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Teachers' and support staff's views and experiences of digitally mediated EMI courses in two different university contexts

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Teachers' and support staff's views and experiences of digitally mediated EMI courses in two different university contexts

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ABSTRACT

This study aimed to investigate teachers' and support staff's views and experiences of teaching and supporting students in digitally mediated English Medium Instruction (EMI) courses in two different university contexts in Japan and Malaysia. Teaching in an EMI online setting was analysed through a behavioural science lens, adopting the Theoretical Domains Framework and the Capability, Opportunity, Motivation - Behaviour (COM-B) model. A survey and interviews were used to collect data from 20 teachers and 15 support staff. Descriptive statistics, alongside inductive and deductive thematic analysis were used to analyse the data. Overall, the findings suggest that the teachers and support staff perceived themselves as capable, motivated and with favourable physical and social opportunities to deliver their work. Challenges reported were often related to the social influence of student engagement and participation (social opportunity), which impacted on staff confidence (reflective motivation) in delivery. Lack of EMI-specific and information technology (IT) training (psychological capability) and the online infrastructure (physical opportunity) were further underlined. These results highlighted areas for future

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intervention including education, training, modelling and environmental restructuring and highlighted the nuanced differences in experiences and influences on behaviour between the two contexts and their related policies and environments.

1. Introduction

English medium instruction (EMI), a current trend in education and a key contributor to internationalisation of higher education (HE), is an increasingly popular educational approach in universities around the world. EMI, "an educational system where content is taught through English in contexts where English is not used as the primary, first, or official language" (Rose & McKinley, 2018, p.114), is practised in HE, although in different forms and for a range of purposes. These include helping facilitate students' English language learning experience and outcome, satisfying the university's desire to recruit international students, and expediating internationalisation of universities and their ranking (Sahan et al., 2021). In addition to the many benefits of EMI in HE, research has underlined a number of challenges in EMI provision (Macaro et al., 2016; Sahan et al., 2021; Shao & Rose, 2024). These include lack of teacher preparation, limited English language proficiency, restrictions in the support provided to teachers and staff to ensure successful learning outcomes, and curriculum change needed to align with EMI objectives (Sahan et al., 2021).

While the number of studies researching EMI has increased over the past years, several researchers (Macaro et al., 2016; Shao & Rose, 2024) argue that comparative studies where EMI pedagogic benefits and challenges are explored across different contexts are scarce. Such studies are essential to help develop a more in-depth understanding of teachers' and staff's experiences and challenges, particularly where they may vary from context to context and university to university (Shao & Rose, 2024). Comparative studies can not only help establish a core understanding of benefits and challenges, but also offer a set of solutions and strategies, at both policy and practice levels, to inform the wider EMI provision (see Inoue et al. this special issue). Additionally, comparative research can help expand our horizons about opportunities EMI offers, and the necessary factors that can support the use of EMI effectively.

Currently, many EMI courses are delivered online or in a blended mode in several countries and have been reported in areas including China (Liang, 2024), Saudi Arabia (Alqarni et al., 2024), and Turkey (Erdel, 2025). Recent research has provided ample evidence (Cheung, 2023; Harsch et al., 2022; Lee, 2022; Tao & Gao, 2022; Xu et al., 2022) about the challenges language teachers and students encounter when involved in teaching and learning in digitally mediated environments. Investigating teachers' and support staff's views, experiences and challenges when working with EMI courses online, however, is an under-researched topic. To help fill these gaps, the current study aims to investigate teachers' and support staff's views and experiences of teaching and supporting EMI courses online in two different educational contexts, a university in Japan and another in Malaysia.

2. Literature review

2.1. EMI in different contexts

Despite the widespread interest in EMI in the world, it is difficult to identify identical characteristics, or a "prototypical EMI context" (Shao & Rose, 2024, p. 2802), across the EMI provision in different countries, universities and academic disciplines.

The few comparative studies conducted in this area so far underline key differences across EMI university contexts, concluding EMI can take "a number of very different forms" (Bolton et al., 2024, p. 403). Such differences are often reflected in the amount of use of English in EMI courses, the educational and pedagogic needs that lead to decisions about offering EMI, the universities' language policies (English only, bilingual or multilingual), and the sociohistorical backgrounds of the EMI contexts (e.g., countries with colonial histories). Bolton et al. (2024), for example, comparing EMI courses in four higher education contexts in Cambodia, Indonesia, Singapore, and South Korea, report fundamental differences not only in the university's rationale for adopting EMI, but in the representation and use of English in and out of class, and the implementation of EMI courses. Lasagabaster (2022) also argues that the rationale for adopting and implementing EMI in different contexts is often embedded in their cultural, educational and financial history and in the context of globalisation (e.g., Lasagabaster, 2022). Regardless of the context, the interest in EMI is reported to be inherently dynamic and likely to change with the world around them (Curle et al., 2024), implying the necessity of researching EMI recurrently as it expands.

While EMI in education is a relatively recent development in many contexts (e.g., Saudi Arabia and Japan), it may not be totally new in others (e.g., in Hong Kong, Malaysia, Singapore, and several European countries). In Malaysia, English language and EMI were historically linked to the British colonial rule in the 18th Century (Stephen, 2013), and as such the abolition of EMI became central to the independence debates in the 1950s (Stephen, 2013) which led to the replacement of English with Malay in schools and universities in the 1970s. Later, during the 1990s, EMI gradually returned to Malaysian education as a component of globalisation and internationalisation of HE. Sahan et al. (2021) argued that the use of EMI in 'official development assistant' (ODA) countries (i.e., developing countries that receive aid to promote their economic development and welfare), including Malaysia, is related to the need for students to develop their English proficiency which is recognised as a key contributor to the development of the overall national economy.

