4 Applying the ROAD-MAPPING Framework in Comparative English-Medium Instruction Research

A Cross-Case Study in China, Japan and the Netherlands

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Introduction

Against a backdrop of the increasing internationalisation of higher education (HE) worldwide, the number of programmes using English-medium instruction (EMI) has significantly expanded, as well as the number of empirical studies of EMI. This is particularly so in a European context where EMI provision has been comprehensively reported on over the last few decades. Similarly, in East Asia, including China and Japan, there has been an uptick in EMI studies. This chapter reports on a comparative EMI study that investigated three distinct cases and attempted to make those cases referable and comparable in order to deepen our understanding and to facilitate impact in terms of research-led solutions to common challenges such as the limitations of English as a medium of instruction, concerns regarding achieving learning outcomes, language proficiency, and equity of access to resources and qualified instructors. A cross-case study was conducted in three undergraduate business schools in the Netherlands, China and Japan, each with a distinct English-Medium Education in Multilingual University Settings (EMEMUS). This chapter addresses how the ROAD-MAPPING framework was deployed and applied. Findings focus on EMI enactment, student language proficiency, teacher linguistic competence, and integration of content and language support at both institution and classroom level. This chapter concludes with affordances that the ROAD-MAPPING framework brings to researchers in this field. A note regarding terminology: in this chapter, the abbreviation EMEMUS is used to refer specifically to English-Medium Education in Multilingual University Settings, in other words, a specific context of EMI which is located in an HE and multilingual setting.

Rationale and Aims

HE institutions worldwide operate within distinct linguistic, policy and pedagogy contexts, both in general and within the context of EMI implementation. For example, these contexts vary across heterogeneous or homogenous geo-linguistic areas, with multilingual or bilingual education, partial EMI or comprehensive EMI, pedagogically explicit or implicit, and so forth (Dafouz & Smit, 2016, p. 399). Despite the growth of EMI research worldwide, there remains a paucity of comparative case studies that showcase the impact of EMI implementation on the learning outcomes across institutions, regions, countries and continents (Macaro et al., 2018).

The study described in this chapter helps to fill this gap by examining EMEMUS in an international cross-case study using the ROAD-MAPPING framework. The framework allows the authors to transform research findings from separate and specific cases into a synthesised cross-case analysis for further comparison and discussion, especially when there is a significant amount of data to navigate (Dafouz & Smit, 2016, 2020). The authors examine the application of the ROAD-MAPPING framework as a methodological tool and analytical guide. They examine how case studies and comparative research can benefit from the ROAD-MAPPING framework and reflect on affordances of the framework based on their experience.

In this study, EMI is defined as 'the use of the English language to teach academic subjects (other than English itself) in countries or jurisdictions in which the majority of the population's first language is not English' (Macaro et al., 2018, p. 37). The authors set out to gather stakeholder perceptions as well as evidence of practices as a means of deepening understanding about differences and similarities between three distinct EMEMUS and delineating research-led suggestions for EMI implementation. The study accessed three HE institutions with an explicit internationalisation strategy and with a well-established undergraduate EMI programme in action in the fields of business, economics and management, one of the key areas of EMI growth along with engineering (Wächter & Maiworm, 2014). The research aimed (i) to document, as comprehensively as possible, how EMI in three universities was handled and (ii) to understand how the major stakeholders (academic staff, students, administrators, management) perceived EMI implementation in their respective institutions. A further, secondary aim was to consider whether there were implications and recommendations for EMI implementation arising from the cross-case study.

Compared to other approaches used to investigate EMI perceptions, e.g. delineating the micro or 'individualistic perspective' (Chapple, 2015; Dimova et al., 2015; Earls, 2016), the macro or 'societal perspective' (Costa & Coleman, 2010; Doiz et al., 2014; Yeh, 2014), and the meso or 'interpretation and implementation of micro and macro' (Aizawa & Rose, 2019) levels of scrutiny, the ROAD-MAPPING framework provides researchers with a model that is both comprehensive (in relation to all possible EMI aspects/elements in contrasting contexts) and explicit (regarding in-depth discussion of multi-faceted EMI). It

offers inclusive dimensions to scrutinise each context, leaving sufficient room for discussion and comparison. Our main rationale for selecting the ROAD-MAPPING framework was that it represents a robust means of distinguishing features within and across different university settings, particularly useful for a comparative study and for a case study design.

