

UNIVERSIDADE FEDERAL DE MINAS GERAIS
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**EMI AS A STRATEGIC TOOL IN THE INTERNATIONALISATION
AT HOME PROCESS IN HIGHER EDUCATION**

Belo Horizonte
2024

Emmanuelle Pereira da Costa e Cardoso

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AT HOME PROCESS IN HIGHER EDUCATION**

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EMMANUELLE PEREIRA DA COSTA E CARDOSO

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The lonely researcher doesn't go far!
Paolo Delogu (2023)

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*One language sets you in a corridor for life.
Two languages open every door along the way.*

Frank Smith

Abstract

Institutions of higher education have undergone major transformations globally due to the implementation of actions aimed at internationalisation. Knight (2016) points out that these institutions must understand that the internationalisation process is imminent and can encompass a series of actions, such as curricular internationalisation (or internationalisation at home). The pedagogical approach called *English Medium Instruction* (EMI) is an important and integral part of the internationalisation process, proposing that classes be taught in English. To this end, this research seeks to investigate how the internationalisation process has developed in the context of the Federal University of Minas Gerais (UFMG, *Universidade Federal de Minas Gerais*), particularly regarding the adoption of EMI in higher education. The main objective of this research is to develop collaborative work between content teachers and an English teacher to provide pedagogical support to those participating in university's internationalisation project. Based on a mapping of the actions that the university has developed, we proposed collaborative work between the EMI content teachers and the specialist teacher. Thus, an analysis of the linguistic needs of the students in the disciplines investigated was carried out, specifically in the areas of psychology, dentistry, and business administration. From the results of this analysis, we created didactic activities to address the main difficulties the students presented. This linguistic support was based on specialised corpora, directed to the disciplines participating in this research, providing exposure to relevant and authentic data. It is expected that the results of this research will support future applications of EMI, contributing to the advancement of actions aimed at curricular internationalisation in the scope of higher education.

Keywords: internationalisation; higher education; English Medium Instruction; global English.

Resumo

Instituições de ensino superior têm passado por grandes transformações em nível global, decorrentes da implementação de ações voltadas à internacionalização. De acordo com Knight (2016), é importante que essas instituições compreendam que o processo de internacionalização é iminente e pode abranger uma série de ações, tal qual a internacionalização curricular (ou a internacionalização em casa). A abordagem pedagógica denominada *Inglês como Meio de Instrução* (IMI), ou *English Medium Instruction* (EMI), é parte importante e integrante do processo de internacionalização, pois propõe que as aulas sejam ministradas em língua inglesa. Esta pesquisa trata de como o processo de internacionalização tem se desenvolvido no contexto da Universidade Federal de Minas Gerais (UFMG), principalmente em relação à adoção do IMI no ensino superior. O objetivo principal desta pesquisa é desenvolver um trabalho colaborativo entre professores de conteúdo e uma professora especialista em língua inglesa com o intuito de proporcionar apoio pedagógico aos professores que participam do projeto de internacionalização na universidade. A partir do mapeamento das ações que a universidade tem desenvolvido, propomos um trabalho colaborativo entre os professores de IMI de conteúdo e a professora especialista. Para tanto, foi feita uma análise das necessidades linguísticas dos alunos das disciplinas investigadas, a saber, das áreas de psicologia, odontologia e administração de empresas. A partir dos resultados dessa análise, criamos atividades didáticas para abordar as principais dificuldades apresentadas pelos alunos. Esse apoio linguístico foi baseado em *corpora* especializados, direcionados para as disciplinas participantes desta pesquisa, proporcionando exposição a dados relevantes e autênticos. Espera-se que os resultados desta pesquisa embasem futuras aplicações de IMI, contribuindo para o avanço de ações voltadas à internacionalização curricular no âmbito do ensino superior.

Palavras-chave: internacionalização; ensino superior; inglês como meio de instrução; inglês global.

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List of Abbreviations and Acronyms

Andifes	Associação Nacional dos Dirigentes das Instituições Federais de Ensino Superior
BRICS+	Brazil, Russia, India, China, South Africa, Egypt, Ethiopia, Iran, and the United Arab Emirates
CAPES	Coordenação de Aperfeiçoamento de Pessoal de Nível Superior
CAPES-PrInt	Programa Institucional de Internacionalização
CBI	Content-based Instruction
CBLT	Content-based Language Teaching
CEFET	Centro Federal de Educação Tecnológica
CEFR	European Framework of Reference for Languages
CEP	Comitê de Ética em Pesquisa
CLIL	Content and Language Integrated Learning
CorDent	Corpus of Academic Texts on Oral Health Epidemiology
CorProd	Corpus of Academic Texts on Production and Operations Management
CsF	Ciências sem Fronteiras
CT	Content Teacher
DRI	Diretoria de Relações Internacionais
EAP	English for Academic Purposes
ELT	English Language Teaching
EMEMUS	English – Medium Education in Multilingual University Settings
EMI	English Medium Instruction
ENEM	Exame Nacional do Ensino Médio
ERASMUS+	European Community Action Scheme for Mobility of University Students
ESP	English for Specific Purposes
FALE	Faculdade de Letras
FATEC	Faculdade de Tecnologia
FAUBAI	Associação Brasileira de Educação Internacional

FTEI	Formação Transversal em Estudos Internacionais da Universidade Federal de Minas Gerais
HEI	Higher Education Institution
ICLHE	Integrating Content and Language in Higher Education
IELTS	International English Language System
IFA	Inglês para Fins Acadêmicos
IFES	Institutos Federais de Ensino Superior
IMI	Inglês como Meio de Instrução
IsF	Idiomas sem Fronteiras
L1	First Language
L2	Second Language
LwB	Language without Borders
MEC	Ministério da Educação
POM	Production and Operations Management
PROGRAD	Pró-reitoria de Graduação
PSDE	Programa de Doutorado-Sanduíche no Exterior
RELO	Regional English Language Office
SwB	Science without Borders
THE	Times Higher Education
TOEFL	Test of English as a Foreign Language
UFMG	Universidade Federal de Minas Gerais
UNESCO	The United Nations Educational, Scientific and Cultural Organization

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1 INTRODUCTION

The decision to research the internationalisation of higher education emerged after writing my master's thesis. In my thesis entitled "The Impact of Globalisation on the Motivation of ESL Students", I examined how factors such as increased access to information, economic opportunities, cultural exchange, communication needs, technological advancements, and global challenges influence students' motivation to learn English. During the analysis, I realised that some of the research participants claimed they were given few opportunities to use English in class, although there were high demands for writing articles and making presentations in English. Those responses seemed rather intriguing and worthy of detailed investigation, given that English is a prerequisite for both undergraduate and postgraduate courses in Brazil.

To enter undergraduate courses, students take an entrance exam (ENEM – National High School Exam¹), which covers four areas of knowledge: languages, codes, and their technologies; human sciences and their technologies; natural sciences and their technologies; and mathematics and their technologies; totalling 180 multiple-choice questions. Regarding the language test in ENEM, students must complete a test covering Portuguese, Literature, Foreign Language (English or Spanish), and arts. For postgraduate courses, students must take a required English proficiency exam, which focuses mainly on reading. Additionally, many course readings come from articles written in English. This raises several questions: Are we not using English in our higher education system? If we are, where is it being used? Do we have professors using English in their courses? Who are these professors, and why would they use English as a primary language?

In Brazilian higher education, undergraduate and postgraduate courses are primarily taught in Portuguese. At the Federal University of Minas Gerais (UFMG),² an exception is the undergraduate Minor in International Studies, which offers courses in English and Spanish. In the postgraduate programmes, some courses may be taught by visiting scholars and are therefore conducted in other languages. Research can also be conducted in English or other languages, depending on the course and the supervisor. Thus, researching this topic is highly relevant to answering the aforementioned questions.

¹ Free translation for *Exame Nacional do Ensino Médio*.

² *Universidade Federal de Minas Gerais*, in Portuguese.

1.1 Background context

The world is interconnected through technology, allowing instant access to different realities and fostering a sense of global citizenship (Guimarães; Finardi, 2021), which has influenced education. The process of globalisation has reshaped the economy, technologies, and knowledge networks, altering economic, political, social and cultural relations worldwide, and introducing new elements into school organisation and classrooms (de Almeida Mattos, 2015, p. 205). Although globalisation and internationalisation are often used interchangeably, they represent different yet interconnected phenomena. Internationalisation has evolved rapidly, acting both as an agent and a response to the new realities of globalisation (Knight, 2008). However, “internationalisation is distinct from globalisation, as it integrates a global, intercultural and international dimension to the functions and purposes (teaching, research, extension) of higher education, at institutional and national levels” (Baumvol; Sarmiento, 2016, p. 67).

The increasing globalisation of recent years has necessitated the development of qualified intellectuals, which, according to De Wit and Deca (2020), at the end of the Cold War, “created a context for a more strategic approach to the internationalisation of higher education” (De Wit; Deca, 2020 [n.p.]). This has led several international institutions, such as the World Bank, UNESCO, the European Union, and university associations, to prioritise the internationalisation of higher education in their reform plans (De Wit; Deca, 2020). Consequently, numerous internationalisation policies and programmes have been implemented by different countries and their universities (De Wit, 2011) to meet the demands of a global society.

In Brazil, internationalisation is a criterion for evaluating postgraduate programmes. Only programmes involved in international research agreements and which publish internationally can receive the highest evaluation from the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES), a national funding agency. One of its main programmes is CAPES-PrInt (*Programa Institucional de Internacionalização*), which started in 2018. More details about CAPES-PrInt will be provided in Chapter 2.

Internationalising higher education requires meeting a series of requirements that may not be simple to achieve. Establishing internationalisation involves developing a planning triad defined by objectives, forms, and measures. Objectives guide the internationalisation process; forms are the strategies used to achieve internationalisation; and measures are the administrative actions required to achieve the main objective: internationalising higher education (Marrara;

Rodrigues, 2009). Thus, academic planning is essential to internationalise the curriculum and enhance the institution's international presence.

Actions such as cooperation agreements, academic mobility, sharing and development of scientific knowledge, and establishing branch campuses in other countries (Stallivieri, 2009) are examples of how higher education institutions strive to achieve their internationalisation goals. In the Brazilian context, driving forces encouraging internationalisation include undergraduate and postgraduate mobility programmes, research agreements, and publications with international partners.

Knight (2008) highlights two pillars of internationalisation: *Internationalisation at Home*, and *Internationalisation Abroad*. This study focuses on the former, defined by Knight (2008) as the aspects of the internationalisation process that occur on campus encompassing activities such as curricula and programmes with international themes, and the teaching and learning process. These activities involve students who participated in face-to-face or the virtual academic mobility, promoting cultural diversity in the classroom, extracurricular activities, mobility, among others (Knight, 2008). Under the significant influence of globalisation, one of the main specificities of this internationalisation process is directly related to the linguistic issue.

Many scholars have widely debated the relevance of English as the medium of much of the world's knowledge, especially in science and technology. Galloway and Rose (2021) stated that "the spread of English as a global language has resulted in the emergency of a number of related fields of research" (p. 3). *English as an International Language*, *English as a Lingua Franca* and *World Englishes* are some relevant examples. The authors also affirmed that English has been growing as an international lingua franca, leading to a shift in language use (Rose; Galloway, 2019). The demand for fluent English has risen, and the way English has been taught has also been changing. In higher education, it is true that "internationalisation has become synonymous of English" (Rose; Galloway, 2019). Therefore, the idea of "integration of content and language" arises (Baumvol; Sarmiento, 2016, p. 72), pointing to the use of a teaching model known as *English Medium Instruction* (EMI) mainly in higher education. Focusing on creating disciplines or courses that use EMI has become an attractive option for higher education institutions. EMI is understood as one of the strategic tools for universities to establish themselves within the international scenario.

1.2 Rationale of this study

In Brazil, initiatives to support internationalisation gained strength from 2011 onwards with the Science without Borders programme (CsF).³ Additionally, other programmes such as English without Borders, also known as Language without Borders (IsF),⁴ emerged and they were included among of the programmes that support internationalisation in public universities in the country. These programmes have encouraged the internationalisation of higher education, providing linguistic support to their communities.

In addition to CsF and IsF, one of the most recent programmes implemented was CAPES-PrInt. This programme

aims to encourage the construction, implementation, and consolidation of strategic plans for internationalisation of the institutions covered throughout the country and encourage the development of international research networks to improve the quality of academic production related to graduate studies (CAPES-PrInt, [n.p.]).⁵

The internationalisation process has been encouraged by many institutions at a local level, according to Arruda *et al.* (2021). The authors state that “UFMG, for example, has promoted political, pedagogical and research actions to develop the language proficiency of its academic community” (p. 183). UFMG has carried out actions to strengthen its internationalisation activities, mainly building quality partnerships with foreign institutions (Relatório Final de Gestão, 2014-2018), and offering courses and language courses for academic purposes. For example, the courses of English for Academic Purposes (IFA)^{4, 6} were created in 2012 as credit courses for all UFMG students, to expand and enhance the internationalisation process in the university (Dutra *et al.*, 2022).

The institution’s 2020 Internationalisation Census points out that thirty-two (32) courses were offered in a foreign language in undergraduate courses (13 regularly offered subjects and 19 as part of the minor in international studies), while forty-eight (48) regular subjects were offered in graduate courses in 2019. In addition, 222 English for Academic Purposes courses and 978 English courses were offered in the Languages for Academic and Professional Purposes programme.

³ CsF – Ciências sem Fronteiras or Science without borders (<https://www.gov.br/cnpq/pt-br/aceso-a-informacao/acoes-e-programas/programas/ciencia-sem-fronteiras/apresentacao-1/o-que-e>) will be mentioned in the following chapters.

⁴ IsF – *Idiomas sem Fronteiras* or Language without Borders (https://isf.mec.gov.br/images/2019/edital_252019.pdf) will be mentioned in the following chapters.

⁵ Excerpt taken from CAPES-PrInt website: <https://www.gov.br/capes/pt-br/aceso-a-informacao/acoes-e-programas/bolsas/bolsas-e-auxilios-internacionais/informacoes-internacionais/programa-institucional-de-internacionalizacao-capes-print>

⁶ IFA (*Inglês para Fins Acadêmicos*) is the Portuguese equivalent of English for Academic Purposes (EAP).

In 2019 and 2021, English language courses were offered to professors at the institution, encompassing workshops, courses on EMI, and language classes through the Faculty of Languages, Literature and Linguistics (*FALE-UFMG*). Furthermore, a 20-hour online EMI course was offered in 2021. Both EMI projects were supported by the U.S. Embassy's Regional English Office of the Department of State (RELO) and UFMG's Office of International Affairs. More details about these activities will be presented in Chapter 3.

Although there are efforts to support the teaching of specific content through English in our institutions, little is known about the implementation of these classes. Based on the aforementioned above institutional data, we sought partnerships with teachers to investigate their EMI courses and offered support to their practices. This research is justified by the importance of offering linguistic support to EMI initiatives to ensure that the inclusion of English enhances learning rather than becoming an obstacle to understanding the content.

Federal public institutions are currently the primary investors in EMI programmes and policies, representing 23% of higher education institutions in Brazil concerned with internationalisation strategies (Gimenez *et al.*, 2018-2019). Nevertheless, the same authors report that in 2016, only 45 of the 270 institutions contacted by their research group offered EMI courses. Few studies have investigated EMI practices in Brazil and at UFMG. Moreover, to our knowledge, there has not been an investigation of EMI courses in Brazil that received linguistic support informed by specialised corpus analysis.

In addition, the most relevant studies made in Brazil regarding EMI, such as Martinez (2016) and Gimenez *et al.* (2018-2019), focus on challenges and opportunities in Brazilian higher education and map the development of internationalisation and EMI. However, they do not address topics such as how professors conduct their lessons or whether they need support for developing their lessons or providing linguistic support for their students. Considering that EMI teachers are not language specialists, it is unreasonable to expect them to provide elaborate pedagogical activities for linguistic support. Galloway and Rose (2021), also emphasise the importance of student support and collaboration between EMI teachers and English Language Teachers (hereafter Language Teachers or LTs).

To address this gap, this research aims to examine how EMI can serve as strategic tool for internationalisation at home initiatives in the context of higher education at UFMG, designing collaborative work between content teachers and a language specialist. The detailed objectives of this investigation are presented below.

1.3 Objectives and research questions

This research aims to explore how the internationalisation process has taken place at UFMG in terms of EMI actions implemented at this university. By mapping these actions, we proposed collaborative work with content teachers using the EMI approach. We identified students' needs for language support and developed language activities to be used in their classes. This support aims to facilitate teacher's work and optimise and improve students' learning, providing them with more significant content learning and language development. Therefore, the objectives and research questions are as follows:

1.3.1 Objectives

The specific objectives are:

1. To map the EMI initiatives in the last five years in the chosen research context.
2. To investigate three teachers' praxis under the EMI perspective.
3. To establish collaborative work between content teachers and language specialist,⁷ providing support to teachers and their students.
4. To compile and analyse specialised corpora for two EMI courses to support students.

1.3.2 Research Questions

The research questions are:

1. How and why is EMI being implemented at UFMG?
2. What are content teachers' needs in terms of providing support for their students?
3. What are content teachers' attitudes regarding collaborations with a language specialist?
4. How can specialised corpora provide support for EMI students?

1.4 Thesis structure

This doctoral dissertation is divided into seven chapters, including this Introduction. Chapter Two provides a literature review and it is divided into two main parts. The first part offers an overview of the theoretical developments concerning the driving forces of EMI in Brazil. The second part examines how collaboration between a language specialist and content teacher can be facilitated using corpus linguistics tools and English for Specific Academic Purposes principles. Chapter Three presents the methodological design adopted for the this study. Chapters Four, Five and Six detail the data collected and analysed. Chapter Four tracks the development of EMI at UFMG. Chapter Five discusses case studies on the implementation of EMI at UFMG. Chapter Six presents corpus-based activities developed to support and

⁷ Language specialist, in this research, refers to the author of this PhD thesis.

improve students' learning. The final chapter, Chapter Seven, recaps the research questions and discusses the implications, recommendations, and limitations of the study.

2 LITERATURE REVIEW – Part one – EMI

2.1 Driving forces of EMI in Brazil

2.1.1 *The Internationalisation Process*

Among all global changes, such as increased convenience for cross-border travel, the internet and the *Internet of Things*, and the development of new electronic currencies, “the world of higher education is changing” (Knight, 2008, p. 1). Knowledge is transcending these barriers, with access to information becoming significantly more accessible. Nonetheless, this knowledge is predominantly disseminated through the dominant language, which is English.

Spoken by a quarter of the world’s population, English serves as the language of communication, technology, and business (British Council, 2013). Consequently, there is a widespread need for users to develop language proficiency and fluency. According to Kriukow and Galloway (2018), English is the global language, and it can be a “tool for global mobility, a gatekeeper to knowledge and prerequisite to career success and for many nations, it is seen as essential for economic development and modernization” (Kriukow; Galloway, 2018 p. 2). To achieve success and access enhanced job opportunities both domestically and internationally, students often apply to international universities – which typically require proficiency tests like IELTS,⁸ TOEFL⁹ or Cambridge Exams¹⁰ for admission.

In the higher education context, a globalised university often aims to internationalise education. This may involve expanding universities’ mobility programmes, establishing new policies, and promoting partnerships with overseas universities. This process of change and its global diffusion have resulted in two distinct forms of internationalisation: a boost in international mobility and enhanced internationalisation efforts within the university, known as internationalisation at home. This internal expansion, especially in non-Anglophone contexts, often results in an attempt to internationalise the curriculum by incorporating courses international content or teaching content in a language other than the local L1¹¹. Regarding English, it is often referred to as *English Medium Instruction* (EMI).

⁸ IELTS stands for International English Language System. To learn more about IELTS test, access the website: <https://ielts.org>

⁹ TOEFL stands for Test of English as a Foreign Language. To learn more about TOEFL test, access the website: <https://www.ets.org/toefl.html>

¹⁰ To learn more about Cambridge Exams, access the website: <https://www.cambridgeenglish.org/exams-and-tests/>

¹¹ L1 – in this thesis L1 refers to the first language or native language of an individual.

Another aspect of this internal expansion is the promotion of activities within the campus that expose students to different cultures. Activities such as international conferences hosted by their home universities, international study groups, and research collaborations are common examples. It may also involve students coming from various countries visiting as researchers to teach, share their experiences, or participate in local research groups.

It is widely acknowledged that EMI and internationalisation are intertwined (Rose *et al.*, 2023). Therefore, to comprehend the driving forces of EMI, it is essential to understand how internationalisation is unfolding in the Brazilian context. Internationalisation in higher education viewed as a process, involves cooperation and academic exchange between institutions in different countries, which is seen as an important strategy for the development of higher education institutions (Guimaraes *et al.*, 2019). This exchange of high-level scholars benefits both universities and researchers.

Internationalisation is a broad term. According to Knight (2005), it can refer to international activities such as mobility for students and teachers, partnerships, projects, or the delivery of education to other countries through branch campuses or franchises. Alternatively, for some, it means “the inclusion of an international, intercultural, or global dimension in the curriculum and the teaching / learning process” (Knight, 2005, p. 2).

The term *internationalisation* has various meanings in the literature, some of which are complementary, though divergence can also be found among authors. Table 2.1 presents an analysis of four relevant definitions of internationalisation for this thesis:

Table 2.1 – Definitions of Internationalisation

YEAR	AUTHOR	DEFINITION
1992	Arum and Van de Water	Multiple activities, programmes, and services included in international studies, international educational exchanges, and technical cooperation.
1994	Knight	The process of integrating the international, intercultural, or global dimensions in the purpose, functions, and delivery of post-secondary education.
1997	Van der Wende	Any systematic effort to make higher education responsive to the demands and challenges related to the globalisation of societies, the economy, and labour markets.
2002	Söderqvist	The internationalisation of the higher education institution is a process of shifting from the internationalisation of national higher education to the internationalisation of international higher education, leading to the inclusion of an international dimension in all aspects of its holistic management to improve the quality of teaching and research, thus, achieving the desired competencies.

Source: adapted from Guimaraes *et al.*, 2019, p. 301.

Considering these definitions, this research adopts Van der Wende's (1997) definition, as it aligns with the view that systematic efforts to help higher education meet globalisation demands and challenges are a form of internationalising Higher Education Institutions (HEIs).

A related term in this area is *internationalisation at home*, which can be seen as an alternative to academic mobility in many universities. Internationalisation at home involves developing activities that take place on the home campus, such as teaching in English, internationalising the academic curriculum by incorporating more international content into current classes, and promoting extracurricular activities led by the university (Knight, 2005).

Establishing an international university requires strategic planning. According to UNESCO (2009), the internationalisation of higher education has several positive aspects, outlined in Table 2.2 below.

Table 2.2 – Reasons for Internationalisation

Reasons for Internationalisation	
1	Besides promoting human values, international cooperation is based on solidarity and mutual respect.
2	Research cooperation, besides the exchanging of students and team.
3	Promotion of access and success equity, fostering quality and cultural respect.
4	Bridge the development gap, increasing knowledge transfer beyond the borders.
5	Creation of partnerships and international study and research networks.

Source: adapted from the Final Report of the World Conference on Higher Education (UNESCO, 2009).

By systematically organising the benefits outlined by UNESCO (2009), this table serves as a comprehensive reference for understanding the multifaced positive aspects that contribute to the global dimension of internationalisation in the higher education system. These factors encompass a broad spectrum of elements crucial to the internationalisation agenda, highlighting the advantages they offer in shaping the landscape of internationalisation on the global scale.

The higher education world is changing rapidly due to globalisation and internationalisation processes that are significantly reducing distances. Consequently, these reasons have led to expanding access and experience of teachers and students, preparing them for the “demands of an interconnected world” (Baumvol; Sarmiento, 2016, p. 363), thereby shaping global citizens. One way to implement internationalisation at home is by promoting academic activities conducted in English within the university.

To address this growing demand, several reasons emerge for internationalisation at home, benefiting all stakeholders, including institutions, students, and teachers. For universities, the reasons include promoting human values and international cooperation,

establishing research cooperation with other universities, and encouraging academic equity and cultural exchanges. For teachers and students, the reasons include fostering knowledge transfer through student and professor exchanges and creating partnerships and research networks. In this context, EMI emerges as a strategic response to promoting activities where the course content is taught in English (Macaro *et al.*, 2016). The use of EMI encourages collaborations with professors from various institutions and facilitates student exchanges with peers from different countries, contributing to richer experiences and knowledge sharing.

2.1.2 Why internationalisation at home?

For 30 years, the internationalisation process of higher education focused on internationalisation abroad rather than internationalisation at home. It was more centred on fragmented and marginal policies than strategic policies. The internationalisation process was primarily of interest to a small elite, targeting subgroups of students and teachers rather than achieving global and intercultural outcomes. It also showed little alignment between the international dimensions of the three core aspects of higher education: education, research, and service to society (De Wit; Deca, 2020). However, according to De Wit and Deca (2020), there has been a shift in the last decade.

Academic mobility remains a dominant aspect of internationalisation policies worldwide, but curricular internationalisation at home is gaining more attention. This shift retains traditional values of internationalisation, such as “exchange and cooperation, peace and mutual understanding, development of human capital and solidarity” (De Wit; Deca, 2020, p. 3), but also introduces elements of competitiveness and the pursuit of international recognition. Moreover, with the global changes of the century, the internationalisation at home movement has gained prominence, it is neither a concept nor a methodology but rather a “set of instruments and activities at home that aims at the development of international and intercultural competencies in students” (Beelen; Jones, 2015, p. 64).

A significant advantage of internationalisation at home is that it does not require the presence of international students. Beelen and Jones (2015) emphasise that merely changing the language of instruction to English does not make the classroom internationalised; cultural diversity must also be incorporated. It is necessary to include other elements that internationalise the teaching and learning environment, such as visiting professors, collaborating with partner universities, and integrating international case studies. Digital learning strategies and online collaboration also foster these interactions, providing access to internationalised education for all students (Beelen; Jones, 2015). These digital solutions allow

hybrid participations in classes, meetings, and seminars. Language alone cannot internationalise a classroom; there must be a comprehensive approach to classroom design. Institutions and professors should align content, language and experience to benefit all stakeholders.

2.2 Defining EMI – understanding the terminologies

The use English in the classroom to convey content has been extensively discussed as a response to globalisation. This phenomenon, known as English Medium Instruction (EMI), is defined as “the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions where the first language (L1) of most of the population is not English” (Macaro, 2018, p. 19). However, the term seems to struggle with limiting its definition or expanding its scope. Galloway and Rose (2021) question the relevance of including Anglophone contexts under the EMI definition, considering that Anglophone universities often present a multicultural environment (Rose *et al.*, 2021). In Anglophone contexts, the EMI perspective should be considered when a course is designed for international students.

To encompass this specific context, Dafouz and Smit (2020, p. 399) introduce the term English – Medium Education in Multilingual University Settings (EMEMUS) to denote a broader. In this dissertation, since the context is in a non-Anglophone university in Brazil, we will use the term EMI to refer to teaching content through English.

Table 2.3 – Approaches to teach in English – Terminologies

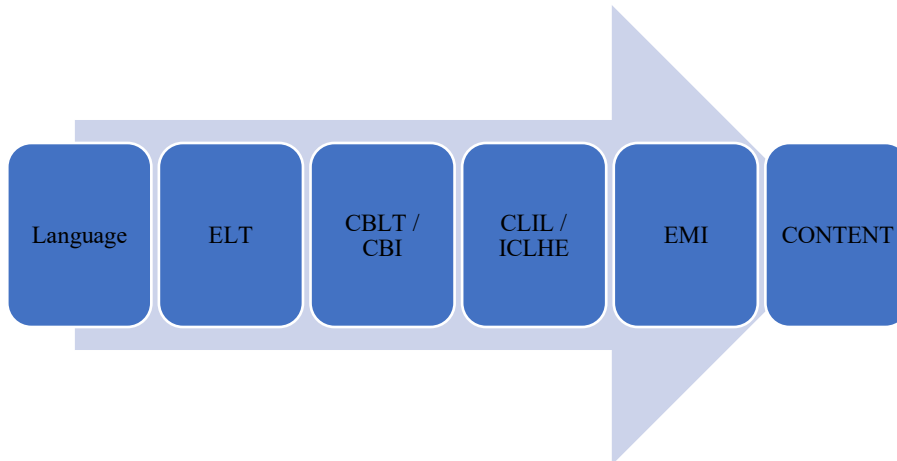
Term	Definition	Usage Region	Main Objective
CLIL	Content and Language Integrated Learning	Europe	Language and content
ICLHE	Integrating Content and Language in Higher Education	Europe	Language and content
CBI	Content-Based Instruction	North America	Language learning
CBLT	Content-Based Language Teaching	North America	Language learning
EMI	English Medium Instruction	Globally	Content

Source: adapted from Galloway and Rose (2021).

Table 2.3 shows that various terms have emerged to describe similar phenomena, such as Content and Language Integrated Learning (CLIL), Integrating Content and Language in Higher Education (ICLHE), Content-based Instruction (CBI) and Content-based Language Teaching (CBLT), incorporating both language learning and content learning (Galloway; Rose, 2021). The significant distinction between these terms and EMI is that all terms, except EMI, have language teaching at their core (Galloway; Rose, 2021).

Figure 2.1 visually captures the spectrum of language-to-content variation among different approaches, showcasing the terminologies from English Language Teaching (ELT) to EMI and their respective positions concerning their emphasis on teaching language or content.

Figure 2.1 – Approaches to language and content teaching

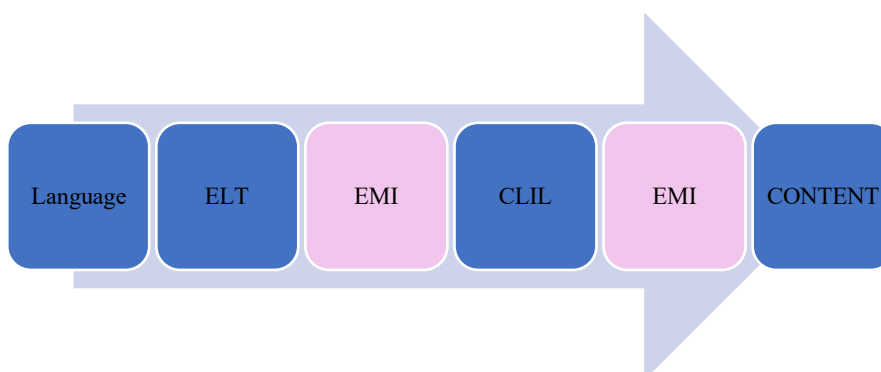


Source: Galloway and Rose (2021).

The representation shows that English Language Teaching (ELT) is closer to language teaching, whereas EMI is closer to content rather than language per se. Some researchers argue that EMI can be placed differently on the diagram depending on the context. Approaches like CBLT / CBI closely align in both definition and nomenclature with the integration of language and content teaching. As the diagram approaches its edge, methodologies are more content-centred than language-centred.

In the Brazilian context, specifically at the university participating in this research, EMI is conceptualised as shown in Figure 2.2. As further analyses in this dissertation, EMI can be placed both near the content as well as closer to language, depending on the students' profile.

Figure 2.2 – Approaches to language and content teaching – Brazilian context



Source: adapted from Galloway and Rose (2021).

Considering both the format of these figures and the scholarly discussion, it is essential to highlight that most EMI definitions do not carry the obligation to teach English. This might be due to the limited exploration of language gains through EMI, or perhaps the research conducted so far has not presented a positive aspect as discussed by Macaro *et al.* (2018) and Galloway and Ruegg (2020). Consequently, some teachers and students encounter linguistic challenges, necessitating linguistic support from English teachers. This assistance can be provided through English for Specific Academic Purposes, as mentioned by Galloway and Rose (2021). These topics will be best explored further in the next chapter.

2.2.1 Internationalisation policies in Europe and EMI

Language policies are pivotal to the development of internationalisation. Before examining the Brazilian context, it is crucial to understand how Europe has developed its policies. Internationalisation at universities in Europe began before it did in Brazil, providing valuable insights into the establishment of internationalisation policies in Brazilian higher education. Therefore, analysing their experience could help us understand Brazilian internationalisation policies in higher education.

Europe Erasmus program¹² (now Erasmus+) and the Bologna Process¹³ were two key driving forces behind the internationalisation of their universities, favouring EMI. The Erasmus programme started in 1987 in Europe to enhance student mobility throughout Europe (Macaro, 2018). Initially, eleven countries participated in the programme (European Commission, 2011), and the numbers grew from 3,244 students in the first year to about three million students by 2011. By 2014, over 2,389 universities were part of this programme (Macaro, 2018).

The Bologna Process began in 1999 with the Bologna Declaration. According to Macaro (2018), this process was the greatest driver for internationalisation, even more significant than the Erasmus programme. Its main purpose was to establish a “common framework of higher education qualifications” (p. 50), eliminating barriers to students mobility. This process helped standardise degree structures across the continent.

¹² The “Erasmus” programme was originally established by the European Union in 1987. It looked to promote closer cooperation between universities and higher education institutions across Europe. This meant setting up an organised and integrated system of cross-border student interchange. Source: <https://erasmus-plus.ec.europa.eu/about-erasmus/history-funding-and-future>.

¹³ After the signing of the Bologna Declaration, which aimed to make changes in European higher education and facilitate the exchange of information between countries, facilitating exchanges of students, teachers, and researchers in general, there was the Bologna Process, that is, the process that took place to put what was decided into practice.

2.2.2 Understanding the Language Policies in the Brazilian Context

In Brazil, language policies specifically designed for teaching L2,¹⁴ particularly targeting the final years of secondary school, exist. According to LDB, art. 35-A, §4º, every high school curriculum must include English as a foreign language, and another additional language can also be offered (preferably Spanish). When analysing language policies for teaching L2 in Brazil, Finardi and Cassoti (2019) concluded that each educational sphere (elementary, secondary, and higher education contexts) has its guidelines, but none are aligned.

Concurring with Finardi (2016a) and Sarmiento, Abreu-e-Lima and Moraes Filho (2016), it is paramount to reflect on Brazilian language policies so they can align with internationalisation actions and integrate all levels of the Brazilian Educational system. These policies are primarily related to the primary and secondary spheres of education. For the tertiary sector, the biggest difference is that L2 teaching is not mandatory in higher education, allowing each institution to decide whether to include L2 teaching in their degrees.

In higher education, unlike in European, one of the biggest drivers of internationalisation in Brazil was the Science without Borders¹⁵ (SwB) programme. Launched on December 13, 2011, under Decree number 7,642 (Brasil, 2011). Its main objective was to

promote the training and qualification of highly qualified people in universities, professional and technological education institutions, and foreign research centres of excellence, in addition to attracting highly qualified young talents and foreign researchers to Brazil, in areas of knowledge defined as priorities (Article 1, Brasil, 2011).

The decree also aimed to describe the programme and establish its objective, such as promoting internationalisation within higher educations and Brazilian research centres. The SwB programme was the seed for developing further language programmes launched by the federal government and implemented in universities throughout the country.

A year after the SwB programme's launch, the government launched the now *Idiomas sem Fronteiras* (IsF)¹⁶, initially called English without Borders, by Decree number 1,466/2012 (Abreu-e-Lima *et al.*, 2021). In 2014, due to the addition of many other languages, the programme became Languages without Borders (LwB).

¹⁴ In this dissertation, L2 refers to the second language an individual learns, namely the English Language.

¹⁵ The programme Science without Borders will be cited here as SwB.

¹⁶ IsF – Idiomas sem Fronteiras will be cited here as Languages without Borders, or LwB.

The LwB programme was first designed to support the SwB programme and later triggered internationalisation policies in the higher education institutions throughout Brazil. According to Abreu-e-Lima *et al.* (2021), the programme was the first at the national level to involve over 141 public institutions in the country, including 58 federal institutions, 21 state institutions, one municipal institution, 25 federal institutes, one Federal Centre of Technological Education (CEFET), and 35 technology colleges (FATECs).

However, in 2019, the Ministry of Education (MEC) cut off CAPES¹⁷ funding for the LwB programme. To maintain language support for universities, the council formed by higher education institutions managers (ANDIFES) decided to establish a new supporting network called *Rede Andifes*.¹⁸ *Rede Andifes* aims to strengthen the internationalisation process in Federal Higher Education Institutions (IFES)¹⁹ around Brazil. *Rede Andifes* took over the actions previously managed by the LwB programme, which no longer were supported by CAPES after 2019 (Andifes, 2019).

In addition to these programmes, higher education context has two relevant internationalisation programmes aiming to foster international mobility – PSDE and CAPES PrInt. PSDE is the Portuguese abbreviation for Doctorate Abroad Programme,²⁰ and CAPES PrInt stands for Institutional Internationalisation Programme.²¹ Their main goal is to encourage international research networks to enhance the quality of academic production related to postgraduate studies. PSDE was established in 2011, whereas CAPES PrInt started in 2019, a programme also created by CAPES, lasting five years (until 2023) (UFMG, 2022). The postgraduate programmes participating in CAPES PrInt and PSDE are distinct, and programmes involved in one may not be included in the other.

2.2.3 Unfolding of EMI in the Brazilian Context

EMI in Brazil is in its initial stages. In 2010, only one university showcased EMI programmes, whereas by 2016, at least six new universities were promoting EMI programmes. However, it is difficult to determine precisely when it started. Surveying EMI's history in Brazil, Martinez (2016) points out that there is no evidence of courses taught in English before 2010. However, this scenario changed around 2016 when over ten higher education institutions

¹⁷ CAPES stands for *Coordenação de Aperfeiçoamento Pessoal de Nível Superior*.