In contrast, in countries such as Japan, EMI was primarily introduced to promote universities' internationalisation, aiming to recruit and retain international students to promote universities' sustainability and growth. In Japan, the introduction of the Global 30 Project by the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) in 2009 was aimed at inviting 300,000

international students to Japan and promoting the internationalisation of universities by offering EMI courses to those students with no or little Japanese proficiency. The Global 30 Project was later replaced by the Top Global University Project in 2014 in which universities received financial help to "enhance the international compatibility and competitiveness of higher education in Japan" (MEXT, 2014, p. 1). It is also worth noting that the implementation of EMI in Japan is strongly associated with the improvement of domestic students' English proficiency to create globally capable human resources (*kodo global jinzai*) (MEXT, 2011). Both the internationalisation of universities in Japan and the development of domestic students' English skills on the political agenda have led to the rapidly increasing number of EMI courses and/or programs, offered at 306 (40%) and 226 universities (35%) with undergraduate and graduate programmes, respectively (MEXT, 2014).

Given these differences, it is inevitably expected that EMI programmes are, to some extent, inherently different in terms of the kinds of teachers and students recruited, the proficiency levels expected, and the nature and level of support required. Given the differences across different EMI contexts, several researchers (e.g., Mckinley & Galloway, 2022; Selvi et al., 2023; Shao & Rose, 2024) have argued that comparative studies (e.g., multiple case studies) are essential to help shed light on the similarities and differences between these different EMI contexts and practices, and the stakeholders' experiences and challenges that they may face. A primary aim of this study is to provide insight into the similarities and differences in teaching and supporting EMI classes in the contexts introduced above.

2.2. Benefits and challenges of EMI

Recent research has reported several benefits of EMI. For students, an improved English proficiency and an efficient development of content knowledge are the most common benefits reported (Galloway et al., 2017; Galloway & Ruegg, 2020); for institutions, promoting universities' internationalisation, growth and ranking are indicated as the key benefits (Galloway & Ruegg, 2020). Along with such benefits, several challenges are reported in delivering EMI in different contexts. A commonly reported challenge is teachers' concerns about their own level of proficiency to teach subject content in English (Choi, 2013; Macaro et al., 2016). Shao and Rose (2024, p. 2803) have called it the "problematic E in EMI," arguing that concerns about teacher proficiency would impact the effectiveness of EMI. Linked to this challenge is the lack of an EMI-focused teacher training or teacher professional development provision, whether pre-service or in-service, to help teachers expand the knowledge and skills required to teach EMI (Lasagabaster, 2022; Lasagabaster & Fernández-Costales, 2025). Macaro et al. (2018, p. 56) conclude that an EMI teacher development provision "simply [does] not exist." Since then, other studies have confirmed Macaro et al.'s (2018) claim. Drawing on survey results from 234 South Korean and 92 Japanese teachers, Bradford et al. (2024), for example, reported that few university teachers had received training before starting to teach EMI; in-service training was also reported to be "rare in South Korea but on the rise in Japan" (p. 3143). Similarly, Wachter and Maiworm (2014) and O'Dowd (2018) demonstrate that only about a third of European universities offering EMI provided training for teachers and staff to address their EMI-related needs. A systematic review of the EMI literature between 2010 and 2020 conducted by Lasagabaster and Fernández-Costales (2025) suggests that a lack of teacher training has been a persisting shortcoming of EMI provision over the period under investigation.

A further challenge that may stem from this lack of training is the interactional behaviour of teachers and students in EMI. An et al. (2021) contend that EMI classes are likely to affect teacher and student interaction as EMI typically leads to monologic and less interactive teaching styles. Other studies (e.g., Airey, 2011) underline the cultural aspects of teaching (e.g., introducing humour) as additional challenges teachers face in EMI classes.

2.3. Digitally mediated communication in a university context

The digital delivery of teaching is a practice increasingly common in universities around the globe. While the practice of online teaching started with the advancement of technology in the early 2000s, the spread of the delivery of teaching in digitally mediated environments was accelerated by the COVID-19 pandemic from 2020. Tao and Gao (2022, p. 1) refer to the pandemic period as "an unprecedented global push towards remote online language teaching and learning" and argue that during the period teachers and learners have demonstrated "resilience, perseverance, and creativity under highly challenging conditions".

The move from in-person to online teaching is shown to have influenced the way content is being taught, language is being used, and the way stakeholders interact with one another. Since the onset of the pandemic, several studies have investigated language teachers' experiences and challenges when teaching online (Cheung, 2021, 2023; Harsch et al., 2022; Xu et al., 2022, to name a few). Harsch et al. (2022), collecting data from 35 teachers and 898 students in a language centre in a German university, reported several challenges related to interaction and engagement in online teaching. The authors explained that the challenges were linked to limited teacher-student and student-student interaction, few opportunities for student engagement, and learning to work with a different quality of interaction (e.g., lacking facial expressions). Harsch et al. (2022) maintained that teaching certain linguistic features (e.g., pronunciation) and promoting more personalised aspects of teaching and learning (e.g., one-to-one tutorials) were other challenges observed in online teaching. In a large-scale survey-based study, Xu et al. (2022) investigated Chinese as a foreign language teachers' experience of teaching online. The results highlighted teacher self-confidence and their skills in using technology as two factors predominantly affecting the quality of online teaching. Xu et al.'s (2022) results further underlined the teachers' crucial need for external support to prepare them for this new mode of delivery.