Context

This project set out to compare the European context where EMI was long established, and the East Asian context where EMI is rapidly expanding. As there have been comprehensive studies on content integrated language learning and English taught programmes in Europe and Western and Northern Europe in particular (Brenn-White & Faethe, 2013; Dimova et al., 2015; Wächter & Maiworm, 2008, 2014), universities in East Asia, including China and Japan, have become fully committed to the potential of EMI as an important component of HE internationalisation. This has increasingly drawn the attention of scholars (Barnard, 2014; Bradford & Brown, 2017; Hu & Duan, 2018; Hu & Lei, 2014; Rose & McKinley, 2018; Xie & Curle, 2020). In China, the Ministry of Education (MOE, 2001) identified EMI as one of the twelve strategies in offering high-quality undergraduate education and uplifting China's HE in the world. Investment and support have been provided to universities, especially those in Project 985 (39 universities), Project 211 (211 universities) and Double First-Class University Plan (42 universities and 465 disciplines from 140 universities) (Peters & Besley, 2018). These national projects share the aims of internationalising the selected universities and increasing their global rankings. In Japan, the Japanese Ministry of Education initiated *Global 30 Project* (MEXT, 2009) for its internationalisation of HE, with EMI as one of the four main principles. In 2014, the Top Global University project targeted 37 universities at national, public and private levels (MEXT, 2014). Like China, this project aimed to enhance the globalisation of both public and private universities in Japan, and to train graduates for positions of global leadership. It specifically set out to ensure that more of Japan's universities rank in the top 100 universities worldwide.

In light of these recent national projects to internationalise HE, China and Japan were chosen as the research sites for Asian EMI context, providing case studies of new EMI sites. For the European perspective, the Netherlands was identified due to its pioneering role in the field as well as the numbers of both EMI and CLIL (Content and Language Integrated Learning) programmes established since the 1950s (Wilkinson, 2013). The Netherlands also consistently offers the highest number of university programmes taught through English after English-speaking countries are taken out of the equation (OECD, 2012). For instance, the Netherlands is number one non-English speaking European Union country with EMI practice in HE (Brenn-White & Faethe, 2013; Edwards, 2016).

Among the very limited number of studies comparing EMI contexts in Asia and Europe, Bradford (2013) examined the specific challenges faced by Japanese HE involved in implementing degree programmes taught through the medium

of English. She employed a comparative perspective to examine the rationales and policies for EMI implementation in Japan and in Europe using publicly occurring policy documents in both locations. She also addressed the challenges and successes associated with Japan's adoption of the European experience. According to the study, while EMI implementation in Europe was more established than in Japan, similar linguistic, cultural and management challenges could be observed in both sites. Bradford proposed that students should be offered English classes and other academic skills to address their linguistic difficulties, while teachers should be supported with professional training to foster linguistic competence and pedagogical adaptation. This study aimed to step further with empirical evidence-based case studies in a comparable fashion.

While there is a lack of comparative studies in this specific field, studies of EMI stakeholder perceptions and experience are among of the most scrutinised (Dafouz et al., 2016; Dearden & Macaro, 2016; Doiz et al., 2014; Jensen & Thøgersen, 2011; Nashaat-Sobhy & Sánchez-Garcia, 2020). Student perceptions, as the key stakeholders, have been intensively investigated. Students regard EMI as an inevitable global trend (Earls, 2016) and view it as a means to improve English skills and obtain a competitive edge in terms of employability (Bozdoğan & Karlıdağ, 2013; Chapple, 2015; Ellili-Cherif & Alkhateeb, 2015). Many studies centre on issues related to students' English proficiency and its impact on their content learning. Some studies have shown negative perceptions of English proficiency and a detrimental effect on content learning (Choi, 2013; Khan, 2013; West et al., 2015). Turning to teacher perceptions towards EMI, these overlap in some areas with student perceptions in the literature. EMI is regarded as a key component in the HE internationalisation process and perceived as beneficial to both personal and professional development (Dearden & Macaro, 2016; Earls, 2016; Hamid et al., 2013; Hu et al., 2014; Jensen & Thøgersen, 2011). However, English proficiency is viewed with concerns by teachers. Studies tend to show that teachers are concerned with their students' lack of linguistic readiness to engage in EMI (Başıbek et al., 2014; Choi, 2013; Macaro et al., 2016). In response to the pivot from instruction through the students' L1 to an EMI context, teachers tend to express concerns regarding the adaptation of curricula, choice of teaching approaches, materials and assessment (Başıbek et al., 2014; Hellekjær, 2007).