¹⁸ Andifes stands for *Associação Nacional dos Dirigentes das Instituições Federais de Ensino Superior*.

¹⁹ Abbreviation kept in Portuguese, according to the Brazilian Ministry of Education (MEC). IFES stands for *Institutos Federais de Ensino Superior*.

²⁰ Programa de Doutorado-Sanduiche no Exterior, in Portuguese.

²¹ Programa Institucional de Internacionalização, in Portuguese.

in Brazil implemented EMI courses. If these courses existed before 2010, stated Martinez (2016), they were unofficial.

Table 2.4 below presents an adaptation of two previous studies conducted by Martinez (2016) and Guimaraes *et al.* (2019), where they show universities in Brazil that have promoted EMI officially since 2010.

Table 2.4 - Brazilian Universities that have Implemented EMI in their Curriculum since 2010

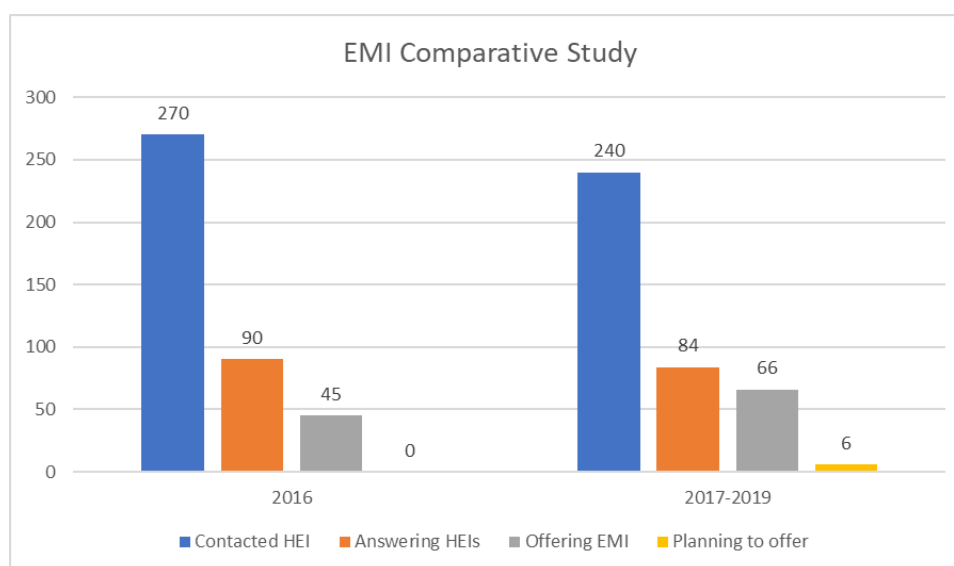
Year	INSTITUTION
2010	Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto – (FEA-RP/USP)
2011	Pontifícia Universidade Católica do Paraná (PUC Paraná)
2012	Franciscana, Ampla e Empreendedora (FAE – Curitiba)
2013	Pontifícia Universidade Católica Rio Grande do Sul – (PUC Rio Grande do Sul)
2014	Universidade Federal de Viçosa (UFV) Universidade Federal do ABC (UFABC) Universidade de São Paulo (USP) Universidade Tecnológica Federal do Paraná (UTFPR)
2015	Universidade Regional de Blumenau (FURB) Fundação Getúlio Vargas (FGV) Universidade do Vale do Taquari (Univates)
2016	Universidade do Estado de Santa Catarina (UDESC) Universidade Federal do Paraná (UFPR) Universidade de Fortaleza (UNIFOR) Universidade Federal Fluminense (UFF) Universidade de Salvador - UNIFACS Universidade Federal de Ouro Preto (UFOP)
2019	UFMG – Universidade Federal de Minas Gerais

Source: adapted from Martinez (2016) and Guimaraes, Finardi, and Casotti (2019).

Federal public institutions are today the ones that invest the most in language programmes and policies, representing 23% of higher education institutions in Brazil that are concerned with outlining strategies for internationalisation (Gimenez *et al.*, 2018). Gimenez *et al.* (2018) conducted a study funded by the British Council and FAUBAI,²² comparing a prediction made in 2016 to predictions from 2017-2019. The study also showed that from the 270 higher education contacted institutions, only 45 offered EMI courses. The data from 2017-2019 shows that, from the 240 institutions contacted, 66 were offering EMI courses, and six were planning to offer. Graph 2.1 below illustrates these changes throughout the years.

²² Available at: <https://faubai.org.br/britishcouncilfaubaiguide2018.pdf>.

Graph 2.1 - EMI Comparative Study



Source : adapted from Gimenez *et al.* (2018).

Although the reduction of contacted institutions and answering institutions is shown in the Graph 2.1, the number of HEIs that effectively offer courses in EMI has risen since then. Besides the six institutions that were planning to offer it in the future, Graph 2.1 shows the growth of EMI relevance in the Brazilian scenario and shows that there is still plenty to be explored in this field. The same study demonstrates the differences between the EMI courses offered at the undergraduate and postgraduate levels. Table 2.5 summarises these findings.

Table 2.5 – EMI throughout Higher Education Programmes

	2017	2018.1	2018.2/2019	Total
EMI undergraduate	258 courses	212 courses (New courses)	147 Courses (New courses)	617
EMI postgraduate	537 courses	246 courses (New courses)	77 Courses (New courses)	889

Source: adapted from Gimenez *et al.* (2018).

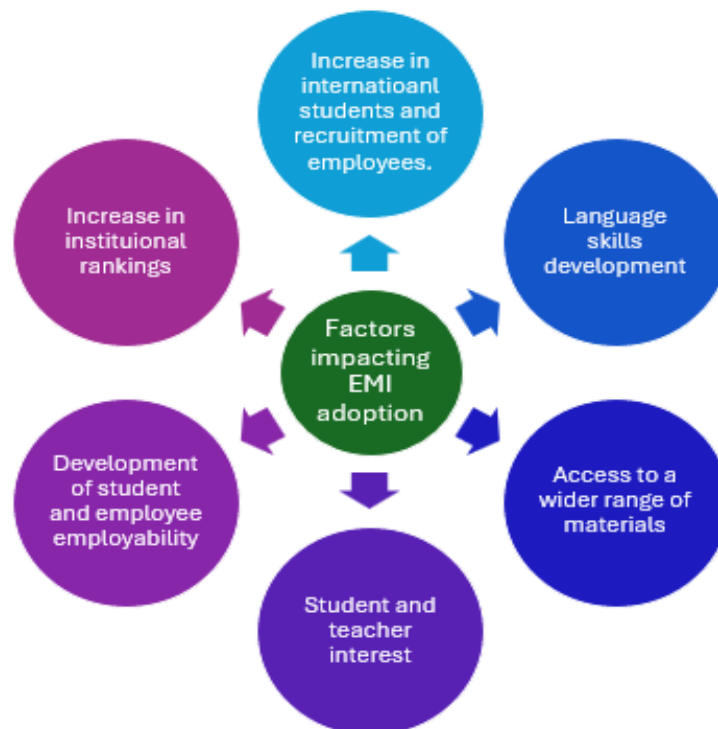
When comparing both higher education programmes on Table 2.5, the postgraduate level holds a higher number of EMI courses than the undergraduate. This demonstrates that more efforts are necessary to develop more courses for the latter. Another relevant aspect of this table is that the numbers are not non-exclusive, rather, they are adding up year by year, resulting in the total numbers expressed in the last column.

2.3 EMI benefits

Although EMI is in its initial stages, many scholars note that the EMI phenomenon is rapidly expanding as universities seek to internationalise and enhance their competitiveness. Baumvol and Sarmento (2016) highlight that the great merit of EMI is not solely based on teaching the English language but rather on “the possibility of providing learning in different areas of knowledge, with the English language as a vehicle” (Baumvol; Sarmento, 2016, p. 73).

As the world seeks to internationalise, the number of non-linguistic content disciplines taught in English is increasing (Curle *et al.*, 2020). The rise of EMI has numerous perceptible benefits that vary according to the context in which it is applied and the courses and programmes EMI it is offered (Curle *et al.*, 2020). These benefits are illustrated in Figure 2.3 below.

Figure 2.3 – EMI Benefits



Source: adapted from Curle *et al.* (2020).

Figure 2.3 illustrates factors that may result from EMI adoption, according to Curle *et al.* (2020). These factors should be carefully analysed as they may vary in different parts of the

world, such as Brazil, North America, and Europe. Generally, these benefits can favour all parties involved in the process: institutions, professors, and students.

Institutions adopting EMI are likely to improve their instructional ranking. By offering content in English, they have access to a wider range of materials. This benefits both students and professors by enhancing language skills. Thus, as students improve their language skills, they are better prepared for the demands of the job market. EMI can also increase the number of international students at the university and facilitate more selective recruitment of staff. This cycle will be further explained throughout the following section.

EMI often contributes to improving institutional rankings, which depend on metrics related to internationalisation. Curle *et al.* (2020) mention a prominent magazine called “Times Higher Education” (THE), which measures the internationalisation of each institution. THE metrics classifies the most international universities by their number of international students, international staff, co-authorship arrangements, and international reputation metric (p. 20). It is relevant to note that in the Brazilian context specifically the Federal University of Minas Gerais (UFMG), higher rankings or receiving international students or staff does not increase the university’s revenue. This research-specific context involves a public institution that receive most of its revenue from the federal government, not from students.

Additionally, EMI can positively affect students’ development of language competencies. Although learning/teaching English is not the main goal of EMI (see Section 2.2: Defining EMI), there is a belief among some scholars that the adoption of EMI in certain programmes will help students improve their language proficiency. This is due to the belief that that “English is best learnt through maximum exposure” (Curle *et al.*, 2020, p. 23). Moreover, this is one of the driving reasons students take EMI classes, as will be further analysed.

A significant advantage of improving language proficiency for students is the ability to access a wider range of materials in the original language, which is often in English. Additionally, some students and faculty prefer using materials in the original language.

Another benefit, not represented in Figure 2.3 but noteworthy for a non-Anglophone context like Brazil, is the improvement of cross-cultural understanding and global awareness. EMI potentially enhances academic progress, fosters creative thinking, and increases career opportunities (Chapple, 2015; Galloway; Kriukow, 2018). Regarding cross-cultural understanding, Macaro (2018) examines the cost-benefit of using EMI by assessing which content subjects should be taught in English and how carefully teachers should design EMI courses. Macaro categorises the subjects into three groups: internationally oriented subjects,

subjects without a strong international orientation, and subjects directly connected with national culture.

The first group, the most international-oriented, includes subjects such as Business Studies, International Studies, and Economics. According to Macaro (2018), these subjects have a stronger connection with English as an international language than the second category, which includes subjects like Physics and Chemistry that, despite being predominantly published in English, do not have a direct connection to the language itself. The third category includes subjects with strong ties to national culture, the L1 language, or national history. For example, in Health Sciences, research is mostly written in English. In a non-Anglophone context, students access it in English but practice in their home country, using their L1 language. Students must be aware of “possible distinctions in the nature of the subjects themselves” (Macaro, 2018, p. 158).

In our specific context, one of the programmes at UFMG that adopts EMI is the Minor in International Studies. Every subject in the programme addresses topics related to the international context. For example, the Dentistry school offers a course called International Approach to Oral Epidemiology, where the professor presents issues related to a different continent in each class, giving students a broader view of global situations in this field.

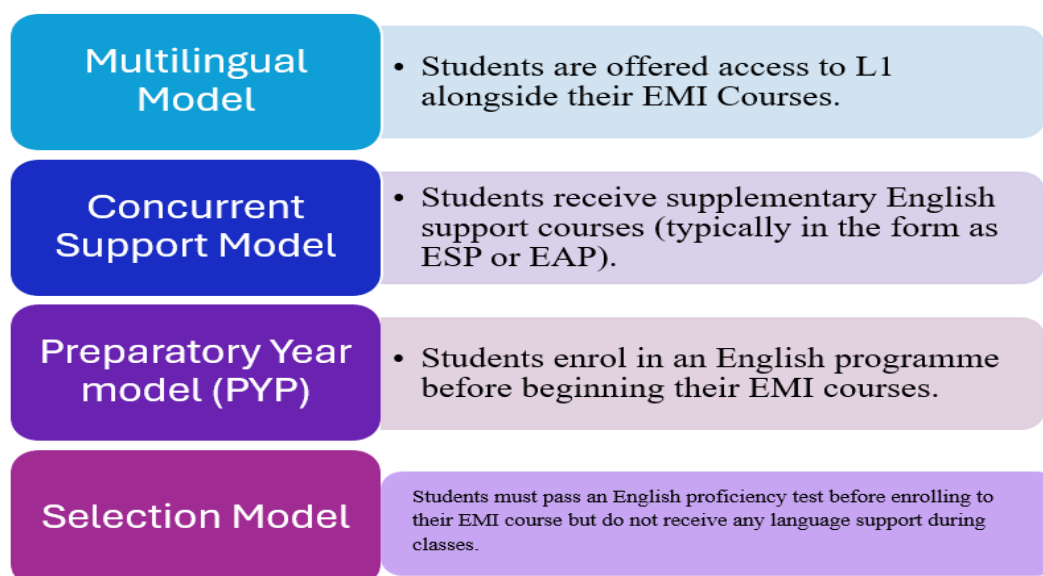
Although EMI is growing globally (Macaro, 2018) and offers a wide range of benefits, the purpose of higher education internationalisation varies considerably across countries. While some universities in North America and Europe seek internationalisation for marketing and commercial reasons (Baumvol; Sarmiento, 2016), Brazilian public universities primarily aim to establish partner networks and enhance knowledge production in the country (Baumvol; Sarmiento, 2016). Higher-ranking Brazilian universities are mostly public, which means that in this system education is “free in the country, for both Brazilians and foreigners” (Baumvol; Sarmiento, 2016, p. 68). To achieve the goal of internationalisation in our research context, there are two main benefits for higher education communities: more balanced academic mobility for students and teachers, and equal access to international practices (Baumvol; Sarmiento, 2016).

2.4 EMI models

Although EMI does not focus on teaching English, some scholars report that students’ lack of language proficiency poses challenges for EMI implementation, as will be discussed in the following sections. Issues such as students’ low English proficiency and the lack of teachers’ preparedness can hinder the successful implementation of EMI in different contexts.

To understand how teachers can address language issues and better prepare their classes, Macaro's (2018) four pedagogical models will be analysed. These models treat linguistic knowledge and EMI differently, as illustrated in Figure 2.4 below:

Figure 2.4 – EMI Pedagogical Models



Source: adapted from Macaro (2018).

Let's begin with the Multilingual Model. In this model, the content is taught in two languages. Some lessons are taught in English, while others are taught in the relative L1. The professor switches between languages to ensure students understand the content. Macaro (2018) points out that this model could be very beneficial for home students, but is not appropriate for international students who do not share the same L1. In the Brazilian context, this issue of identity/responsibility arises as classes may have heterogeneous English proficiency levels. Professors might use the multilingual model when facing a class with this kind of trace.

The Concurrent Support Model provides language support regardless of the students' English proficiency and understanding of the content. For example, students might receive support through English for Academic Purposes (EAP) or English for Specific Purposes (ESP) classes. Macaro argues that this model is not a well-known and exemplifies it by saying that students from EMI courses would consult English specialists with questions about a text or material that they are studying. This implies that language specialists should understand students' content, while content teachers need to comprehend students' linguistic needs. However, Macaro does not elaborate on how this model could work when content teachers and language specialists collaborate to further improve the quality of teaching and learning.

In the Preparatory Year Model, students take an intensive EAP course before starting to study in the EMI course. This model is used in countries such as the United Arab Emirates and Turkey, where it is assumed that students who have just left secondary school do not meet the language requirements for EMI university courses/programmes. Thus, they are provided with an “intensive bridging” course to help them acquire sufficient language knowledge before starting EMI courses.

The Selection Model offers limited language support and requires students to pass a language test before enrolment. This model has been used in countries such as China and Japan, where students must achieve good IELTS or TOEFL scores to attend EMI programmes. The appropriateness of these tests is not going to be discussed, as language requirements are not needed in the programmes aimed for this research. According to Macaro (2018), in this model, most of the work is performed by the students, as they students have already demonstrated their ability to communicate and understand English through the language entrance tests. If support provided by language specialists, it is based on EAP or ESP, while content teachers focus on academic topics.

Among the pedagogies presented, there is no model in which students do not receive or require support or placement tests. Therefore, I propose adding the *Ostrich Model*, in which students do not receive any language support nor meet language proficiency requirements for entry (Galloway; Rose, 2021). This model is relevant as some institutions worldwide might adopt it. However, Macaro (2018) suggests that this model is more related to a lack of administrative will from managers and/or teachers, ignoring possible problems faced by students.

In this research, we will treat the Ostrich model as a model in which no entrance language requirement is needed nor offered during the course due to students’ high language ability. Additionally, I will use these four models to analyse the practice of the three content teachers observed during the data collection process of this research.

2.5 EMI challenges

The implementation of EMI in Brazil is recent, and its benefits and results are not yet ready for extensive analysis. The beginning of this chapter presents a discussion of possible benefits of EMI for Brazilian institutions. This section, however, addresses the challenges that universities, professors and students face when implementing EMI in different contexts. These challenges are summarised in Figure 2.5.

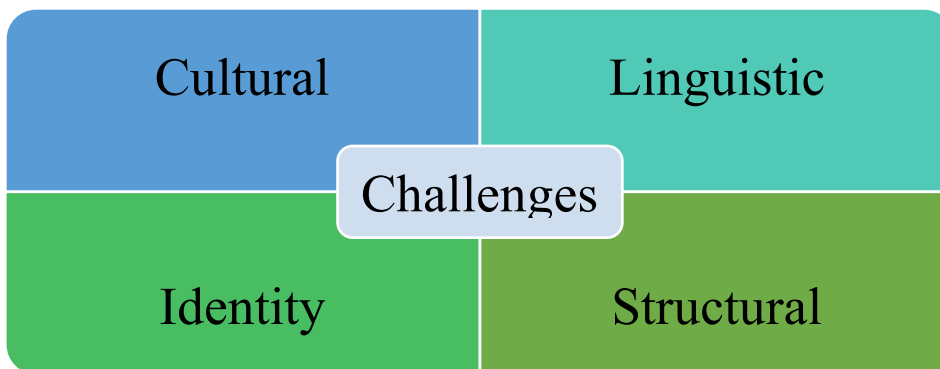
2.5.1 Implementing EMI

Education has always posed significant challenges due to the involvement of various stakeholders, including institutions, professors, members of the community, and students. The complexity of this process increases whenever new pedagogies or any kind of innovation are implemented. While such innovations are expected to bring benefits, it is important to anticipate and address potential challenges that may arise.

These challenges stem from different stakeholders involved. Guimaraes, Finardi, and Cassoti (2019) identified several key factors impeding the implementation of internationalisation and, consequently, EMI in Brazil. These include bureaucratic obstacles, a predominant focus on mobility, language barriers, and a lack of integration among institutional, national, and supranational policies. These factors are relevant for they can unfold into other challenges directly linked to them, which will be further discussed in subsequent chapters.

Martinez (2016) illustrates these challenges as he categorises them into groups related to the issues faced by institutions, faculty, and students. The author notes that the implementation of EMI can be both top-down, originating from university administration, and bottom-up, driven by faculty and/or students. Given its recent introduction, similar challenges experienced in Europe with EMI implementation can be observed in the Brazilian context, albeit with some differences in approach. According to Martinez (2016), these challenges can be grouped into four main categories, as depicted in Figure 2.5.

Figure 2.5 – EMI challenges



Source: adapted from Martinez (2019).

These challenges will be further explored in the following subsections.

2.5.1.1 Linguistic Challenges

In Brazil, linguistic challenges are primarily related to both faculty and students' lack of language proficiency. Galloway and Rose (2021) assert that language remains a significant

barrier to the successful implementation of EMI (p. 34). Therefore, there is a substantial journey ahead to overcome this challenge.

Another issue highlighted by scholars is the heterogeneity of students' proficiency levels within the same class, particularly when there is no language entrance requirement, as noted by the TAEC Erasmus+ project (2017-2020). In most cases, EMI in Brazil does not mandate a minimum English requirement for entrance, leading to varying language ability within the same class. Somehow teachers have to deal with these differences, which demands knowledge of teaching pedagogies or support from ELT professionals. However, this requires time, experience, and training, especially in the absence of ELT support (Martinez, 2019).

2.5.1.2 Cultural Challenges

Cultural clashes can cause problems within a classroom, especially when they originate from teachers and impact students. Martinez (2016) reports that Japanese students often struggle with the interactive approach taken by their teachers in EMI classes, which contrasts with their traditional, more passive learning style. In his studies, Martinez (2016) points out that this kind of interactive follows a different pattern, for example, the teachers ask questions. Similarly, international students in Korea have expressed frustration with the lack of interaction in their teacher-centred classes. In Brazil, on the other hand, where most EMI teachers and students share general cultural norms, these cultural challenges might be less pronounced.

However, certain classes in Brazilian institutions may still adopt a teacher-centred approach. Ismailov *et al.* (2021, p. 19) suggest that cultural norms encourage students to listen more listening than to speak and argue in their EMI classes. Additionally, the authors assert that students often feel “pressured by peers and teachers to participate in discussions” (p. 19); in a way, this may cause embarrassment and hinder adequate participation in classes.

Westernisation²³ is another cultural challenge in EMI programmes. Galloway *et al.* (2017) reported that some textbooks used in the EMI context have been criticised for not being appropriate for Japanese students.

2.5.1.3 Structural Challenges

Structural challenges are related to the institution framework, including the administration and management of EMI courses (Bradford, 2016). This encompasses the development of courses, staff policies, and acceptance criteria. At UFMG, professors are not

²³ Westernisation or Englishisation is the process of causing ideas or ways of life that are common in North America and Western Europe. Available at: <https://dictionary.cambridge.org/dictionary/english/westernization>.

explicitly hired for EMI programmes, and students are not attracted by marketing or financial purposes.

Staff training may also be taken into consideration. Galloway *et al.* (2017) argue that “EMI requires more than merely translating content and delivering it” (p. 8). It involves training and providing support for students beyond teaching the content. Consequently, following EMI guidelines makes it easier for the teacher as well as for the learning process in course.

Supporting international students is another relevant aspect to consider in the process of the implementation of EMI. Limited staff English proficiency can hinder communication and cultural understanding between staff and students, as Galloway *et al.* (2017) points out.

2.5.1.4 Identity Challenges

Identity challenges arise when the language of instruction switches to English, potentially affecting teacher’s authenticity. Martinez (2020) notes that some teachers feel constrained when teaching in English, unable to improvise, tell jokes, or be friendly. However, according to Soren (2013), a teacher’s identity when teaching in English (in an EMI classroom), springs outside the identity borders of the language user/learner (p. 40). Besides the language, aspects such as cultural background, and the behaviours of the teachers in class pervade these identity issues. Thus, EMI can pose several challenges for teachers, as “personal attribute that may not easily transfer to a second language” (Martinez, 2016, p. 9).

The other feature that infuses the identity concept is related to the cultural challenge. Some facets of this process might involve a promotion of division for teachers and students, being perceived as superior to others who do not use EMI. Another side of the cultural challenge is also related to the threat some people believe EMI poses to their language and culture, perceiving a strong Westernisation influence in L1 context classes (Martinez, 2016; Leal *et al.*, 2022). Thus, the use of EMI may affect the teachers’ identity particularly when considering the critical assessment that teachers can receive, as stated by Talbot *et al.* (2021). A teacher teaching through an L2 language entails competence in the content and the language.

Despite these challenges, it is important to address social inequalities provoked by EMI, as highlighted by Galloway *et al.* (2017). This issue will be further tackled in the following subsection.

2.6 The dark side of EMI: how can we balance it?

While EMI offer various benefits, it also presents undeniable challenges and critical issues. Bowles and Murphy (2020) question whether the social consequences of EMI outweigh

its benefits. Are we getting what we were expecting with EMI and internationalisation, or are we just ignoring its drawbacks?

The overuse of English in the higher education context can reinforce the “hierarchical imaginary of intellectual domination and, on the other hand, the cultural dominance of the countries of the North over those of the South” (Finardi *et al.*, 2020, p. 14). As a result, the Westernisation of higher education is a growing concern among many scholars.

Galloway *et al.* (2017), for example, state that implementing curricula of native English-speaking contexts or even the “quest to publish in leading journals” (p. 7) strengthens linguistic imperialism, favouring some while excluding others. To mitigate this one-sided perspective, Finardi *et al.* (2020) suggest a higher education approach “oriented towards *glocalization*” (p. 15), so as to integrate the local and the global contexts for richer contributions.

Aligned with that, other issues are revealed by Galloway *et al.* (2017), which are related to social issues or inequalities. These include (but are not limited to) lack or mismanagement, administration of resources, staff training and support for international students, as well as management and faculty culture. These issues are intrinsically connected to identity challenges, potentially creating an “English-speaking elite” (Gröblinger, 2017, p. 3), and possibly generating the exclusion of speakers of other languages.

The upcoming topic deals with the professional development of teachers, teacher training for the EMI context.

2.7 Teacher training

There is uncertainty regarding whether current teachers are fully equipped to meet EMI demands. Macaro (2018) questions if content teachers transitioning to EMI have been asked about their training needs. Concurring with Macaro (2018), to understand their professional development, instead of assumptions, there must be a needs analysis from the teachers, seeking to comprehend how “language affects mediating the understanding of content knowledge” (p. 234). Camarrata and Tedick (2012) and Macaro (2018) agree that the difficulty is to establish the actual meaning of language for teachers. Teaching content through English is undoubtedly much more than delivering the content into L2 (Hoare, 2003; Macaro, 2018).

Scholars like Martinez and Fernandes (2020) state that EMI teachers lack language proficiency and pedagogical competence. Addressing these challenges requires teacher training sessions or collaborative work. Among these challenges, teachers must adapt their lessons to include and engage with students, necessitating more than merely translating classes into English.

Rubio-Alcalá and Mallorquín (2020) observe that “any teacher training proposal should be directed to participants with different language needs” (p. 43), and encourage better class preparation to avoid improvisation and “overuse” of visual support. It could be equally intimidating to deliver a lecture in a second language, especially when teachers need to receive pedagogical support. The deficiency of a systematic pedagogical approach leads to a slight improvement in students’ language ability (Rubio-Alcalá; Mallorquín, 2020).

Restating the idea that EMI is not directly related to teaching a language, Breeze and Guinda (2021) propose that language training should not be the core of the training, but should not be neglected. They say that teaching in English will require all the involved parties to change the “ecosystem” historically in course. Though that does not transform the content teacher into a language teacher. What should be considered is that “they will have to develop a greater awareness of language and language-related issues to feel confident in their role and help students to benefit from EMI as much as they can” (Breeze; Guinda, 2021, p. 189).

Notice that this study does not propose a specific teacher training programme, but will tackle some models to emphasise the importance of providing support for teachers, especially in a collaborative mode, as discussed in the next section.

2 LITERATURE REVIEW - Part two – Collaboration

2.8 Promoting collaboration in the EMI classroom

Although EMI has become more popular in various countries, there is a notable lack of studies regarding students' support during EMI lessons (Galloway; Ruegg, 2020). Providing language support can be challenging for content teachers, especially considering their existing workload. Even though some teachers have received EMI training, they are not language specialists. Therefore, designing language activities can be a real challenge for them. It is important to understand that language learning is not EMI's primary goal, as discussed in Section 2.2. However, Galloway and Ruegg (2020) argue that language is one of EMI's macro levels²⁴ and a relevant key factor that motivates both students' enrolment and content teachers to improve their English proficiency.

EMI courses at UFMG are cross-curricular and are offered by specific schools. However, enrolment in EMI courses may be open to students from various colleges. Consequently, content teachers must consider that students might have little knowledge of the subject matter while preparing their classes. Another critical element is that the students are neither required to prove any level of English nor show any language improvement after taking the course, as previously mentioned. Therefore, EMI classes in this context would likely have students with different proficiency levels, demanding more effort from content teachers.

Similar situations have been observed in other countries. For instance, Galloway and Ruegg (2020) report cases in China where teachers had to reduce the depth of content covered due to a lack of language support in EMI courses. Additionally, Hu and Lei (2014) observed that the lack of support and low English proficiency among both content teachers and students might lead to simplification of the content.

Addressing this gap, this research aims to promote collaborative work between a language specialist and a content teacher. In this sense, Galloway and Rose (2021) and Wingate and Hakim (2022) suggest a cross-fertilisation between EMI and EAP/ESP scholars. This seems to be feasible as EMI and EAP are considered "close relatives" (Galloway; Rose, 2022; Wingate; Hakim, 2022). Furthermore, as research on student support and collaboration between

²⁴ Rose and McKinley (2018) categorise educational policies into macro, meso, and micro levels. The macro level relates to what policy makers do at a national level (Ministry of Education and higher education administrator, for example). The meso level refers to what the university and university leaders do. Finally, the micro level comprises teachers and students.

content teachers and language specialists is in its infancy, this study also aim to contribute to the field, bringing insights, information, and knowledge. Galloway and Rose (2021) argue that much from the EAP field could be applied to EMI.

The study of general EAP is much older, and there is no need to consider EMI and EAP as separate disciplines. A thinner line should be drawn between the two fields, fostering student provisions and collaboration between language specialists and content teachers. One specific aspect to consider when approaching EAP for EMI is that, according to Wingate and Hakim (2022), when support is offered to students, it “remains at a generic level”, neglecting discipline-specific needs. Nevertheless, Galloway and Ruegg (2020) and Wingate and Hakim (2018) argue that discipline-specific instruction is most beneficial to students when blending EAP and EMI.

Regarding collaboration, Wingate and Hakim (2022) assert that the arrangement of “team teaching” could benefit both content teacher and students. According to the authors, this approach “would help to overcome a subject-lecturer tendency to avoid language-related issues” (p. 4) and allow them to focus on their specific role in teaching the discipline, while the language specialist would mind the language teaching. Therefore, it would be favourable for all people involved in the process.

Lasagabaster (2018) proposes two different models of collaboration. In the first model, the content teacher and language specialist interact in class and work with specific topics so that students can participate. In the second model, which aligns with this study, the content teacher takes the lead role, while the language specialist assumes a secondary role, focusing on the linguistic aspects of the class. The language specialist’s intervention should occur when needed or when their language expertise is required (p. 402).

2.9 Activities design

According to Lasagabaster (2018), before starting to elaborate on the language activities, two aspects must be considered. First, the language specialist must familiarise themselves with the content being taught. Knowledge of the course material is essential to deliver activities that meet the students’ demands. Second, the language specialist needs to observe the classes, which will help them understand and analyse how the teachers tackle the language issues, as well as consider the “metalanguage students will need” (p. 405). Only then can the language specialist compile the necessary materials to prepare task-based activities.

2.9.1 The use of EAP and ESP to design activities

EAP and writing courses play an important role in universities, but they alone are not enough to help students fully. Their content is often general and “all the[ir] myriad differences” cannot be addressed (Breeze; Guinda, 2021, p. 203). In the context of EAP, activities such as general academic vocabulary, understanding lectures, asking, and answering questions, participating in discussions, or even problem-solving skills are common (Breeze; Guinda, 2021; Richards; Pun, 2022). A more effective approach would be to have “tailor-made” (Breeze; Guinda, 2021 p. 203) English for specific purposes activities.

Considering the broad context of EAP, it would be more effective if the activities were adapted to the realities of content teachers. Breeze and Guinda (2021) emphasise the need to adjust activities and lessons to the local context, helping students develop the academic English skills required to engage in technical texts and even write and publish articles in the English. According to Richards and Pun (2022), when “EAP is designed for students in a specific academic discipline such as dentistry, it is sometimes referred to as ESP – English for a specific academic purpose” (p. 16). By using ESP, language specialists can learn in-depth about the language features most used by the students in a particular field.

Therefore, the greatest merit of English for Specific Purposes²⁵ (ESP) is its assistance in helping students understand professional texts, acquire technical vocabulary, and practise productive skills (such as listening, reading, writing, and speaking) in their real context. ESP provides a more effective shortcut than EAP²⁶ alone, as specific vocabulary is unlikely to be found in general EAP material.

In specific areas such as medicine and law, technical vocabulary and expressions should be structured around their needs. Thus, all authentic materials should be considered, such as videos and handbooks (Breeze; Guinda, 2021). Another aspect of using ESP to support EMI is offering modules or lessons centred on practical skills, such as “presenting products or services, dealing with complaints, among others”²⁷ (p. 206), which students will need throughout the course. Such modules could include, but are not restricted to “presenting in public” or “customer communication”. An essential aspect of ESP in the EMI context is to provide tailored material that aligns closely with students’ academic needs for each course, in accordance with each professor’s syllabus.

²⁵ English for Specific Purposes in this thesis will be referred to as ESP.

²⁶ English for Academic Purposes in this thesis will be referred to as EAP.

²⁷ The concrete skills exemplified here should be contextualised for each course that the collaboration is being established.

2.9.2 The Use of Corpora to Produce ESP-Based Activities

Participation in EMI classes requires certain language proficiency in the target language from both teachers and students. The proficiency level should be compatible with the classes and materials used. Activities created to provide language support have a central premise to meet students' academic needs, enabling them to benefit more from courses taught in English. Therefore, this research involves creating corpus-based activities to gather relevant content to EMI courses.

The corpora compilation had to be carefully planned to meet the specific demands of the classes where the exercises would be applied. Hence, to develop the language activities, the researcher compiled small, specialised corpora tailored to each subject where the activities were to be presented (more on this topic will be discussed in Chapter 3). The compiled corpora served as the basis for creating learner activities (vocabulary, listening, text comprehension, speaking activities, project designing and presentation).

Studies on the use of corpora in EMI contexts are limited (Jablonkai, 2021). As demonstrated in this chapter, numerous obstacles are encountered during the implementation of EMI, particularly those related to linguistic issues. The integration of corpora and EMI holds the potential to address these challenges effectively. Jablonkai, (2021) suggests that focusing on vocabulary and grammar, written and spoken discourse, and discourse functions and interactions are some ways corpora can contribute to the effectiveness of EMI classes.

2.10 Chapter summary

The first part of this chapter discussed the implications of the developing and implementing EMI, particularly in the Brazilian context. There are many benefits as well as challenges to be faced. Thus, it is important to address the challenges inherent in the EMI approach to overcome them.

The second part of this chapter analysed the implications of collaboration between content teachers and language specialists in the EMI context. The importance of designing tailor-made activities to support this collaboration using corpus linguistics was also discussed. The next chapter will address the methodology used to develop this study.

3 METHODOLOGY

The theoretical framework of this thesis has been established in the previous chapter by providing a justification and an in-depth analysis of its feasibility. This present chapter describes in detail the methodology designed to meet the specific objectives proposed by this thesis. To properly describe the steps taken to carry out this research, this chapter is divided into three main subsections:

- Subsection One addresses objective one, by describing the steps used to conduct the documentary analyses.
- Subsection Two focuses on meeting objectives two and three, detailing the procedures for classroom observation.
- Subsection Three fulfils objective 4, focusing on the procedures for corpus compilation and the development of corpus-based activities, as well as their needs analyses.

Table 3 – Theoretical framework

Subsection	Objective answered	Description	Objective	Methods
1	Objective 1	Documentary Analyses	Outline the development of the internationalization at UFMG.	Contacting responsible agents and accessing the university website
2	Objectives 2 and 3.	Case study	Understand the profile of three different EMI classes	Through classroom observation
3	Objective 4	Corpus based activities.	Produce and provide corpus-based activities for two courses.	Corpus compilation and needs analyses.

Source: elaborated by the author.

3.1 Research Context

The Higher Education Institution (HEI) selected for this research is UFMG, a Brazilian public university located in the state of Minas Gerais. In 2021, UFMG was ranked 5th in Latin America, with 345 of the most productive scientists among the 10,000 most productive and influential globally and among the eight best-classified universities in BRICS+ (UFMG, 2023). Its academic community comprises 33,956 undergraduate students, 10,716 master's and PhD

students, and a teaching staff of 3,203. Moreover, the university offers undergraduate and postgraduate courses. This information is systematically presented in Table 3.1 below:²⁸

Table 3.1 – UFMG data

	Undergraduate Courses	Postgraduate Courses	Research
Number of Courses	91	90	-
Number of Students	34,482	10,556	-
Scholarships	-	1744 – Masters’ students 2,348 – PhD’ students 153 – Postdoctoral students	CNPq – 761
Research Groups	-	-	860

Source: adapted from UFMG, 2021.

This research was conducted within three specific undergraduate courses, offered as part of the *Minor in International Studies*, hereafter named FTEI²⁹ (*Formação Transversal em Estudos Internacionais da Universidade Federal de Minas Gerais*, in Portuguese). The courses investigated in this study are taught by three different professors from three different areas: psychology, dentistry, and business administration. These professors teach their courses in English through EMI.

The Minor in International Studies at UFMG comprises:

formative structures of complementary training whose constituent academic curricular activities are articulated through themes of general interest, aiming to encourage the training of a critical spirit and an in-depth vision in relation to major issues of the country and humanities. The Minor in International Studies constitutes a common training space for students of all undergraduate courses at UFMG (UFMG, 2021, n.p.).

Moreover, the main objective of this programme is to gather “within the scope of the twenty academic units of UFMG, a group of professors and subjects that work on themes of an international nature” (UFMG, 2021, p. 51), fostering a plural environment, both for Brazilian and foreign students. The courses are offered in both English and Spanish and aim to primarily

²⁸ This table was elaborated by the author with data gathered from the university’s website. For more information, please check the references.