3. Theoretical framework

3.1. Using theory to understand behaviour: the Theoretical Domains Framework and COM-B model

Many of the factors mentioned as challenges thus far, such as confidence and skills to communicate, could be better understood through a theoretical lens. Despite their successful application in many disciplines, the use of behaviour theories is rarely observed in language education and applied linguistics research. The Theoretical Domains Framework (TDF: Cane et al., 2012), developed, validated, and widely used by behavioural scientists is one that has been reported as successful in understanding behaviour among different groups of individuals and professionals. The TDF can assist a 'behavioural diagnosis', an early stage of the Behaviour Change Wheel (BCW) Approach (Michie et al., 2011) to identify and conceptualise influences on behaviour through the COM-B (Capability, Opportunity, Motivation-Behaviour) model. Drawing on 33 theories of behaviour, the TDF offers 14 domains, agreed by a consensus of experts, as key influences on human behaviour. These domains cover: 'Knowledge', 'Skills' (physical/cognitive and interpersonal), 'Social/Professional Role and Identity', 'Beliefs about Capabilities', 'Optimism', 'Beliefs about Consequences', 'Reinforcement', 'Intentions', 'Goals', 'Memory, Attention and Decision Processes', 'Environmental Context and Resources', 'Social Influences', 'Emotions', and 'Behavioural Regulation'.

The TDF has been directly mapped to the COM-B model of behaviour (BCW: Michie et al., 2014; Cane et al., 2012; Chater et al., 2022) and offers a higher-order level understanding of behaviour through the three constructs of Capability, Opportunity and Motivation. Capability includes *physical capability* (e.g., TDF: 'Skills' (physical), alongside ability, strength, stamina) and *psychological capability* (e.g., TDF: 'Knowledge', 'Skills' (cognitive and interpersonal), 'Memory, Attention and Decision Processes', "Behavioural Regulation') related to physical and psychological abilities. Opportunity refers to the *physical opportunity* (e.g. TDF: 'environmental context and resources) and *social opportunity* (e.g. TDF: 'Social influences; including cultural norms) in the physical and social environments. Motivation includes both *reflective motivation* (TDF: 'Social/Professional Role and Identity', 'Beliefs about Capabilities', 'Optimism', 'Beliefs about Consequences', 'Intentions', 'Goals') and *automatic motivation* (TDF: 'Emotions', 'Reinforcement') that influence behaviour. The COM-B, which forms the hub of the BCW (Michie et al., 2011) was developed to understand any behaviour, in any setting, with any population, for any outcome. The TDF and COM-B model have been applied in many contexts such as workplace behaviour (Ojo et al., 2019), and health professional education and training (Courtenay & Chater, 2021; Hart et al., 2023), as well as in the adoption of learning design methodologies within higher education (Toro-Troconis et al., 2021). However, they have not yet been specifically implemented in an EMI setting.

The COM-B and TDF frameworks, which emphasize the multiple influences on behaviour form the core of the BCW, with nine intervention types and seven policy options positioned in its outer layers. Together the TDF and COM-B operate as an integrated system to generate a behavioural diagnosis to understand behaviour, which can then be theoretically mapped onto the BCW's outer layer intervention types and policy options. The Behaviour Change Technique Taxonomy version 1 (BCTTv1: Michie et al., 2013) can then be used alongside selected intervention types to operationalise behaviour change techniques in interventions and/or understand their mechanisms such as in education and training (Pearson et al., 2020). There are nine intervention types that can be mapped from a TDF/COM-B behavioural diagnosis, namely: Education, persuasion, incentivisation, coercion, training, restriction, environmental restructuring, modelling, and enablement. In an EMI setting for example, it could be that 'skills' (a TDF domain) is identified as an issue where staff may not be able to do something (such as the interpersonal communication skills to invite learners to turn their cameras on), which would be related to Psychological Capability (a COM-B construct). With this behavioural diagnosis, 'Training' would be an appropriate intervention type to use, with the behaviour change technique of 'Instruction on how to perform the behaviour'. However, in contrast, if the behavioural diagnosis reveals that 'Beliefs about Capabilities' was instead the issue showing a lack of confidence to ask learners to turn their camera on, which is related to Reflective Motivation from the COM-B model, then 'Persuasion' may be a more useful intervention type offering encouragement using the behaviour change technique of 'Verbal persuasion about capability'. Before intervention strategies can be selected, it is important to first understand what is influencing behaviour through a detailed behavioural diagnosis.

In this study, the TDF and COM-B model will be applied to identify factors influencing educators' behaviour providing a behavioural diagnosis in an EMI context. In line with the BCW's methodology, the target behaviour has been defined as: '*teaching classes in online EMI courses*' (for teachers) and 'supporting *teachers and/or students who are involved in online EMI courses*' (for support staff). Adopting this model will help develop a more in-depth understanding of the influences on teacher and support staff's behaviour offering a novel contribution to the field. While it is out of the scope of this study to develop a full end-to-end BCW intervention, findings will be mapped to appropriate intervention strategies and behaviour change techniques that could be used in future research and practical settings.