Having reviewed some of the relevant features of the context within which EMI is becoming increasingly available, we now turn to the specific aims of our cross-case study.

The Study

In its aims of collecting data on EMI practices, and exploring stakeholder perspectives of EMI, four research questions were articulated for the cross-case study:

1   How is EMEMUS profiled and enacted in three universities through the lens of the ROAD-MAPPING framework?
2   How do students at each university perceive their EMI experience?

3 Do teachers' perceptions of students' linguistic progress align with students' self-reporting?

4 Are there implications and recommendations for EMI implementation that can be put forward from these comparisons?

The study used a mixed methods approach with questionnaires, semi-structured interviews, classroom observations and archival materials. The study's questionnaire and interviews provided the two major data sources, while classroom observations and archival materials were used to help triangulate findings. The questionnaire, designed to be circulated among students, consisted of questions about their perceived English proficiency, academic performance, motivation and benefits of EMI, and linguistic challenges. Face-to-face interviews with students and teachers, ranging from 10 to 30 minutes in length, covered the following themes:

- Motivation to enrol in an EMI programme;
- Recognised benefits and drawbacks of their EMI experience;
- Their English language proficiency and its relationship to content performance and their progress in English;
- Linguistic and pedagogical challenges related to language difficulties;
- Strategies used to address language and education challenges;
- Recognised institutional language support and its perceived utility;
- Teacher/student proficiency in English and pedagogical approaches and
- General suggestions for improvements to their EMI programme.

On administration of questionnaires and interviews, classroom observations were conducted, focusing on pedagogical approaches and situations where linguistic challenges and strategies arose. Archival review included capturing as much publicly available information on each EMI programme as possible, from programme brochures, to websites and programme/module student handbooks.

A purposive sampling strategy as well as practical considerations regarding access to research sites (Miyahara, 2020) meant that three undergraduate business programmes in China, Japan and the Netherlands were selected. The NL-U-selected was one of the earliest HEs to introduce English-medium programmes in the 1970s and is home to a highly ranked and triple-accredited business school. The majority of students enrolled in the EMI programme were of European origin, predominantly Dutch and German, with only a small percentage of non-EU students. The project examined its business offerings as well as its English language support programme. The C-U is ranked in China's top 10% of HE institutions and launched its first business school in 2002 in response to a national drive to foster home-grown graduate talent with skills in global leadership. The faculty sampled was the school of economics, business law and finance, which is described by the university as having an innovative and advanced internationalised teaching approach, including the combination of English for Specific Purposes (ESPs) and bilingual (Chinese and English) teaching as well

Table 4.1 Data collection instruments and sample sizes

	C-U	J-U	NL-U
Student questionnaires	247	62	254
Student interviews	11	6	10
Teacher interviews	4	6	6
Manager interviews	2	1	2
Classroom observations	5	2	2

as EMI (English only). The J-U received funding to boost EMI as part the Top Global Project initiated by Japan's Ministry of Education, Culture, Sports, Science and Technology in 2014 in its mission to advance the internationalisation of HE in Japan. The English-medium curriculum track in the university's business school formed the focus of the study. The lead author visited each institution and collected the dataset presented in Table 4.1. The questionnaire circulated was English across the three sites, with a Chinese and Japanese translation of key words and a glossary attached in C-U and J-U administration. Interviews at C-U were conducted in Chinese, as this is the lead author's native language, while English was used to interview the J-U and NL-U participants.