²⁹ The Minor in International Studies started in 2019 at UFMG. This programme will be discussed in more depth in Chapter 4, about the documentary analyses. More information can be found at <https://www.ufmg.br/dri/ftei/>

reach mainly undergraduate students (UFMG, 2021). Table 3.2 presents relevant aspects that characterise the subjects taught within the FTEI, outlining the main features of the programme.

Table 3.2 - Description of the courses of the Minor in International Studies

Minor in International Studies
All subjects are fully taught in English or Spanish.
None of the subjects offered within the <i>Minor in International Studies</i> is mandatory.
Academic activities are planned to involve three major areas: Life and Health Sciences; Humanities, Applied Social Sciences and Arts; and Exact and Technological Sciences.
Students who are enrolled in any course taken as a subject in any of the major areas of knowledge can participate.
Curricular academic activities must have an international focus and/or be of a comparison nature so that they offer the opportunity for students to participate in different courses and areas of knowledge.
Classes can be taught via videoconference, with the participation of fellow Brazilian or foreign professors.
To obtain the Transversal Training in International Studies certificate, students must complete a total of at least 360 class hours in the subjects offered.

Source: data adapted from the Catalogue of Academic Curricular Activities of Minor Studies (2021/1).

3.2 Shaping the methodological path

3.2.1 Section 1 – Documentary Analysis

3.2.1.1 Documentary Data Collection – Understanding the Unfold of EMI in UFMG

To achieve the first objective and answer the first research question, i.e., “How and why is EMI being implemented at UFMG?”, documentary analyses were conducted to understand and describe the development of internationalisation at UFMG.

According to Payne and Payne (2004) “documentary-methods are the techniques used to categorise, investigate, interpret and identify the limitations of physical sources, most commonly written documents, whether in the private or public domain” (p. 60). Therefore, the documentary analysis aimed to map the EMI at UFMG in the last five years. The analysis included the institution’s reports, such as the management report from the Board of

International Relations (DRI) (2018-2022), and documents regarding the disciplines offered in a foreign language in the postgraduate courses during 2019-2020 from PRPG³⁰ and the DRI.

EMI is a new phenomenon in Brazil, and understand its development at UFMG involves identifying its use in various courses (postgraduate and/or undergraduate). Another important aspect is understanding of how these courses are being distributed and organised, and whether teachers require assistance in preparing their classes using the EMI approach.

The compilation of these documents was divided into two moments. The first stage involved contacting the responsible agents within the university in both postgraduate and undergraduate sectors via e-mail. After collecting of the documents, a systematic process of categorisation and analysis followed to verify the information and capture its essence. Additionally, the university website served as a dependable source for obtaining data on course catalogues.

After collecting the documents, a technical and systematic investigative process ensued. The procedure adhered to specific phases, as outlined by Silva *et al.* (2009), which include “determination of unit analyses, category selection and organisation of a board of data” (p. 4560). Observation units were chosen based on a context or register. Context units involved analysing the conveyed message, whether it was a paragraph, a chapter, or entire document. Register units focused on elements extracted from the documents (Silva *et al.*, 2009).

The next step in documentary analysis was the categorisation, specifically data classification. This classification is derived from a pre-analysis conducted by the researcher when gathering the documents. With the documents in hand, it was possible to consider the categories, which could include “subjects or topics (themes), of meaning, of values, ways of action, positioning, among others” (Silva *et al.*, 2009, p. 4561).

Finally, the analytic phase took place. To ensure relevance, the data presented in the documents were described, and then elaborated into a table to facilitate analysis. According to Silva *et al.* (2009), the importance thorough reading for a qualitative approach, highlighting the need for “inference production” (p. 4561), is essential for interpreting information to cope with the research objectives.

3.2.1.2 Credibility of the Documentary Sources

The credibility and validity of the selected documents were rigorously ensured. All data selected followed strict criteria based on Denscombe (2017):

³⁰ PRPG stands for *Pró-Reitoria de Pós-Graduação* (Office of Postgraduate Studies).

- authenticity – considering the genuineness of each document;
- representativeness – considering the completion of the document, whether it was edited or not, or even if the documents were in context;
- meaning – considering whether the documents were unambiguous, or if they carried hidden meanings that could make our analysis biased; and
- validity – it was necessary to check for documents' accuracy to consider their validity.

Additionally, since part of the documents analysed were derived from the webpages, rigorous criteria were applied to choose the site and evaluate its content. The criteria was also based on Denscombe (2017):

- the authoritativeness of the site – Websites belonging to the university have more credibility;
- the trustworthiness of the site – Website's legitimate purpose. This conveys integrity to the website;
- actualisation of the site – How recently the documents were available on the site; and
- the popularity of the site – Recognition and the size of the audience.

3.2.2 Section 2 – Classroom Observation

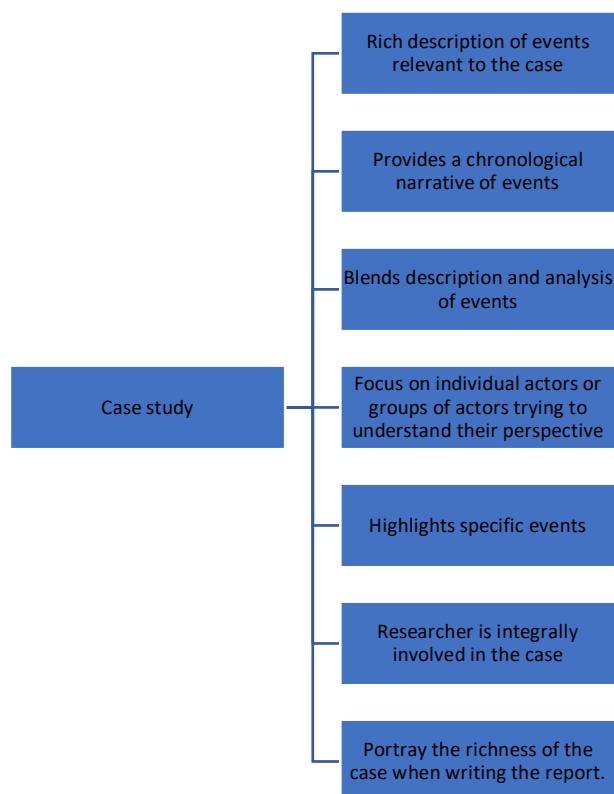
3.2.2.1 Case Study

A *case study* involves a detailed and in-depth examination of a small sample (Cohen *et al.*, 2007). It is defined as an investigation of “a specific, real-life project, policy, institution, program or system” to understand its singularity and complexity (Cohen, 2017). Case studies are methodologically eclectic. Moreover,

embedded within them may be more than one kind of research such as ethnography, experiment, action research, survey, illuminative research, observational research, documentary research); they can use a range of methods of data collection, data types (quantitative and qualitative) and ways of analysing data (statically and through qualitative tools), and they can be short term or long term. In short, a *case study* is a hybrid (Cohen *et al.*, 2017, p. 385).

Thus, when considering conducting a case study, the researcher must pay attention to some of its essential features, as shown in Figure 3.1 (Hitchcock; Hughes, 1995, p. 317):

Figure 3.1 - Case study features



Source: adapted from Hitchcock and Hughes (1995).

The versatility shown in Figure 3.1 allows for comprehensive understanding from multiple perspectives. Given this thesis's goal of describing and understanding the profile of three different EMI classes, a case study approach is the most suitable for objectives two and three. Notably, the three courses (undergraduate minors) were taught in English; however, each one of them adopted a different strategy for using EMI. Since the courses under investigation had very different profiles and course content, the content teachers dealt with each class differently (see chapter 5 for more details).

3.2.2.2 The courses chosen

Three courses were selected to be part of this research, two of which belong to the FTEI – Minor in International Studies catalogue. The decision was taken after professors and researchers had taken part in the UFMG – EMI Teacher Training Course, as previously mentioned, conducted by Dr. Chris Stillwell,³¹ from the University of California, in Irvine. Professors who expressed the desire to develop a better language experience for their students

³¹ Project funded by the American Embassy (through RELO – Regional English Language Officer) whose coordinators were Dr. Deise Prina Dutra (UFMG) and Dr. Climene Arruda (UFMG).

through collaborative work with a language specialist were contacted and agreed to participate in this research. The courses chosen are from three different disciplinary fields: Psychology (UFMG), Dentistry (School of Social Odontology and Prevention – UFMG), and Business Administration (Agricultural Science Institute – UFMG). This third course does not belong to the Minor in International Studies. This course is held in another city, in Montes Claros, in the state of Minas Gerais.

Details about the courses are presented in Table 3.3 below, including course load, target students, programme content, and frequency of English use. It is important to note that all three disciplines are listed as elective subjects in their respective undergraduate courses curricula. Furthermore, students' English proficiency was not assessed at any point throughout this study.

The courses were offered online from 2020 to 2021, as shown in Table 3.3, during the Covid-19 pandemic. In this context, translanguaging³² was permitted and, at times, encouraged. The timeline for this research will be detailed in chapter 5, section 5.2 – Case studies.

Table 3.3 - Courses Profile

	Psychology	Dentistry	Business Administration
When	2020/2	2021/1 and 2021/2	2021/2
Course workload	30 hours	15 hours	45 hours
Target students	Postgraduate students from any course	Undergraduate and postgraduate students	Postgraduate students
Duration	8 weekly synchronous meetings / during pandemic time + 7 weekly asynchronous activities	5 weekly synchronous meetings	9 weekly synchronous meetings
Frequency of English use	Highly frequent	Highly frequent	Frequent

Source: elaborated by the author (2023).

Table 3.3 provides comprehensive details of the three courses analysed, including the observation periods, course loads, target students, course durations. As mentioned, each course belongs to a different school / faculty and is designed to meet specific demands. Additionally,

³² Translanguaging: According to Garcia and Wei “A translanguaging lens posits that ‘bilinguals have one linguistic repertoire from which they select features strategically to communicate effectively.’” (p. 22). The concept of translanguaging and its use in this thesis will be discussed in more detail in section 5.3.3.

research participation varied across the courses due differences in workload and whether the content was pre-planned or could be planned collaboratively with the researcher.

3.2.2.3 Participants

The participant selection process aimed to address the objectives and the research questions proposed for this matter. Two types of participants were included for the selection: professors and students. Therefore, the researcher sought to;

- 1) identify professors from the higher education context at UFMG who were teaching in English, specifically using EMI; and
- 2) select of students enrolled in one of the participating professors' courses.

3.2.2.3.1 Participating Professors

I participated in the course “UFMG-EMI” promoted by UFMG. The course aimed to promote EMI among higher education professors at UFMG and teach best practices for educators. The course was divided into two phases. The first phase, from 1st February 2021 to 12th March 2021, enrolled 32 professors. The second phase, from 24th May to 24th June 2021, enrolled 22 professors.

At the end of the first phase, I approached two professors who showed interest in working collaboratively with a language specialist. At the end of the second phase, I approached a third professor who also agreed to allow me to join him for his next course. Table 3.4 shows the profiles of the participating professors.

Table 3.4 - Profile of the participating professors

Gender	Programme taught	English proficiency	Time as a university professor	Time as an EMI professor	Number of EMI classes taught
Feminine	Psychology	B2	24 years	4 years	4 classes
Masculine	Dentistry	B2	13 years	3 years	5 classes
Masculine	Business Administration	B1	12 years	6 years	5 classes

Source: elaborated by the author (2023).

As shown in Table 3.4, the professors' profiles vary slightly, with one professor nearing retirement (24 years of work experience) and two others in mid-career stages (12 and 13 years

of work experience). However, as EMI is a relatively new initiative within the university, their experience in using EMI is comparably shorter, ranging from 3 to 6 years.

3.2.2.3.2 Participating Students

A total of twenty-four (24) students voluntarily participated in this study by responding to the questionnaire. Among these participants, eleven (11) students were enrolled in the dentistry course, while six (6) students belonged to the psychology course. Notably, the dentistry course had a diverse composition of both undergraduate and postgraduate students, whereas the other courses primarily targeted undergraduates. Specifically, the psychology course aimed to assist undergraduates in their transition from university to their professional careers. Additionally, the business administration course comprised seven (7) undergraduate students, focusing on undergraduate education.

As previously mentioned, EMI in Brazil is still in a developmental process, with main stakeholders are still implementing policies. Unlike other countries, where EMI is slightly more established and there is a preparatory year or even a pre-sessional English test, there are no language requirements in the context of this thesis. In other words, there is no pre-sessional English test nor a final test to evaluate if the course has contributed to their English learning. Despite the incipency of the EMI policy, each professor could establish their own evaluation rules. In one of the courses studied, tasks could have been answered in English or Portuguese, and this choice did not affect students' grades. Afterwards, the students participated in a survey in which they self-assessed their language proficiency.

In each of the three courses, students completed a questionnaire about their educational background, English proficiency, and reasons for enrolling in the course (see Appendix D). The main aim of the courses studied is to be inclusive; therefore, students do not take any placement test. Consequently, the responses given to survey reflect the students' subjective perspective.

3.2.2.4 The Role of the Researcher

This research was warmly received by the EMI teachers, who were keen to have a language specialist in their classroom. Initially, it was challenging for both EMI teachers and language specialists to understand the researcher's role. The pilot phase began with an observational role. Class observation is a vital part of this study, and as put by Araújo (2019), it is an important method for data generation for qualitative research in general (p. 18). Each phase and each discipline required different actions from the researcher, who consistently respected the space provided. Over time, the researcher shifted from being just an observer to

a more active participant or even an assistant teacher in some courses. It is worth mentioning that the researcher's participation/observation in the classroom was designed according to the liberty given by the content teachers, the class schedule, and the time allocated to the researcher during lessons, as recommended by Bogdan and Biklen (1994). Therefore, the roles and techniques developed were determined by the degree of the researcher's involvement/participation in the classes.

For the contexts and the analysis of this research, the role of the participant observer was crucial. Takyi (2015) affirms that by doing so, the observer researcher can “study people in their native environment” (Takyi, 2015, p. 864) and by participating in their everyday classes it is possible to go deeper into their culture, preventing biased interpretations of the data. Through this methodology, the researcher can analyse the data collected and plan activities that are more relevant to teachers and students. Chapter 5 provides a detailed description of how the classes were conducted and the researcher's roles in each class.

3.2.2.5 Research instruments

This mixed-methods investigation involved five phases of data collection: questionnaires, interviews, class observations and field notes, documental collection, and corpus compilation. Class observations were carried out from December 2020 to December 2021. As it was not possible to follow the same students throughout an entire semester or year, this research cannot be categorised as a longitudinal study.

The feasible actions included familiarising with syllabi, identifying the professors' needs, and understanding the students' profiles. Once these aspects were clarified, I evaluated the students' and the professors' engagement during classes, their proficiency levels, and designed the support activities. I observed how the three disciplines were conducted and identified their needs to gather information that could serve as a basis for developing supplementary pedagogical activities when needed.

Considering the complexity of this research, specific qualitative instruments for data collection were adopted:

- researcher's field notes: to record classroom observations that provide information about the students' and professors' needs. These notes inform activity creation and implementation;
- students' opening questionnaires: to outline students' profile information, such as linguistic proficiency and interest in the course content, and to grasp their expectations regarding the course; and

- semi-structured interviews: to understand professors' perceptions of the EMI course and the relevance of support activities, and to explore how collaborative work with professors can be improved for further partnerships.

Before answering the questionnaires, teachers and students had access to the Informed Consent Form that follows the guidelines established by the Ethics Committee (CEP)³³ of UFMG (see Appendix A and B). Only data from students and teachers who agreed to participate in this research were considered.

To enhance the activities within our case studies, I employed corpus linguistics tools and methods. Two corpora were compiled and customised to align with the specific requirements of each course. I conducted a thorough analysis of the course syllabi and engaged in discussions with professors to determine the composition of the corpora, considering the professors' lesson plans and the students' needs. Defining the parameters for the corpus compilation involved specifying the text sources and quantity of texts to be gathered. Finally, after compiling the corpora, I used the software AntConc (Anthony, 2020) to extract valuable insights, including the frequency of lexical-grammatical elements and the prevailing linguistic patterns pertinent to the discipline's knowledge area. For more specific information on the corpora used, see Subsection 3.2.3 of this chapter, in which the information is thoroughly detailed.

3.2.2.6 Data collection procedure and tools

3.2.2.6.1 Questionnaire development and administration

Questionnaires were designed to obtain factual data, such as background and demographic information, as well as attitudinal data regarding students' motivations for taking the course. Additional information, including their opinions and interests, was also collected through the initial questionnaire, following Dornyei (2003). Initially, only the opening questionnaire was used during the pilot study. However, recognising the need for further information, a final questionnaire was added to the main study.

The questionnaire was created on *Google Forms*, and it was written in Portuguese, which is students' L1. The questionnaire is found in Appendix D.

The opening questionnaire comprised four main questions, divided into two sections: demographic information and attitudes/motivation. The first section gathered information such as age, major, mother tongue, linguistic background, and self-assessed English proficiency

³³ *Comitê de Ética em Pesquisa* in Portuguese.

level. The second section aimed to understand students' attitudes towards their expectations of the course. The questions targeted the reasons for choosing their courses (to determine if their choices were based on content or the fact the classes were taught in English), their expectations towards the course, familiarity with EMI methodology, and the importance of having the course taught in English.

3.2.2.6.2 Interviews

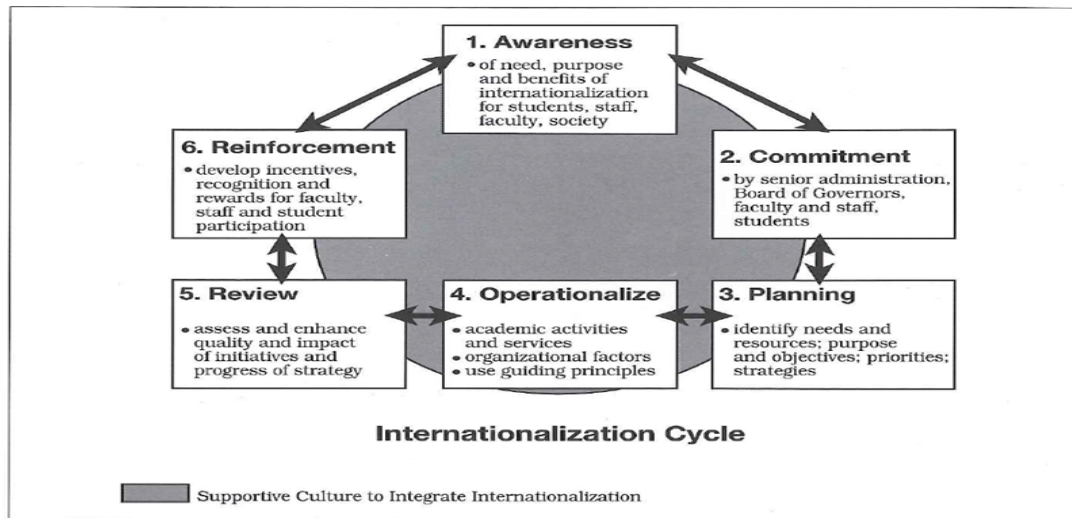
To deepen the understanding of how professors manage teaching using EMI and to elicit “substantive information about participants” (Galloway, 2011, p. 82), individual interviews were conducted with both professors and students. Interviews were selected to allow participants to “clarify, extend and provide examples” (Galloway, 2011, p. 83) and to express themselves more privately. Individual interviews were chosen to gather “something close to the true views of the participants” (Brown, 1997, p. 110). During these interviews, the purpose of the study was explained, confidentiality and ethics approval were presented, and those who agree to participate in the interview were invited to a virtual one-to-one interview via *Zoom*, where the interviews could be recorded for further analysis.

The interviews followed a semi-structured, which is less rigid, ensuring coverage of the most relevant topics and allowing the researcher to gather additional information as needed (Mackey; Gass, 2021). This flexibility allows the researcher to change the questions' order and enables follow-up questions (Zacharias, 2012). Another advantage of semi-structured interview is that “it allows us to compare responses across participants” (Zacharias, 2012, p. 99), thus providing richer data.

Interviews were conducted in two phases. The first one was the pre-interview, focused on establishing collaboration between the researcher and the teachers before classroom work began, concentrating on how the intervention would not disrupt the content delivered. The second phase, conducted after the interventions were finished, involved discussing with content teachers their perceptions of the impact of the activities used in the class. This phase was crucial for evaluating the effectiveness of the collaboration and the designed activities.

The formulation of the interview questions for the teachers followed Knight's (1994) cycle, designed to capture the concept of internationalisation within the higher education context. By using the cycle to design the questions, it was possible to understand whether the university and professors were aware of the internationalisation phenomenon, their commitment to the process, and their planning and the operationalisation, especially concerning EMI in higher education.

Figure 3.2 – Internationalisation Cycle



Source: Knight (1994).

The interview structure aimed to make the interviewees feel comfortable. It was divided into three phases: the warm-up phase, the opening phase, and the expanding/clarifying phase (Zacharias, 2012). The warm-up phase established rapport; the opening phase introduce questions beginning with interrogative pronouns such as how, why, and when; and the expanding/clarifying phase focused on getting detailed information from the interviewees. Probing strategies were used in this last phase to demonstrate interest in the participant’s responses (Zacharias, 2012).

3.2.2.6.2.1 Procedures for the Analysis of the Interview

The analysis of the interviews proceeded in three different stages, as shown in Table 3.5.

Table 3.5 – Three stages of data analysis

Step	Quantitative data	Qualitative Data
1 – Data preparation	Categorising the data.	Cataloguing the text or visual data. Transcribing the text. Preparation of data and loading it to software (if applicable).
2 – Initial Exploration of the data	Look for obvious trends or correlations.	Look for obvious recurrent themes or issues. Add notes to the data. Write memos to capture ideas.

Step	Quantitative data	Qualitative Data
3 – Analysis of the data	Link to research questions or hypotheses.	Code the data. Group the codes into categories or themes. Comparison of categories and themes. Look for concepts (or fewer, more abstract categories) that encapsulate the categories.

Source: adapted from Denscombe (2017, p. 263)

Note: Table 3.5 was adapted according to Denscombe's (2017) principles to best meet the demands of this research.

3.2.2.6.3 Classroom observation and note-taking

Campos (2019) underscores the importance of classroom observation, considering it one of the most relevant parts of research. Given the nature of this work, which occurs partly inside the classroom, this research instrument was adopted.³⁴ Alongside other data collection instruments, it provided a broader understanding of linguistic aspects and the needs of students and professors.

Thus, this research employed a semi-structured observation perspective, meaning that while the researcher had pre-established questions, they remained open to the field to avoid predicting findings (Gillham, 2008). In addition, a participant observation approach was used. According to Denscombe (2017), participant observation aims to “produce qualitative data and it focuses on the meaning behind actions, rather than overt aspects of behaviour” (p. 234).

Field notes (or note-taking) to this matter were crucial as they captured and documented the researcher's impressions of “people, objects, places, events, activities, and talks” (Bogdan; Biklen, 1994, p. 150). These notes also carried strategies, ideas, reflections, and assumptions (Bogdan; Biklen, 1994). Due to the purpose of this research, notes on class planning were also included.

During classroom participation, the researcher-participant collected field notes to describe how the classes were conducted, unique events, the development of activities, and suggestions for future practice. Notes were taken at different times: during classes and before and after meetings with the EMI professors.

3.2.3 Section 3 – Corpus compilation and the development of corpus-based activities

This section presents the compilation process for both corpora, their description, and the procedures undertaken for analysis.

³⁴ Observation herein is considered as “systematically observing events, interactions, behaviours, relationships and artefacts related to and around language(s)” (Curd-Christian, 2019, p. 336).

3.2.3.1 Corpora used for linguistic analysis

Although three courses participated in this study, only two received direct language support. Consequently, two corpora were compiled specifically for this research. Each corpus was designed to meet students' specific demands, with texts selected from different registers based on the courses' syllabi. The decision to choose texts from various registers was influenced by the reference material listed in the courses' syllabi. For the dentistry course, research articles were chosen, while textbooks were selected for the Production and Operations Management (POM) course.

3.2.3.1.1 The Corpora to Support the Activities Creation in the EMI Classroom

Identifying recurrent language patterns is essential to help learners improve their L2 language skills for academic purposes, such as presenting projects, writing assignments, or participating orally during classes (Bocorny; Welp, 2020). That is why it is relevant to support students who might struggle to keep up with lessons in an EMI context.

To create these supplementary activities, we selected authentic texts from the student's field of study in our reference corpus. Using these authentic texts and aligning with the course content, academic engagement flows more naturally (Arruda *et al.*, 2021). The activities focused on students' vocabulary needs (frequent vocabulary and technical terms, as explained in chapter 2 – part two), and their academic skills, such as creating presentations, discussing graphs, and engaging with everyday content topics.

3.2.3.1.2 Corpus compilation and description

Two corpora were compiled to create the activities for this study. The first corpus, CorDent (Corpus of Academic Texts on Oral Health Epidemiology), was used for the International Approach of Oral Health Epidemiology course in the School of Dentistry. It contains a total of 885,948 tokens from a 100 research articles. The second corpus, CorProd (Corpus of Academic Texts on Production and Operations Management), was used for the Production and Operations Management (PMO) course. It was a smaller corpus that contains 347,951 tokens from three essential textbooks, which was the register chosen. The design of both corpora was carefully planned to make sure they could be appropriately used for pedagogical purposes. To select the texts for the corpora, content professors and one of their assistant professors (a PhD student) were consulted to identify the most appropriate texts.

3.2.3.1.2.1 Compilation Process

For the corpora compilation, we first determined the types of texts to be included to meet the criteria of representativeness, defined by Biber (1993) as “the extent to which a sample includes the full range of variability in a population” (p. 243). To this end, specialists were consulted to identify the most used texts within the two target courses. For CorDent, texts were sampled from research articles published in high-impact journals. The criteria to compile the corpus was to use the hundred (100) most cited papers in Oral Epidemiology. For CorProd, texts were sampled exclusively from textbooks, since research articles were not included in the syllabus used in the Business Administration course. The specification of the texts used in each corpus is available upon request.

Moreover, both corpora underwent a clean-up process in which the so-called text noise (i.e., unwanted information) was deleted, and then they were converted into .txt files, which is the most accepted format by corpus software. Unwanted information refers to section titles, codes, equations, authors’ names, etc. After the texts were cleaned and in the right format, we used the AntConc software (Anthony, 2020) to analyse and extract the necessary data.

3.2.3.1.2.2 Representativeness and Balance

A fundamental concept that needs to be considered in corpus compilation, intrinsically associated with representativeness, is the concept of balance (Ädel, 2021). A corpus is balanced, according to McEnery and Hardie (2012, p. 239), “if the relative sizes of each of its subsections have been chosen with the aim of adequately representing the range of language that exists in the population of texts being sampled”. For CorDent, the number of tokens within research articles was sampled proportionally. For CorProd, the number of tokens was sampled equivalently from each textbook that comprises the corpus.

Considering the necessity for the compilation of texts for the studied courses, Koester (2010) highlights the significant advantages of having small, specialised corpora. Such a corpora can establish a deeper connection between the corpus used and the contexts in which the texts from the corpus were produced. It is also noted that extensive corpora can be de-contextualised, providing insights into lexicon-grammatical patterns that are broad and not necessarily applicable to a specific context (Koester, 2010; Tribble, 2001). Additionally, larger corpora significantly impact English Language Teaching (ELT) lexicography and language description but have “limited direct relevance” for students and teachers in terms of teaching and learning a specific genre (Tribble, 2001). Hence, smaller corpora can reveal specific

language patterns suitable for settings like those developed in this research (Koester, 2010; Tribble, 2001).

Another essential aspect to highlight is the bond between corpora and the context. The content and design are more relevant than the size of the corpora since the aim is to respond to a particular context within the classroom. Investigating specific items (e.g., high-frequency lexical items) and approaching specific topics are devoted to providing language support to the two EMI courses discussed in this thesis (O'Keeffe *et al.*, 2007; Koester, 2010).

Tables 3.6 and 3.7 below present the register, the number of texts and the number of tokens of each corpus (CorDent and CorProd, respectively).

Table 3.6 – CorDent Information

CorDent		
Register	Number of Texts	Number of tokens
Articles	100	885,948

Source: elaborated by the author (2023).

Table 3.7 – CorProd Information

CorProd		
Register	Number of texts	Number of tokens
Textbooks	1 textbook	347,951

Source: elaborated by the author (2023).

3.2.3.2 The Courses and its EMI Contents

3.2.3.2.1 Oral Health Epidemiology

After meeting with the professor and participating for the first time in the discipline during the pilot phase, I was able to grasp the content taught, the context, and how the classes would be developed. Understanding the role in the classroom helped me to decide how to proceed with the corpus compilation to effectively assist students throughout the classes. The professor's assistant (a PhD student) provided guidance in finding the most appropriate references and texts.

For the compilation of CorDent, the search was conducted on PUBMED/MEDLINE, using a controlled vocabulary:

(MeSH (Medical Subject Headings): (“Oral Health”) AND (Epidemiology) basis

For this search, the Boolean operators used were AND, parentheses and curly brackets. The searchers were restricted to the last ten years of articles written in English, concerning studies with human beings in which texts were completely and fully available. In sum, there were a total of 6,100 references.

To verify the most cited and relevant articles, a new search was conducted on the Web of Science basis: Science Citation Index. The new search strategy was:

(“Oral Health) AND (Epidemiology)

Then, the top 100 more cited articles were selected and compiled for this research. Texts were sampled from research articles published in high-impact journals as well as from textbooks. The Journals used to compile the corpus are shown in Table 3.8 below:

Table 3.8 - Journals used to compile CorDent

Journal	
BMJ Journal	International Dental Journal
British Dental Journal	International Journal of Dentistry
Clinical Oral Implants Research	Journal of Dental Research
Community Dentistry and Oral Epidemiology	Journal of Investigative and Clinical Dentistry
European Heart Journal	Journal of the American Dental Association
Gastroenterology	

Source: elaborated by the author (2023).

3.2.3.2.2 Production and operations management

For CorProd, the compilation criteria were different due to a more active role in the discipline. As a teaching assistant, my responsibilities extended beyond preparing language support activities. The course had a base syllabus, with weekly meetings to prepare each class. Thus, the English activities designed aimed to help students with vocabulary and develop the necessary academic skills for each lesson. Each class was organised as follows:

- warm-up and opening remarks (Professor – Students);
- vocabulary activity pre-session (Researcher – Students);
- mini-lecture (Professor – Students);
- in-class interactive activity (Students – Students); and
- re-group to summarise – Song activity (Professor; sing-along activities – Students).

The topics could be adjusted based on the content delivered. Thus, each class had a unique theme and purpose, requiring tailor-made activities to meet its demands.

Table 3.9 – Business Administration Schedule

Meetings	Content
15/10	Project kick-off
21/10	Project presentation + warm-up assessment
29/10	Listening Activities Vocabulary Activity – Operations management
05/11	Pre-vocabulary + listening comprehension
10/11	Vocabulary Activity – Operations Performance Part 1
13/11	TED Talk about Vaccines + Video of Mass customisations
23/11	EAP – How to make a good slide presentation
07/12	Vocabulary + EAP Describing Graphs
14/12	Wrapping up the course

Source: elaborated by the author (2023).

Based on the syllabus information, three textbooks were compiled. All exercises provided were based on the corpora and the stipulated materials.

3.2.3.3 The focus on high-frequency vocabulary and lexico-grammatical features

Based on the need to assist content professors and analyses during classroom observation, I decided to focus exclusively on vocabulary. The corpora compiled had the sole objective of being used in the two disciplines: dentistry and POM. Each discipline had specific needs and timeline for use.

Special attention was given to the professor's requirements in the Dentistry course, as it was shorter, and language activities were optional. In addition, the professor used to invite guests presenters and because of that the available time for language activities during some classes was reduced. Conversely, in the POM course, I had a double role in the classes: as a researcher and as a teacher assistant. So all of the lessons were planned with the professor, from the warm-up to the closure activity. The activities had to be developed during class time, within 20 minutes, focusing on vocabulary to help students comprehend the subsequent content. All the other content activities were also co-developed by the professor and the researcher, as

outlined in the lesson plan (see Table 3.9). Finally, at the end of each class, a song activity was used to conclude the class in high spirits.

3.3 Chapter Summary

This chapter detailed the methodological path taken in this thesis, covering its multiple data resources, participants, the corpora used, and the data collection instruments. The analysis and data interpretation processes were thoroughly explained. Despite the relatively small number of participants, the expectation was to propose a well-structured collaborative work between language specialists and content teachers and to design relevant activities through detailed information and analyses.

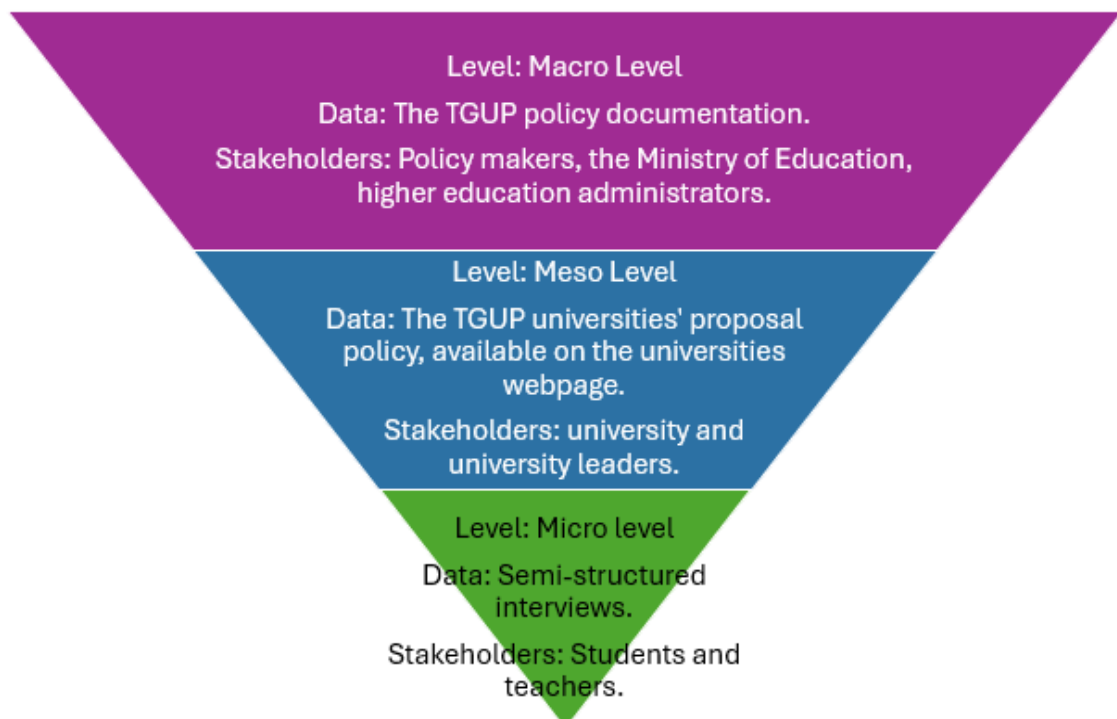
4 PHASE 1 – DOCUMENTARY ANALYSES

This chapter presents the collected data regarding the internationalisation growth and the development of EMI at UFMG for the last five years. Additionally, it explores the findings of the investigation about the courses and the university departments that have been offering courses taught in additional languages, with particular attention to the English language. Finally, this chapter discusses if the university intends to expand the courses using EMI approach, and the methods that could be used for doing so.

4.1 Documents Analysed

Aizawa and McKinley (2018) classify educational policies into three levels: macro (national), meso (university), and micro (classroom), as illustrated in Figure 4.1. This study proposes to analyse the documents at the meso level, as shown in Figure 4.1.

Figure 4.1 – Educational Policy Levels



Source: Aizawa and McKinley, 2018.

For the analyses conducted in the first stage, I relied on the university's primary data sources, specifically, the university's officially documented policies regarding language teaching and internationalisation. The documents included reports, census data, and strategic

plans for internationalisation, and acquired from the university's website. Additionally, the analyses for this stage of the research also relied on supplementary documentation, including spreadsheets, internal memos, and emails provided by university staff members. The selection of documents considered factors such as authenticity, representativeness, meaning, and credibility, as specified in Rose *et al.* (2019) and discussed in chapter 3. While some documents were readily available through libraries and webpages, others, such as diaries and spreadsheets, were more sensitive and thus had limited access, as indicated in Table 4.1.

Table 4.1 – Document Categories and Accessibility

Availability	Types of documents	Access via	Typical use
Public Domain	Books, official statistics, websites, articles.	Internet, libraries.	Academic research and consultation.
Limited access	Spreadsheet, internal memos, emails.	Negotiation with sponsors.	Academic research and consultation.

Source: elaborated by the author (2023).

Access to certain documents was limited due to their sensitive nature, as they were privately owned. In contrast, materials in the public domain were readily available without requiring permission from their owners. The analyses were based on a thorough search of documents on the university's website encompassing reports, census, spreadsheets, and strategic plans for internationalisation. Moreover, I consulted relevant research articles and official PDFs. The documents analysed are detailed in Table 4.2.

Table 4.2 – Documents analysed

Document analysed	Year
Institutional Self-Evaluation Report	2017
Evaluation Report Summer School	2017, 2018, 2019, 2020, 2021
Internationalisation Census	2018, 2019, 2020, 2021
Minor in International Studies Catalogue	2019, 2020, 2021, 2022
Recommendations for Future UFMG – EMI Programmes – Report	2021
Institutional Email	2022
Interview with DRI member	2022

Source: elaborated by the author (2023).