4. Research aims and questions

The current study aimed to investigate teachers' and support staff's views and experiences when teaching and supporting EMI courses delivered online in two different university contexts in Malaysia and Japan. The comparative and combined nature of the study will further help inform the EMI literature and allow for the development of some fundamental principles of an EMI provision. The study also aimed to use the TDF and COM-B model, as theoretical underpinnings, in understanding experiences and challenges in relation to the delivery of EMI online in these HE institutions. The following research questions guide the study.

RQ1: How do teachers and support staff (in the two universities) perceive their capabilities, opportunities, and motivation for teaching/supporting students in a digitally mediated EMI context?
RQ2: What challenges do teachers/support staff (in the two universities) experience when teaching/supporting students in a digitally mediated EMI context?
RQ3: What training and support are needed to teach/support students in a digitally mediated EMI context?

5. Methodology

5.1. Research design

A multiple-case-study approach was used to investigate the research questions. Multiple case study research designs are popular as they not only allow for "cross-case analysis", but they shift the focus of investigation from developing an understanding of a single case to understanding similarities and differences between cases (Hunziker & Blankenagel, 2021, p. 171).

Given the differences between educational and socio-cultural characteristics of the EMI provisions in Japan and Malaysia, we considered the two contexts suitable for the purpose of a comparative case study approach. Our choice of specific institutions in these contexts was further driven by convenience sampling. The study is descriptive and explanatory in nature, implying that the purpose is not to conclude which context is more successful or more efficient; rather, it aims to examine and describe how digitally mediated EMI is implemented in each context and how participants' experiences add to our understanding of EMI practices, challenges and needs.

The selection criteria for choosing the case studies were a) offering EMI at least for five years to students of different academic disciplines, b) recruiting EMI students at foundation (pre-degree), undergraduate and/or postgraduate levels, and c) offering EMI courses online at the time of data collection (October 2022). It is necessary to point out that when the data collection started, both universities had already started implementing a post COVID-19 policy of gradually moving back to in-person instruction, although they were still delivering EMI classes online (see Table 2 below for the proportion of online teaching in each context). This indicates that all staff and students had more than one year of online EMI teaching, learning and support experience at the start of data collection. The details of the two universities and their EMI contexts are discussed below.

For data collection, an explanatory sequential mixed-methods design was adopted to allow for an in-depth investigation of the study's focus. This design was deemed appropriate as it starts with quantitatively oriented data to indicate the emerging patterns before collecting more in-depth and nuanced data to highlight individual's views and experiences. To this end, a survey, collecting both quantitative and qualitative data, was first distributed among the participants. The survey results offered insight into common patterns and experiences. Semi-structured interviews then provided individuals with an opportunity to explain and elaborate on their answers to the survey.

5.2. The university contexts

The University of Reading Malaysia (UoRM) is a branch campus of the University of Reading, a prestigious UK institution established in 1892. UoRM started delivering its Foundation and Undergraduate programmes in Malaysia in 2013. Since then, the university has expanded in the range of courses and level of study offering foundation, undergraduate, and postgraduate programs in various disciplines. Currently, it recruits about 1000 students per year, a relatively small enrolment figure typical of branch campuses. Similar to other public and private higher education institutions in Malaysia, EMI is used as a university policy at UoRM. The data were collected from teachers teaching and staff supporting courses offering online classes in diverse fields of study such as Psychology, Mathematics, Business, Marketing, General Studies, and Law to form a representative sample of UoRM.

Waseda University, founded in 1882, is one of the prestigious private universities in Japan with a total enrolment of 45,000 students including Waseda affiliated primary and secondary schools. EMI was introduced at Waseda as an outcome of the launch of the Global 30 Project (2009) and the Top Global University Project (2014). Before the introduction of these projects, the university's only EMI course was the English-degree program in the School of International Liberal Studies recruiting both international and domestic students in 2004. Currently, it offers English degree programs at six undergraduate schools, 15 graduate schools, and one Professional Graduate School of Business to at least 3000 students. In addition, EMI is offered as both required and elective courses leading to a Japanese-based degree in several departments. For example, the Department of English Language and Literature in the School of Education has about 40 elective content courses conducted in English available for domestic students. The data for online EMI courses for this study were collected from the Schools of Social Sciences, International Liberal Studies, Political Science and Economics, and Science and Engineering (all English degree programs) and the School of Education (non-English degree program).

As can be seen from the descriptions above, the two universities have several structural differences including their size (for both students and staff), sociohistorical background, academic disciplines, and the rationale for adopting EMI. Highlighting these differences will help understand and interpret the findings of the study particularly in relation to the policies adopted by each university to respond to their contextual needs.

5.3. Participants

Using purposive, expert-informed sampling, twenty lecturers (10 from each university) and 15 support staff (8 from UoRM and 7 from Waseda) took part in the study and completed the initial survey ($N = 35$). Working with coordinators and administrators who oversee the teaching and support provision at each institution, we carefully identified all staff members whose roles directly involved

in EMI teaching and support and had sufficient (minimum one-year full time) EMI online experience to provide informed perspectives on the focus of the study. This consultative process ensured systematic coverage of the target population.