For quantitative data derived from the student questionnaires, explorative factor analysis (EFA) (Hossein, 2015) was conducted and established four factors reflecting student perceptions: (i) English proficiency and improvement, (ii) English competency in content learning, (iii) motivation and benefits and (iv) linguistic obstacles. The NVivo software package was used to conduct qualitative analysis of the interview transcripts. The node repertoire was constructed from top-down direction using 'thematic coding' (Kvale & Brinkmann, 2009) based on research questions for key themes and bottom-up direction using 'eclectic coding' (Saldaña, 2013, p. 188) on open-ended exploration of the data. The interview themes were listed as 'top-down' parent codes with a second layer of 'data-driven' children nodes based on sub-themes emerging from these larger pre-determined themes. Together with the quantitative data, these themes were further merged and categorised under the ROAD-MAPPING framework dimensions. It is worth noting that the dimension Academic Disciplines played the role more of a selection criterion and less of an analytical criterion. The EMI subjects sampled across three settings are business and their pertinent areas as academic disciplines with the most significant growth in EMI provision. Thus, the dimension Academic Disciplines is not particularly discussed under the first research question. The next section addresses the study's key findings and discussion points.

Findings and Discussions

We now turn to the main findings of the cross-case study, with the ROAD-MAPPING framework applied to help navigate our findings and discussion. Table 4.2 summarises the ROAD-MAPPING framework at each university and

Table 4.2 Summary of the dimensions of the ROAD-MAPPING framework for EMEMUS at each university

	C-U	J-U	NL-U
Roles of English	• One of two parallel mediums of education (the other one is Chinese mandarin) • Co-exists in complementary and conflictual ways with other languages such as Chinese mandarin • Being used for academic purpose only, i.e. lecture content, learning activities fulfilling learning objectives and assessment	• Explicit main medium of education • Co-exists in dynamic, complementary and conflictual ways with other languages such as Japanese • Being used as individual codes and as a flexible form of multilingual communication	• Explicit main medium of education • Co-exists in dynamic, complementary and conflictual ways with other languages (mainly European languages) • Being used as individual codes and as a flexible form of multilingual communication
Language Management	• No pre-requisite requirements for English upon student admission • Encouraged but not required in teachers' recruitment	• TOEIC[1] scores were required from students for the purposes of admission and English proficiency-based class division	• English requirements for EU Inner Circle students, except those from the Outer Circle • Language proficiency not required, but desired, in faculty recruitment
Agents	• **Students**: Chinese students with homogenous linguistic backgrounds (**Local**) • **Teachers**: Chinese teachers with overseas experience (studying, teaching or researching) (**Local**)	• **Students**: Majority Japanese students, some of whom had overseas experience (**Local**) • **Teachers**: Language support teachers from English-speaking countries, such as America and Australia; content teachers mixed with Japanese (with overseas experience) and Inner Circle nationalities, such as America (**International**)	• **Students**: 60% German, and the rest Dutch, European and around the world. Heterogeneous linguistic repertoire consisting mainly of European languages (**International**) • **Teachers**: Majority Dutch teachers with a little overseas experience (**Local**)

(Continued)

Table 4.2 Summary of the dimensions of the ROAD-MAPPING framework for EMEMUS at each university *(Continued)*

	C-U	J-U	NL-U
Practice and Processes	• Pedagogical approach: a mixture of learner-centred and traditional learning • 'Separated' integration of language and content modules • Language class: English most of the time • Content class: depending on teachers • Limited collaboration • Teaching materials: English, Chinese or mixed	• Pedagogical approach: learner-centred • Highly integrated curriculum with ESP modules attached to content topics • Language class: English only • Content class: English most of the time • Consistent collaboration • Teaching materials: English only, simplified English according to students' levels	• Pedagogical approach: learner-centred and active • English academic writing support attached to subject curriculum • Structured and straightforward collaboration • Teaching materials: Original versions
Internationalisation and Glocalisation	• **Motivation:** Bilingual and EMI as a school feature and development goal for a first-class institution, corresponding to national HE development strategy • **Future development:** Continue to expedite the process of internationalisation of HE while improving teachers' capabilities	• **Motivation:** Bilingual programme as an innovation and competitive edge with other domestic universities • **Future development:** Continue to improve the programme to face increasing competition with similar bilingual/EMI programmes within the nation	• **Motivation:** EMI as a strategy to attract international students and follow the trend of 'business through English' • **Future development:** Continue to accommodate the growing number of students despite challenge of teachers' English proficiencies and expanding community culture dynamics

provides a detailed picture of how EMI is enacted in each university. Table 4.2 also provides a snapshot of the dataset. It presents the dimensions vertically (Roles of English, Language Management, Agents, Practice and Processes, Internationalisation and Glocalisation); the findings from each site are then summarised horizontally by dimension.

