Michael Roth. (2005). Making classifications (at) work: Ordering practices in science. *Social Studies of Science, 35*(4), 581-621. doi:10.1177/0306312705052102

Wood, D., Bruner, J. S., & Ross, G. (1976). The role of tutoring in problem solving. *Journal of child psychology and psychiatry, 17*(2), 89-100.

Yin, R. K. (2009). Case study research: design and methods. Robert K. Yin, *Applied social research methods series, 5*. (incomplete)

Young, L. (1994). University lectures–macro-structure and micro-features. In J. Flowerdew (Eds.) *Academic listening: Research perspectives*, (pp. 159-176). Cambridge University Press.

Young, R. F. (2010, April 16-17). *SLA Graduate Student Symposium* [SLA:What's language got to do with it?] University of Wisconsin-Madison. United States.

Young, R. F. (2011). Interactional competence in language learning, teaching and testing. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning.* (pp. 426-443). Mahwah: Routledge

Young, R. F. (2013). Learning to talk the talk and walk the walk: Interactional competence in academic spoken English. *Applied Linguistics, 33*(5), 614-617. doi:10.1093/applin/ams064

Zhang, I., Givvin, K.B., Sipple, J.M., Son, J.Y. and Stigler, J.W. (2021), Instructed Hand Movements Affect Students' Learning of an Abstract Concept From Video. *Cognitive Science, 45*, e12940. https://doi.org/10.1111/cogs.12940

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