University support staff are generally non-academic staff who provide a wide range of administrative support (e.g., admissions), academic support (e.g., learning resources), technical support (e.g., IT), and operational services (e.g., graduations) to academic staff and students, aiming to support teaching and learning and to ensure the university functions smoothly. Support staff are key players in universities as they interact with both academic and students and often facilitate processes related to both. Given their significant role, it seems necessary to include their views and perceptions in the study; this will help provide a more comprehensive overview of issues related to teaching and learning in EMI contexts. The support staff in the two universities were similar in administrative and academic support and operational services they provided. A key difference between the two groups was that in the Japanese context, writing instructors were considered support staff (i.e. recruited to support student writing in a one-to-one setting), whereas in the Malaysian context writing support was typically included in the responsibilities of academic staff. Given this difference, we will see that some of the support staff in Waseda (two survey respondents and one interviewee) were writing instructors, while none of the UoRM support staff had writing support responsibilities. A sub-sample of eight lecturers (4 from each university) and six support staff (three from each university) were invited to take part in the interviews. To include different views and perspectives relating to COM-B influences, participants with varying responses to the survey questions were invited to take part. Detailed information about the participants is provided in Table 1.

5.4. Instruments

Two instrument types were used sequentially to collect data: A survey followed by a semi-structured interview. Two very similar versions of the survey were developed to be used for teachers and support staff (Appendix 1 and Appendix 2). The surveys, designed and implemented in the English language, consisted of three sections. The first section elicited demographic and professional information. The second section focused on single item COM-B questions based on an 11-point Likert scale adapted from a brief, generic six-item COM-B self-evaluation scale, previously published as a validated wording format intended to be adaptable to different contexts and behaviours (Keyworth et al., 2020). The scale ranges from 0 to 10 indicating *strongly disagree* to *strongly agree* respectively and the standardised wording formats ask about the six constructs of COM-B, namely physical capability, psychological capability, physical opportunity, social opportunity, reflective motivation, and automatic motivation.

Each COM-B question included a brief description of the COM-construct and aligned TDF domain (as per the originally validated format), the Likert scale ranking, and an open text box to elaborate on their answers if they wished. To facilitate participants' consistent understanding of the COM-B questions, the brief descriptions explained the constructs in simple language and provided examples for clarification. Adaptations of the instrument have been used successfully in other settings, and in repeated measures research (Armitage & Munro, 2023). An example of a survey item is provided below, which describes and exemplifies the TDF domain constructs of 'environmental context and resources'.

The final section included two open-ended questions about the challenges participants encounter when teaching/supporting online EMI courses and the support and training they need.

The survey was checked for face validity by team members from the UK, Japan and Malaysia and was piloted with three teachers and support staff at each university before finalised. The survey was deemed as understandable, measuring the concepts as set out by Keyworth et al. (2020), and no changes to wording were needed. It was uploaded on Google Forms, and the link was shared with the participants via email after they had given consent to take part in the study.

Small differences existed between the teacher and support staff surveys to suit their work characteristics (e.g., 'subjects you teach' for teachers versus 'sections you work with' for support staff). For further details, see a copy of the surveys in the appendices. Ethical clearance was received from each university and consent was sought from the participants before data collection started.

The second set of data was collected through follow-up semi-structured interviews. In the survey, the participants were asked to provide their contact details if they were willing to take part in the follow-up interviews. Based on the answers provided in the survey, an interview protocol was developed for each participant. To include varying perspectives, participants' survey responses were examined and participants giving low, medium and high-scoring answers to different questions were invited to the interviews. The interview questions encouraged the participants to clarify the points raised in the survey, including to explain the scores given for COM-B questions (especially if very high or low), expand on their answers to the open-ended questions, and discuss any other concerns or questions they had. To promote trust and rapport, a member of the local team in each context was selected to run the interviews within a period of 2-4 weeks after the survey completion. The interviews, varying in length from 30 to 50 min, were conducted in English either face-to-face or via Zoom/MS Teams. All the interviews were digitally recorded, fully transcribed and checked by two researchers for accuracy. The qualitative datasets (both the interview transcriptions and survey's open-ended questions) were of approximate length of 50K words for the teachers and 35K for the support staff.

5.5. Data analysis

For survey questions with numerical values, descriptive statistics are run to explore the data and to examine whether there were differences between the responses provided by the participants in the two institutions. Given the different response formats of the questions, different types of descriptive statistics are used to describe the data for each institution. For Yes/No questions, percentages are provided; for questions involving continuous data, means and standard deviations are presented; and for Likert scale questions, medians and ranges are indicated. Given the small sample size of the study, running inferential statistics was deemed inappropriate and

Table 1
Participants' demographic information.

	Teachers		Support staff	
	UoRM ($n = 10$)	Waseda ($n = 10$)	UoRM ($n = 8$)	Waseda ($n = 7$)
Nationality	Malaysian 9 Filipino 1	Japanese 5 Canadian 1 American 1 German 1 British 1 Indonesian 1	Malaysian 8	Japanese 4 Italian 1 Filipino 1 British 1
Gender	Female = 8 Male = 2	Female = 3 Male = 7	Female = 4 Male = 4	Female = 6 Male = 1
Age (mean in years)	43.1	50.4	31.0	38.5
Languages spoken	Several including Malay, Mandarin	Several including German and Japanese	Several including Tamil, Malay, Mandarin	Several including Italian and Japanese
Highest qualification	PhD = 5 MA/MSc = 5	PhD = 10	NA	NA
Departments	Law, Business, Psychology	Social Sciences, Politics, Science & Engineering, International Liberal Arts	Learning Resources, Student services, Admissions, IT services	Writing Centre, Teaching Assistants

Q13. I have the PHYSICAL opportunity to teach online classes in English.

What is PHYSICAL opportunity?

*The environment provides me with an opportunity to teach online classes in English (*e.g.*, enough time, space, appropriate devices, necessary materials and resources, reminders*).

therefore significance in differences was not considered.