EMEMUS profile and enactment

The first research question interrogated how EMEMUS was profiled and enacted in each university. Analytically, it was important to find an efficient means of navigating the project's data in order to present both an overall EMI context across the three sites and to compare a significant number of EMI aspects. The ROAD-MAPPING framework, through its explicit dimensions, provided a robust lens through which the data could be sifted and compared.

When we compare institutions by dimension, we see two major differences between the NL-U and the two Asian universities in terms of the institutional drives (dimension Internationalisation and Glocalisation) and how EMI was approached with regard to the dimension Practice and Processes. Firstly, the institutional motivation of the NL-U aligned with national goals as well as the Bologna process (Unites, 2014), which aimed to increase numbers of international students, to mobilise students within Europe and to enhance student employability in an interconnected business environment where English is dominant as the lingua franca. In comparison, the institutional drives of the two Asian universities were more focused on elevating the university's and the business school's competitiveness, using EMI as an innovation, with other domestic universities, while still being part of a national strategy of HE internationalisation. These findings related to institutional drives align with similar findings in previous studies of EMI in Asia (Hu & McKay, 2012; Rose & McKinley, 2018).

Secondly, EMI programmes were approached differently in the aspects of Language Management and Practice and Processes. Notably, in terms of a CBLT (content-based language teaching) setting (Met, 1998, p. 4), NL-U demonstrated a total immersion pattern, which meant that language improvement was not, or was merely a part of, the curriculum goal, whereas the bilingual curriculum in the two Asian universities demonstrated a similar pattern of integration of content and language support (content courses + language), implying that the programmes had the dual goal of language improvement and content comprehension, as their name suggested. However, despite sharing a similar integration pattern, the two Asian universities approached EMI differently. These differences were reflected in their degree of integration and teaching collaboration. Language support in J-U was more specifically designed and organised around curriculum content than it was in C-U. This seemed to be due to local school resources and capacity at J-U. While C-U leveraged EMI with the additional introduction of business courses to their existing, reputable and already structured language education, J-U seemed to have established its language modules

around the grounded content courses, in order to be flexible and to maximally produce classes suitable for the content.

Another noteworthy finding with regard to Practices and Processes was evident from the differences between the agents, which further impacted on the Roles of English and Language Management. Despite catering to students with similarly homogenous linguistic backgrounds, within an East Asian context influenced by Confucian heritage culture that is controversially perceived as favouring passive and compliant learning approach (Tran, 2013), the bilingual programmes in J-U demonstrated a much more proactive learning approach than those in C-U. In other words, despite the apparent commonalities between J-U and C-U, the learner-centred approach deployed at J-U was much more akin to that of NL-U. The fact that the entire language support faculty at J-U consisted of English native speakers and that the content faculty was mixed directly reflected the teachers' pedagogical ideologies and methodologies. This resonates with the findings of Bradford (2018) in which she argued EMI challenges go beyond problematic English competence to a higher level of learning culture and approach. Additionally, because of strict language requirements and the high level of English proficiency demonstrated by teachers, students were pushed to adapt to a proactive learning style through high exposure levels to English. These results echo findings from an EMI investigation of Japanese and Chinese universities by Galloway et al. (2017), in which the exposure to English reported by the students, in terms of lectures, course materials, classes and exams, highlighted contrasting differences between Japanese and Chinese students. Thus, beyond each university case, it can be concluded that among the interrelated framework dimensions, the linguistic background and language competence of the agents, especially teachers and students, have an impact on the Roles of English and Language Management, as well as the pedagogical Practice and Processes. The agents' linguistic backgrounds and language competence could be the result, or a reflection of, top-down policies and strategies at the school level or beyond.