Through a thorough examination of the documents, four main coding structures were identified as main categories regarding the general context of internationalisation in UFMG. These main categories were further subdivided into seven sub-themes based on the types of information they contained, as shown in Table 4.3.

Table 4.3 - Coding Structures and Sub-Themes in UFMG's Internationalisation

Coding Structure	Sub-themes
1 - Context of the Internationalisation in UFMG	<ul style="list-style-type: none"> • Currently Development of the Internationalisation in UFMG – Partner Institutions and Main agreements
2 – EMI in the Institution	<ul style="list-style-type: none"> • EMI in the postgraduate courses • EMI in the undergraduate courses and the FTEI courses • EMI teacher training programmes
3 - Other Internationalisation at Home Initiatives	<ul style="list-style-type: none"> • Language proficiency programmes • Summer school Programmes • Internationalisation initiatives not directly related to EMI

Source: elaborated by the author (2023).

4.2 The Internationalisation Scenario within UFMG

4.2.1 A Brief History of the Development of Internationalisation at UFMG

The implementation of internationalisation actions at UFMG is not recent. It started in 1972, when the Brazilian Ministry of Education proposed that the university should start a nucleus of International Affairs, based on the prerogative of building a new university where “it would be the space for scientific and technological production, the centre of cultural creation and distribution” (UFMG, 2008). This document established the DRI as SRI (International Relations Service).³⁵ Answering the university's Rector directly, their most significant objectives were to centralise and coordinate the services provided by the international area, such as initiatives with international partners, which were scattered until then. Since the internationalisation process started at UFMG, many administrations have contributed to its growth.

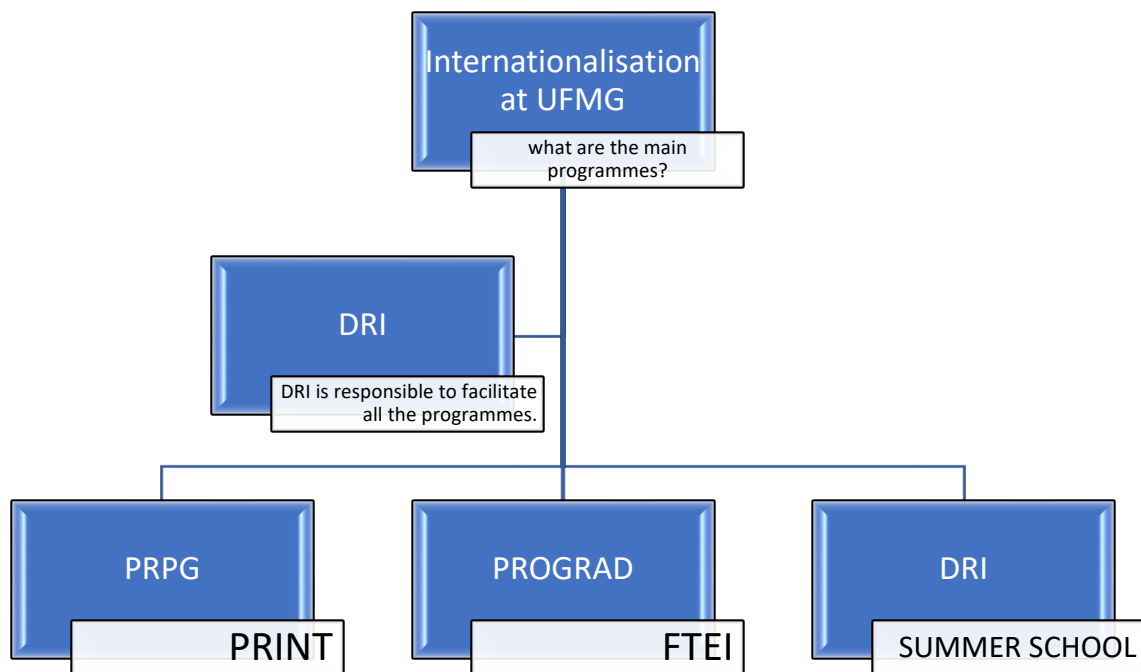
In its more than 50 years of internationalisation history, the university has been developing and institutionalising the process and has implemented numerous new programmes as we will see throughout this chapter. The responsible department has been restructured several

³⁵ *Serviço de Relações Internacionais*, in Portuguese.

times, expanding, and introducing new programmes. As the chapter shows, we can perceive that, throughout the years, there has been a steady growth in the internationalisation process.

Figure 4.2 below is a representative organogram illustrating the main programmes that compose the analyses of this paper. The university has an advisory board to ease the internationalisation process, DRI (Office of International Affairs), which will be further explained. It is essential to highlight that the university offers other programmes to foster internationalisation. Programmes regarding the EMI expansion will be mentioned in the following sections.

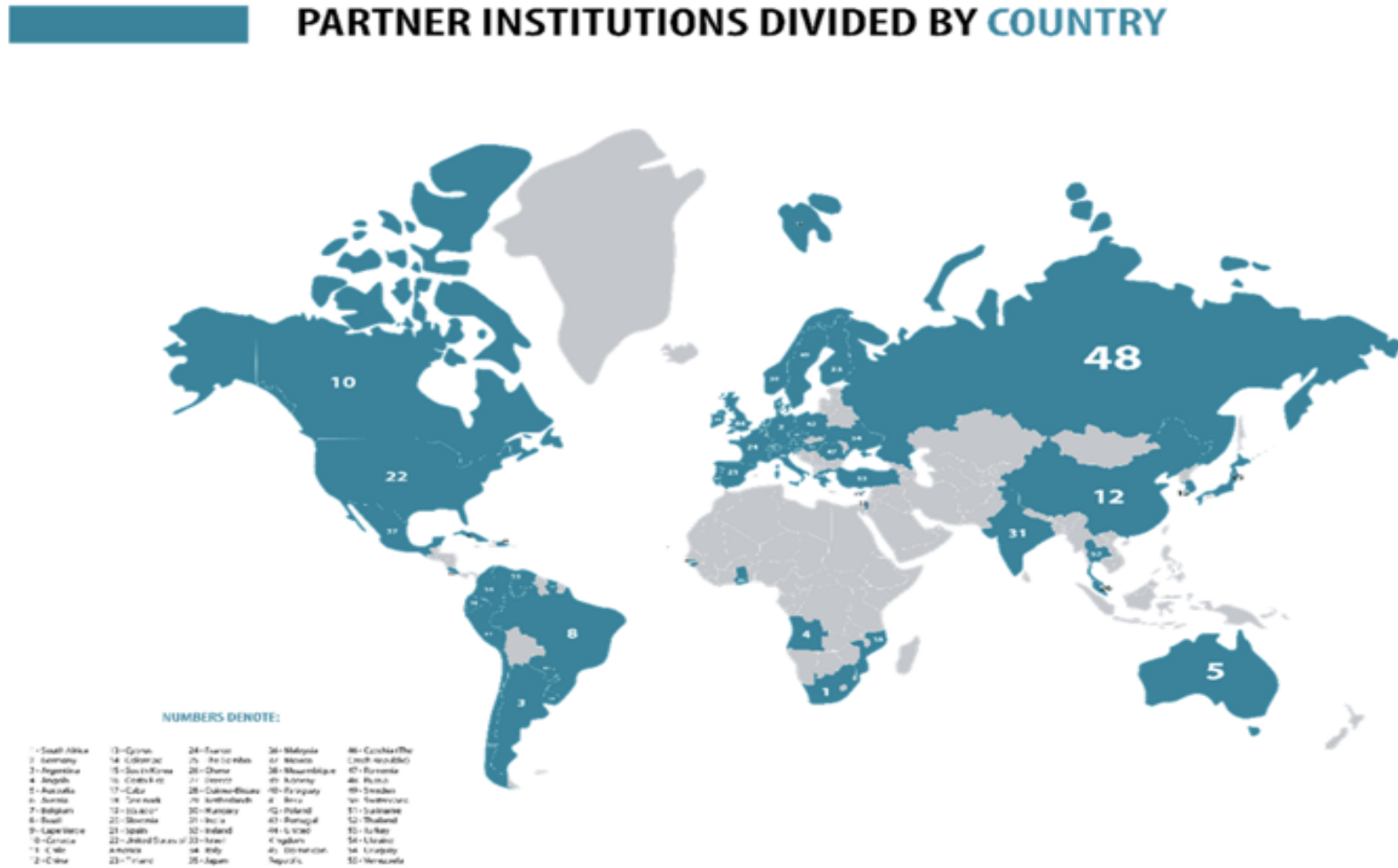
Figure 4.2 – Internationalisation at UFMG



Source: adapted from UFMG documents (2022).

DRI is “an advisory body linked to the office of the Rector” (UFMG, 2022). Its main objective and competence are to coordinate the actions within the university regarding funding and establishing cooperation and exchange between UFMG and other higher education institutions (HEIs). The list of all countries where the university maintains its agreements is represented in Figure 4.3 (UFMG, 2021-2022).

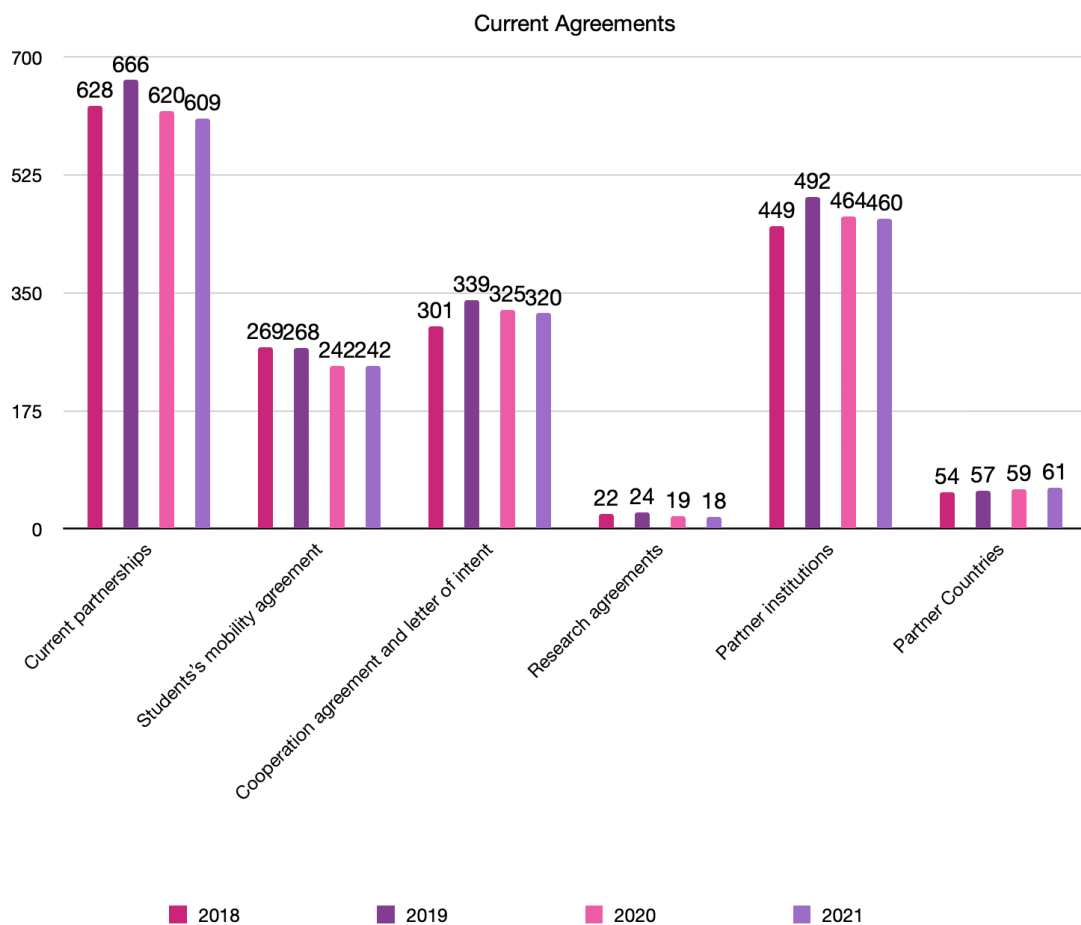
Figure 4.3 - Map of Partner Institutions



Source: adapted from UFMG (2021-2022).

The main agreements include cooperation exchange, cathedra, double degree, internship, research, research/exchange, and the general agreement of simultaneous double degree and student exchange, besides the letter of intent. Graph 4.1 represents the number of agreements ongoing and within the validity period. The data shown is from to the last census in 2022, which was chosen as the official data source for this research.

Graph 4.1 - Current Agreements



Source: adapted from UFMG's official documents.

Note: UFMG's current collaboration agreements with other universities worldwide.

Graph 4.1 is based on the census published in March 2022, showing the most recent data collected by DRI. Each academic unit (colleges and institutes) of UFMG is independent; thus, DRI has been making a significant effort to unify all the data spread throughout the university. According to the graph, the collaborative work between UFMG and different universities across the globe is increasing. Moreover, the number of current partnerships has

had minor changes. The highest numbers are from the general agreement, and the lowest are from the research agreement.

Regarding Figure 4.3 above, partner countries have been increasing. It can also be inferred by analysing the figure and the graph that there are probably more institutions per country than the previous years. Thus, from 2018 to 2021, the number of institutions remained without significant changes.

4.3 Internationalisation at Home Initiatives

4.3.1 Language Proficiency Programmes

Language proficiency programmes were implemented in 2012 at UFMG when DRI established a partnership with the Faculty of Languages, Literature, and Linguistics (FALE) to support and increase language development/learning, enabling students to engage in international contexts with an adequate linguistic level (UFMG, 2015). Since then, language programmes have been offered for undergraduate and postgraduate students.

The language proficiency department commenced at the beginning of 2013, driven by the needs of the Science without Borders programme. Professors from FALE have been coordinating this department and have also contributed to elaborate language policies at UFMG. In 2019, the Ministry of Education (MEC) cut off the funding for the Language without Borders (LwB) programmes through CAPES, as mentioned in Chapter 2. Since then, LwB has been incorporated by Rede Andifes³⁶ to continue LwB actions, mainly involving the offering of free language courses to public higher education students in English, French, Spanish, German, Italian, Japanese, and Portuguese as an additional language.

4.3.2 English for Academic Purposes

The English for Academic Purposes project, known as IFA,³⁷ started in 2012 at UFMG, resulting from a partnership between FALE and DRI. Initially, it was an extension course, but in 2013 it was formalised by PROGRAD³⁸ as a free-credit course. The courses are offered from intermediate (B1) to advanced (C1) levels of English (according to the Common European Framework of Reference for Languages – CEFR). In addition, IFA's courses are open to the entire academic community, from undergraduate to postgraduate students, who wish to enhance their English proficiency level.

³⁶See: https://www.andifes.org.br/wp-content/uploads/2021/05/Resolucao-Conselho-Pleno-01_2019.pdf

³⁷ IFA stands for *Inglês para Fins Acadêmicos*; or English for Academic Purposes, in English.

³⁸ PROGRAD stands for *Pró Reitoria de Graduação* (Dean of Undergraduate Studies).

IFA's main objective is to meet students' academic demands. IFA's students are interested in developing their English proficiency level to be able to participate in international events, conferences, and exchange programmes. Since 2013, FALE has been offering IFA courses as regular courses for the university community. Moreover, to register to these classes, students are required to take a placement test. The courses are divided into five levels going from the intermediate to the advanced level (IFA I, IFA II, IFA III, IFA IV, and IFA V). The course is worth 60 credits. During the pandemic time, an online placement test for the course was developed and offered through the university Moodle. IFA numbers are shown in Table 4.4 below:

Table 4.4 - IFA numbers from 2018-2022

Year	Students Enrolled for the Placement Level	Students Enrolled for the subjects	Offered Levels	Classes
2018/1	1,636	219	UNI040 (IFA I) UNI041 (IFA II) UNI042 (IFA III) UNI043 (IFA IV) UNI044 (IFA V)	12
2018/2	690	165	UNI040 (IFA I) UNI041 (IFA II) UNI042 (IFA III) UNI043 (IFA IV) UNI044 (IFA V)	9
2019/1	988	211	UNI040 (IFA I) UNI041 (IFA II) UNI042 (IFA III) UNI043 (IFA IV) UNI044 (IFA V)	11
2019/2	639	236	UNI040 (IFA I) UNI041 (IFA II) UNI042 (IFA III) UNI043 (IFA IV) UNI044 (IFA V)	9
2020/1	765	83	UNI040 (IFA I) UNI041 (IFA II) UNI042 (IFA III) UNI043 (IFA IV) UNI044 (IFA V)	6
2020/2	372	116	UNI040 (IFA I) UNI041 (IFA II) UNI042 (IFA III) UNI043 (IFA IV) UNI044 (IFA V)	7
2021/1	462	160	UNI040 (IFA I) UNI041 (IFA II) UNI042 (IFA III) UNI043 (IFA IV) UNI044 (IFA V)	8
2021/2	250	141	UNI040 (IFA I) UNI041 (IFA II) UNI042 (IFA III) UNI043 (IFA IV) UNI044 (IFA V)	8

Source: Relatório de Gestão DRI, UFMG (2018-2022).

4.3.3 Other Initiatives for Language Programmes

Another programme hosted by FALE is the iUFMG, which has replaced the original IsF (Idiomas sem Fronteiras) programme. This programme also aims to provide language training for academic and professional purposes, besides internationalisation. The courses offered

encompass several other languages besides English (e.g., Spanish, French, German, Italian, and Portuguese), which are available to the academic community. During the pandemic in 2020, the non-credit courses were offered online. Table 4.5 presents the evolution of the courses offered by iUFMG and IsF through 2018-2021.

Table 4.5 - Course Background

COURSE BACKGROUND	2018	2019	2020	2021
Offered Courses	217	179	75 (9 in person; 66 online)	41 (online)
Available Places	5425	4475	2250	1230
Students Enrolled	6234	9441	4278	2315

Source: adapted from UFMG (2022).

The above-mentioned projects are the language programmes available at UFMG that foster support for the language policies implemented within the university to attend to its community's demands. Another interesting programme promoted by the university is the Summer School, which will be presented in the following subsection.

4.3.4 Summer School

The programme *Summer School* is another important initiative of internationalisation at home provided by UFMG. Since 2017, UFMG has been organising this Summer school for undergraduate and postgraduates, offered every year in July. It aims to provide students with a worldwide background in Brazilian studies, offering courses that embrace Brazilian topics. Figure 4.4 below displays the programme syllabus and contents:

Figure 4.4 – Summer School³⁹

SUMMER SCHOOL

	Course Syllabus	Brief Description Of Contents
1	Brazilian History	From the age of European discovery until these days
2	Brazilian Geography	A huge and most diverse territory, with all that it entails
3	Brazilian Culture	The cultural richness of Brazilian multi-ethnic and multiracial people
4	Brazilian Law	Key elements of the Brazilian Law and legal system
5	Brazilian Society	Ultra-complex Brazilian society and its main components
6	Brazilian Politics	Polity and policies in the largest Latin American national community
7	Brazilian Economy	The engines of Brazil's gigantic economy
8	Brazilian Foreign Policy	How an emerging power connects itself with the outside world
9	Brazilian Cinema	The unknown strength of the Brazilian cinema
10	Brazilian Arts	The artful Brazilians and their most talented interpreters
11	Portuguese Language for Foreigners	A taste of Brazil through the language
12	Race in Brazil	An introduction to racial dynamics in Brazil

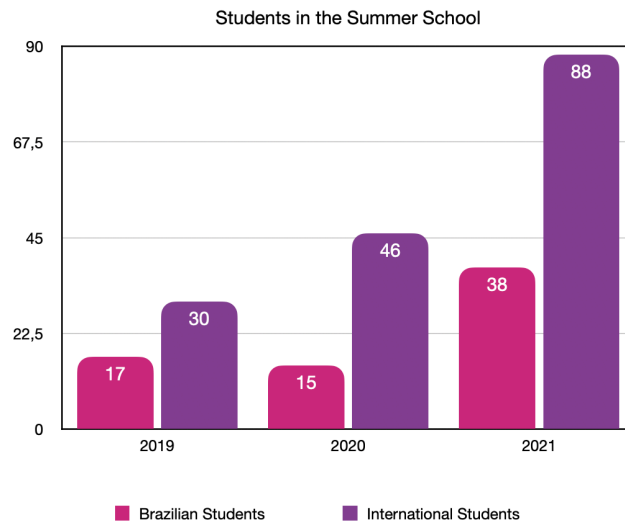
Source: adapted from UFMG's website (2023).

Summer School courses are all taught in English. The course workload is 60 hours (representing four credits), having eight lectures delivered by world-class experts on Brazilian studies, lessons in Portuguese for foreigners, two field trips, extra-classroom activities and promoting a Brazilian movie festival. In 2021, due to the pandemic, the course was adapted to an online platform.

Although the initiative aims to promote Brazilian culture, 50% of vacancies are intended for Brazilian students. In addition, DRI encourages the “buddy programme”, which helps international students to be welcomed and accompanied by a UFMG student. The number of international students has also risen throughout the years. Graph 4.2 below better illustrates this assertion.

³⁹ For further information about Summer School, see: <https://www.ufmg.br/summerschool/course-syllabus/>.

Graph 4.2 - Students in the Summer School



Source: DRI (2022).

As we can see from Graph 4.2, the number of participating students has considerably increased. Although the number of Brazilians reduced from 2019 to 2020, the figures have shown a steady growth from 2020 to 2021, reaching 38 local participants in 2021. The number of international students has also increased, maintaining progress every year, going from 30 in 2019 to 88 in 2021. The programme had its peak of participants in its online version.

4.4 Enhancing EMI Implementation: Current Initiatives at the University

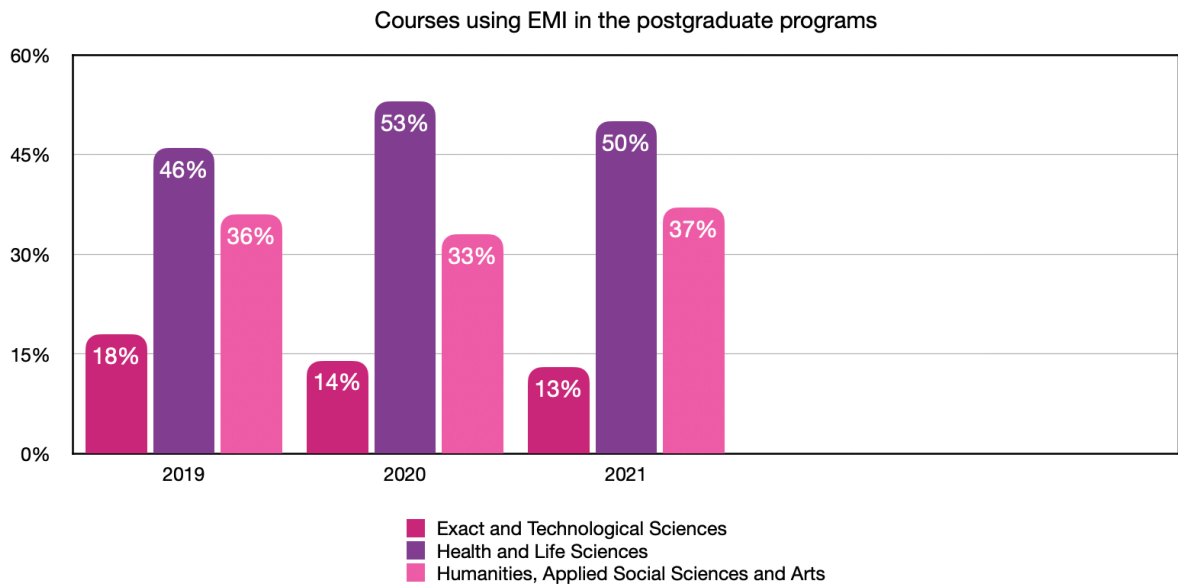
At present, the university does not provide full programmes using EMI as an approach. Nonetheless, numerous initiatives are underway to facilitate and enhance the implementation of EMI throughout the university. This section outlines the specific initiatives taken. Initially, data from postgraduate programmes will be presented, and then, data on FTEI, and relevant information about EMI training courses.

4.4.1 EMI in Postgraduate Programmes

Several initiatives involving EMI have been implemented in a decentralised manner. To gain a deeper understanding of the postgraduate context, the International Affairs of the Dean of Postgraduate Studies surveyed the 57 postgraduate programmes participating in the

Institutional Programme of Internationalisation from CAPES, Capes-PrInt⁴⁰. The primary objective of this survey was to identify the courses delivering their content in foreign languages.

Graph 4.3 - Courses Using EMI in Postgraduate Programmes



Source: adapted from DRI (2022).

Based on the data from 2022, out of the 46 schools consulted, 23 offered disciplines using EMI during 2019, either in the first or second semester (Graph 4.3). Among these, 46% belonged to the field of Health and Life Sciences, while only 18% represented the field of Exacts and Technological Sciences. Additionally, the area of Applied Social Sciences and Arts accounted for 36% of all 23 disciplines.

In 2020, more than 50% of the disciplines taught in English were represented by the field of Health and Life Sciences, whereas 33% of all the disciplines (seven in total) belonged to the field of Applied Social Sciences and Arts. In addition, only three disciplines from all the 21 offered in 2020, representing 14%, were from the Exact and Technological Sciences.

For 2021, there were a total of 16 disciplines offered in the postgraduation programme. Out of the 16 disciplines, the field of Health and Life Sciences represented 50%, while the other 50% was divided into 37% for the Applied Sciences and Arts and only 13% represented the Exact and Technological Sciences field. Comparing the three years, the field of Health and Life Sciences has offered most of the disciplines, in contrast to the fields of Exact and Technological Sciences, which have consistently offered the fewest disciplines.

⁴⁰ This programme will be further discussed in section 4.5.1.

The next section evaluates the progression of internationalisation in undergraduate courses, focusing on the FTEI courses.

4.4.2 FTEI

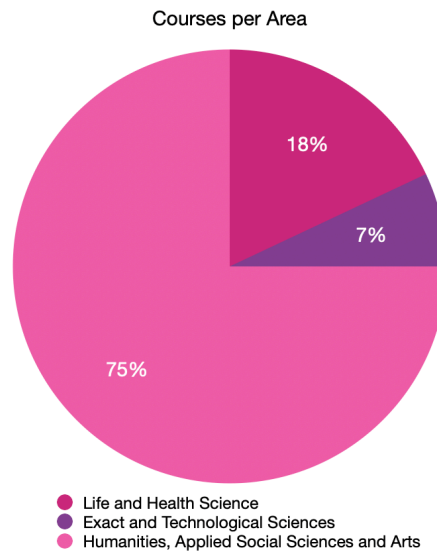
A systematic mapping of courses taught in English was conducted in 2022 by the International Office. The main intent was to identify, map, and gather most of the information on the English courses taught to capture the absolute numbers of internationalisation at UFMG. Some of these courses are part of the FTEI (Minor in International Studies), which started in the second term of 2019. The primary plan for the Minor (FTEI) was:

to gather a group of professors and disciplines from UFMG's 20 Academic Units that work on themes of an international or comparative nature, to offer to UFMG's students – Brazilians or international – a truly plural environment in national, ethnic, normative, or religious terms (Minor International Studies, UFMG, p. 3 [brochure]).

FTEI's idea is to provide courses in both English and Spanish for undergraduate students, to fill the gaps and leverage future potential intercultural partnerships. Courses within FTEI do not have compulsory disciplines, enabling students to structure their academic path based on their interests. Students can choose disciplines from any area of knowledge. Professors can teach through video conferences with other Brazilian teachers or foreign colleagues. Additionally, to receive a certificate, students must complete at least 300 hours of credits. The academic curricular activities are organised into three areas: Life and Health Sciences; Humanities, Applied Social Sciences and Arts, and Exact and Technological Sciences (Minor in International Studies – UFMG, p. 5).

Currently, there are 53 courses registered, nine being taught in Spanish and 44 in English. Graph 4.4 below shows the numbers in the percentage of courses per area:

Graph 4.4 – Courses divided per area

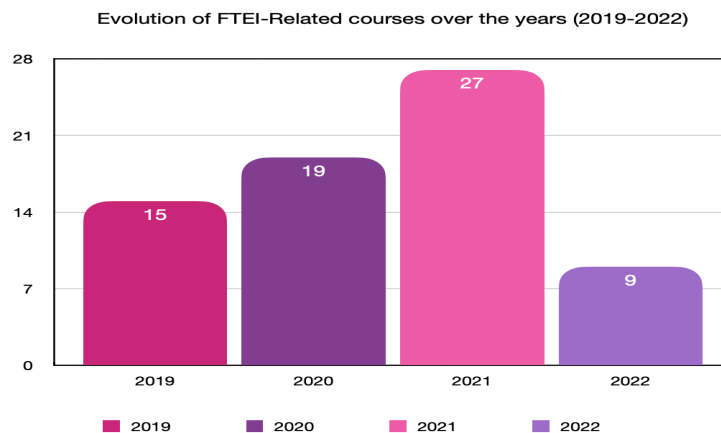


Source: elaborated by the author (2023).

The data depicted in Graph 4.4 reveals that most of the courses offered (75%) fall under the field of Humanities, Applied Social Sciences and Arts, while 18% are associated with Life and Health Sciences, and only 6% of the courses pertain to Exact and Technological Sciences.

Analysing the three years for which data were available, it is possible to observe the quantity of disciplines taught. Graph 4.5 illustrates the raw numbers of disciplines offered from 2019 to 2022.

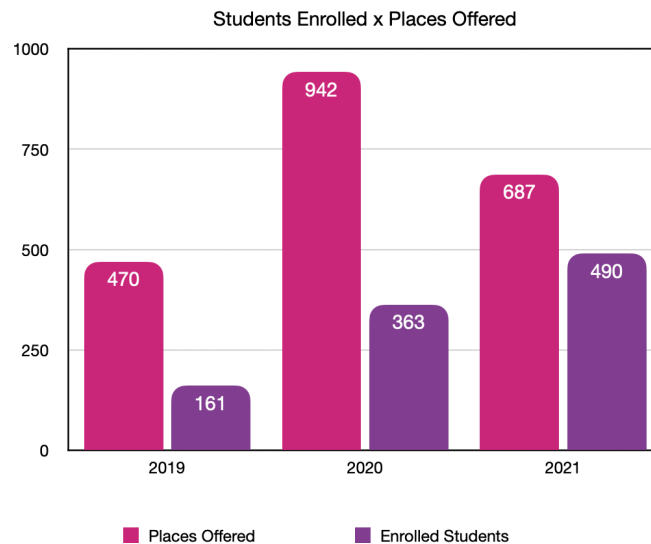
Graph 4.5 – Evolution of FTEI-Related Courses Over the Years (2019-2022)



Source: adapted from UFMG – FTEI Catalogue (2019, 2020, 2021, 2022/01)

As the years progressed, a significant trend emerged, indicating a substantial growth in the number of disciplines offered, except for 2022, in which the data was incomplete. This upward trajectory not only reflects the dynamic nature of academic offerings but also highlights the university's commitment to diversifying its educational landscape. Furthermore, the data provides valuable insights into the correlation between the total number of vacancies and enrolments. Understanding these trends is crucial for strategic planning, resource allocation, and ensuring that the university's capacity to meet the evolving educational needs of its student body. Graph 4.6 presents the information discussed.

Graph 4.6 - Students Enrolled x Places Offered

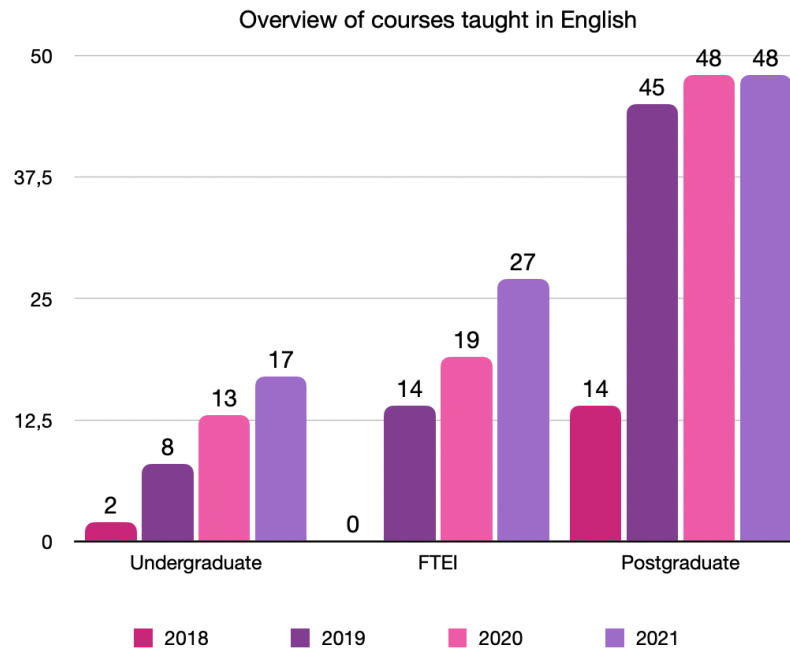


Source: elaborated by the author (2023).

Graph 4.6 illustrates the simultaneous increase in vacancies and the growth in the number of registered students. The figures were relatively small in 2019, the programme's launch year. However, by 2020, there was a notable increase in the number of available places, and in 2021, the most significant increase is seen in the number of students enrolled. It is noteworthy that the enrolment numbers for 2020 might have been impacted by the pandemic. Additionally, there is no available data for 2022 as of the date of this research.

Another relevant piece of information extracted from the data relates to the development of EMI in the undergraduate, postgraduate, and FTEI courses from 2018 to 2021.

Graph 4.7 – Overview of Courses Taught in English



Source: DRI Census 2018, 2019, 2020, 2021.

Note that Graph 4.7 illustrates how the internationalisation process has increasingly solidified within the university over four years, with a steady growth in the number of courses offered. Remarkably, the number of disciplines offered in EMI has been gradually increasing across all categories, including undergraduate, postgraduate, FTEI and short courses.

4.4.3 EMI Teacher Training Courses

Teachers delivering EMI courses may face several challenges, such as students with different language proficiencies or the use of their L1 in the class, as well as the need to provide language support so students can understand the content better (Herington, 2020). In addition to these aspects, teachers' proficiency level can also be an issue, considering that they need to convey ideas clearly and may lack formal pedagogical training in the EMI teaching context.

To address one of these issues, a language development course was designed to support professors in using academic English. In 2017, a partnership with the Regional English Language Office (RELO) was established to receive a fellow to provide courses and workshops to the academic staff. In 2019, the fellow arrived at UFMG and stayed at the university for ten months, developing activities aimed at teacher qualification to meet this new demand. The

partnership offered English classes for teachers as well as EMI/COIL⁴¹ (Collaborative Online International Learning) workshops. The workshops offered were focused on EMI, with a 16-hour workload divided into four modules in the first and second semesters of 2019.

Once again, in 2021, a new fellow, also sponsored by RELO, taught an EMI course. The course was 100% online, due to the Covid-19 pandemic, mostly synchronous and through Zoom. As previously explained in Chapter 3, the course was divided into two phases, with a 40-hour workload. At that time, the course participants were composed of professors from the Primary School (*Centro Pedagógico*) at UFMG, Secondary Technical School (COLTEC⁴²), and higher education (Physical Education, Biological Sciences, Agricultural Sciences, from the following schools: Nursing, Architecture, Veterinary, Engineering, Pharmacy, Economic Sciences, Arts, Languages, Medicine, Psychology, and Odontology).

According to the last report from the Office of International Affairs and the information acquired from the proficiency department, throughout 2019-2021, the results of participants and EMI activities are as follows:

Table 4.6 - Courses Offered to Teachers

Activity	Year	Serviced Teachers
Workshop – EMI	2019	45
Workshop – COIL	2019	24
English Classes for Teachers	2019	71
EMI Course	2021 phase 1	30
EMI Course	2021 phase 2	21

Source: DRI (2022)

According to Table 4.6, the first year of the project had a higher number of participants. In 2021, however, the maximum capacity of the course was 30 online participants due to the pandemic. Phase one had the maximum number of participants, and in the second phase, 70% percent of them were able to continue in the EMI course.

4.5 Other Internationalisation Initiatives

⁴¹ COIL – Collaborative Online International learning - is an approach to teaching that brings together instructors and students who are distanced geographically, culturally and linguistically to communicate and collaborate using online tools (Carlisle and Luna Sáenz, 2023; Rubin, 2015).

⁴² COLTEC stands for *Colégio Técnico*, a school for technical studies at the high school level.

This section presents an overview of some programmes that UFMG is part of, which are highly relevant to the growth of internationalisation at the university. These programmes include:

- PEC – G: officially created in 1965, this federal programme is managed by the Ministry of International Relations. It offers students from developing countries which maintain an educational, cultural, or scientific-technological agreement with Brazil the opportunity to study in a Brazilian HEI;
- International mobility UFMG / Abroad Universities; and
- International Mobility Unified Call: This considerable initiative aims to offer a variety of international vacancies for undergraduate students, facilitating enrolment and allocation within the programmes offered.

During the 2020-2021 pandemic period, students could not go on these mobility programmes, and the university could not receive students. However, vacancies were rearranged so the award-winning students could participate in these programmes after the pandemic ended. The list of programmes managed and not managed by DRI is provided in Figure 4.5.