For the qualitative analysis, data from the surveys and interviews were merged for each university and for each group of participants separately before they were analysed. The qualitative analysis included two approaches. To answer RQ1, a deductive approach to thematic analysis was adopted, with coding by two researchers, to allow working with the pre-determined constructs defined by the COM-B model of the BCW (Michie et al., 2011) and the TDF (Cane et al., 2012). Deductive thematic analysis, although a top-down approach with limited reflexivity and scope for 'confirmation bias' (Braun & Clarke, 2006), is recognised as a valid analytic framework for its several benefits, including providing a structured way to examining data, enabling researchers to map data to the theoretical framework to greater understand the phenomenon.

To answer RQ2 and RQ3, an inductive approach (Braun & Clarke, 2006) to thematic analysis was then adopted to provide a bottom-up approach to analysis and offer rich opportunities to explore the data for new insights and themes. Given RQ2 and RQ3 focused on challenges, training and support, the inductive approach enabled us to conduct a nuanced analysis and create a platform for novel insights to be identified.

The thematic analysis of data from each university was conducted independently before the analysis from the two case studies was compared. In the first step, one researcher coded the data manually for each of the four groups (teachers and support staff in the two universities) before the coded data were examined by a second researcher. Any disagreements between the two coding systems were discussed between the two, and if not resolved, a third researcher was invited to comment. The discussions among the three coders continued until agreement was achieved about all the codes. In the second step, the analyses from the four groups were compared before themes identified from the codes were finalised. In the final step, themes identified from the analysis were shared by researchers in the local research teams to seek their contextual insight. This final step helped enrich the qualitative analysis and ensure accuracy and appropriacy of the findings. In reporting the findings of the qualitative data, common themes between the two universities are discussed first, before the differences between the two, if any, are highlighted.

6. Results

6.1. Survey: quantitative data

Quantitative data analyses for each group are presented in Tables 2 and 3 below.

Teachers. Demographic data collected from the teachers indicated that overall teachers at UoRM were younger ($M = 43.1$) than

Table 2
Survey results for teachers.

Teachers	Malaysia (UoRM) ($n = 10$)		Japan (Waseda) ($n = 10$)	
	Yes	No	Yes	No
Q7. Have you had any training to teach academic subjects delivered in English?	66.7%	33.3%	36.4%	63.6%
Q8. Have you had any training to teach academic subjects in online-delivered courses?	81.8%	18.2%	11.1%	88.9%
	M	***SD***	***M***	***SD***
Q9. How long (in years) have you been teaching/have you taught academic subjects in online courses delivered in English (This includes experience at another university)?	3.40	2.41	2.70	1.34
Q10. In the current academic year (April 2022 - March 2023), what percentage of your teaching of academic subjects is done through online classes delivered in English?	9%	17%	59%	33%
Q11. In the last academic year (April 2021 - March 2022), what percentage of your teaching of academic subjects was done through online classes delivered in English?	64%	22%	69%	36%
	Mdn	***Range***	***Mdn***	***Range***
Q15. I have the PHYSICAL opportunity to teach online classes in English.	8.00	5.00	9.50	3.00
Q16. I have the SOCIAL opportunity to teach online classes in English.	8.00	7.00	7.50	8.00
Q17. I am MOTIVATED to teach online classes in English.	9.00	8.00	8.00	6.00
Q18. Teaching online classes in English is something that I do AUTOMATICALLY.	8.50	8.00	5.50	8.00
Q19. I am PHYSICALLY able to teach online classes in English.	9.50	3.00	10.00	3.00
Q20. I am PSYCHOLOGICALLY able to teach online classes in English.	8.50	4.00	8.50	3.00

$N = 20$; Likert scale in Q15-Q20: 0 (*strongly disagree*) to 10 (*strongly agree*).

Table 3
Survey results for support staff.

Support staff	Malaysia ($n = 8$)		Japan ($n = 7$)	
	Mdn	*Range*	*Mdn*	*Range*
Q6. In a scale of 1 to 6, what level of English is required to perform your role?	6.00	1.00	5.00	1.00
Q7. In a scale of 1 to 6, how do you assess your English?	5.00	1.00	5.00	1.00
	Yes	**No**	**Yes**	**No**
Q10. Have you had any training to support teachers and/or students who are involved in English-delivered courses?	25%	75%	71.4%	28.6%
Q11. Have you had any training to support teachers and/or students who are involved in online-delivered courses?	12.5%	87.5%	42.9%	57.1%
	M	***SD***	***M***	***SD***
Q12. How long have you been supporting/have you supported teachers and/or students who are involved in online courses delivered in English (This includes experience at another university)?	4.75	3.10	1.86	0.90
Q13. In the current academic year (April 2022 - March 2023), what percentage of your work relates to supporting teachers and/or students who are involved in online courses delivered in English?	42%	37%	37%	34%
Q14. In the last academic year (April 2021 - March 2022), what percentage of your work relates to supporting teachers and/or students who were involved in online courses delivered in English?	45%	3.95%	43%	4.11%
	Mdn	***Range***	***Mdn***	***Range***
Q15. I have the PHYSICAL opportunity to support teachers and/or students who are involved in online courses delivered in English.	8.00	10.00	8.00	5.00
Q16. I have the SOCIAL opportunity to support teachers and/or students who are involved in online courses delivered in English.	8.50	10.00	10.00	4.00
Q17. I am MOTIVATED to support teachers and/or students who are involved in online courses delivered in English.	9.50	10.00	10.00	5.00
Q18. Supporting teachers and/or students who are involved in online courses delivered in English is something that I do AUTOMATICALLY.	9.00	10.00	7.00	10.00
Q19. I am PHYSICALLY able to support teachers and/or students who are involved in online courses delivered in English.	8.00	10.00	10.00	5.00
Q20. I am PSYCHOLOGICALLY able to support teachers and/or students who are involved in online courses delivered in English.	8.50	10.00	8.00	5.00