Students' perceptions

The study's second research question asked how students at each university perceived their EMI experience. On the quantitative side, there was a significant statistical difference across the three universities in the four factors identified in the study:

1   English proficiency and improvement
2   English competency in content learning
3   Motivation and benefits
4   Linguistic obstacles

While current space does not allow for a consideration of each of these factors, it is worth examining in particular the second factor that we describe as 'English

Table 4.3 Student self-ratings of their English competency in content learning

	C-U		J-U		NL-U	
	Mean	*SD*	*Mean*	*SD*	*Mean*	*SD*
Factor 2: English competency in content learning	2.56	0.66	3.43	0.63	4.24	0.54

competency in content learning', which reflects the linguistic impact on content learning outcomes – one of the most controversial EMI research topics. Our findings here indicated that students rated their English ability differently across the three academic situations, with NL-U students (Mean = 4.24, *SD* = 0.54) rating themselves the highest, and C-U students rating themselves the lowest (Mean = 2.56, *SD* = 0.66). J-U students fell in the middle (Mean = 3.43, *SD* = 0.63). Table 4.3 presents the overall findings for this factor by institution. One-way ANOVA (Table 4.4) showed a significant difference between the three cases.

Such contrasts in this factor reflect how students perceived how Practices and Processes were influenced or dictated by Role of English and Language Management. For instance, because English was applied as academic and communicative language in J-U and NL-U, in both their policies and pedagogical realities, students were more exposed to English, resulting in a sustainable and enriching English language environment. On the contrary, since English was used principally as an academic medium at C-U, compromises had to be made in both university policy and its pedagogical reality, leading to a less exposed English environment overall.

On the qualitative side, in the student interviews, though there was agreement regarding the link between English improvement and EMI provision. Students from C-U emphasised limited progress due to weak English language base, increasing dependence on notes and handouts in Chinese, and absence of examinations and other assessments in English, while NL-U students pointed to their limited progress in general English due to speaking only to linguistically homogenous peers (mostly Dutch and German). The following two interview

Table 4.4 One-way ANOVA output on factor 2 'English competency in content learning'

			Scheffe		
Dependent Variable			*Mean difference (I-J)*	*Std. error*	*Sig.*
English competency in content learning	C-U	J-U	−0.86620*	0.08647	0.00
		NL-U	−1.67110*	0.05403	0.00
	J-U	NL-U	−0.80490*	0.08617	0.0

*The mean difference is significant at the 0.05 level.

extracts from one C-U and one J-U student interviewee reflected one interrupted and another sustainable inter-influencing circle among three dimensions.

> [because of which] I had to make an effort to check up the words. Gradually it came to teachers' attention. And then teachers sent us [PPT slides or handouts] versions with Chinese translation or notes. [Because of this], I started to resort to the Chinese part and stopped checking up English. … Nowadays I feel that my [English] intuition has become worse than before, or the exam time…I felt my English was always at my best when exams were approaching. (Student L, C-U)
>
> I believe everything. Because, in this program we have to use all of our English skills. For example, we have today we did some presentation for everyone. I have to watch some CD with people, makes summary or something I gave some presentation today. So in this process, I have to use English skills in this kind of field, so in this program I have to use all of my English skills, and, actually my TOEIC score has been really improved. (Student S, J-U)

Teachers' and management perceptions

Thirdly, the study asked whether teachers' perceptions of students' progress aligned with students' self-reporting. C-U and J-U teachers showed concern about their students' proficiency in English, in contrast to the generally positive assessment of student English proficiency by NL-U teachers. As well as sharing concerns, teachers at C-U and J-U implemented different pedagogical approaches and solutions to this problem, showing a variety of beliefs and opinions regarding how to best address linguistic challenges experienced in content learning. Some teachers made compromises in terms of language management in classroom interactions and assessments, i.e. either adapting a bilingual approach or excluding English in some parts of content teaching. One C-U content teacher believed it was not their job to teach students English, so they excluded English from their assessment as a means of language management. Some teachers at J-U adapted English materials in the language support or ESP classes for students at different English levels. Notably, several teachers at J-U mentioned that mastering the deeply embedded testing and passive-learning culture was more important for students than actively mastering English and EMI skills. Such comments aligned with previous studies in the Japanese context (Bradford, 2013; Bradford & Brown, 2017).