Figure 4.5 – Mobility Programmes

Mobility Programs Managed by DRI	Mobility Programs Not Managed by DRI
<input type="checkbox"/> Minas Mundi	<input type="checkbox"/> Brasil France Ingénieur Technologie (BRAFINITEC)
<input type="checkbox"/> Escala AUGM	<input type="checkbox"/> BRICS Network University (BRICS-NU)
<input type="checkbox"/> Jornadas de Jovens Pesquisadores	<input type="checkbox"/> Fundação Marcelino Botin
<input type="checkbox"/> Mobilidade no Espaço Ibero-latino-americano	<input type="checkbox"/> Fundação Carolina
<input type="checkbox"/> Programa de Mobilidade Acadêmica Regional em Cursos Acreditados (MARCA)	<input type="checkbox"/> Living Lab Biobased Brazil
<input type="checkbox"/> Santander Universidades	<input type="checkbox"/> Emerging Leaders in the Americas Program (ELAP)
<input type="checkbox"/> Red de Macrouiversidades de América Latina y el Caribe (Red Macro)	<input type="checkbox"/> Programa PrInt UFMG
<input type="checkbox"/> Programa Piloto de Mobilidade Virtual para Estudantes de Graduação da AUGM	<input type="checkbox"/> Grupo Coimbra de Universidades Brasileiras (GCub)
	<input type="checkbox"/> Centro Interuniversitario de Desarrollo Andino (CINDA)
	<input type="checkbox"/> Erasmus +
	<input type="checkbox"/> Programa Mobilidade Associação das Universidades de Língua Portuguesa (AULP)
	<input type="checkbox"/> Programa de Licenciaturas Internacionais (PLI)
	<input type="checkbox"/> Free Mover

Source: adapted from UFMG report (2022).

Additionally, a relevant intangible aspect of the internationalisation at UFMG is its responsibility towards international students and researchers. UFMG encourages their reception and promotes activities such as their reception events, campus tours, and cultural trips, allowing the international community to interact with the local academic community.

Portuguese as an Additional Language is the last programme targeting internationalisation at home, although it is not related to EMI. This project aims to assist the international community who want to learn Portuguese to support their courses and stay here.

4.5.1 CAPES PrInt

UFMG has embraced the CAPES PrInt programme since its inception in 2019. This programme seeks to foster an internationalised culture within postgraduate programmes through a cross-curricular approach involving four major areas: a) Sustainability and Risk Management, b) New Technologies and Science Frontiers, c) Health and Well-Being, and d) Human Rights. These topics were inspired by contemporary global challenges. Additionally, there are 57 postgraduate programmes from the most diverse areas participating in CAPES PrInt. The areas and topics addressed can be seen in Figure 4.6 below (UFMG, 2018).

Figure 4.6 - Institutional Internationalisation Project

Institutional Internationalization Project - UFMG	Topics - Contemporary Challenges			
	Sustainability risk management and governance	technologies and science borders	health and wellness	Human Rights
TASK				
Agro and bio business		*		
Big Data and artificial Intelligence		*	*	*
Biotechnology		*		
Cities and territories	*	*		*
Basic Sciences and their Applications		*		
Development, inclusion and exclusion	*			
Chronic, emerging and neglected diseases			***	
Education		*		*
Energy	*			
Aging			*	
Borders and Migration	*			
Industry 4.0		*		
Languages, gender and identity		*		*
Climate Changes	*			
New materials and nanotechnology		*		
Public Policies and Political Regimes				*
Natural Resources	*	*		
Traditions, cultures and arts				*
Violence, Conflict and regulation				*

Source: adapted from UFMG’s website (2023).

Figure 4.6 displays the four major areas and their respective projects, shown in alphabetical order, with stars representing the number of projects each area develops.

4.6 Final Thoughts on the Documentary Analyses

By analysing these various sources, it was possible to map the development of the internationalisation process in UFMG, particularly focusing on how internationalisation at home has been developed to understand the growth of EMI and its strategic use in this process.

Although many other themes could be explored, the organisation and delimitation of the eight items shown in this chapter were crucial for meeting the objectives of this research. The discussions promoted herein prompted us reflections on the progression and evolution of the entire EMI process, as well as the guidelines that should be established for its future development.

5 PHASE 2 – CASE STUDY ANALYSIS

The previous chapter focused on the first phase of this dissertation, regarding the documentary analysis to map the development of internationalisation and EMI at UFMG. This chapter focuses on the results of the case studies and interviews to answer research questions two and three: “2. What are content teachers’ needs in terms of providing support for their students?” and “3. What are the content teachers’ attitudes towards collaborations with a language specialist?”

The first part of this chapter outlines the researcher’s role in each EMI course where data were collected. The second part of this chapter provides an overview of the class profiles, addressing research question two. The third part of this chapter addresses research question three by analysing the data collected through the interviews. In the fourth and final part of this chapter, discussions and findings will be presented, categorising the EMI classes into each one of Macaro’s pedagogical models.

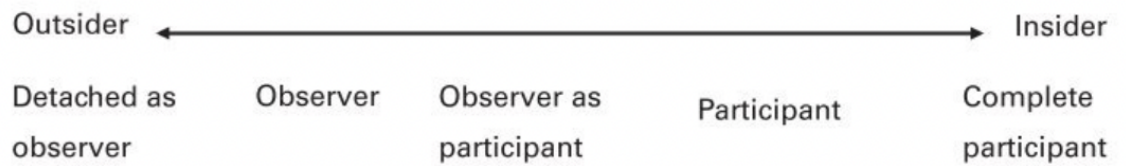
5.1 The researcher's role as an observer

According to Rose *et al.* (2019), researchers can adopt various roles while conducting research, as illustrated in Figure 5.1. These roles can range from a completely *detached observer*, who has no interaction with what is being observed, to a *complete participant* observer. The former reduces the impact of their presence in the classroom. Adjacent to this is the *standard observer*, where the observed individuals are aware of the observer’s presence but there is little or no interaction between them.

The *observer as a participant* occupies a middle position on the observer scale. There are occasional interactions between them and the observed. Rose *et al.* (2019) suggest that the observer as a participant has a more “natural observation space” (p. 96), implying that when individuals are engaged in the observation process, they can experience an authentic and unforced observation.

At the right end of the spectrum is the *insider position*, which may have two roles: the participant and the complete participant. Rose *et al.* (2019) state that the participant engages in activities while taking notes, whereas the complete participant, fully engaged, takes all notes after the observed lesson due to their involvement in class activities (see Figure 5.1).

Figure 5.1 - Observer Role Spectrum



Source: Rose *et al.* (2019, p. 96).

As mentioned in the methodology section (Chapter 3), data were collected from three courses, in which the researcher could play different roles. A pre-interview (Rose *et al.*, 2019; Denscombe, 2017) was conducted with each of the three content professors to set the roles and determine how the researcher would contribute during the process. The needs of each class varied, resulting in different observer roles as shown in the following table.

Table 5.1 - Researcher Roles During the Study

Course / Roles	Detached as Observer	Observer	Observer as participant	Participant	Complete Participant
Career International Approach to Oral Epidemiology Productions and Operations Management	-	-	Minor interaction	Collaborator in designing extra class activities	Collaborator in preparing and delivering activities

Source: elaborated by the author (2023).

I did not assume a detached observer role in any of the courses. Most of the time, my role was as a *participant*, developing some activities for both courses, except at the beginning, when I conducted an unstructured observation to establish the needs throughout the course.

In the following section, the case studies and the researcher's roles in each class are presented. The case studies will be presented considering the course overview, the student's profiles, and the roles played by both the content teacher and the language specialist during the classes.

5.2 Case Studies

This section delves into the collaboration with the three distinct classes, each forming a unique case study. Within each case study, an exploration unfolds, encompassing the course overview, students' profiles, and the researcher's role in the classroom. The course overview

provides essential details including a course description, hours dedicated, and the subject matter. The student's profile section presents their self-reported levels and self-classification, facilitating an understanding of their needs for both the content teacher and the language specialist. The final part of each case study examines the researcher's role, drawing insights from the initial round of interviews that guided the establishment of collaboration.

5.2.1 Case Study 1 – Career Management

5.2.1.1 Course Overview

“Topics in International Studies II: Getting from College to Career: Career Management” is a UFMG Psychology department course. The EMI teacher who received us has 24 years of experience teaching in the university and has been teaching in English for four years. This course comprises 30 credit hours. Its main objective is to guide undergraduate students in planning their careers by helping them transition from the academy to the job market. During the course, students' career abilities are assessed, so the content teacher can help them plan and predict which abilities or skills they must develop to achieve their plans. The course is divided into seven units, split into synchronous and asynchronous classes. On November 12th, 2020, a pre-course interview was conducted with the head professor to set the grounds for my participation and to establish the support to be provided.

5.2.1.2 Students' profile

Students' English level was not tested but self-reported. Students have reported studying English for a minimum of two years, as illustrated in Graph 5.1.

Graph 5.1 - How long students have been studying English

Há quanto tempo você estuda inglês?

6 responses



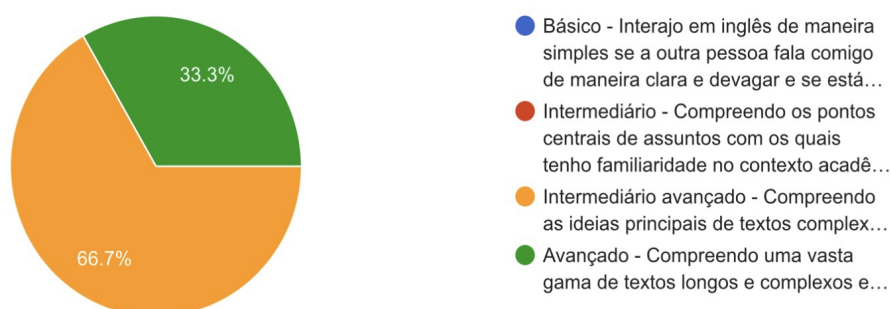
Source: elaborated by the author (2020).

Regarding their self-reported levels, 33.3% of students indicated that they have an advanced level of English, while 66.7% affirmed that they have an upper intermediate level, as shown in Graph 5.2.

Graph 5.2 - English proficiency level

Como você classificaria seu domínio de inglês?

6 responses



Source: elaborated by the author (2020).

During classes, we confirmed that very little support was needed, resulting in the termination of support provisions before the course ended.

5.2.1.3 Researcher Roles in the Classroom

Similar to the other professors in this study, content teacher No. 1 (CT1) had participated in two prior courses aimed at providing support for their classes in EMI. One was based on Content and Language Integrated Learning (CLIL) methodology, and the other on the English Medium Instruction (EMI) methodology, as mentioned in chapters 3 and 4 of this study. This class was conducted by a leading professor and a co-professor. The latter assisted them in correcting the content activities and helped devise the career plans for the students.

As shown in Table 5.1, my role in this course involved “minor interaction”. In the first part of the classes, I only observed how the content was delivered to address students’ needs afterwards. I was introduced as a researcher and I made it clear to the students that I was not there to evaluate anyone’s level of English but to observe and help when needed.

The course syllabus had already been devised, and all the lessons were already pre-organised. Both content teachers had planned the course, selected the materials, and designed the lessons.

The primary role I played in the course was to provide support, especially regarding vocabulary activities:

Extract 5.1

CT1: ... We have not added them [the language support activities] to the final classes, which could be one thing you could collaborate on. Since we already have everything we are going to work on, you would work with the language support: vocabulary and idiomatic expressions.

A recurring topic in all three cases also involved the consideration of task obligations,⁴³ which is further discussed in the third part of this chapter. The concern of adding extra activities on top of what students were currently facing was a factor in deciding whether tasks should be mandatory, as seen in the following extract:

Extract 5.2

CT1: We can also think about allowing these activities to be elective. You design the structure. Elective in the sense of avoiding the activities become like an overload. In this way, we keep assessing the content, which is what we need to know, and you keep making these activities available for them. What do you think?

Another predominant concern of professors in EMI classes was ensuring students could communicate during their classes. However, the class environment fostered confidence and comfort in speaking and expressing themselves:

Extract 5.3

Co-teacher:⁴⁴ CT1 conducts the class well. They make sure that all students participate and interact in class. They are good at classroom management skills. For instance, one of the types of feedback we have received from our past students said that "he has never felt so comfortable expressing himself in a class as he feels in this course". I know very little about EMI, but one of the most important things for me is the communication aspects of the class. Proficiency is not very relevant.

From the teacher's comment, it is evident that language and EMI knowledge were not at stake. The first feature is their limited knowledge of EMI, which leads to the second feature: aspects of proficiency are not relevant to them. Regardless of student's proficiency, the primary focus was on communication. Consequently, CT1 enabled students to express themselves freely, fostering a comfortable classroom environment. High interaction and participation levels were confirmed through observation. Given the intense workload and the students' final year

⁴³ Task obligation refers to the mandatory nature of each task.

⁴⁴ All the interviews were recorded, and they were conducted in Portuguese, with a free translation to English.

of undergraduate studies, extra language activities proposed by me was not a priority. Thus, the main teacher decided to discontinue extra linguistics activities.

Extract 5.4

Main teacher 1: *I do believe that asking students to complete extra activities is not going to be good. Maybe we should cease the English activities.*

Thus, the collaboration in the class continued but the extra activities ceased.

5.2.2 Case study 2 – International Approach to Oral Epidemiology

5.2.2.1 Course Overview

The second case study was a dentistry course: “International Approach to Oral Epidemiology”. This course was taught by a professor (No. 2 – CT2) with 13 years of teaching experience at the university and three years in EMI. By that time, he had worked with five groups teaching this specific course. During the course, students were exposed to diverse contents of oral epidemiology throughout the world as an international approach. The course is divided into five classes, and in each of these classes, CT2 addresses the oral epidemiology issues of each one of the continents (America, Europe, Africa, Asia, and Australia) imbuing it with an international nature as suggested by the syllabus.

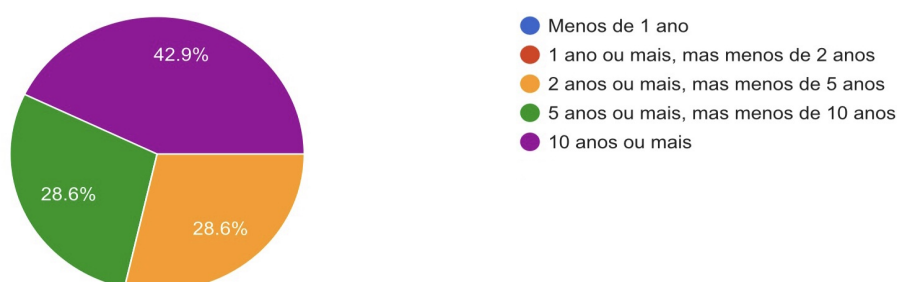
5.2.2.2 Students’ profile

As in case 1, the level of English is not tested but it was rather self-reported. Similarly to the other two case studies, students could just report how long they have been studying English, as shown in Graph 5.3.

Graph 5.3 - How long students have been studying English

Há quanto tempo você estuda / estudou inglês?

7 responses



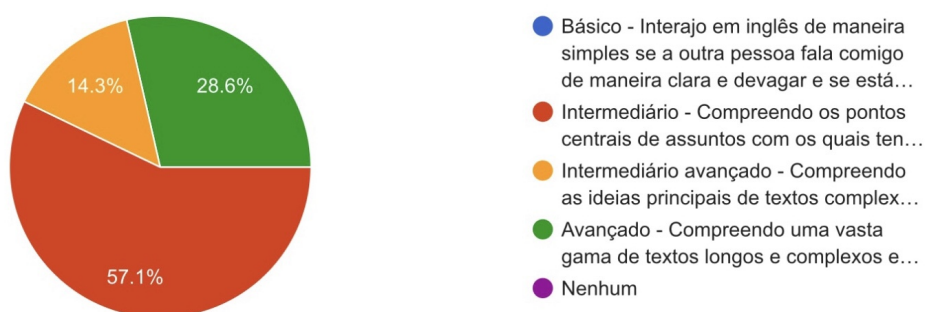
Source: elaborated by the author (2020).

Graph 5.3 shows that the students who chose this course had been studying for at least two years. Three students, representing 42.9%, have reported studying the language for ten years or more, whereas almost half of the students reported to have been studying for less than ten years. The graph also shows that 28.6% (two students) reported having two but less than five years of English studies, and the other 28.6% (two students) reported having five years of English lessons but less than ten years. Thus, this group was composed of mixed-level students ranging from B1 to C1, and most students reported to have taken an English proficiency test. The students have reported to have taken the university's proficiency test and TOEFL IBT.⁴⁵ Graph 5.4 presents the students' proficiency levels.

Graph 5.4 - English Proficiency Level

Como você classificaria seu domínio de inglês?

7 responses



Source: elaborated by the author (2020).

Graph 5.4 indicates that most of the respondents, 57.1% (4 students), reported themselves as intermediate speakers of English (B1 level), whereas 28.6% (2 students) reported having a higher level of English proficiency as advanced speakers (C1 level), and just one student has reported as being an upper intermediate (B2 level).

5.2.2.3 Researcher Roles in the Classroom

When the CT2 and I decided to join in collaboration, CT2 asked for two specific demands as documented in the following extract:

Extract 5.5

⁴⁵ TOEFL IBT stands for Test of English as a Foreign Language – Internet-Based test.

*CT2: A **support focus** is what I want for me. So, you can provide feedback on my work, things like this might work better, or this might not work so well. I am always trying to learn; I need to improve (...) I have no problems with being assessed. (...) I think this is the kind of support that I don't have, but I am very receptive to it. **Another aspect** that I think you can collaborate on, you have done this in the last semester, is with the activities regarding the language. Writing and vocabulary. I believe it was of great help.⁴⁶*

Thus, as a researcher, I assumed a collaborator role, actively participating in planning and delivering activities. CT2 was very receptive and acknowledged the effectiveness of the first vocabulary exercises we developed for students. These exercises proved beneficial in enhancing students' comprehension of the class topics. This course covers oral epidemiology from different continents, and it was common to have guest teachers deliver lectures. Typically, these guests were from various countries, bringing relevant content to his classes. This practice constitutes Collaborative Online International Learning (COIL), which was highly enriching for the students, as they could access different realities and have international experiences in their classroom without having to leave their home country.

However, despite the students' high level of English proficiency, they agreed that having an English-speaking group in parallel to the class would help them express themselves better during the classes. Thus, language support was necessary, but differently from what was initially expected. The original plan was to prepare written activities for students. Nonetheless, the whole situation was dynamic, and the primary goal was to provide support according to students' self-reported difficulties. Some students reported that they were too shy to speak and were conscious about making mistakes, so we initiated a conversation group to help them become more comfortable and confident in their classes.

Thus, the speaking group meetings were scheduled weekly, a day before the Oral Epidemiology class. In the meetings, the language support had two objectives. First, we held discussions based on the upcoming class topic. Second, we aimed to create an academic presentation of their work. The first-class topic was a discussion of an article on Dentists' mental health during the pandemic. This topic was chosen by the researcher as a means of getting to know the students who joined the group. During the first class, students expressed their concerns about speaking during classes. Considering their field of study/work, and the number of classes we would have together, the group decided to prepare an elevator pitch to present their research in two minutes.

⁴⁶ It was the second semester we were working together. I had briefly collaborated with the same professor in the previous semester.

5.2.3 Case Study 3 – Productions and Operations Management

5.2.3.1 Course Overview

The content teacher No. 3 (CT3) was very receptive. He had been teaching for 12 years at the university, and six years using EMI. His course covers Productions and Operations Management, and it is the only course that does not belong to the FTEI-offered courses in this research. It is held at the same university but at a different campus and city. CT3 participated in the latest edition of the EMI training course provided by the university in 2021, like CT1 and CT2. His course was divided into eight classes, and three main units.

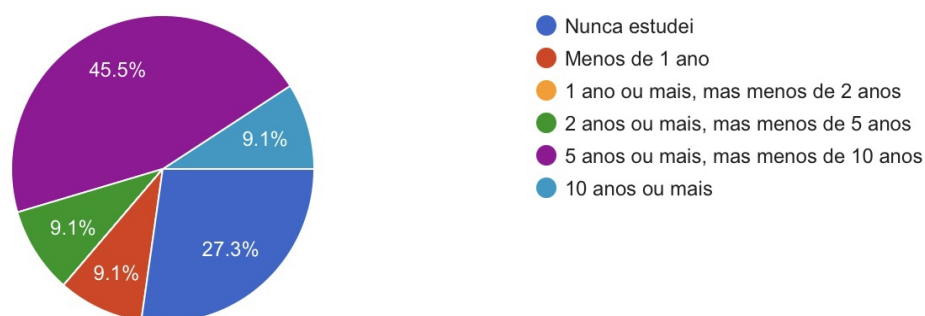
5.2.3.2 Students' Profile

CT3's course was the most challenging for my research due to the wide range of students with different proficiency levels in the class. As shown in Graph 5.5 below, the duration of English studies was quite different among the participants. While almost half of the group (45.5%) reported having studied English for more than five years, 27.3% (three students) affirmed that they had never studied this language before.

Graph 5.5 - How long students have been studying English

Há quanto tempo você estuda inglês?

11 responses



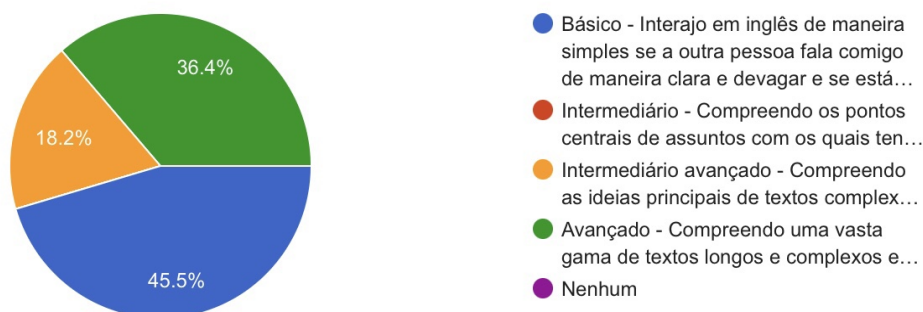
Source: elaborated by the author (2020).

This variety led us to the next question, which was to identify their English proficiency level. Similar to the other cases, no proficiency levels were required or tested. Thus, they also self-reported their proficiency levels. As was expected (and confirmed in Graph 5.6), 45.5% (5 students) reported having a basic proficiency level (A1 level), whereas 36.4% (4 students) reported an advanced level of proficiency (C1), and 18.2% (2 students) reported to have an upper intermediate level (B2), as shown in Graph 5.6 below.

Graph 5.6 - English proficiency level

Como você classificaria seu domínio de inglês?

11 responses



Source: elaborated by the author (2020).

Graph 5.6 illustrates how mixed students' levels were, with proficiency levels ranging from A1 to C1. Due to the students' profiles, it was necessary to provide language support throughout the course so all students could follow the classes. The language activities were part of the class, meaning they were not extra tasks or homework. This decision was confidently taken by the EMI teacher.

A relevant aspect of this course is that it is a mirrored course. It means that this course is a reduced version of an extended course delivered in Portuguese. It is the same course, however, with less content delivered in the English language. The idea is to avoid any harm to the students regarding their content understanding.

5.2.3.3 Researcher Roles in the Classroom

For this course, there was a very important requirement from this content professor. He wanted to make this collaboration official for our institution. So we had to request authorisation from both his programme and mine, then I was registered as a *Teaching Assistant Internship*. This facilitated successful collaboration for the course. Macaro (2018) states that collaborative teaching happens when the “language specialist and an EMI content teacher plan together how an existing curriculum is [going] to be delivered” (p. 245). Through this close collaboration between CT3 and me (the language specialist), all the lessons of this course were planned together, and all classes had a similar structure as follows:

1. opening remarks – to give instructions or any other announcement that had to be done;
2. warm-up – to recall what was done in the previous class and connect them with the new content. For some classes, we had a video with a listening activity;

3. breakout rooms – to put students in discussion groups, where both the EMI teacher and language specialist would mediate discussions;
4. vocabulary activity – preparatory for the content lesson;
5. Lecture – delivered by the content teacher; and
6. song activity – to wrap up the class.

Another relevant aspect of this class was the difficulty in gathering the minimum number of enrolled students to start the course. In the university, to start a course, it is mandatory to have at least six students enrolled. To solve this problem, the professor created a strategy to choose a better time to offer the course. This course is generally offered when there is no other course at the same time, so there is no schedule clash for the students. As CT3 states:

Extract 5.6

CT3: It is not easy to find students like this, with a level of English ... although there is no requirement, there is no prerequisite, a student who will dedicate like... I will take this course. Many (students) have a sufficient level of English to enjoy the course, but they get very insecure (due to their level of English). I always ask them to attend some classes, so they can see how the course will run (...).

Another relevant decision of CT3 was that both assignments and tests could have answers in English or Portuguese, whichever the students preferred. During these classes, due to the student's English level, we also opted to repeat important Portuguese instructions whenever students demonstrated difficulties in understanding the content. The same situation happened during the students' final presentation. They had to present their slides in English. However, the presentation delivery could be either in English or Portuguese.

5.3 Analysis of the Interview

The following subsections delve into the interviews carried out with CT1, CT2, and CT3. These interviews were held prior to the beginning of the courses to define the nature of my participation during the classes. As detailed in Chapter 3, the pre-intervention interview focused on establishing collaboration between the researcher and the teachers. It focused on my role as a researcher and, more specifically, how the intervention would not disrupt the content delivered. Further interviews were done for the final part of this doctoral dissertation. The interview data underwent an inductive approach, focusing on themes that emerged prominently during the transcription. These themes will be systematically categorised as follows:

1. attitudes towards the mandatory nature of English tasks;

2. attitudes towards students' comfort and confidence when speaking English in an EMI class;
3. translanguaging in the classroom (the use of Portuguese inside the classroom);
4. content teachers' attitudes towards the language support activities;
5. the content classroom – Portuguese vs. EMI use;
 - 5.1 teachers' identity within the classroom and teacher training; and
6. motivation to use English in the classroom and benefits of using EMI – teacher's perception.

5.3.1 Attitudes towards the mandatory nature of English tasks

The theme regarding the mandatory nature of tasks appeared in all three interviews. Each interviewee provided recommendations on how students should approach these tasks. All understood the importance of the support activities but held unique perspectives on their obligatory nature.

Extract 5.2

*CT1: We can also think about **allowing these activities to be elective**. You design the structure. Elective in the sense of avoiding that the activities become like an overload. In this way, **we keep assessing the content**, which is what we needed to know, and you keep making these activities available for them. What do you think?*

CT1 clearly expresses his concern about the number of activities students should complete, especially if mandatory, suggesting activities should be elective to “avoid that the activities become an overload”. Another concern is the necessity to “keep assessing the content”, indicating that content should take precedence over language activities in EMI. Therefore, the teacher emphasizes that the lesson should not be dominated by English language activities, but instead, should centre around the content. CT1 fears the intervention might prioritise teaching English over the content itself, which aligns with concerns about students' existing workload. This concern is also reflected in CT3's context (see Extract 5.7).

Extract 5.7

*CT3: I prefer the activities to be during the classes. Because of a characteristic of the students here, well, there is no pattern, but we have many students who work and study simultaneously. So, it's complicated. They work during the day (morning and afternoon) and study at night. It is tough for them. It's a very heavy workload for them. So, it's just like that, considering the course characteristics and all the issues that we already know, **the activities cannot be a burden**, the course is already on a Saturday afternoon...*

CT3, teaching at a different campus with night classes, acknowledges that many students work during the day, aligning with CT1 and CT2's views to avoid making activities a burden. Despite recognising the importance of English support tasks, CT3 suggests that these activities be conducted during class time, allowing students to receive support from an English specialist.

The obligation of tasks emerged as a recurring theme in the interviews. However, CT3's hesitancy about the necessity of tasks was evident, suggesting limited time for linguistic support due to the course's tight schedule. Leaving us with the impression that perhaps we would not have too much time for linguistic support. As we can infer from in Extract 5.8:

Extract 5.8

Researcher: What do students need in terms of support?

*CT2. This course is very focused on speaking (...) They also have to train their listening, they listen to me, they listen to the speakers, they listen to the videos. We don't work a lot with (...) well, there are some texts, but we don't demand anything from writing (...). **We don't have time to cover everything.***

When asked about students' linguistic difficulties, CT3 was evasive, emphasizing the communicative aspect of the course, implying that speaking and listening skills take precedence over writing: *"This course is very focused on speaking (...) they also have to train their listening (skills) (...) "we don't demand anything from writing"*. When he said that *"We don't have time to cover everything"*, CT3 explicitly says that they had limited time to cover all content and suggests additional activities should not be mandatory.

The suggestion from content teachers to have elective activities or conduct them during class led to limited student participation in the activities, critically affecting classroom interventions. We granted students autonomy in their decision-making, a choice that could be (as it was) harmful to this research.

In case study 1, low participation resulted in the exclusion of support as it had become obsolete. This happened because the researcher had to constantly remind students to do the extra activity, which had no marks for the class, as only the content was assessed. Therefore, the collaboration was terminated due to a lack of necessity in providing linguistic support.

In case study 2, the speaking group proved helpful, but initial support activities were unnecessary.

In case study 3, vocabulary activities were limited to 15 minutes per meeting, as shown in section 5.2.2.3. These activities will be detailed in the next chapter.

5.3.2 Attitudes towards students' comfort and confidence when speaking English in EMI class

Regarding attitudes towards students' comfort and confidence when speaking English, all interviewed teachers expressed concern. Given the absence of any language requirements for course enrolment, the student proficiency levels were heterogeneous, affecting their comfort in an EMI setting.

Extract 5.9 shows evidence that comfort is an important aspect for CT1 and the co-teacher:

Extract 5.9

And last semester, a young man wrote to us as a feedback, that is, in all his time at the university, he was graduating by the time, he had never felt so comfortable expressing himself in a class, like the one we are offering. You can imagine that this is in another language, that is, in his own language, he had never felt so at ease... So, you know.... to be able to express, to say something, or to give an opinion.

CT1 highlights the importance of creating a comfortable environment for confident student participation. In his words students should feel free to express themselves confidently, even having to do so in English. A student's positive feedback: *"he has never felt so comfortable expressing himself"*, indicates CT1's success in fostering a supportive atmosphere, allowing students to express themselves confidently in English.

In contrast to this scenario, CT2 said:

Extract 5.10

What I think that happens is, some students are shy, and there is also, lack of speaking practice. Some students speak very well, they are very outgoing, but this always happens in any class, right?

CT2's reality differs when compared to CT1. He highlighted that some students are *"shy"* and some of them *"lack speaking practice"*, resulting in lower participation of students and a potentially more teacher centred class.

5.3.3 Translanguaging in the classroom

Translanguaging in the classroom was another relevant topic that came up during the interviews. Perhaps this could be once again due to the lack of language requirements for the course's registration. Translanguaging means "the planned and systematic use of two languages for teaching and learning inside the same lesson" (Conteh, 2018 p. 445). Thus, both Portuguese (L1) and English (L2) are used in the classroom to convey meaning and mediate understanding of a subject. However, EMI classes are supposed to be conducted in English, and as Macaro

(2018) observes, teachers tend to be not so comfortable using L1 in class, doubting the benefits of translanguaging. Yet, the author also states that “L1 has a place in interaction”, conveying the idea that L1 could be a helpful tool to maintain students’ engagement with the course topics.

Considering students interaction, it was possible to see the translanguaging usage in CT3 classroom. When asked if his students would generally speak in English, he replied:

Extract 5.11

CT3: *Wow! It depends! We can see everything inside my classroom. There were some students who only spoke in English (from the beginning to the end), others... One of my students spoke **PortuEnglish!** He would start speaking English, but whenever he didn't know a word, or what to say, he would deliberately add a word in Portuguese, and then he would just move on, as if nothing has happened!*

CT3's accepts translanguaging in his classroom, creating a safe environment for effective communication. This practice aligns to the phenomenon illustrated by Garcia and Wei's (2015) concept of a translanguaging space, where multilingual individuals can integrate social spaces.

In the EMI context, Macaro (2018) notes that teachers switch languages mainly when “managing the classroom, dealing with disruptive behaviour, ensuring the understanding of content, translating unknown lexical items, and dealing with a word the teacher did not know in English” (p. 204). In this research, as the extracts present, teachers primarily used L1 to ensure content understanding and manage unknown vocabulary. However, the use of L1 becomes prominent when students encounter unfamiliar words or they hesitate to express themselves comfortably, as evidenced by CT2 Extract 5.12:

Extract 5.12

CT2: *If they want to speak, in this semester I said something I did not use to say before: if you want to speak in Portuguese, you may. **It breaks my heart, ok?** But I said it. I learned from Chris's class, so if they want to speak in Portuguese, they can.*

CT2's discomfort allowing his students to use L1 is evident when he utters: “*It breaks my heart*”. Yet it confirms Macaro's (2018) idea that L1 can help students feel more comfortable.⁴⁷ CT2 gives the impression that he feels embarrassed when it happens, suggesting that some teachers may have experienced English-only policies during their own language

⁴⁷ During the EMI teacher training course, articles and videos were provided to encourage discussions about the role of L1 in EMI classes.

learning. He argues that another language specialist has pointed out that there is no problem in using L1 in an EMI class.

5.3.4 Content teacher's attitudes towards the language support activities

Considering the language support activities in the classroom, although it was already discussed that they were not mandatory, both CT2 and CT3 assessed the value of the activities and my presence in the classroom at the same time. Both teachers recognise that my presence in the classroom provided students with a sense of safety, allowing them to speak confidently. This point is evident in Extract 5.13 and Extract 5.14:

Extract 5.13

CT2: ...what I actually perceive is.... **the presence and care regarding the language issue**, having a person with this kind of course support, the students feel cared for.

Extract 5.14

CT3: ... As well as providing security for the teacher there, who is offering the course, as it is my case, **you also end up being a tutor to some extent**, a person who provides support for me, for example. And for the student, it reconciles these things, right? They conciliate these things, right? They will see something from the area, **specific to administration in my case**, but he'll also have a greater chance of being able to do something denser, **from a language point of view**, on that basis, **on the basis of the area that interests him or her, which I wouldn't be able to do on my own.**

These extracts highlight the beneficial collaboration between content teachers and language specialist in the class, reinforcing the value of discipline-specific learning materials for EMI, as Wingate and Hakim (2022) have observed about the new demands of EMI.

5.3.5 The content classroom – Portuguese vs. EMI class

CT2 and CT3 noted differences in delivering content in Portuguese *versus* English, primarily due to vocabulary limitations and language barriers. When they were asked about the challenges, the ones they encountered in their English classes were different from those in their native language (Portuguese). Their answers showed similarities as shown in Extract 5.15 and Extract 5.16:

Extract 5.15

CT2: ...the language barrier is real, ok? (in my EMI classes) I am able to pair students and create communities, using those EMI principles. In Portuguese (in my Portuguese classes) I can't do that. (...)

Extract 5.16

CT3: ...Well.... Command of vocabulary.

An important factor revealed in Extract 5.14 is that the content teacher employs two different methodologies to deliver content. In Portuguese, classes tend to be more teacher-centred, but in English, classes are more student-centred with a focus on communication. CT3 expresses apprehension about vocabulary limitations.

These responses suggest a need to reconsider teachers identities in the classroom and their training for EMI. They revealed that the biggest challenges in their classes is the translation of their content into L2, particularly when incorporating personal examples that would enhance their teaching practices. Thus, while CT2 adapts examples to the language used, CT3 struggles with integrating personal experiences into EMI classes:

Extract 5.17

*CT2: During the EMI classes, the international cases appear more fluent. Perhaps in a lesson delivered in Portuguese, this could seem a little more arrogant. I.e: I've been to Boston, do you know? (**CT3 imagines himself saying this sentence to his class in Portuguese.)*

Extract 5.18

CT3: So, in English, I find it difficult to literally translate these experiences I've accumulated into English, which I feel confident about, so I end up working with cases from books.

Another differentiating factor highlighted by both teachers relates to class preparation. Class preparation also differs for content delivered in L1 and L2, impacting both identity and teaching methodologies. The lack of formal language teaching training further complicates this transition, highlighting the need for professional development in EMI. Beyond content preparation, they also considered the dynamic of the classes while they were preparing their lessons. Consequently, two issues emerge: first, *defining their identities within the classroom*, and second, *their training – or preparation to assume the role of an EMI teacher*.

5.3.6 Teachers' identity within the classroom and teacher training

Regarding identities, CT2 and CT3 have distinct perspectives. The following extracts denote that teachers' identities shift when teaching in different languages, with CT2 recognising this change more than CT3:

Extract 5.19

CT3: I don't think so. And that is due to the examples, like I have said before, I believe my class in Portuguese is about production management, it has a very personal content, which comes with my experience....

.... How am I going to give an example in English of family farming's involvement in the bioenergy chain? I lack resources. (...)

... so, I think that identity, I think that's what it is, is relatively detrimental to the lessons in English.

Extract 5.20

CT2: Yes, it does. We change. We are a bit of an actor, I think. We have to be a bit of a character when we're in class, right? (...)

(...) sometimes the students meet us outside the classroom, and they think we are the same. That we have the same cases, the same jokes, and sometimes we're in a different vibe.

The extracts above indicate that both teachers perceive distinct identities when teaching in different languages, encountering challenges in incorporating their examples into the classroom since they assume that there are divergences in the contextual settings. Therefore, teachers' positioning in different contexts may influence their identities. This challenge is compounded by their lack of formal language teacher training impacting their methodology and underscoring the need for EMI-specific professional development.