$N = 15$; Likert scale in Q15-Q20: 0 (*strongly disagree*) to 10 (*strongly agree*).

their counterparts in Waseda ($M = 50.4$); and they were majority Malaysian nationals, compared to Waseda teachers who came from a wider range of nationalities. In both universities, teachers were multilingual speakers of different languages with a majority speaking English as a second language. All Waseda teachers held a PhD, while UoRM teachers were divided into those holding a PhD ($n = 5$) and those holding a Masters degree ($n = 5$). They taught a range of subjects in different departments.

The majority (66.7%) of the UoRM teachers compared to only 36.4% of Waseda teachers reported having received some training to teach academic subjects delivered in English. The UoRM teachers referred to a range of institutional in-house training or some national teaching qualifications (e.g., Fellowship of Higher Education Academy) as examples of the training they had received. Waseda teachers referred to the training in their PhD, implying they did not receive any specific training before/after starting to work at the university. The difference between the two groups of teachers was even larger for Q8 (UoRM = 81.8%, Waseda = 18.2%), indicating a large majority of UoRM teachers had received training to teach academic subjects online, whereas a small group of teachers in Japan reported that type of training. Once again, the UoRM teachers referred to in-house university-wide training activities aimed at preparing teachers for online teaching.

For experience of teaching EMI online, UoRM staff reported a longer period than Waseda teachers (UoRM = 3.4 years; Waseda = 2.7 years). For percentage of teaching academic subjects in English online between April 2022 - March 2023, UoRM teachers reported only 9%, while Waseda teachers reported 59%. The two groups reported higher, although comparable with each other, percentages of teaching EMI online between April 2021- March 22 (UoRM = 64% and Waseda = 69%). The lower percentage of teaching online in UoRM, from last to current year, suggests their online teaching reduced after the pandemic.

6.1.1. Teachers

Teachers at both universities reported teaching at a range of Departments (e.g., Urban Development, Accounting, Psychology, Linguistics, International Politics) and on different years of undergraduate and graduate programmes. Of the 10 Waseda teachers, eight reported their courses were fully taught in English, while two reported they were partly taught in English. This question was only available to Waseda teachers, as at UoRM the courses were entirely taught in English. For their courses' English proficiency entry requirement, 80% of all participants reported awareness of the requirement; the requirement most frequently reported was IELTS (e.g., Band 6.0 with no component below Band 5.0, or equivalent).

For COM-B questions (Q15-Q20), medians and ranges are provided to compare the data from the two institutions. With the scale of 0 (*strongly disagree*) to 10 (*strongly agree*), the teachers reported high levels of 'Physical Opportunity' (which relates to the TDF domain: 'environmental context and resources') and 'Social Opportunity' (TDF domain: 'social influences') to teach EMI online. The median score for physical opportunity was 9/10 (Q15; UoRM = 8 and Waseda = 9.50) and for social opportunity 8/10 (Q16; UoRM = 8 and Waseda = 7.50). This suggests that their physical and social environments (place, space and people) was conducive for teaching, with UoRM scoring slightly higher.

For 'Reflective Motivation', the median score was 8/10 (Q17, UoRM = 9 and Waseda = 8), implying a relatively high level of

motivation accounting for the TDF domains of 'beliefs about capabilities' (confidence), 'beliefs about consequences' (outcomes), 'social/professional role and identity', 'optimism', 'intentions' and 'goals' among the teachers. For 'Automatic Motivation' (linked to TDF domains of 'emotions' and 'reinforcement'), the median was 6.50/10 (Q18, UoRM = 8.50 and Waseda = 5.50), with scores suggesting a higher level of automatic motivation among UoRM teachers, with Waseda teachers scoring lower. This perhaps reflects the fact that subjects are fully taught in English at UoRM.

For 'Physical Capability' (TDF domain of 'skills', representing physical strength and stamina in the COM-B), the median was 9/10 (Q19; UoRM = 9.50 and Waseda = 10), suggesting physical ability was not an issue. For 'Psychological Capability', scores were 8.50/10 and equal among the two sites (Q20; UoRM = 8.50 and Waseda = 8.50), representing the TDF domains of 'knowledge', 'cognitive and interpersonal skills' (communication), 'memory, attention, and decision processes' and 'behavioural regulation' (e.g. self-monitoring and action planning). Overall, the ratings for the COM-B questions were high, suggesting that the teachers perceived themselves as capable, motivated and with favourable physical and social opportunities to deliver their work.

The only question receiving a lower rating was for automatic motivation, where Waseda teachers reported much lower scores of 5.5, suggesting that teaching in an EMI online setting is not something that is automatic to them and may be influenced by their emotions.

6.1.2. Support staff

Demographic data collected indicated that overall support staff at UoRM were older (UoRM = 38.5; Waseda = 31), with more years of experience (UoRM = 4.75 years; Waseda = 1.86 years) of supporting teachers and students in EMI online courses. While UoRM staff were all Malaysian nationals, Waseda staff came from four nationalities. In both universities, staff were multilingual speakers of different languages with a majority speaking English as a second language. It is worth noting that several of Waseda support staff worked at the Language Centre as academic writing teachers, while UoRM support staff had non-teaching roles.