Across all three universities, teachers agreed that there was a need for more English support and content-integrated curriculum and teaching coordination in order to ease the perceived gap between content and English. As one writing support coordinator at NL-U stated: 'Because they [the regular students] are so good at communicative English, they believe that they do not need to have academic writing, training …. And they do not understand that even native speakers need training on how to write an academic paper'.

Implications and recommendations

Finally, this study also asked whether there were implications and recommendations for EMI implementation arising from this cross-case study. Firstly, a proactive and communicative approach in teaching culture which is encouraged, supported and promoted at the national, institutional and classroom level leads to success in EMI implementation (as it does in education in general). Secondly, where teachers' different linguistic and educational backgrounds were apparent in Roles of English, Language Management, Practice and Processes, EMI provision may achieve what it intends to when goals for EMI implementation are explicit, specific and consistent. In other words, EMI needs to be purposeful rather than incidental and embedded in all aspects of the programme's delivery. Thirdly, the collaboration between language support and content programmes deserves more attention and investment in order to support learning outcomes. Fourthly, while there was a shared agreement among and between managers regarding EMI provision as an important means to internationalisation and global (domestic) reputation, which was recognised by students as well, C-U management emphasised the importance of faculty's English proficiency and their research/publication ability among international academic community, while NL-U warned otherwise qualified staff not be recruited due to a lack of ability to teach through English. Finally, it is also crucial for institutions to offer training and professional development support with a focus on pedagogical methods and language skills. Last but not least, as Dafouz and Smit (2016, 2020) stress, the ROAD-MAPPING framework is positioned in multilingual HE settings inclusive of any universities in which bilingual or multilingual learning exists. Such positioning corresponds to the emerging trend of multilingual education across the globe. In other words, the pursuit of EMI is not the equivalent of a forced 'English only' or monolingual medium classroom, especially when learning outcomes may be significantly compromised.

In summary, within the ROAD-MAPPING framework, this study identified distinct differences between the three EMEMUS case studies in regard to overall EMI implementation, students' perceived EMI experience especially regarding English competency in content learning, and teachers' perceptions and pedagogical practices. Findings for research question 1 showed Roles of English at C-U was exclusively positioned as academic language due to the fact that nearly all students and teachers are local and thus share Chinese as their communicative language. Thus, the Practice and Processes showed a distinct bilingual pattern with loose integration between the language support and content at C-U. On the contrary, NL-U approached EMI in full immersion fashion with English academic writing support centre attached to the curriculum in practice. English was academic and lingua franca resulting from its multilingual agents and university setting. J-U was situated in the middle of the continuum in which English was applied as academic and communicative language between its international (mainly English-speaking) faculty team and local (or Asian)

students. The Practice and Processes showed a similarly bilingual pattern as C-U but with a highly embedded curriculum. With a focus on English competency in content learning, the second research question investigated students' overall Practice and Processes experience. Findings indicated students at C-U were frustrated with the linguistic challenges and its detrimental effect on content learning. Despite a more positive stance from J-U and NL-U, students were investing extra efforts in meeting the challenges, both linguistic and learning culture wise, and opportunities. Research question 3 found teachers at C-U and J-U also had concerns about students' English proficiencies and readiness, but they adopted different Practice and Processes in response to the challenge. C-U teachers took the content delivery quality into account and thus emphasised the necessity of implanting a bilingual approach into the overall curriculum. J-U teachers, on the other hand, reiterated students' linguistic limitations and relatively passive learning culture and their negative influence on content outcome, and thus a seamless integration of ESP support and an overall proactive pedagogical approach are essential. Though overall satisfied with students' linguistic proficiencies and content outcome, NL-U teachers particularly stressed the importance of academic writing in English. In addressing the problematic 'English' and sophisticated EMEMUS contexts worldwide, research question 4 explored possible policies and pedagogical approaches that position EMI in an inclusive and multilingual university setting such as embracing on agent's plurilinguistic resources, a proactive integration of content and language, sufficient professional training and development.