It not only accentuates the challenges faced by these content teachers in adapting their instructional strategies, but it also emphasises the need for professional development. Addressing this gap through tailored EMI training programmes could empower them to cross these challenges more effectively.

Extract 5.21

CT2: ...something that has bothered me, but it's not significant concern. But it's something that I think is necessary, let's put it this way, it's better to go back to the training processes. But in order to get back to the training processes, I think we also have to ask these teachers what they need.

CT2 posited the reinstatement of training processes for content teachers. Conversely, CT3 expresses that this lack of training is reflected directly in their classroom:

Extract 5.22

CT3: So, in English, then, I end up finding it difficult to literally translate these experiences that I've accumulated into English that I feel confident about, so I end up working with cases from the didactic books, as you may remember.

These two excerpts directly correspond to the two challenges elucidated by Martinez and Fernandes (2020). The first challenge relates to the language proficiency for teaching EMI and the second challenge concerns the teaching method. Extract 5.21 reflects the language proficiency challenge. It suggests that the author must change their approach in class to use the linguistic resources they can. On the other hand, extract 5.20 implies that content teachers need more EMI training so their classes can have a better flow. Martinez and Fernandes (2020) also propose that both challenges (one and two) “overlap and interrelate” (p. 126), and probably as Pusey (2021) posits, the lack of teacher support and training is part of the “enduring challenges to EMI implementation” (p. 3).

The interviews denote that both content teachers complain about the need for more training. I also noticed, while categorising the data, that the teachers were extremely careful towards their lesson preparation not just to “merely translate their existing material from their L1” (Martinez; Fernandes, 2020). They kept in mind the necessity to adapt and adjust their material for their EMI classes, so students would be involved in the class. As a result, the classes were more student-centred than teacher-centred.

5.3.7 Motivation to use English in the classroom and benefits of using EMI – Teacher’s perception

This final theme concerns the motivation of content teachers to deliver their lectures in English. Much has been discussed throughout this thesis about how globalisation has been a significant driving force for HEIs to adopt EMI in their courses (Lasagabaster, 2018).

By having this top-down approach (when the needs come from the university), Costa (2019) observes that this approach tends to be what he calls “extrinsic motivation”. That happens when the action has an outer purpose to gain a reward, be it money or even an award from their institution. Nevertheless, that is not the case portrayed by the content teachers. When asked whose decision it was to teach using EMI, the teachers had a slightly different point of view:

Extract 5.23

CT2: I think it was shared (regarding the decision). I'm not going to say it was just me, or just the university. Because we weren't forced to use the technique, the methodology. But we were introduced to it by it. So, I think it was a shared decision.

Extract 5.24

CT3: It was my decision. I knew I would be well received; our structure is very simple because we don't have a department. But there was no encouragement from the unit.

Furthermore, when asked if there were any type of benefits they could receive from their institution, they reported that there were no advantages:

Extract 5.25

CT2: What kind of benefits? If I move up the career ladder because I'm using the method?... No. ... It is an internal decision. ... I believe that there is one which is personal, to improve the language, and also to establish international partnerships...

Extract 5.26

CT3: Personal benefits, to use the language. Professional benefits? None. ... is not valued. It's not valued, for example, in the assessment instruments that we teachers have.

Once I assessed these excerpts, I could conclude that both teachers demonstrate intrinsic motivation, driven by maintaining language proficiency and establishing international partnerships, rather than external rewards. This intrinsic motivation is characteristic of EMI in Brazil, as noted by other researchers (e.g., Costa, 2019). Their decision to teach in English is a self-driven pursuit of “their primary goals”.

The next sections encompass the analysis, discussion, and presentation of the discussions of this chapter.

5.3.8 Discussion

Each group required distinct approaches and methodologies, emphasising the necessity for adapting EMI support to each unique context. It is hard to establish only one pattern (a standardised way) to assist the content teachers and the students.

My role in each class and the support provided were designed based on a previously established, careful needs analysis. This means that the approach applied in each course was analysed in the light of Macaro's (2018) and Galloway and Rose's (2021) models as discussed below. Notice that it remains unclear whether Macaro's model is operates solely at an institutional level or it can be drawn through a classroom perspective, as our study proposes.

Thus, I applied his models as a framework for classroom-level analysis. Importantly, there is no definitive answer to the optimal use of language in EMI courses. The following analysis represents the sample analysed in this study, showcasing the approaches used by the researcher to provide support according to the content teacher and the student's needs during class.

As Galloway and Rose (2021) assert, the roles of the ELT teacher differ depending on the type of EMI support model the content professor adopts. The next section explores the three critical models that best align with the proposed pedagogy for each of the assisted courses.

5.4 General Discussion

This section discusses the results of the objectives and research questions, alongside relevant literature. It focuses on research questions two and three, as research question one was addressed in the previous chapter through the documentary analysis. The final research question (four) will be tackled in the next chapter.

5.4.1 Objective 2 – Explore the teacher’s praxis under the EMI perspective

In our context, teachers have been teaching EMI freely, having their practices guided by “what best suits them, their students and their particular disciplinary and pedagogical realities” (Martinez; Palma 2022, p. 30). Exploring their praxis without having official guidance required careful observation and reflection to understand the contexts in comparison to cases reported in the EMI literature, considering if they were seeking language support or a collaboration model.

To determine how and if we could offer our support and collaboration – particularly given the distinct cases – and to design a favourable partnership to build a sustainable and successful EMI implementation (Galloway; Rose, 2021), we explored Macaro’s pedagogies to identify where our support could fit. Macaro’s models of pedagogies relate to language support during EMI classes. As discussed in Chapter 2, there are five different pedagogy models: the *selection model*; the *preparatory year model*; the *ostrich model*; the *multilingual model*; and the *concurrent support model*. Considering the classroom level, it was possible to categorise each course within Macaro’s model based on how the content lecturer and language specialist acted.⁴⁸

Once the teacher’s praxis was outlined according to Macaro’s pedagogical models, appropriate support could be accurately designed to address their specific demands. According to Davison (2006) and Macaro (2018), collaboration between teachers can be classified as *cooperative (collaborative) teaching* and *partnership teaching*. When a content teacher and a language specialist design an existing curriculum, discuss teaching strategies, and consider student’s needs, it is termed collaboration. In partnership teaching, a language specialist and

⁴⁸ For this research, Macaro’s model is being used from the classroom perspective, not from an institutional perspective.

content teacher work together to develop a joint curriculum, and both are in the same classroom (Macaro, 2018). As illustrated by the case studies presented earlier in this chapter, collaboration occurred with only one of the professors (case study 3), whereas the researcher's role in the other two courses was that of a participant observer, which does not qualify as collaboration *per se*.

5.4.2 Objective 3: Establish collaborative work between content teachers and language specialists, providing support to the content teachers and their students

The analysis of the interviews and the case studies revealed that each of the courses had distinct needs. Establishing collaboration between the content teacher and the language specialist required a thorough needs analysis, detailed in Chapter 6, which includes both top-down (teacher-to-students) and bottom-up (students-to-teachers) perspectives. Teachers' views encompass their expectations for the content, while understanding students' needs helps establish support when necessary. Otherwise, support may be offered where it is not needed, as occurred in case study 1, where students had high level of English proficiency and did not experience difficulties during classes. Martinez and Palma (2022) argue that "Aid should only be offered when wanted and is mostly likely to meet with success if the local ecology and knowledge are respected and incorporated" (p. 32).

Although the three cases shown are very different from one another, the pre-course interviews revealed analogous concerns, such as the necessity of tasks and the approval to use Portuguese during classes (translanguaging). However, the students were the distinguishing factors. In case study 1, students showed no difficulties during classes, resulting in no further support being requested, and my participation in providing language support activities ceased in the following semester. In case study 2, students requested a concurrent speaking group due to a lack of confidence in speaking English during their classes. Case study 3 required special attention, given the varied proficiency level of students (ranging from A1 to C1). In such conditions, it was very important for both the content teacher and English specialist to prepare the classes minding the activities used (both language and content), ensuring comprehensive support for each group.

Thus, the second objective of this dissertation – to explore the teacher's praxis under the EMI perspective to establish a collaboration between a language specialist and a content teacher – was achieved in our specific context. Achieving this objective allowed us to answer the second research question: What are content lecturers' needs in terms of supporting students?

5.5 Findings

This section categorises teachers' practises according to Macaro's (2018) pedagogies. I was able to identify three of the five categories: the ostrich model, the concurrent support model, and the multilingual model. Each case study and its respective teacher fit into one of these models.

5.5.1 Case study 1: *The ostrich model*

In case study 1, students had a higher English proficiency level and did not need or receive linguistic support throughout the course. This course is categorised as the ostrich model, wherein students neither receive language support nor must meet any language proficiency requirements for entry (Macaro, 2018). This model is consistent across all EMI courses at UFMG.

5.5.2 Case study 2: *The concurrent support model*

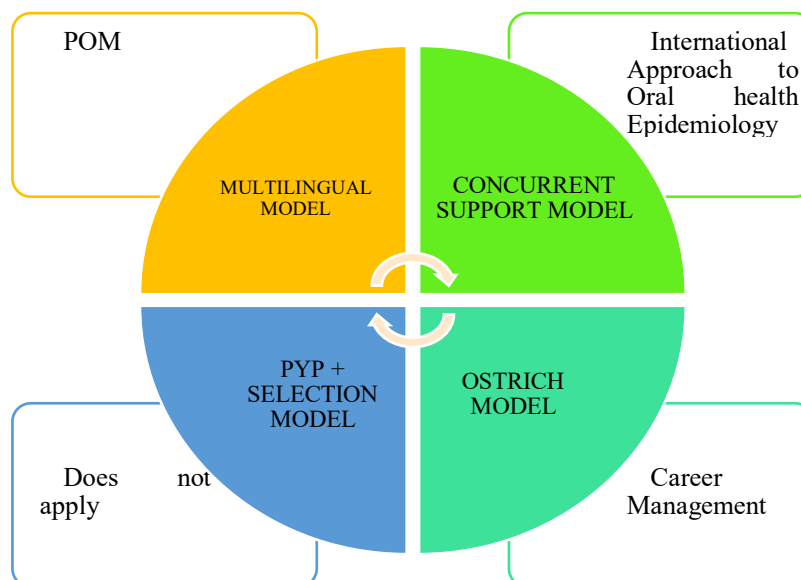
In the concurrent model, students receive supplementary English support courses (typically ESP or EAP classes) (Macaro, 2018). This was observed in case study 2, in which students agreed to participate in a concurrent speaking group alongside their EMI course. The speaking group had weekly meetings, a day before the content course.

5.5.3 Case Study 3: *The multilingual model*

In the multilingual model, students are offered access to L1 alongside their EMI courses (Macaro, 2018). Case study 3 involved students with mixed levels of English proficiency. To aid understanding and prevent language-related issues, the content teacher and language specialist decided to deliver some instructions in Portuguese and English.

It is important to note that this analysis was conducted from a classroom perspective and is based on a sample amount (three courses). Hence, it is not possible to generalise the findings to all EMI courses at the university where this study took place. However, Figure 5.2 represents the courses studied within the EMI models proposed by Macaro (2018).

Figure 5.2 – EMI models applied to UFMG context



Source: adapted from Macaro (2018)

The preparatory year and the selection model do not apply to our context. The former requires a full year of English lessons before starting an EMI course, while the latter involves a selection test to ensure students are ready to start the EMI course without needing any support.

By doing this analysis, it is possible to infer the type of support needed for teachers and students during classes. Research question 2 was answered after a careful examination of the students' profiles and the way content teachers convey their lessons, apply their teaching methods. We were able to understand that the teacher from Case Study 1 did not need any support. We could also see that the teacher from case study 2 needed support that can be conveyed in parallel with their course, meeting specific student demands. Although the support was not needed during classes, the second round of interviews revealed that the teacher was open to future collaborations. Therefore, a small set of activities for potential future collaboration was devised, as will be detailed in the next chapter. In case study 3, the teacher required more support, leading to the development of specific activities. These activities will also be presented in the next chapter.

5.6 Chapter Closure

This chapter outlines the researcher's involvement throughout this study and explores the three case studies presented in this dissertation. The case studies' analysis facilitated the identification of courses requiring support and demonstrated how collaborative work was established. Following an in-depth comprehension of the researcher's role and a thorough examination of the case studies, as well as the first and second rounds of interviews and further reflections, the analysis and results for this second phase have been structured.

The following chapter will examine the compiled corpora and propose exercises designed to address both the fourth objective and research question four.

6 PHASE 3 – RESULTS AND DISCUSSION OF THE PEDAGOGICAL ACTIVITIES

This section addresses the fourth objective of this research: “How can specialised corpora provide support for EMI students?”. To answer this question, I compiled and analysed specialised corpora based on the content of two EMI courses to provide support to students. The POM and the Dentistry courses were selected to illustrate how extracted data from a specialised corpus could aid the development of pedagogical activities.

These courses had different aims. In the POM course, the activities were designed to provide lessons with vocabulary support, using keywords lists and wordlists to run the analysis to identify common lexical items in our corpus. Conversely, for the Dentistry course, while the focus was also on vocabulary, we targeted highly frequent phrasal verbs in the dentistry corpus composed of articles to devise activities to meet students’ needs.

The findings will be analysed from both a quantitative and a qualitative perspective. A succinct discussion of the findings’ application in pedagogical activities used in collaborative work will then follow.

6.1 Analysing the needs

It has been discussed that when designing a course syllabus, the first step to be considered is to do a needs analysis, especially regarding ESP courses (Viana *et al.*, 2019). Although the activities proposed in this thesis are not part of any ESP course, we considered ESP methodology to structure them. Furthermore, as mentioned in Chapter 3, the activities were corpus-based. Thus, needs analysis should not only be a pre-stage step but an “ongoing process” in designing language activities (Dinçay, 2010; White, 1998).

Scholars such as Viana *et al.* (2019) stated that the development of needs analyses must align with students’ needs, their profiles, and the interests of stakeholders. Hence, for this collaboration, we adjusted some aspects of the language support, one of which was designing activities to meet students’ and teachers’ needs. Initially, I consulted each content professor to understand the course content. After that I observed some classes to understand the dynamics of the courses, as mentioned in Chapter 5. The following table, based on Viana *et al.* (2019), summarises the type of information, sources, materials, data collection method, and foci used considered when planning the exercises for both courses.

Table 6.1 - Steps to Take into Consideration when Elaborating EMI Activities

Information	Sources	Data collection method	Foci
Stakeholder	Content professor	Interview with content professor	<ul style="list-style-type: none"> • What is the content explored? • What kind of materials will they use (books or articles)? • What activities will they develop during the course?
Stakeholders	Students	Questionnaires Observation of classes	<ul style="list-style-type: none"> • What are the students' backgrounds and profiles? (Age, nationality, educational background, English proficiency level). • How have they learned English? • What professional experience do they have?
Available literature	<ul style="list-style-type: none"> • Content Teacher • Textbooks • EAP and ESP pedagogical material 	<ul style="list-style-type: none"> • Syllabus analysis • Analysis of EAP and ESP materials 	<ul style="list-style-type: none"> • What content can be found in their textbook? • What will they work through the course? • What language/genre features are the most relevant for students during the course?
Target Language	<ul style="list-style-type: none"> • Textbooks • EAP and ESP pedagogical material. • Articles 	<ul style="list-style-type: none"> • Compilation and analysis of a small, specialised corpus. 	<ul style="list-style-type: none"> • What is the most salient vocabulary they will need during the course?

Source: elaborated by the author (2023).

6.1.1 Organising the needs analysis data

The data collection process had two main stages: before and during the course. First, I interviewed the content professors and compiled the specialised corpora. During the course, the corpora were adjusted by adding new texts, and through observation, the activities were designed. After gathering the data and starting the course, I was able to get familiarised with the lexical items, the student's profile, and how the classes would be conducted from that point on.

The following tables summarise the data analyses for each course.

Table 6.2 - POM - Course Information and Student's Profile

Course Name:	Business Administration
Type of course:	Undergraduate course
Student's Profile:	Young Adults (18-35 years old). All Brazilians. 54% females. 81% from the Business administration course. 63% of public education. 45% have studied English for more than 5 years. 27% have never studied English. 45% classified their English knowledge as basic level (A1 – C1).

Source: elaborated by the author (2023).

Table 6.3 - Dentistry - Course Information and Student's Profile

Course Name:	Dentistry
Type of course:	Undergraduate course ⁴⁹
Student's Profile:	Young Adults (18-35 years old). All Brazilians. 71% females. 57% of Dentistry course. 42% from different educational fields. 50% have studied English for more than 5 years. 100% have already studied English. 100% classified their English knowledge as high intermediate or advanced (B2 – C1).

Source: elaborated by the author (2023).

Table 6.4 - Data collected from a Needs Analysis in POM

Information	Skill	Genre	Vocabulary	Grammar	Tasks	Observed Difficulties
Stakeholder Content professors Informal conversations and interviews	-	-	-	-	-	How to provide language support for their students.
Stakeholder Students	Students didn't know what to expect, some of them could cope well with the content, but some of them could not cope with it.					
Available literature No suitable EAP or ESP material is available. One textbook available	reading	Case Study	Production and operations management-specific vocabulary	-	-	-
Target Language Sample texts from the book chapters were analysed, and a small, specialised corpus was compiled.	Reading/ writing.	Case Study	management specific vocabulary	-	-	-

Source: elaborated by the author (2023).

⁴⁹ The Dentistry course is affiliated with the Undergraduate Faculty of Dentistry at UFMG. Despite being registered as an undergraduate programme, it admits students from both undergraduate and postgraduate courses.

Table 6.5 - Data Collected from a Needs Analysis in Dentistry

Information	Skill	Genre	Vocabulary	Grammar	Tasks	Observed Difficulties
Stakeholder Content professors Informal conversations and interviews	-	-	-	-	-	How to provide language support for their students.
Stakeholder Students	Students didn't know what to expect, some of them could cope well with the content, but some of them could not cope with it.					
Available literature No suitable EAP or ESP material is available. Articles.	Reading	Articles.	Oral epidemiology	-	-	-
Target Language Sample texts from the book chapters were analysed, and a small, specialised corpus was compiled.	Speaking and writing.	Case Study	Oral epidemiology-specific vocabulary	-	-	-

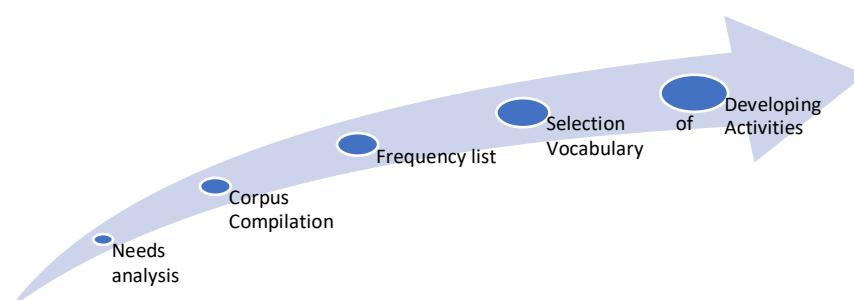
Source: elaborated by the author (2023).

6.2 Pedagogical Activities Developed Based on ESP and Supported by Corpus Data

Pedagogical materials offered in training courses have the “final goal of supplying improvements in the teacher’s practices, providing a more consistent and contextualised teaching practice” (Paulino, 2016). However, EMI teachers are not English teachers by training and often struggle to develop or design English activities and prepare their content in English. Therefore, this chapter illustrates a possible intervention/collaboration that can be implemented in EMI classrooms. The intervention proposed considers the needs analyses of each course by creating sample activities. The main objective is to instrumentalise the content teachers and support Brazilian EMI students.

The following figure outlines the activity creation process, adapted from Pérez-Parades (2021) to better suit this project’s purpose.

Figure 6.1 - Activities Development Roadmap



Source: adapted from Pérez-Parades (2021).

The first step was the needs analysis for each course (POM and Dentistry). After discussions with each professor, the corpora were compiled, a frequency list generated, and the vocabulary was analysed and selected. The final step involved the development of activities.

Considering these aspects, a set of small activities was created for each POM class. The content lecturer had previously developed the syllabus (Appendix E), and I⁵⁰ developed the activities. Table 6.6 presents the focus of each activity according to the proposed class. Dentistry activities will be presented in the following section of this chapter.

Table 6.6 - *Focus of Each Activity – POM*

Class	Genre	Skill	Purpose
1	Operations Management	Listening/speaking	Discuss IKEA's operation management
2	TED talk	Listening/speaking	Discuss the operations process of vaccine production
3	Operations performance	Listening/speaking	Discuss the process of mass customisation
4	Delivering a Presentation	Listening/speaking	Instrumentalise students to create their presentations in English.
5	Describing Graphs	Reading/speaking	Provide vocabulary for students so they describe graphs.

Source: elaborated by the author (2023).

The table above indicates the students' needs according to the class content. The content required knowledge of different genres for the classes. Thus, the ESP and EAP materials already proposed would not suffice. The course content, along with the textbook utilised, combines theories with case studies to illustrate concepts in practical applications. A mini bank with videos was developed to be used in the class according to the content covered in the chapters. This course was dynamic, and adjustments would be needed if the changed.

6.2.1 High-frequency lexical items for the development of POM activities

Researchers, educators, and developers of instructional materials all benefit from clearly understanding the type of register they are working with when the most common words in a corpus are identified. Thus, a wordlist generated by AntConc (Anthony, 2022) was used as it "counts all the words in the corpus and ranks them in descending order of frequency" (Boulton, 2016, [n.p.]). Nevertheless, we should remember that the most common items, such as *are*, *the*,

⁵⁰ All the activities were created solely by the researcher. Subsequently, the activities were reviewed through collaboration between the researcher and the content teacher to assess their suitability within the class time and content and then implemented.

of, *to*, and *in*, might not be highly relevant for the research since they are function words (Boulton, 2016; Costa, 2020).

An essential feature of this section is the singularity of the exercises devised. To help students deeply understand the content that would be worked on during the lesson, all the exercises were prepared considering each of the chapters. used. The book used in their course is Operations Management by Slack *et al.* (2010). The lessons were prepared according to the book and its chapter contents. The course syllabus can be found in Appendix E. Out of CorProd's 100 highest frequency words, 66 were function words, and 34 were content words, as shown in Table 6.7. The content words are in *italics*.

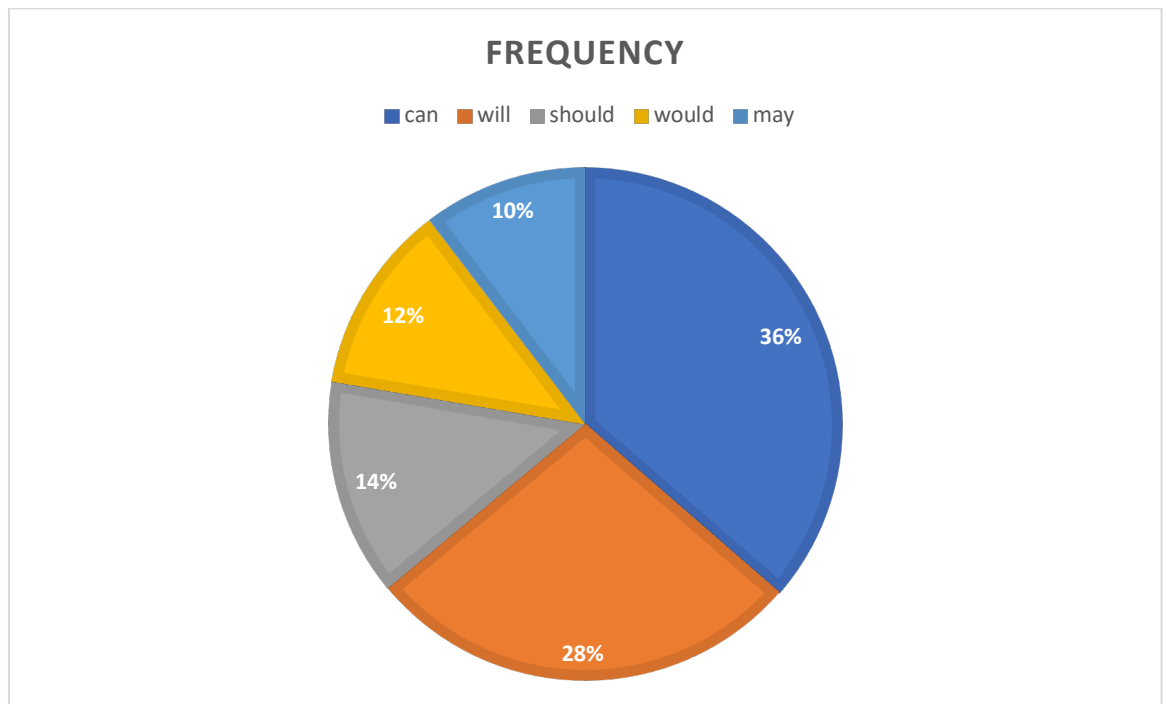
Table 6.7 - The 100 highest-frequency words of CorProd

1. the	34. all	68. <i>process</i>
2. of	35. <i>performance</i>	69. should
3. to	36. from	70. <i>quality</i>
4. and	37. not	71. any
5. a	38. <i>products</i>	72. between
6. in	39. at	73. <i>design</i>
7. is	40. but	74. <i>high</i>
8. <i>operations</i>	41. <i>company</i>	75. <i>new</i>
9. for	42. some	76. most
10. that	43. also	77. them
11. it	44. <i>management</i>	78. <i>important</i>
12. are	45. what	79. <i>market</i>
13. be	47. <i>business</i>	80. would
14. its	48. has	81. was
15. <i>operation</i>	49. how	82. per
16. have	50. more	83. <i>resources</i>
17. with	51. so	84. there
18. can	52. our	85. <i>costs</i>
19. or	53. <i>objectives</i>	86. may
20. this	54. <i>staff</i>	87. such
21. as	55. if	88. <i>activities</i>
22. <i>customers</i>	56. <i>one</i>	89. <i>way</i>
23. we	57. <i>time</i>	90. up
24. which	58. each	91. <i>flexibility</i>
25. on	59. <i>processes</i>	92. <i>function</i>
26. by	60. <i>cost</i>	93. being
27. an	61. <i>organization</i>	94. <i>product</i>
28. they	62. <i>customer</i>	95. you
29. <i>service</i>	63. do	96. make
30. their	64. <i>example</i>	97. <i>low</i>
31. <i>services</i>	65. these	98. <i>two</i>
32. will	66. other	99. even
33. <i>strategy</i>	67. <i>different</i>	100. very

Source: elaborated by the author (2023).

Most of the nouns (*process, strategy, organization, product*, among others) are words that belong to the Operations Management domain. What could also be observed from this list is the presence of modal verbs. CorProd's most frequent modal verbs are *can, will, should, would*, and *may*, respectively.

Graph 6.1 - The Five Most Frequent Modal Verbs of CorProd



Source: elaborated by the author (2023).

Graph 6.1 shows that the word *can* accounts for 36% of all the modal verbs found in CorProds, while *may* totals 10%. The second highest frequency is the word *will* with 28%, followed by *should* with 14%. The relevance of these modal verbs is based on the corpus content. Modal auxiliaries “express a wide range of meanings, having to do with concepts such as ability, permission, necessity, and obligation” (Biber, 1999, p. 72). The author also notes that *can* is classified as a central modal and conveys meanings such as permission, possibility, or even ability. Additionally, the results corroborate Biber’s (1999) findings, namely: i) in academic prose, it can convey the idea of ability and logical possibility, and ii) it frequently collocates with the verb *be*. The excerpts below demonstrate these propositions:

Excerpt 6.1

(...) are the extent to which improvements in one performance objective *can be* achieved by sacrificing performance in orders.

Excerpt 6.2

(...) satisfying some markets but it *can* also identify capabilities which *can be* exploited in other markets.

On the other hand, Biber (1999) states that the modal *should* expresses personal obligation and necessity. In addition, Collins (2022) states that *should* is used to give advice or instruction as well as other meanings. Once again, it is possible to see that it collocates with the verb *be*. The following excerpts (03 and 04) confirm the discussion above:

Excerpt 6.3

(...) objectives which each operations partner *should* stress are very different.

Excerpt 6.4

They also *should be* able to expect a professional level of service.

6.2.2 Activities Implications – Helping Learners Develop Strategies in EMI

6.2.2.1 Course 1 – POM

Understanding an EMI class requires students to rely heavily on their prior knowledge of the topic, the amount of vocabulary they have acquired, and their listening skills (Macaro, 2018). Mastering these linguistics resources helps students navigate through their classes comfortably. Therefore, most of the exercises devised in this study focused on vocabulary lists and listening activities, as detailed in the following sections.

Regarding the listening activities, exercises with vocabulary lists were suggested to facilitate comprehension. Macaro (2018) proposes that “anticipating the key vocabulary of the topic of a particular lesson” (p. 271) creates a better opportunity for students to follow the lessons smoothly.

When designing each class, the EMI teacher and the language specialist carefully attempted to provide support by recalling what was covered in the previous class (warm-up activities) and preparing vocabulary activities containing the keywords of the current unit. Vocabulary activities were devised based on the compiled corpora, as shown in this chapter, in section 6.1.

There are many ways to employ vocabulary activities to assist students in their lessons. Macaro (2018) suggests some exercises such as linking the words to graphic images, writing lists with L1 equivalents or definitions, or even noticing the (unusual) meaning of a word, among others. Below are examples of the activities used during one of the courses.

The following activity was based on the student's lists. The content teacher regularly asks students to create a list of ten new words while pre-reading the texts for the class. After gathering these lists, a new list of the ten most common items was generated, and a matching definition activity was prepared:

Activity 1

Match the words and their definitions:	
1. () outskirts	a. A way of considering or doing something; to deal with something.
2. () manufacturing	b. The position or purpose that someone or something has in a situation, organisation, society, or relationship
3. () Approach	c. The areas that form the edge of a town or city
4. () resources	d. The process of making things of the same type all have the same basic features
5. () role	e. A useful or valuable possession or quality of a country, organisation, or a person
6. () standardisation	f. The business of producing goods in large numbers
7. () hierarchy	g. How useful or important something is
8. () value	h. An organisation, especially a business, or a difficult and important plan, especially one that will earn money
9. () enterprise	i. A set of connected or related things
10. () Chain	j. A system in which people or things are arranged according to their importance

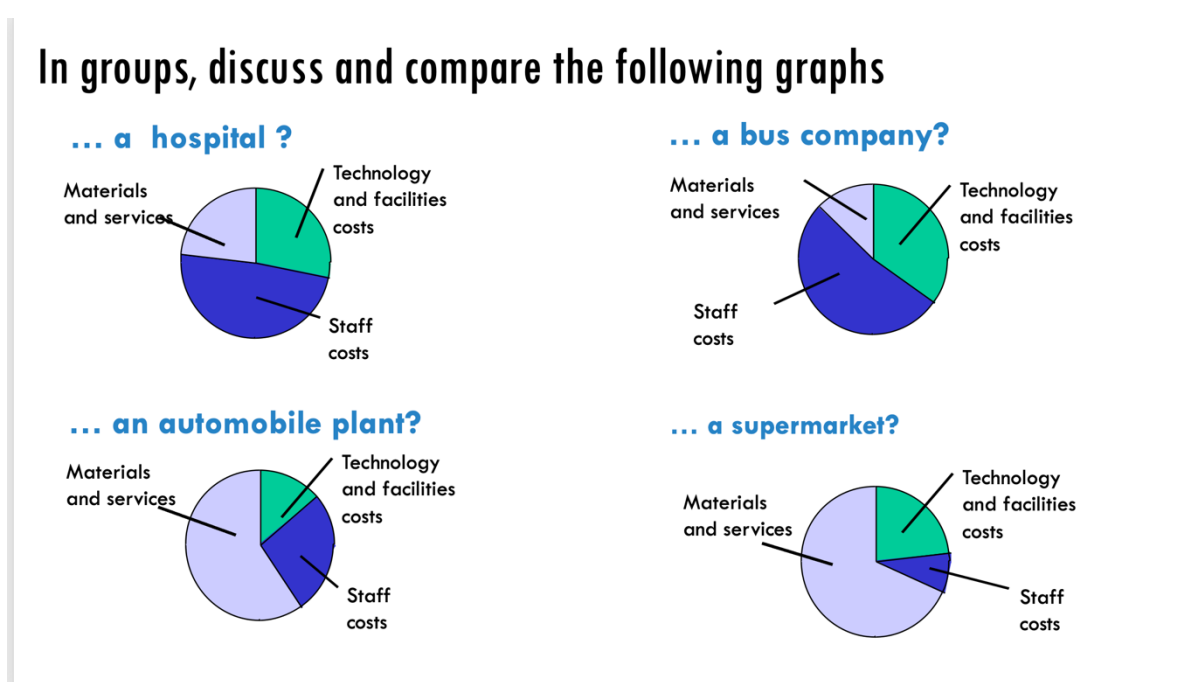
For the following activity, the time the students had already spent in the course and the learning acquired in the context were considered. This activity unfolds into two steps. The first step involved analysing CorProd, in which a list of the most frequent content words was devised to create a word cloud:

Analysing a graph trend:

To rise / a rise. to fall / a fall to decrease / a decrease to increase / an increase	
to drop / a drop to dip / a dip to decline / a decline to peak / a peak	
To go up	To go down

After that, students should compare and discuss the graphs from their material.

Figure 6.3 - Example of speaking activity



Source: elaborated by the author (2023).

6.2.2.1.1 Suggested Activities for the Future

After the course concluded, I decided to provide exercises to the content teachers, enabling them to use these exercises in subsequent courses without the support of a language specialist. The suggestions involved activities with modal verbs, given their significance in the compiled corpora. According to Roos and Roos (2019), modal verbs have vital importance in academic writing and often serve multiple functions. Thus, understanding their “meaning, nuances or uses” (p. 59) would help students in better reading their materials and communicating during their lessons. The activities are intended for intermediate students and include contextual analysis, cloze activities, spot the error tasks, multiple-choice questions, and a speaking activity in which students need to express themselves.

Activity 1

Contextual Analysis

Students will be given a few sentences obtained from the corpus used in this thesis. They should try to analyse why one modal verb is being used instead of another modal. The idea is to have students work in small groups and discuss the uses of the modals presented. For example:

... Staff **should be able** to cope with the demand.

Students should be able to explain that **should** is used because it is suggested that staff copes with the customer demand (internal or external customers) within the needed time. The context explains that the staff is trained to process the customers at a higher rate than the expected demand.

In pairs (or small groups), discuss why each modal is used in the sentences:

- a) Equipment, materials, and controls should be located close to the point of use.
- b) What activities and capacity should be allocated to each plant?
- c) This can be used to provision materials for the operations.
- d) Enterprise Project Management Systems can be used to integrate all the information needed to....
- e) The new system may be used to retrieve items from the shelves faster.
- f) The benefits for the customer may be a more flexible service.....

Activity 2

Multiple choices

For this activity, students will be provided with a sentence and three explanations. From the three explanations, students will have to choose the one that contains the correct meaning of the modal.

Choose the one that contains the correct meaning of the modal:

1. The process itself may be a source of waste.
 - a) The speaker is probably talking to a friend.
 - b) The speaker seems to be in a formal meeting.
 - c) The speaker is planning to work on it.
- 2 - The relationship between buyer and seller, therefore, can be very short-term.
 - a) There is a possibility of buyer and seller having a short-term relationship.
 - b) There is no possibility of buyer and seller having a short-term relationship.
 - c) It is mandatory that the buyer and seller have a short-term relationship.
- 3 - Controlling the scope of the project will be more difficult than expected.
 - a) They are expecting difficulties in controlling the scope of the project.
 - b) They are not expecting difficulties in controlling the scope of the project.
 - c) There is a possibility of finding difficulties in controlling the scope of the project.

Activity 3

Expressing yourself

In this activity, students will be given a situation from the specialised corpora used. Students study a few different case studies, such as Acme Whistles, Pret A Manger, IKEA and Formule 1/ Safari Lodge. For this activity, they are given some operational situations and students will analyse some sentences that are related to the operation's process.

Situation 1 – You Manage the Operations of Ikea:

You *have to* attend a meeting at 7 am. (Necessary action)

You *should* take a break (x – irrelevant)

You *must* check for the reports. (Strong advice)

You *should* give discounts to your friends (Irrelevant)

Situation 2 – You work for a frozen food manufacturer.

You *can* prepare food (ability).
 You *should* pack and freeze the food (advice).
 You *might* have lunch with your friends (irrelevant).
 You *may* control the cold storage facilities (possibility).
 Situation 3 – You manage the operations of a department store:
 You *have to* store goods (necessity).
 You *should* give sales advice (advice).
 You *might* listen to music during your shift (irrelevant).
 You *must* display goods (obligation).

Activity 4

Passive Voice

Editing – Read this Case study about the hotel Formule 1. There are seven (7) mistakes in the use of the passive. The first mistake has already been corrected. Find and correct six (6) more.

Formule

1

Hotels are high-contact operations – they are staff-intensive and have to cope with a range of customers, each with a variety of needs and expectations. So, how can a highly successful chain of affordable hotels avoid the crippling costs of high customer contact? Formule 1, a subsidiary of the French Accor group, manages to offer outstanding value by adopting two principles not always associated with hotel operations – standardization and an innovative use of technology. Formule 1 hotels **are usually located** close to the roads, junctions and cities which make them visible and accessible to prospective customers. The hotels themselves **are made** from state-of-the-art volumetric prefabrications. The prefabricated units **are arranged** in various configurations to suit the characteristics of each individual site. All rooms are nine square metres in area, and **are designed** to be attractive, functional, comfortable and soundproof. Most important, they **are designed** to be easy to clean and maintain. All have the same fittings, including a double bed, an additional bunk-type bed, a wash basin, a storage area, a working table with seat, a wardrobe and a television set. The reception of a Formule 1 hotel **is staffed** only from 6.30 am to 10.00 am and from 5.00 pm to 10.00 pm. Outside these times an automatic machine sells rooms to credit card users, provides access to the hotel, dispenses a security code for the room and even prints a receipt. Technology is also evident in the washrooms. Showers and toilets **are automatically cleaned** after each use by using nozzles and heating elements to spray the room with a disinfectant solution and dry it before **it is used** again. To keep things even simpler, Formule 1 hotels do not include a restaurant as they **are usually located** near existing restaurants. However, a continental breakfast is available, usually between 6.30 am and 10.00 am, and of course on a ‘self-service’ basis.

Activity 5

Passive Voice with Modals

Complete the five sentences from the class material with the correct form of the words in parentheses.

- 1) Namely, that all processes _____ on an end-to-end basis. (should organise)
- 2) Some activities _____ before others. (must carry out)
- 3) Even surgery _____ as a process. (can see)
- 4) Data on how customers use products _____ automatically. (could collect)
- 5) This _____ through education. (might accomplish).

Glasman-Deal (2010, p. 166)

Book: *Science research writing for non-native speakers of English*

Activity 6

Modal sentences exercise.

<p>Complete the sentences using <u>could</u>, <u>must</u>, <u>should</u>, <u>may</u>, and <u>can</u>. Make sure you use the right tense and don't forget to use negative forms where necessary.</p> <p>1- The issue can be stopped, allowing for the identification and correction of the problem. The issue can be stopped _____ Answer: (...) Then it can be stopped, and the problem <u>can be</u> identified and rectified.</p> <p>2- Trying to find any similar components capable of performing the same job at a lower cost. Trying to find _____ Answer: (...) then trying to find any similar components that <u>could do</u> the same job at a lower cost.</p> <p>3- If the weather conditions change, getting a flight could be uncertain for them. If the weather conditions _____ Answer: If the weather conditions change, they <u>may not</u> get a flight.</p> <p>4- They are required to take responsibility for the education and learning. They _____ Answer: They <u>must take</u> responsibility for the education and learning.</p> <p>5- Use of space: All layouts are advisable to use space appropriately. All layout _____ Answer: Use of space: All layouts <u>should use</u> space appropriately.</p>
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6.3 High-frequency lexical items for the development of Dentistry activities

The Dentistry course was the second course I collaborated with, and it serves as an illustration of corpus-based activities. The students' profiles in this course were different, as explained in the previous chapter. The students were high intermediate, and the material was based on articles. Two aspects were considered when creating the activities: the amount of reading required and their difficulty in speaking. Therefore, the exercises were written with these considerations in mind. To assist the students with the reading part of their course, the topic chosen was the use of *phrasal verbs*.

According to Roos and Roos (2019), "phrasal verbs consist of a verb and a preposition and/or adverb" (p.46). These two (or more) words combined have specific meanings that can differ from their individual words, alluring L2 students to occasionally misinterpret their meanings. Biber *et al.* (2019) describe phrasal verbs as "multi-word units consisting of a verb followed by an adverbial particle" (p. 403). For example, *carry out* does not mean to hold something or someone but an action to do or to complete something task.

Although the use of phrasal verbs is highly encouraged for conversations, they can be very confusing for L2 readers. Roos and Roos (2019) suggest that while writing academic texts, writers should prefer to use a single word. Some phrasal verbs are very easy to understand, such as *come back* and *carry on*, and the authors state that there is no need to substitute them. Since students read articles from scholars who can be native speakers or not, the best for them would

be to learn the most frequent phrasal verbs in their texts. Based on Roos and Roos' (2019) list (Appendix F), high-frequency phrasal verbs were searched throughout the corpus.

After analysing Roos and Roos' (2019) list and considering all the phrasal verbs provided by the authors, I decided to verify what were the most common phrasal verbs without any comparison. To search the phrasal verbs⁵¹ in our corpus, I used the software AntConc 3.4 (Anthony, 2020), as explained in Chapter 3.

Table 6.8 - *Most frequent phrasal verbs in CorDent*

PHRASAL VERB	ABSOLUTE FREQUENCY	NORMALISED FREQUENCY ⁵²
1 - associate with	644	1604,980424
2 - based on	384	957,0069607
3 - follow up	250	623,0514067
4 - relate to	182	453,5814241
5 - carry out	116	289,0958527
6 - live in	101	251,7127683
7-focus on	89	221,8063008
8- account for	81	201,8686558
9 - consist of	52	129,5946926
10 - result from	51	127,102487
11 - derive from	46	114,6414588
12 - depend on	44	109,6570476
13 - care for	42	104,6726363
14 - control for	35	87,22719694
15 - act as	23	57,32072942
16 - add to	23	57,32072942
17 - rely on	23	57,32072942
18 - take into	26	64,7973463
19 - work in	20	49,84411254
20 - come from	20	49,84411254
21 - cut off	19	47,35190691
22 - care in	18	44,85970128
23 - aim at	16	39,87529003
24 - change over	15	37,3830844
25 - look at	14	34,89087878

⁵¹ Three different commands were used to perform the search: *_VB*_IN (or verbs + prepositions), *_VB*_RB (for verbs + adverbs) and *_VB*_RP (for verbs + particles).

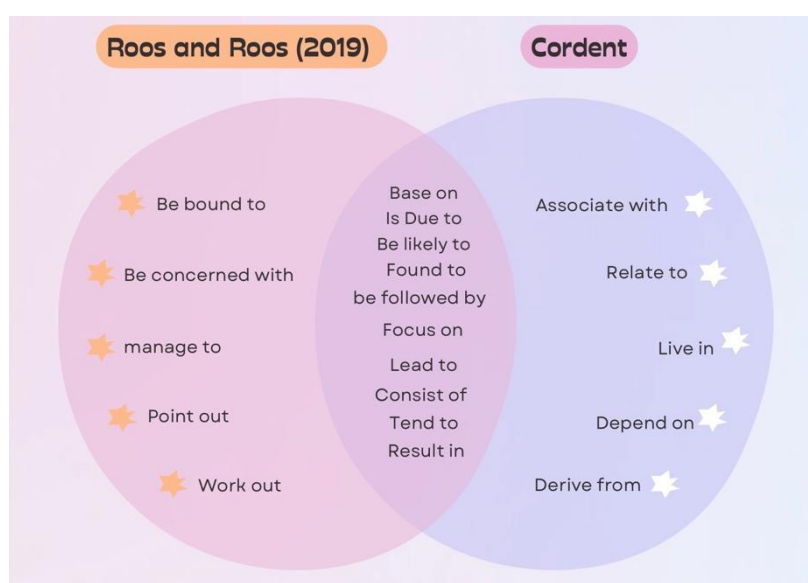
⁵² Normalised frequency = AF/401.251*1000000 (where AF is the Absolute frequency and 401.251 is the number of total tokens).

26 - amount to	12	29,90646752
27 - rule out	11	27,4142619
28 - call for	10	24,92205627

Source: elaborated by the author (2023).

Figure 6.4 below demonstrates the overlapping phrasal verbs presenting in both corpora, Roos and Roos' (2019) and CorDent's.

Figure 6.4 - Overlapping phrasal verbs



Source: elaborated by the author (2023).

6.3.1 Suggested phrasal verb activities for the future – Dentistry course

The exercises were divided into two parts: part 1 was based on the phrasal verbs provided by the comparison between Roos and Roos' (2019) list and our corpus; and part 2 was based on the most common phrasal verbs found in our corpus. To illustrate the main words from CorDent, a word cloud was generated.

Activity 3

Multiple choice

Choose the correct phrasal verb.

1. Poorer chewing function can subsequently _____ decreased dietary quality and nutrient intake.
 - a) tend to
 - b) result in
 - c) be followed by
 - d) is likely to be

2. A basic oral hygiene behaviour, _____ lead to healthier oral conditions.
 - a) consists of
 - b) focus on
 - c) tends to
 - d) seeks to

3. Sugary food and beverages can _____ a dysbiotic state of the microbial composition.
 - a) lead to
 - b) tend to
 - c) follow up by
 - d) carry out

4. Dental caries were believed to be _____ the increased number of microorganisms.
 - a) focus on
 - b) consisted of
 - c) likely to
 - d) due to

5. Application of fluoride varnish in clinic settings is _____ be as (or more) costly than no fluoride.
 - a) Resulted in
 - b) Likely to
 - c) Due to
 - d) Known to

Activity 4

Speaking Activity: Elevator Pitch

Each student will receive an article abstract and will have to present it in a minute! The best pitch gets the article chosen, so the class can read it and discuss it as a group activity!

Activity 5

Verb Replacement

Choose a verb from the list to replace each verb in italics to reduce the informality of the sentence.

Include – Examine – Exclude – Perform – Consider

1. ... Oral health specialists who would **carry out** the intervention (10).
2. Dentists should also **take into** account the concepts of rational treatment planning (3)
3. Studies in this area tend to look at the association between IQ and smoking status... (1)
4. Therefore, it is not possible to **rule out** the effect of differential in the test.

5. The oral health assessment **consisted of** a dental examination, a masticatory performance test, and....

Activity 6

Substitute the Verbs

Write a few single words that could be used to substitute the verbs in bold. Try to find at least two different possibilities for it.

1 – Increase the risk of malnutrition, even after **controlling for** other possible factors related to nutritional status.

2 – The number of teeth was positively **associated with** the intake of beta-carotene.

3 – A number of potential mechanisms have been proposed to **account for** the posited association between tooth loss and cognitive decline in older people.

4 – Additional cases of peri-implants than those identified through the **follow up** of the subset of the referent cohort above.

5 - ... the presence of periodontal pathogens in dental plaque is **related to** the incidence of aspiration pneumonia.

To further support the professor, a comprehensive listening and speaking lesson was devised. This lesson is based on the class material utilised by the professor during his introductory class on epidemiology. The lesson revolves around a YouTube video about John Snow and the 1854 Broad Street cholera outbreak. Details of the lesson can be found in Appendix H.

6.4 Chapter Conclusion

As discussed in Chapter 5, the initial set of the activities was integrated into the Production and Operations Management classes. With only 15 minutes available during each class session, the activities had to be quick, straightforward, and not overly time-consuming. Consequently, I developed only one activity per class (when necessary). Some activities were based on videos selected by the EMI teacher, resulting in listening comprehension exercises.

Additionally, considering the high-frequency word list and based on the students' needs, suggested future activities focused on modal verbs were also designed.

The second set of activities was tailored for the Dentistry course. These examples represent only a few of the exercises created during one course. Additional activities were proposed for future use, illustrating how corpus linguistics can be effectively applied in EMI courses within higher education.

7 CONCLUSION

In this chapter, we revisit the core findings and insights gathered throughout this research. This synthesis brings together the threads of my research, offering a cohesive understanding of English Medium Instruction (EMI) as a strategic tool in the internationalisation-at-home process in higher education. This chapter examines the implications of using EMI in higher education classroom as a means to internationalise the university and its contribution to the field. This thesis then delves into the analysis of the limitations of this study and areas that require further research.

7.1 Grounds for this Research

This research stemmed from the interest in EMI and how its potential contribution to the internationalisation of the university, along with its implications within the classroom for both teachers and students, the main stakeholders of this research. As demonstrated in chapters 1 and 2, the use of EMI has become a high demand due to globalisation process in the world. Moreover, chapter 3 has highlighted the importance and the potential benefits of collaborative work between content teachers and linguist specialists, particularly in designing corpora-based activities tailored to students' needs. It was concluded that there is room and need for collaborative work inside the classroom. While some studies address the relevance of collaboration, there are still very few related to cross-fertilisation of EMI and EAP, specifically involving English specialist teachers.

Therefore, the previous chapters revealed the necessity of thoroughly examining the factors that can contribute to the success of such collaboration, benefitting content teachers who are using English as their instructional tool.

The aim of this study was to explore how the internationalisation process has taken place at UFMG regarding EMI actions implemented at this university. To achieve this, I mapped these actions and proposed a collaborative work with two content teachers and provided language support for these teachers and their students.

7.2 Research Questions and Findings

7.2.1 Research Questions

The research questions proposed in this study were:

1. How and why is EMI being implemented at UFMG?

2. What are the content teacher's needs in terms of supporting their students?
3. What are the teacher's attitudes towards the collaborations with a language specialist and the support activities?
4. How can specialised corpora provide support for EMI students?

7.2.2 Research Findings

For research question one, the findings indicated that there is a significant effort made by the university to enhance its international presence. I observed some bottom-up initiatives to use EMI in the classroom, as the example of CT3. However, a top-down initiative is also evident in the courses from FTEI (Minor in International Studies), as seen with CT1 and CT2, who both belonged to the programme.

The university has taken the training of teachers for EMI courses seriously, particularly concerning the previous EMI training courses for teachers. However, as revealed by the mapping and final interviews with the teachers, the university still needs to consider the teachers' opinions carefully and actively work to implement further courses addressing their needs. This could be done through the implementation of workshops tailored to each school, including participants from similar backgrounds and academic fields. Another suggestion is to develop a collaborative environment content teachers. Through such an environment, content teachers can meet and discuss their challenges regarding EMI, exchange ideas, and practice English usage.

In response to research questions two and three, the findings demonstrated that the supporting activities and the collaborations impacted positively the teachers' experiences. CT2 and CT3 revealed that they lack the technical resources to provide adequate support to their students. They have also stated that collaborative activities are very beneficial to students. Additionally, they have also identified that having a language specialist in their classes helps students to feel more confident and assisted, knowing they have someone to rely on if needed.

To answer research question four, I worked with compiled corpora to understand students' needs for each course. For the Dentistry course, students were exposed to a variety of articles. I noted the importance of working with the most common phrasal verbs that they could be dealing with when reading articles, and how to substitute them when necessary. However, for course three, Production and Operations Management, since students were exposed to case studies from a textbook, I realised I had to integrate specific activities into the class. These activities include those from EAP and exercises using modal verbs extracted from the compiled corpus.

In our context, where levelling students and providing support before the courses pose a challenge, it is undeniable the necessity of working with both language and content simultaneously. Consequently, with this shift to include language learning support, EMI becomes *CLILsed EMI* (Moncada-Comas; Block, 2021).

In sum, the findings of this study provide a solid foundation for future EMI implementations, indicating that further research must include a broader study of the integration of language specialists and content teachers to gain a more comprehensive view of the topic. I hope that this research's results and insights can contribute to the field of EMI, thereby enhancing internationalisation in higher education context, especially in Brazil.

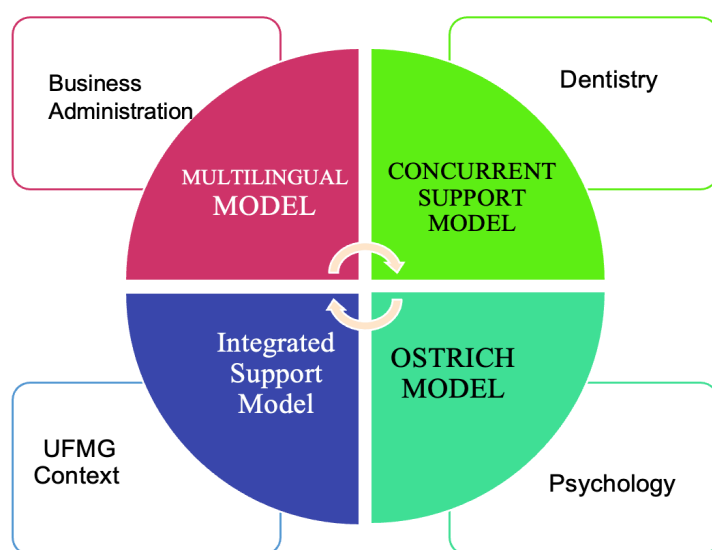
7.3 Implications of the Research and Recommendations for Future Research

Drawing upon the findings presented in this thesis, this section delineates recommendations for the implementation of EMI in the higher education context. These recommendations are based on this study, particularly the interviews with the two content teachers. Therefore, they are more likely to be applied to our context (UFMG and the Brazilian context). For a broader view, more studies on the integration of content teachers and language specialists should be conducted, especially in different contexts.

Understanding the EMI models proposed by Macaro (2018) is of vital importance to the implementation of EMI in higher education. However, for the Brazilian context and best practices of EMI, a new branch for Macaro's model should be considered. This new branch would involve a language specialist and content teacher working together, side by side, in the classroom, aiming to develop specific activities and provide language support when needed (for both content teachers and student). Such a model should be the Integrated Support Model as outlined in section 7.1. Findings demonstrated that a strong focus should be placed on the following:

1. providing more training for content teachers;
2. implementing questionnaires at the beginning and end of every course to conduct a thorough needs analysis;
3. facilitating collaborative work between content teachers and language specialists;
and
4. creating a database of activities that can be adapted to each course.

Figure 7.1 – Integrated Support Model



Source: adapted from Macaro (2018).

Given all these challenges faced by both language specialists and content teachers, as well as the suggestions stated above, the integrated Support Model aims to assist content teachers at the university in working collaboratively with language specialists. This support should ideally be top-down, coming from the institution. Thus, these initiatives would not solely rely on research projects but can become part of institutional practice. Undoubtedly, it would require time and effort, but if the ultimate goal is an internationalised university, then this effort is worthwhile.

7.3.1 Provide more training for the content teacher

To encourage more teachers to embrace EMI, it is important to keep them updated through continuous professional development courses. These courses are essential for refining their skills, ensuring they stay informed of the latest teaching methodologies, and fostering a dynamic and effective learning environment. By providing ongoing training, educators become empowered to confidently integrate EMI into their teaching practices. Both interviewed teachers emphasised the necessity of the training they received, confirming that such an environment was enriching and very fruitful for their practices.

Thus, an additional suggestion would be to establish English conversation groups for content teachers eager to enhance their language proficiency, not only for instructional purposes. This initiative could serve as a safe space for educators to share and exchange experiences while concurrently honing their language skills. This can be feasible by working alongside master's and Ph.D. students from the Faculty of Linguistics.

The extension of teacher support hinges on the initiatives undertaken by the university. Hence, it is imperative to demonstrate its commitment by introducing effective incentives for teachers. These practices play a pivotal role in fostering motivation and encouraging more teachers to implement EMI practices.

By motivating teachers and expanding the array of EMI courses, the university must also implement robust promotional strategies. Considering the scale of universities, effectively reaching every student poses a considerable challenge. However, this initiative would benefit teachers by attracting a large student enrolment for their classes.

7.3.2 Implement questionnaires for every course beginning and ending to have a solid needs analysis

This thesis has demonstrated the effectiveness of the needs analysis in providing a more tailored array of activities for students. Therefore, considering this thesis' purpose, an in-depth understanding of students' levels and real needs for each course would certainly assist in developing activities. Although we cannot require students to take proficiency tests, it is vital to implement questionnaires with students at the beginning of the course to assess students' background and at the end, to understand the existent difficulties students may have encountered during the class. This thesis worked with a very small sample of students; nevertheless, the questionnaires applied were highly effective. If the range of students is expanded, it may be possible to map the students' language proficiency and even their interest in taking lessons in English.

7.3.3 Provide collaborative work between content teacher and English specialist

This topic relates to creating an environment where language specialists can familiarise themselves with the EMI projects and work in collaboration with content teachers. As we do not have either the preparatory year model or the selection model in this context, the best solution for our teachers and students would be to work in an integrated model, coexisting in the same classroom to benefit teachers and students. As previously stated throughout this work, EMI does not directly aim at the learning of English but use it as a medium to convey content. However, according to Galloway and Rose (2021), EMI does not have explicit mention language learning but paves the way for it.

Therefore, the importance of having a well-structured integration is paramount. This approach allows language specialists to assist in designing effective activities while actively participating in the classroom to provide support for both teachers and students. According to

the findings of this research, the benefits of collaborative work outweigh the challenges, especially in a diverse environment with students of varying proficiency levels. While the language specialist focuses on helping students with language issues, the content teacher can focus on the content, ensuring that the class progresses according to the schedule.

7.3.4 Create a database of activities that could be adapted to each course

Considering future researchers and potential implementations of further collaborative programmes, establishing a comprehensive database of support activities for content teachers would be highly beneficial. This study included three courses, one of which did not require the support activities. Nevertheless, it is recognised the demanding nature of university teaching. Thus, this thesis not only underscores the success of collaborative work but also aims to emphasise the significance of contributing with samples of activities.

7.4 Limitations of the research

Due to the groundbreaking nature of the research presented herein, this study also presents a few limitations. The first element that arises is data sampling. Out of the 54 teachers enrolled in the EMI course organised by UFMG, I had the opportunity to directly engage with only three professors and offer support to two, as my responsibilities required me to be present inside the classroom. This factor limited my contact with more teachers to analyse their classes and needs. As a result, it is not possible to generalise any of the findings due to the specific context. A related limitation is the absence of a deeper analysis of students' backgrounds and experiences due to time constraints and the scope of this thesis. However, this can be addressed in future research.

The final limitation of this research is the unexpected characteristic of the hierarchical dynamics between language specialists and content teachers within the classroom. Given that the classroom does not fall under the jurisdiction of the language specialist, enforcing (or even suggesting) certain measures became challenging. As evidenced in this study, factors such as the number of activities, the mandatory nature of tasks, and the expectation for responses in English all entirely at the discretion of the content teacher.

An associated limitation involves the allocated time for support activities. It became evident that the extent of time and influence varied depending on the class; in some instances, I had more flexibility, whereas in others, my presence was relatively brief.

Finally, it is essential to note the impossibility of presenting every single detail in this study. However, the corpora used, the interviews, and the interview transcripts are available upon request.

7.5 Chapter conclusion and thesis summary

This chapter summarised the results achieved with this study. They were bridged to each research question. This thesis has offered an analysis of the implications of EMI in higher education institutions (HEIs) in Brazil, specifically at UFMG, where this work was conducted. This chapter also highlighted the implications of this study regarding fostering more training for teachers, implementing questionnaires for students, providing collaborative work between content teachers and language specialists, and the potential creation of a database of activities. Additionally, this chapter also provided recommendations for future research, alongside the limitations encountered in this study.

REFERENCES

- ABREU-E-LIMA, D.; MORAES FILHO, W. B. Multilinguismo, política linguística e internacionalização. Idiomas sem Fronteiras. UFMG, 2021.
- ÄDEL, A. Corpus compilation. *In*: ÄDEL, A. (ed.). *A practical handbook of corpus linguistics*. Cham: Springer International Publishing, 2021. p. 3-24.
- ANDIFES. Resolução do Conselho Pleno da Andifes, n.1, 2019. Disponível em: https://www.andifes.org.br/wp-content/uploads/2021/05/Resolucao-Conselho-Pleno-01_2019.pdf. Acesso em: 1 abr. 2023.
- ANTHONY, L. AntConc (10/11-Silicon (4.2.4) [computer software]. Tokyo, Japan: Waseda University, 2020. Disponível em: <https://www.laurenceanthony.net/software>. Acesso em: 13 jul. 2023.
- ARAÚJO, L. C. D. A sala de aula de estágio curricular supervisionado: um estudo no contexto da formação inicial de professores de língua inglesa. 2019. Dissertação (Mestrado) - Universidade Federal de Minas Gerais, Belo Horizonte.
- BAKHTIN, M. M. *Estética da criação verbal*. São Paulo: Martins Fontes, 2011.
- BARCELOS, A. M. F. Identities as emotioning and believing. *In*: BARKHUIZEN, G. (ed.). *Reflections on language teacher identity research*. New York, London: Routledge, 2016. p. 153-158. DOI: <https://doi.org/10.4324/9781315643465>
- BAUMVOL, L. K.; SARMENTO, S. A internacionalização em casa e o uso de inglês como meio de instrução. *Echoes: Further Reflections on Language and Literature*. 1ed. Florianópolis: UFSC, 1, p. 65-82, 2016.
- BEELEN, J., JONES, E. Redefining Internationalization at Home. *In*: CURAJ, A., MATEI, L., PRICOPIE, R., SALMI, J., SCOTT, P. (ed.). *The European Higher Education Area*. Cham: Springer, 2015. DOI: https://doi.org/10.1007/978-3-319-20877-0_5
- BIBER, D. Representativeness in corpus design. *Literary and linguistic computing*. Oxford University Press. v. 8, n. 4, p. 243-257, 1993.
- BIBER, D.; JOHANSSON, S.; LEECH, G. N.; CONRAD, S.; FINEGAN, E. *Longman Grammar of spoken and written English*. Edinburgh: Pearson Education Ltd., 1999.
- BOULTON, A. Integrating corpus tools and techniques in ESP courses. *ASp. la revue du GERAS*, n. 69, p. 113-137, 2016.
- BOGDAN, R.; BIKLEN, S. Investigação qualitativa em educação: uma introdução à teoria e aos métodos. Porto, Portugal: Porto Editora, 1994. cap. 1 e 2, p. 48-52. Disponível em: <https://ria.ufrn.br/jspui/handle/123456789/1119>

BRADFORD, A. Toward a typology of implementation challenges facing English-medium instruction in higher education: Evidence from Japan. *Journal of Studies in International Education*, v. 20, n. 4, p. 339-356, 2016.

BRASIL. Presidência da República. Decreto N. 7.642, de 13 de dezembro de 2011. *DOU*. Available from <https://www.gov.br/cnpq/pt-br/aceso-a-informacao/acoes-e-programas/programas/ciencia-sem-fronteiras/apresentacao-1/Decreton7642InstituioProgramaCinciasemFronteiras.pdf>

BRASIL. Ministério da Educação. *Base Nacional Comum Curricular*. Disponível em: http://basenacionalcomum.mec.gov.br/images/BNCC_EI_EF_110518_versaofinal_site.pdf.

BRASIL. Ministério da Ciência, Tecnologia e Inovação. *Ciência Sem Fronteiras* [s.d.]. Available at: http://www.cienciasemfronteiras.gov.br/c/document_library/get_file?uuid=4c423473-2db0-493d-8001-84e3a2862abe&groupId=214072

BREEZE, R.; GUINDA, C. S. *Teaching English-medium instruction courses in higher education: A guide for non-native speakers*. New York: Bloomsbury Publishing, 2021.

BROWN, J. D. Designing Surveys for Language Programs. *ERIC*, 1997. Available at: <https://api.semanticscholar.org/CorpusID:60165684>

CAMMARATA, L.; TEDICK, D. J. Balancing Content and Language in Instruction: The Experience of Immersion Teachers. *Modern Language Journal*, v. 96, n. 2, p. 153-289, 2012. DOI: <https://doi.org/10.1111/j.1540-4781.2012.01330.x>

CAPES-PrInt [s.d.]. Available at: <https://www.ufmg.br/prpg/capes-print/apresentacao>

CARRY OUT. *In: Cambridge Dictionary*. Available at: https://dictionary.cambridge.org/dictionary/english/carry-out#google_vignette. Access on: 13 dez. 2023.

CARLISLE, D. D. E.; LUNA SÁENZ, J. (2023). COIL, COILer, COILing: English language learners participating in collaborative online international learning. In: THE SOUTHEAST ASIAN CONFERENCE ON EDUCATION 2023. *Proceedings [...]*, Singapore, March 2023. DOI:10.22492/issn.2435-5240.2023.1

CONTEH, J. Translanguaging. *ELT Journal*, v. 72, n. 4, p. 445-447, 2018. DOI: <https://doi.org/10.1590/01031813686271420202129>

COSTA, D. D. *A corpus-based investigation of the language of chemistry and physics textbooks and its implications for English for reading*. Advisor: Dr. Deise P. Dutra. 2020. 150f. Thesis (Doctoral Thesis) – Faculdade de Letras, Universidade Federal de Minas Gerais, Belo Horizonte, 2020. Available at: <http://hdl.handle.net/1843/33642>

CURDT-CHRISTIANSEN, X. L. Observations and field-notes: Recording lived experiences. *In: MCKINLEY, J.; ROSE H. (ed.). The Routledge Handbook of Research Methods in Applied Linguistics*. London: Routledge, 2020. p. 336-347. [Epub 2019 Dec 6.]

CURLE, S.; JABLONKAI, R. R.; MITTELMEIER, J.; SAHAN, K.; VEITCH, A. English in higher education—English medium. Part 1: Literature review. In: GALLOWAY, N. (Ed.). *English in higher education* London: British Council. Available at: <https://www.teachingenglish.org.uk/article/english-higher-education-%E2%80%93-english-medium-part-1-literature-review>.

DA COSTA, E. P. *O impacto da globalização na motivação dos alunos de inglês como língua estrangeira*. Orientadora: Profa. Dra. Érika Amâncio. 2019. 138f. Dissertação (Mestrado em Estudos Linguísticos) – Faculdade de Letras, Universidade Federal de Minas Gerais, Belo Horizonte, 2019.

DAFOUZ, E.; SMIT, U. (2020). *ROAD-MAPPING English medium education in the internationalised university*. London: Palgrave Macmillan.

DAVISON, C. Collaboration between ESL and content teachers: How do we know when we are doing it right? *International Journal of Bilingual Education and Bilingualism*, v. 9, n. 4, p. 454-475, 2006. Available at: <https://doi.org/10.2167/beb339.0>

DE WIT, H. (2011). Globalisation and internationalisation of higher education. *Rev. U. Soc. Conocimiento*, v. 8, n. 2, July 2011. DOI: <http://dx.doi.org/10.7238/rusc.v8i2.1247>

DE WIT, H.; DECA, L. Internationalization of higher education, challenges and opportunities for the next decade. In: CURAJ, A.; DECA, L.; PRICOPIE, R. *European higher education area: Challenges for a new decade*. [Conference Proceedings, p. 3-11], 2020. DOI:10.1007/978-3-030-56316-5_1

DINÇAY, T. Designing a learner-centered ESP course for adults based on evidence from a questionnaire and incorporating the learners' aims into a situational-based syllabus. *Dil Dergisi*, n. 150, p. 7-20, 2010. DOI: [10.1501/Dilder_0000000135](https://doi.org/10.1501/Dilder_0000000135)

DORNYEI, Z. *Research methods in applied linguistics*. Oxford: Oxford University Press, 2007.

DUTRA, D. P., ORFANÒ, B. M., GUEDES, A. D. S., ALVES, J. C., & FEKETE, J. G. The learner corpus path: a worthwhile methodological challenge. *D.E.L.T.A*, v. 38, n. 2, 2022. <https://doi.org/10.1590/1678-460X202238249731>

FREITAS, Mirelle da Silva. *Daquilo que sabemos: pesquisa metateórica sobre abordagem de ensino de línguas*. Orientador: Dr. José Carlos Paes de Almeida Filho. 2013. 111 f. Dissertação (Mestrado em Linguística Aplicada) - Universidade de Brasília, Brasília, 2013.

GALLOWAY, N. *An investigation of Japanese university students' attitudes towards English*. Thesis advisor: Jennifer Jenkins. 2011. 470 f. Thesis (Doctoral Thesis) - Faculty of Humanities, University of Southampton, 2011.

GALLOWAY, N.; KRIUKOW, J.; NUMAJIRI, T. *Internationalisation, higher education and the growing demand for English: An investigation into the English medium of instruction (EMI) movement in China and Japan*. Edinburgh: British Council, University of Edinburgh, 2017. Available at:

https://www.researchgate.net/publication/320183212_Internationalisation_higher

_education_and_the_growing_demand_for_English_an_investigation_into_the_English_medium_of_instruction_EMI_movement_in_China_and_Japan_Internationalisation_higher_education_a

GALLOWAY, N.; ROSE, H. English medium instruction and the English language practitioner. *ELT Journal*, v. 75, n. 1, p. 33-41, 2021. DOI: 10.1093/elt/ccaa063)

GALLOWAY, N.; RUEGG, R. The provision of student support on English Medium Instruction programmes in Japan and China. *Journal of English for Academic Purposes*, n. 45, p. 100-846, 2020. DOI: 10.1016/j.jeap.2020.100846

GARCIA, O. AND WEI, L. Translanguaging. [edition unavailable]. London: Perlego, Palgrave Pivot, 2015. Available at: <https://www.perlego.com/book/3489411>. Access on: 13 June 2023.

GIMENEZ, T., SARMENTO, S., ARCHANJO, R., ZICMAN, R., FINARDI, K. *Guide English as a medium of instruction in Brazilian higher education institutions 2018-2019*. v. 4. London: British Council, 2018.

GRÖBLINGER, K. *What are the benefits and challenges of EMI in (international) study programs at UAS in Austria?* Vienna, Austria: FH KREMS - University of Applied Sciences, 2017.

GUIMARÃES, F. F.; FINARDI, K. R. Global citizenship education (GCE) in internationalisation: COIL as alternative Thirdspace. *Globalisation, Societies and Education*, v. 19, n. 5, p. 641-657, 2021. DOI:10.1080/14767724.2021.1875808

GUIMARÃES, F. F.; FINARDI, K. R.; CASOTTI, J. B. C. Internacionalização e políticas linguísticas no Brasil: qual a relação? *Revista Brasileira de Linguística Aplicada*, n. 19, p. 295-327, 2019.

HANKS, J. Education is not just teaching: learner thoughts on Exploratory Practice. *ELT Journal*, v. 69, n. 2, p. 117-128, 2015.

HITCHCOCK, G.; HUGHES, D. *Research and the teacher* (2nd ed.). London: Routledge, 1995.

HU, G.; LEI, J.. *English-medium instruction in Chinese higher education: A case study*. *Higher Education*, n. 67, p. 551-567, 2014.

ISMAILOV, M.; CHIU, T. K.; DEARDEN, J.; YAMAMOTO, Y.; DJALILOVA, N. Challenges to internationalisation of university programmes: A systematic thematic synthesis of qualitative research on learner-centred English Medium Instruction (EMI) pedagogy. *Sustainability*, v. 13, n. 22, 2021.

JABLONKAI, R. R. Corpus linguistic methods in EMI research: A missed opportunity. In: JACK PUN, K. H.; CURLE, Samantha M. (ed.). *Research methods in English Medium Instruction*. New York, London: Routledge, 2021. p. 92-106. DOI: <https://doi.org/10.4324/9781003025115-7>

KNIGHT, J. *Higher education in turmoil: The changing world of internationalization* v. 13. Leiden, The Netherlands: Brill, 2008. ISBN: 978-90-8790-522-4

KNIGHT, J. Internationalization: Elements and Checkpoints. *CBIE Research No. 7*. Canadian Bureau for International Education, ERIC, 1994. ISBN: 0-920496-84-9

KOESTER, A. Building small specialized corpora. In: O'KEEFFE, Anne; MCCARTHY, Michael J. *The Routledge Handbook of corpus linguistics*. London: Routledge, 2010. p. 66-80.

KRIUKOW, J.; GALLOWAY, N. Internationalization and the growing demand for English in Japanese higher education: Undertaking doctoral study in English. In: MURATA, K. (ed.). *English-Medium Instruction from an English as a Lingua Franca Perspective*. London: Routledge, 2018. p. 137-156.

LASAGABASTER, D. Fostering team teaching: Mapping out a research agenda for English-medium instruction at university level. *Language Teaching*, v. 51, n. 3, p. 400-416, 2018. doi:10.1017/S0261444818000113

LASAGABASTER, D. *English-medium instruction in higher education*. Cambridge, London: Cambridge University Press, 2022. DOI: <https://doi.org/10.1017/9781108903493>

LEAL, F.; FINARDI, K.; ABBA, J. Challenges for an internationalization of higher education from and for the global south. *Perspectives in Education*, v. 40, n. 3, p. 241-250, 2022. DOI: <https://doi.org/10.38140/pie.v40i3.6776>

MACARO, E.; AKINCIOLU, M.; DEARDEN, J. English Medium Instruction in Universities: A Collaborative Experiment in Turkey. *Studies in English Language Teaching*, v. 4, n. 1, 2016.

MACARO, E. (2018). *English medium instruction*. Oxford: Oxford University Press, 2018.

MCENERY, A. M.; HARDIE, A. *Corpus linguistics: method, theory and practice*. Cambridge University Press, 2012 [2011]. DOI: <https://doi.org/10.1017/CBO9780511981395>

MACKEY, A.; GASS, S. M. *Second language research: Methodology and design*. New York, London: Routledge, 2021

MARTINEZ, R. English as a Medium of Instruction (EMI) in Brazilian higher education: challenges and opportunities. In: FINARDI, K. R. *English in Brazil: views, policies and programs*. Londrina: Eduel, 2016. p. 191-228.

MARTINEZ, R.; FERNANDES, K. Development of a teacher training course for English medium instruction for higher education professors in Brazil. In: SÁNCHEZ-PÉREZ, Maria del Mar (ed.). *Teacher training for English-medium instruction in higher education*. HERSHEY, PA: IGI Global, 2020. p. 125-152. DOI: 10.4018/978-1-7998-2318-6.ch007

MARTINEZ, R.; PALMA, A. C. Brazil Trying English-Medium Instruction On for Size: Emerging Trends and Policy. In: MCKINLEY, J.; GALLOWAY, N. (ed.) *English-Medium Instruction Practices in Higher Education: International Perspectives*. London: Bloomsbury, 2022. p. 25-34.

MARRARA, T.; RODRIGUES, J. de A. Medidas de internacionalização e o uso de idiomas estrangeiros nos programas de pós-graduação brasileiros. *Revista Brasileira de Pós-Graduação*. v. 6, n. 11, 2011. DOI: 10.21713/2358-2332.2009.v6.169. Disponível em: <https://rbpg.capes.gov.br/rbpg/article/view/169>. Acesso em: 13 jul. 2023.