Evaluating the ROAD-MAPPING Framework in a Cross-Site Study

In this cross-case study, the ROAD-MAPPING framework met the research challenges and proved to be effective in navigating its multi-site dataset. Its explanatory potential lies in the framework's clarity, explicitness and inclusiveness as an overarching conceptual tool as well as providing a methodological orientation. However, several constraints and limitations did emerge in its application, and these are discussed briefly below.

Firstly, as one of probably the most straightforward and multi-dimensional frameworks for EMI studies at present, the fluid nature of ROAD-MAPPING framework's six intersecting yet distinct and independent dimensions means that there is sometimes overlap and repetition. This became obvious during the presentation and analysis of the three EMEMUS contexts. For instance, the most obvious overlap in this cross-case research was found in the Roles of English, Language Management and Practices and Processes. The policy set by Language Management directly dictates English's status in the programme (Role of English) and the pedagogical practice, including teachers' thoughts and beliefs (Practices and Processes). Such an inextricable link among these dimensions makes it difficult not to mention the others while addressing each dimension, and such cross-reference inevitably leads to

repetition, which could compromise clarity of reporting. In this study, the analyses of the dimensions of Roles of English and Language Management were combined and presented together.

Secondly, and rather than being a limitation, there may be potential for the ROAD-MAPPING framework to develop its own research kit and resource package for each dimension, making the framework a truly informative, formal, generalised and compatible guide for EMEMUS studies. As problematic as EMI definitions in various contexts worldwide are, EMEMUS research has reached a stage where numerous studies have been conducted on a great number of aspects using different methodologies. However, at the same time, implications and suggestions can be only generalised to a limited extent. In part, this is due to the strong contextual elements of EMEMUS, and, in part, this may also be due to the lack of a 'standardised' guideline with 'specifications' – including the ROAD-MAPPING framework. A further breakdown of suggested categories, lists and topics in each dimension will be an invaluable tool for researchers. For instance, Dafouz and Smit (2017, p. 299) amplify Roles of English with factor types that are further explained with specification and exemplification. Such amplification is much appreciated because it attempts to offer a holistic but detailed lens to the role English plays in EMEMUS. More significantly, researchers could choose different angles or factors that are clearly defined and scoped, so any findings and analysis of those particular factors could be feasibly generalised and referred to. While in this particular cross-case research project the framework set out a well-structured pathway which helped map the three case stories, there was still a need to create 'sub-labels' under each dimension in order to organise the very large dataset. For instance, under the dimension Practices and Processes, data from classroom observations, archive data (such as the course student handbook and the students' assignment scripts) and interviews with the faculty led to uncovering so many layers of pedagogy and perceptions that it became quite challenging to present them all without missing the focus. Therefore, a number of sub-dimensions were created to help fine-tune the analysis. For example, under Practices and Processes, a few sub-dimensions were established in this study for further analysis:

- English proficiencies and linguistic challenges
- Integration of content and language
- Teaching approach and assessment
- School management perceptions
- Teaching faculty perceptions

This study also identified subcategories under the dimension Internationalisation and Glocalisation, i.e. EMI motivation and future development implying strategy and implementation policy to reflect the perceptions of the agents and the overall EMI impact on them. It would be useful if a battery of such sub-dimensions existed within the ROAD-MAPPING framework for researchers to draw upon.

Conclusion

This chapter presented a cross-case study investigating EMI in three universities and applied the ROAD-MAPPING framework for EMEMUS. In applying the ROAD-MAPPING framework, the study described above was able to examine three distinct EMEMUS and present a synthesised discussion of the differences between the cases and generalised implications for EMI implementation worldwide. Comparative and cross-case EMI studies could benefit from the ROAD-MAPPING framework for EMEMUS as a multi-dimensional guide to navigate unwieldy datasets and complex EMI contexts in order to allow for in-depth analyses and robust comparisons. The chapter has also suggested how the potential of the ROAD-MAPPING framework could be expanded in future studies.

Note

1 Test of English for International Communication (TOEIC) is an international standardised test of English language proficiency for non-native speakers.

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