DE ALMEIDA MATTOS, A. M. *Ensino de Inglês como Língua Estrangeira na Escola Pública: Letramentos, Globalização e Cidadania*. Jundiaí, SP: Paco Editorial, 2017.

O'KEEFFE, A.; MCCARTHY, M.; CARTER, R. *From corpus to classroom: Language use and language teaching*. Cambridge, New York: Cambridge University Press, 2007.

PAYNE, J.; PAYNE, G. *Key concepts in social research*. London: Sage Publications, 2004

PÉREZ-PAREDES, P. *How learners are using corpora in EMI contexts*, Cambridge University Press ELT. [Conference] Available at: <https://www.youtube.com/watch?v=7x-QSjh4aL8>. Access on: 1 April 2023.

PUSEY, K. Lessons learned piloting an EMI support course at a southern Brazilian university. *BELT-Brazilian English Language Teaching Journal*, v. 11, n. 2, e39470-e39470, 2020.

RICHARDS, J. C.; PUN, J. *Teaching and learning in English medium instruction: An introduction*. New York, London: Routledge, 2022. ISBN: 9781032043210

ROOS, Cathryn; ROOS, Gregory. *Real Science in Clear English: A guide to Scientific Writing for the Global Market*. [Kindle edition] Berlin: Springer, 2019. 1 v. (Springer Briefs in Education)

ROSE, H.; CURLE, S.; AIZAWA, I.; THOMPSON, G. What drives success in English medium taught courses? The interplay between language proficiency, academic skills, and motivation. *Studies in Higher Education*, v. 45, n. 11, p. 2149-2161, 2019. DOI: <https://doi.org/10.1080/03075079.2019.1590690>

ROSE, H.; MACARO, E.; SAHAN, K.; AIZAWA, I.; ZHOU, S.; WEI, M. Defining English medium instruction: Striving for comparative equivalence. *Language Teaching*, v. 56, n. 4, p. 539-550, 2023.

ROSE, H.; MCKINLEY, J.; BAFFOE-Djan, J. B. *Data collection research methods in applied linguistics*. London: Bloomsbury, 2019.

ROSE, H.; MCKINLEY, J.; GALLOWAY, N. Global Englishes and language teaching: A review of pedagogical research. *Language Teaching*, v. 54, n. 2, p. 157-189, 2021. DOI: <https://doi.org/10.1017/S0261444820000518>

RUBIN, J. *Faculty Guide for Collaborative Online International Learning: Course Development*. New York: SUNY COIL Center, 2015. Available at: https://www.ufic.ufl.edu/UAP/Forms/COIL_guide.pdf

RUBIO-ALCALÁ, F.; MALLORQUÍN-RODRÍGUEZ, M. S. Teacher Training Competences and Subsequent Training Design for Higher Education Plurilingual Programs. In: PÉREZ,

María del Mar Sánchez (ed.). *Teacher Training for English-Medium Instruction in Higher Education*. Hershey, PA: IGI Global. p. 41–62

SARMENTO, S.; ABREU-E-LIMA, D. M.; MORAES, W. B. *Do Inglês sem Fronteiras ao Idiomas sem Fronteiras: a construção de uma política linguística para a internacionalização*. Belo Horizonte: Editora UFMG, 2016.

SÖDERQVIST, M. *Internationalisation and its management at higher-education institutions. Applying conceptual, content and discourse analysis*. Helsinki: Helsinki School of Economics, 2002. Available at: <https://urn.fi/URN:ISBN:951-791-718-X>

SÖREN, J. M. K. (2013). *Teacher Identity in English-Medium Instruction: Teacher Cognitions from a Danish Tertiary Education Context*. 2013. 225f. Thesis (PhD Thesis in Linguistics) - Det Humanistiske Fakultet, Københavns Universitet, Copenhagen, 2013.

STALLIVIERI, L. *As dinâmicas de uma nova linguagem intercultural na mobilidade acadêmica internacional*. 2009. Thesis advisor: Héctor Valencia. Tese (Doutorado em Línguas Modernas) – Universidad Del Salvador, Universidade de Caxias do Sul, Buenos Aires, 2009.

TAEC Erasmus+ Project Transnational Alignment of English Competences for University Lecturers 2017-2020. Available from <https://cip.ku.dk/english/projects-and-collaborations/taec/>

TAKYI, E. The Challenge of Involvement and Detachment in Participant Observation. *The Qualitative Report*, v. 20, n. 6, p. 864-872, 2015. DOI: <https://doi.org/10.46743/2160-3715/2015.2164>

UNESCO. Available from <https://unesdoc.unesco.org/ark:/48223/pf0000189242>

UNIVERSIDADE FEDERAL DE MINAS GERAIS. Diretoria de Relações Internacionais. *Relatório Final de Gestão 2014 – 2018*, 2018.

UNIVERSIDADE FEDERAL DE MINAS GERAIS. 2020. Diretoria de Relações Internacionais. *Censo da Internacionalização*.

UNIVERSIDADE FEDERAL DE MINAS GERAIS. *Catálogo das Atividades Acadêmicas Curriculares de Formação Transversal 2021/1*, 2021. Disponível em: <https://www2.ufmg.br/prograd/prograd/Pro-Reitoria-de-Graduacao/Estudante/Formacao-Transversal/Formacao-Transversal-Apresentacao>.

UNIVERSIDADE FEDERAL DE MINAS GERAIS. CAPES PrInt, 2022. Available at: <https://www.ufmg.br/prpg/capes-print/apresentacao>

UNIVERSIDADE FEDERAL DE MINAS GERAIS. Diretoria de Relações Internacionais. Relatório Final de Gestão 2018-2022, 2022. Disponível em: https://www.ufmg.br/dri/wp-content/uploads/2022/02/Relatorio_Gestao_DRI_UFMG_2018-2022.pdf. Acesso em: 1 abr. 2023.

WINGATE, U.; HAKIM, A. Moving beyond 'infancy': towards a cross-fertilization between EMI and EAP scholarship. *ELT Journal*, v. 76, n. 4, p. 529-537, 2022. DOI: <https://doi.org/10.1093/elt/ccac032>

WHITE, R. V. *The ELT curriculum: Design, innovation and management*. *ELT Journal*, v. 44, n. 2, p. 156–157, April 1990. DOI: <https://doi.org/10.1093/elt/44.2.156>

ZACHARIAS, N. T. *Qualitative research methods for second language education: A coursebook*. New Castle, UK: Cambridge Scholars Publishing, 2012.

APPENDICES

Appendix A

Informed Consent Form – Student

O Sr. (a) está sendo convidado (a) como voluntário (a) a participar da pesquisa “O Inglês como meio de instrução: uma ferramenta estratégica da internacionalização em casa no contexto da educação superior”. Pedimos a sua autorização para a coleta e análise de seus textos e atividades em inglês. Bem como da participação em um questionário preliminar que será aplicado antes do começo da disciplina e possível participação em uma entrevista. Uma prévia do roteiro das perguntas utilizadas está no anexo 1 deste TCLE. A utilização de seus textos e resposta de atividades está vinculada somente a este projeto de pesquisa. Nesta pesquisa pretendemos explorar como o processo de internacionalização tem acontecido na UFMG. Para esta pesquisa os participantes farão tarefas em sala de aula ou em casa em acordo com o(s) professor(es) responsável(eis) pela(a) disciplina(s) ministrada(s) em inglês, utilizando seus conhecimentos prévios. Atividades poderão ser criadas com o intuito de colaborar para o desenvolvimento linguístico dos alunos em sua turma. O período para a execução de cada tarefa será determinado em acordo com o(s) professor(es) responsável(eis) pela disciplina, podendo variar entre 10 e 30 minutos. Os desconfortos dos participantes são mínimos, podendo se sentir pressionados por saberem que seus textos farão parte de uma pesquisa. Esses desconfortos serão minimizados, pois as atividades de coleta de dados são atividades comumente feitas em sala de aula. Como as tarefas a serem propostas são pedagógicas, não há riscos de quaisquer complicações que possam ser passíveis de indenização. Além disso, garantimos que a identificação de nenhum dos participantes será divulgada. A pesquisa contribuirá para o aumento do conhecimento a respeito do EMI e da aprendizagem de inglês favorecida com a utilização de *corpora* eletrônicos, podendo beneficiar outros aprendizes de inglês.

Para participar deste estudo o Sr. (a) não terá nenhum custo, nem receberá qualquer vantagem financeira. O Sr. (a) terá o esclarecimento sobre o estudo em qualquer aspecto que desejar e estará livre para participar ou recusar-se a participar e a qualquer tempo e sem quaisquer prejuízos, pode retirar o consentimento de participação na pesquisa, valendo a desistência a partir da data de formalização desta. A sua participação é voluntária, e a recusa em participar não acarretará qualquer penalidade ou modificação na forma em que o Sr. (a) é atendido (a) pelo pesquisador, que tratará a sua identidade com padrões profissionais de sigilo, inclusive quando da publicação dos resultados. Os resultados obtidos pela pesquisa estarão à sua disposição quando finalizada. Seu nome ou o material que indique sua participação não será liberado sem a sua permissão. O (A) Sr. (a) não será identificado (a) em nenhuma publicação que possa resultar.

Este termo de consentimento encontra-se impresso em duas vias originais, sendo que uma será arquivada pelo pesquisador responsável, na sala 4111 da Faculdade de Letras da UFMG, e a outra será fornecida ao Sr. (a). Os dados e materiais utilizados na pesquisa ficarão arquivados com a pesquisadora responsável por um período de 5 (cinco) anos na mesma sala mencionada e após esse tempo serão destruídos. Os pesquisadores tratarão a sua identidade com padrões profissionais de sigilo, utilizando as informações somente para fins acadêmicos e científicos.

Eu, _____, portador do documento de

Identidade _____ fui informado (a) dos objetivos, métodos, riscos e benefícios da pesquisa “O Inglês como meio de instrução: uma ferramenta estratégica da internacionalização em casa no contexto da educação superior.”, de maneira clara e

detalhada e esclareci minhas dúvidas. Sei que a qualquer momento poderei solicitar novas informações e modificar minha decisão de participar se assim o desejar.

() Concordo que os meus textos escritos em inglês sejam utilizados somente para esta pesquisa.

() Concordo que os meus textos escritos em inglês possam ser utilizados em outras pesquisas, mas serei comunicado pelo pesquisador novamente e assinarei outro termo de consentimento livre e esclarecido que explique para que será utilizado o material.

Declaro que concordo em participar desta pesquisa. Recebi uma via original deste termo de consentimento livre e esclarecido assinado por mim e pelo pesquisador, que me deu a oportunidade de ler e esclarecer todas as minhas dúvidas.

Nome completo do participante: _____ Data: _____

Assinatura do participante

Nome completo do Pesquisador Responsável: Deise Prina Dutra

Endereço:

Rua Expedicionário Nilo Morais Pinheiro, 660, casa 16

CEP 31310-060, Belo Horizonte - MG

Telefones: (31) 3409-6027; (31) 99106-8331

E-mail: deisepdutra@gmail.com

CPF: 091599848-30

RG: MG 16508030

Assinatura do pesquisador responsável: _____ Data: _____

Nome completo do Pesquisador:

Endereço: Rua Ibituruna, 607. Ap. 302 Bairro Padre Eustáquio

CEP: 30730-480 / Belo Horizonte – MG

Telefones: (31) 98804-0413

E-mail: manu.pcosta@gmail.com

CPF: 015.251.506-26

RG: MG 13-741-277

Assinatura do pesquisador (mestrando ou doutorando): _____ Data: _____

Em caso de dúvidas, com respeito aos aspectos éticos desta pesquisa, você poderá consultar:

COEP-UFMG - Comissão de Ética em Pesquisa da UFMG

Av. Antônio Carlos, 6627. Unidade Administrativa II - 2º andar - Sala 2005.

Campus Pampulha. Belo Horizonte, MG – Brasil. CEP: 31270-901.

E-mail: coep@prpq.ufmg.br Tel: 34094592

Rubrica da pesquisadora: _____
Rubrica do aluno(a): _____

Appendix B

Informed Consent Form – Teacher

O Sr. (a) está sendo convidado (a) como voluntário (a) a participar da pesquisa “O Inglês como meio de instrução: uma ferramenta estratégica da internacionalização em casa no contexto da educação superior”. Nesta pesquisa pretendemos explorar como o processo de internacionalização tem acontecido na UFMG. Também são objetivos desta pesquisa trabalhar de maneira colaborativa com professores que utilizam a metodologia do EMI e contribuir com atividades linguísticas que facilitem a compreensão do conteúdo para o aluno.

Para alcançarmos esses objetivos, precisaremos que você, estando de acordo, participe de algumas entrevistas com a pesquisadora, no decorrer do semestre. Essas entrevistas serão gravadas em áudio. Uma prévia do roteiro das perguntas utilizadas está no anexo 1 deste TCLE. Precisaremos também que você permita que nesta turma em que trabalha com a metodologia de EMI, possamos observar suas aulas. Gostaríamos, se possível, que você disponibilize alguns materiais e/ou atividades didáticas que você utiliza com seus alunos para nossas análises. Consideramos que os benefícios advindos da pesquisa superarão os possíveis desconfortos sofridos com a participação nas entrevistas, observação de aulas e exposição de material usado em aula. Como as tarefas a serem propostas são pedagógicas, não há riscos de quaisquer complicações que possam ser passíveis de indenização. Além disso, garantimos que a identificação de nenhum dos participantes será divulgada. A pesquisa contribuirá para o aumento do conhecimento a respeito do EMI e da aprendizagem de inglês favorecida com a utilização de corpora eletrônicos, podendo beneficiar outros aprendizes de inglês.

Para participar deste estudo o Sr. (a) não terá nenhum custo, nem receberá qualquer vantagem financeira. O Sr. (a) terá o esclarecimento sobre o estudo em qualquer aspecto que desejar e estará livre para participar ou recusar-se a participar e a qualquer tempo e sem quaisquer prejuízos, pode retirar o consentimento de participação na pesquisa, valendo a desistência a partir da data de formalização desta. A sua participação é voluntária, e a recusa em participar não acarretará qualquer penalidade ou modificação na forma em que o Sr. (a) é atendido (a) pelo pesquisador, que tratará a sua identidade com padrões profissionais de sigilo. Os resultados obtidos pela pesquisa estarão à sua disposição quando finalizada. Seu nome ou o material que indique sua participação não será liberado sem a sua permissão. O (A) Sr. (a) não será identificado (a) em nenhuma publicação que possa resultar.

Este termo de consentimento encontra-se impresso em duas vias originais, sendo que uma será arquivada pelo pesquisador responsável, na sala 4111 da Faculdade de Letras da UFMG, e a outra será fornecida ao Sr. (a). Os dados e materiais utilizados na pesquisa ficarão arquivados com o pesquisador responsável por um período de 5 (cinco) anos na mesma sala mencionada e após esse tempo serão destruídos. Os pesquisadores tratarão a sua identidade com padrões profissionais de sigilo, utilizando as informações somente para fins acadêmicos e científicos.

Eu, _____, portador do documento de

Identidade _____ fui informado (a) dos objetivos, métodos, riscos e benefícios da pesquisa “O Inglês como meio de instrução: uma ferramenta estratégica da internacionalização em casa no contexto da educação superior.”, de maneira clara e detalhada

e esclareci minhas dúvidas. Sei que a qualquer momento poderei solicitar novas informações e modificar minha decisão de participar se assim o desejar.

() Concordo que os meus textos escritos em inglês sejam utilizados somente para esta pesquisa.

() Concordo que os meus textos escritos em inglês possam ser utilizados em outras pesquisas, mas serei comunicado pelo pesquisador novamente e assinarei outro termo de consentimento livre e esclarecido que explique para que será utilizado o material.

Declaro que concordo em participar desta pesquisa. Recebi uma via original deste termo de consentimento livre e esclarecido assinado por mim e pelo pesquisador, que me deu a oportunidade de ler e esclarecer todas as minhas dúvidas.

Nome completo do participante: _____ Data: _____

Assinatura do participante

Nome completo do Pesquisador Responsável: Deise Prina Dutra

Endereço:

Rua Expedicionário Nilo Morais Pinheiro, 660, casa 16

CEP 31310-060, Belo Horizonte - MG

Telefones: (31) 3409-6027; (31) 99106-8331

E-mail: deisepdutra@gmail.com

CPF: 091599848-30

RG: MG 16508030

Assinatura do pesquisador responsável: _____ Data: _____

Nome completo do Pesquisador:

Endereço: Rua Ibituruna, 607. Ap. 302 Bairro Padre Eustáquio

CEP: 30730-480 / Belo Horizonte – MG

Telefones: (31) 98804-0413

E-mail: manu.pcosta@gmail.com

CPF: 015.251.506-26

RG: MG 13-741-277

Assinatura do pesquisador (mestrando ou doutorando): _____ Data: _____

Em caso de dúvidas, com respeito aos aspectos éticos desta pesquisa, você poderá consultar:

COEP-UFMG - Comissão de Ética em Pesquisa da UFMG

Av. Antônio Carlos, 6627. Unidade Administrativa II - 2º andar - Sala 2005.

Campus Pampulha. Belo Horizonte, MG – Brasil. CEP: 31270-901.

E-mail: coep@prpq.ufmg.br Tel: 34094592

Rubrica da pesquisadora: _____
Rubrica do aluno(a): _____

Appendix C

Interview and Questionnaire Roadmap – Teacher

Questionário Preliminar e Roteiro de entrevista PROFESSOR

Questionário Preliminar

- 1 – Qual a disciplina que você está ministrando em inglês?
- 2 – E a primeira vez que ministra essa disciplina em inglês?
- 3 - Por que (ou o que) o levou a lecionar essa disciplina em inglês?
- 4 – Quais as dificuldades você teve ao planejar a sua disciplina em língua inglesa?

Instrumento do questionário preliminar: *Google Forms*. A ser preenchido fora da sala de aula.

Tempo previsto de preenchimento: 30 minutos.

Roteiro de Entrevista Pós Curso

- 1 - Na sua opinião, este processo de colaboração entre um “professor especialista” e o professor de conteúdo, afetou de alguma forma o desenvolvimento das aulas? Se sim, como?
- 2 - Na sua opinião, este processo de colaboração entre um “professor especialista” e o professor de conteúdo, tem impacto positivo no desenvolvimento das aulas?
- 3 - Você acredita que a presença do especialista dentro da sala foi produtiva para você? E para os alunos? Quais aspectos você destacaria na colaboração que existiu ao longo da sua disciplina neste semestre?
- 4 - Quais as dificuldades que você enfrentou ou enfrenta ao ministrar essa disciplina?
- 5 - Em uma próxima disciplina pode haver mais intervenções? Caso sim, como elas podem ocorrer? Em quais aspectos você acredita que minha colaboração em suas aulas de EMI poderia ser mais efetiva?
- 6 - Caso optássemos por mais atividades com foco linguístico como apoio em sua disciplina, você acredita que os alunos achariam produtivo como atividade de suporte?

Instrumento do questionário preliminar: Entrevista via Zoom A ser realizada fora da sala de aula.

Tempo previsto de preenchimento: máximo de 60 minutos.

Appendix D

Interview and Questionnaire Roadmap – Student

Questionário Preliminar ALUNO

- 1 - Nome
- 2 - Matrícula
- 3 - E-mail
- 4 - Idade
- 5 - Gênero
- 6 - Curso de Graduação
- 7 - Grau máximo de escolaridade
- 8 - Até concluir o ensino médio, em quais etapas você estudou em escola pública?
- 9 - Há quanto tempo você estuda inglês?
- 10 - Já frequentou cursos Inglês em escolas de idioma?
- 11 - Você sabe outro idioma?
- 12 - Já esteve em algum país de língua inglesa?
- 13 - Já viajou como turista para algum país de língua inglesa? Se sim, por quanto tempo?
- 14 - Como você classificaria seu domínio de inglês?
- 15 - Você já se submeteu a algum exame de proficiência?
Se sim, por favor relacione o nome de cada exame, a instituição responsável pela aplicação, o ano da realização, a nota total distribuída nas questões e a nota alcançada por você.
- 16 - Qual(is) a(s) subárea(s) de proficiência em inglês com a (s) qual(is) você considera ter maior dificuldade?
- 17 - Qual(is) a(s) subárea(s) de proficiência em inglês com a(s) qual(is) você considera ter maior facilidade?
- 18 - Por qual motivo você escolheu fazer a disciplina em questão?
- 19 - Quais são suas expectativas com relação à disciplina em questão?
- 20 - Você conhece a metodologia EMI (English Medium Instruction)?

21 - Na sua opinião, qual a importância da disciplina em questão?

Caso sua resposta anterior tenha sido negativa, responda "NA" (não se aplica).

Instrumento do questionário preliminar: *Google Forms*. A ser preenchido fora da sala de aula.

Tempo previsto de preenchimento: 30 minutos.

Appendix E

Business Administration Course Syllabus

CURSO DE GRADUAÇÃO EM ADMINISTRAÇÃO

Plano de Ensino Remoto Emergencial (Versão 18/10/2021)

Nome da disciplina:	BUSINESS ADMINISTRATION (Optativa – 45 h/a – Teórica)	Turma:	Não se aplica
Código da disciplina:	(Tópicos Especiais em Administração)	Professor:	

Ementa de Tópicos Especiais em Administração: Tópicos importantes relativos à administração, não abordados nas ementas existentes, para complementar assuntos relevantes e ampliação do conhecimento.

Course overview: This course is an introduction to business administration. It focuses on how managers can create value by effectively and efficiently delivering goods and services in different types of organizations. We will examine not only the intrinsic value of the products, but also other relevant aspects related to management, like consumers' satisfaction, workers' welfare, and resource utilization. Our examination of effectiveness is based on the right product – at the right time and the right place – according to customer demands and characteristics. The assessment of efficiency centres on costs in a broad sense, with attention to the appropriate use of resources, such as work, materials, and facilities.

Course goals: There are a few goals to focus on as we progress throughout the course. There are the big ideas that you should walk away with and hold on to by the time class is over. Specifically, at the end of this course you should be able to: 1) Discuss how important operations management is in all types of organizations; 2) Explain the input–transformation–output process; 3) Report the five operations performance objectives and how they trade off against each other; and 4) Identify the four different operations strategies characteristics and how they can be put together.

Teaching/learning methodology: Business administration will be taught preferably in English using a blend of theoretical and practical readings, assignments, and case studies. Texts and assignments will be available for download on Moodle Learning Platform. Please read and prepare your assignments carefully in advance. Readings and preparation are important for a

course in Portuguese, so they are necessary to take advantage of this experience of doing a course in English.

This course will have synchronous meetings - or in real time - lasting approximately 150 minutes, through videoconferences. Complementary material will be available in text and audiovisual formats. Access links to synchronous classes as well as complementary material will also be available. The synchronous meetings will focus on conducting discussions to deepen learning and to resolve any student doubts, such meetings being conducted through the Microsoft Teams platform. The link for each videoconference will be available on the Moodle platform at least 30 minutes in advance of the scheduled time for the start of the meeting. Please let me know throughout the semester if there is something I can do to make this course better for you.

Acessibilidade: *Serão atendidas as demandas dos estudantes com deficiência auditiva, física, baixa visão, Transtorno do Espectro Autista (TEA) ou quaisquer demandas específicas levantadas pelo PRO-ICA (Programa de Inclusão, Convívio e Acolhimento do Instituto de Ciências Agrárias). O professor estará à disposição para tratar individualmente dessas demandas e para fazer as adequações necessárias neste plano de ensino remoto emergencial.*

P.S.: This item was written in Portuguese to guarantee that all the content will be fully understood by each student.

Week	Topic	Platform	Strategy	Activity
1 (18/10 a	Course Overview Self-introductions of the participants Course syllabus presentation and	<u>MS Teams</u> October 23 rd 2:00 – 4:30 PM	Synchronous	No activity requires
2 (25/10 a	Chapter 1 - Operations Management (Part I) Warm-up	<u>MS Teams</u> October 30 th 2:00 – 4:30 PM	Synchronous	Assignment #1 due (by October 30 th)
3 (01/11 a	Operations Management (Part II) Warm-up Exam discussion	<u>MS Teams</u> November 6 th 2:00 – 4:30 PM	Synchronous	Exame #1 (November 6 th 8:00 AM – 2:00)
4 (08/11 a	Chapter 2 - Operations Performance (Part I) Warm-up	<u>MS Teams</u> November 13 th 2:00 – 4:30 PM	Synchronous	Assignment #2 due by November

5 (15/11 a	Seminar production and delivery Students should deliver a link for their seminar in video by uploading a	<u>Moodle</u>	Asynchronous (<i>Holyday: no sync class</i>)	Seminar due by October 30 th 4:30 PM)
6 (22/11 a	Operations performance (Part II) Warm-up Exam discussion	<u>MS Teams</u> November 27 th 2:00 – 4:30 PM	Synchronous	Exame #2 (November 27 th 8:00 AM – 2:00
7 (29/11 a	Chapter 3 - Operations Strategy (Part I) Warm-up	<u>MS Teams</u> December 4 th 2:00 – 4:30 PM	Synchronous	Assignment #3 due by December 4 th
8 (06/12 a	Operations strategy (Part II) Warm-up Exam discussion	<u>MS Teams</u> December 11 th 2:00 – 4:30 PM	Synchronous	Exame #3 (December 11 th 8:00 AM – 2:00
9 (13/12 a	Course conclusion and evaluation	<u>MS Teams</u> December 11 th 2:00 – 4:30 PM	Synchronous	No activity required
15/01/ 21	Special Exam	<u>Moodle</u> January 15 th 2:00 – 4:30 PM	Asynchronous	Special Exam (January 15 th 2:00 – 4:30 PM)

Student assessment: Your final score in the course will consist of the following:

Exams: 30 points

Three exams will be given this semester on Moodle Learning Platform. Each test will be graded at 10, with 10 multiple-choice questions based on each required readings (chapters) for this course

Assignments: 30 points

Assignments provide learning reinforcement and promote class preparedness. They give excellent feedback to help you learn and are a confidence-building tool. The assignments will also help with your preparation for the exams. As mentioned before, readings and assignments will be available for download on Moodle Learning Platform. During the semester, you will perform three assignments. Each assignment – graded at 10 – will be

composed of 10 questions about the required readings selected for this course. Credit on assignments is proportional to effort, not to “correct” answers.

Seminar: 20 points

Each student should individually prepare a seminar about a topic related to this course. The product will be a video within 20-25 minutes posted on YouTube, and a link should be uploaded as a DOC file on Moodle Platform, according to the course schedule shown above. Content teacher 3 and Emmanuelle will give more details about the activity during this course.

Participation: 20 points

I believe that the learning environment is optimal when the discussion is not dominated by a few but moved along incrementally by all of us. Participation is essential to the course since much of what you learn will emerge through conversations with your colleagues.

Bibliography

SLACK, N.; CHAMBERS, S.; JOHNSTON, R. Operations management. In: _____. Operations management. 7. ed. Prentice Hall, 2013. p. 4-35.

SLACK, N.; CHAMBERS, S.; JOHNSTON, R. Operations performance. In: _____. Operations management. 7. ed. Prentice Hall, 2013. p. 36-67.

SLACK, N.; CHAMBERS, S.; JOHNSTON, R. Operations strategy. In: _____. Operations management. 6. ed. Prentice Hall, 2010. p. 68-93.

Appendix F
Minor in International Studies

	Code	Title	Workload	Nature
1	*CAD001	Topics in International Studies	30	OP
2	*UNI139	International Approach to Oral Health Epidemiology	15	OP
3	*UNI140	Constitutionalism and Democracy in Comparative Perspective	30	OP
4	UNI141	Introduction to Transmedia Communication	30	OP
5	UNI142	Pharmacoeconomics	30	OP
6	*UNI143	The History of Aviation in Minas Gerais	30	OP
7	*UNI145	Sustainable Production of Food in a Tropical Environment	30	OP
8	UNI146	Global Health and Diplomacy: Concepts and Practices	30	OP
9	UNI147	Arte, Cultura y Literatura de los Países de Lengua Española	60	OP
10	UNI148	Brazil in the World: Foreign and Defense Policies	60	OP
11	UNI149	Chinese Culture	30	OP
12	UNI150	Comercio Internacional y Negociaciones Comerciales	30	OP
13	UNI151	Elements of Geo-Law: From Comparative Law to Geopolitics?	45	OP
14	UNI152	Gender, Race and Class	45	OP
15	UNI153	Health Promotion: Challenges and Potentialities	30	OP
16	UNI154	Human Rights in Brazil	45	OP
17	UNI155	Introduction to Indian Music	30	OP
18	UNI156	Institutions and Development	45	OP
19	UNI157	International Human Rights Law in the Americas	45	OP
20	UNI158	International Humanitarian Law	30	OP
21	UNI159	International Law and Politics	30	OP
22	UNI160	International Systems of Socioeconomic Indicators for Development and Inequality Analysis	60	OP
23	UNI161	Introduction to Chinese Traditional Medicine	30	OP
24	UNI162	Introduction to Law and Development	60	OP
25	UNI163	Languages, Cultures and Literacies in Higher Education Internationalization	60	OP
26	UNI164	Latin America in the World: Domestic and International Variables	60	OP
27	UNI165	Law And History Of The United Nations	30	OP
28	UNI166	Privacy and Data Protection	60	OP
29	UNI167	Refugee Protection and Displaced Populations: A View from Latin America	60	OP
30	UNI168	Smart City, Smart Building, Smart Life	30	OP
31	UNI169	The Geopolitics of Energy	45	OP

32	UNI170	The Geopolitics of Knowledge	60	OP
33	UNI171	The Urban Environment and Sound	30	OP
34	UNI172	Tools for Design: Introduction to an Emerging Context	15	OP
35	*UNI173	Topics in International Studies I	15	OP
36	*UNI174	Topics in International Studies II	30	OP
37	*UNI175	Topics in International Studies III	45	OP
38	*UNI176	Topics in International Studies IV	60	OP
39	UNI177	Trayectorias de desarrollo económico em América Latina	30	OP
40	UNI178	Women and Human Rights: Discourse and Practice	45	OP
41	UNI179	Women and the Law in Brazil	45	OP
42	UNI180	Global Ecology	30	OP
43	UNI181	Population Mobility in Latin America in Historical Perspective	30	OP
44	UNI182	International Marketing	45	OP
45	UNI183	Introduction to Population Studies	45	OP
46	UNI191	Comparative Health Systems: Global Perspective	30	OP
47	*UNI192	Intercultural Communication	30	OP
48	(**)	International Finance	30	OP
49	(**)	Surveillance of risk and protective factors for chronic non-communicable diseases	30	OP
(**)				
50	(**)	Tópicos em Estudos Internacionais	15	OP
51	(**)	Tópicos em Estudos Internacionais	30	OP
52	(**)	Tópicos em Estudos Internacionais	45	OP
53	(**)	Tópicos em Estudos Internacionais	60	OP

Source: adapted from: <https://www.ufmg.br/prograd/formacao-transversal/> 2021.

(*) Activities offered in 2021/1
 (**) Activities that will receive code the moment they are first offered.

Appendix G

List of Phrasal Verbs by Roos and Roos (2019)

Phrasal verb in Roos and Roos	Frequency in CorDent
1 - account for	81
2 - aim to	17
3 - be (is/are) based on	384
4 - be (is/are) bound to	0
5 - be (is/are) concerned with	0
6 - be (is/are) due to	406
7 - be (is/are) expected to	21
8 - be (is/are) followed by	85
9 - be (is/are) found to	84
10 - be (is/are) known to	19
11 - be (is/are) likely to	152
12 - be (is/are) meant to	0
13 - be (is/are) subject to	10
14 - carry out	106
15 - come back	0
16 - come out	0
17 - consist of	52
18 - deal with	4
19 - end up	1
20 - focus on	28
21 - follow up	271
22 - go back	1
23 - go through	1
24 - lead to	94
25 - make sure	1
26 - make up (comprise)	2
27 - manage to	0
28 - point out	1
29 - rely on	7
30 - seek to	3

31 - set up	0
32 - take into account	6
33 - take part in	2
34 - take place	2
35 - tend to	30
36 - result in	29
37 - work out	0

|

Appendix H

Exercise 5 – Listening Comprehension

Class video

<https://www.youtube.com/watch?v=INjrAXGRda4&t=2s>



5.1 Warm-up: Discussion



- a) Clue: Imagine living in crowded tenements in Soho, London, in 1854. Your home is cramped, and many people share one apartment. Describe the challenges of such living conditions and how they might contribute to the spread of diseases.



- b) People in 1854 believed that diseases, especially cholera, were caused by 'miasma' or poisonous air. Discuss how this belief might have influenced their actions during disease outbreaks.



- c) John Snow, a physician, played a crucial role in uncovering the cause of the cholera outbreak. Investigate how John Snow canvassed the neighbourhood and collected information during the outbreak. How did his actions contribute to solving the mystery?



- d) Examine the geographical context of the outbreak. What were the water sources and living conditions like in Soho in 1854? Use a map to identify key locations mentioned in the script, such as Broad Street and the John Snow pub."



e) Explore the significance of the Broad Street pump in the cholera outbreak. How did John Snow use data and mapping to identify this pump as a key source of contaminated water? Discuss the challenges he faced in convincing others of his findings.

5.2 Vocabulary Activity

Match the words with their definitions.

Cholera = Waterborne – Epidemic – Inauspicious - Outbreak - Epidemiology




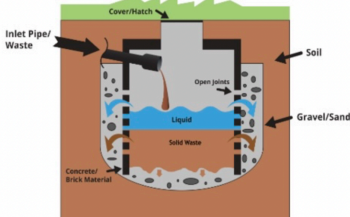
Word	Definition
1)	a) carried by or through water
2)	b) a serious infection of the bowels caused by drinking water or eating infected food, causing diarrhoea, vomiting, and often death.
3)	c) the appearance of a particular disease in a large number of people at the same time.
4)	d) showing signs that something will not be successful or positive.
5)	e) a time when something suddenly begins, especially a disease or something else dangerous or unpleasant.
6)	f) The scientific study of diseases and how they are found, spread, and controlled in groups of people.

5.3 - Match the words with their pictures, then search for their definitions on:

<https://dictionary.cambridge.org>

Tenements – Miasma - Cesspool – Canvassing.

Picture -	word	Definition / translation
-----------	------	--------------------------

1 - 		
2 - 		
3 - 		
4 - 		

Tenements: a large building divided into apartments, usually in a poor area of a city.

Miasma: an unpleasant fog that smells bad

Cesspool: a large underground hole or container that is used for collecting and storing solid waste, urine and dirty water.

Canvassing: to try to get political support or votes, especially by visiting all the houses in an area.

5.4 Answer the questions true or false:

- 1 –John Snow is credited with discovering that cholera is an airborne disease.
- 2 - The Broad Street Pump was associated with Dr John Snow's discovery in 1854.
- 3 - The people living in London in 1854 had access to clean drinking water.
- 4 - John Snow believed that cholera was transmitted through contaminated water.
- 5 - The outbreak of cholera in 1854 led to over 600 deaths.
- 6 - John Snow collected information about the outbreak to help the people affected.

7 - The baby who fell ill with cholera lived at number 40 Broad Street.

8 - John Snow removed the handle from the contaminated Broad Street Pump to end the epidemic.

5.5 – Discussion of the following questions:

1 - What was the cause of the cholera outbreak in London in 1854?

2 - Who is credited with discovering that cholera is a waterborne disease?

3 - How did John Snow end the 1854 cholera epidemic?

4 - What is the John Snow Pub and where is it located?

5 - What were the living conditions like in Soho in 1854?

6 - What was the prevailing theory about the cause of cholera outbreaks at the time?

7 - What was John Snow's theory about the cause of cholera?

8 - What happened to baby Lewis and how did it contribute to the cholera outbreak?

9 - How did John Snow collect information about the outbreak?

10 - What did John Snow discover about the Broad Street Pump and its connection to the cholera outbreak?

5.4 Answers:

1 – False – John snow is credited with discovering that cholera is a waterborne disease, not airborne.

2 – True.

3 – False – The people did not have access to clean drinking water in 1854.

4 - True

5 - True

6 - True

7 - True

8 - True

5.5. Possible answers:

1 - The cholera outbreak in London in 1854 was caused by contaminated water.

2 - John Snow is credited with discovering that cholera is a waterborne disease.

- 3 - John Snow ended the 1854 cholera epidemic by removing the handle from the contaminated Broad Street Pump.
- 4 - The John Snow Pub is a pub located on what used to be Broad Street, associated with Dr. John Snow's discovery in 1854 that cholera is conveyed by water.
- 5 - Soho was a very crowded neighbourhood filled with tenements with people not of a lot of means, with cesspools in little front courtyards and no proper drainage or sewer systems.
- 6 - The prevailing theory about the cause of cholera outbreaks at the time was that they were caused by poisonous air or miasma.
- 7 - John Snow's theory about the cause of cholera was that it was a waterborne disease, not carried in the smelly air.
- 8 - Baby Lewis became ill with cholera, and the waste from him and other people who became ill with cholera mixed with the water supply from a relatively shallow well, causing the cholera bacteria to multiply.
- 9 - John Snow canvassed the neighbourhood, collecting information about who was dying who needed help and what they had done to possibly ingest water from the various water supplies in the area.
- 10 - John Snow discovered that most of the people who had fallen ill and who were continuing to fall ill had drunk water from the Broad Street Pump, which was the closest pump to almost all of the people who eventually died.