In terms of level of English required to perform their jobs, support staff at UoRM suggested a slightly higher level than Waseda staff (Q6, UoRM = 6.00; Waseda = 5.00), but they evaluated their own proficiency at a comparable level (Q7, UoRM = 5.00; Waseda = 5.00). In terms of training received to support students and staff in teaching EMI courses, more Waseda staff reported having received training (Q10, UoRM = 25.0%; Waseda = 71.4%). The same pattern was observed for Q11, receiving training to support EMI online, with more Waseda staff reporting having received such training (Q11, UoRM = 12.5%; Waseda = 42.9). This pattern is different from the teacher data as Waseda teachers had reported having received less training, for both EMI teaching and teaching online, than UoRM teachers. This may be linked to the training the academic writing tutors received.

The support staff at UoRM had more years of experience (Q12, UoRM = 4.75 years; Waseda = 1.86 years) of supporting teachers and students in EMI online courses. Similar to the teacher data, support staff reported higher percentages of working online in the last academic year (Q13, UoRM = 45% and Waseda = 43%) compared to the current academic year (Q14, UoRM = 42% and Waseda = 37%), and in both cases a higher percentage of online work was reported by UoRM staff.

As for COM-B questions, the support staff reported high levels of physical and social opportunity to support students and teachers in EMI courses online. Of the scale of 0 (*strongly disagree*) to 10 (*strongly agree*), the median score for 'Physical Opportunity' (relating to TDF domain of 'environmental context and resources') was 8.00 (Q15; UoRM = 8.00 and Waseda = 8.00) and for 'Social Opportunity' it was 9/10 (Q16; UoRM = 8.50 and Waseda = 10.00), indicating Waseda support staff had slightly higher levels of the TDF domain of 'social influences'.

For the COM-B construct of 'Reflective Motivation', the median score was 9/10 (Q17; UoRM = 9.50 and Waseda = 10.00), demonstrating a high level of motivation among both groups of staff in relation to TDF domains of 'beliefs about capabilities' (confidence), 'beliefs about consequences' (outcomes), 'social/professional role and identity', 'optimism', 'intentions' and 'goals'. The COM-B construct 'Automatic Motivation' was lower with a median score of 8/10 (Q18; UoRM = 9.00 and Waseda = 7.00). The difference between the two universities suggests UoRM staff experienced a slightly higher level of automatic motivation than peers at Waseda which may be related to the TDF domains of 'reinforcement', and ability to regulate 'emotions'.

High levels of physical capability (TDF 'skills') were reported, 8/10 (Q19; UoRM = 8.00 and Waseda = 10.00), as was for psychological capability (TDF domains of 'knowledge', 'cognitive and interpersonal skills' (communication), 'memory, attention, and decision processes' and 'behavioural regulation' e.g. self-monitoring and action planning), 8/10 (Q20; UoRM = 8.50 and Waseda = 8.00). For both questions, staff at Waseda, reported higher levels of capability.

An important point to discuss regarding the descriptive statistics is the wide ranges (i.e., from 4 to 10) observed for the COM-B questions, particularly for UoRM staff. This suggests a high variability is observed in the distribution of responses provided by the staff. Overall, all the ratings were relatively high, implying the support staff perceived themselves as highly capable, motivated, and with good opportunities to support students and teachers in EMI online.

6.2. Qualitative data

The analysis of the qualitative data collected in the questionnaire and interviews is presented below.

6.2.1. RQ1: capability, opportunity and motivation influencing behaviour

6.2.1.1. Physical capability. Teachers' views about physical capability in online teaching were divided to those expressing strong physical capability to lead their EMI classes online, and others arguing that their physical capability influenced and restricted their

online teaching. The former group linked capability in terms of physical strength and stamina, efficient technological skills (TDF: 'skills'), and the need for less physical strength in online teaching (compared to face to face teaching), whereas the latter considered online teaching arduous and effortful. One Waseda teacher argued her limited English proficiency in online teaching restricted her physical capability, implying proficiency becomes a barrier to successful communication with students online, making the process more exhausting, while this would not affect her teaching EMI in-person, given the presence of interactional feedback and visual cues typically available in face-to-face communication. It is worth noting that English language skills were considered as part of psychological capability in the survey in this study in their own right, but here they relate to an impact on physical exhaustion. Similar to the teachers, the support staff reported having relatively strong physical capability (e.g., stamina) to support students and teachers in EMI online. It was suggested some institutional policies protected Waseda staff from physical fatigue.

> *We have policies to prevent these physical exhaustions. So, for example, one very important thing: Tutors can only take three consecutive sessions, and then they need to rest (Waseda support staff).*

6.2.1.2. Psychological capability. Teachers generally believed they were psychologically capable of teaching online, expressing the ability to deal with the demands of online teaching (e.g., *engaging students*), and addressing the challenges of online teaching (e.g., *lack of communication and students' silence*). Psychological capability was often discussed in relation to teachers' ability to run and deliver teaching efficiently and successfully, free from tensions and negative feelings. In this sense, successful delivery was mainly interpreted in terms of ability to use technology (TDF: 'knowledge'), regulating one's emotions and behaviour competently (TDF: 'behavioural regulation'), and communicating with students transparently and honestly when challenges arise (TDF: 'skills – cognitive and interpersonal').

The support staff at both universities were positive about their psychological ability to provide students and teachers with the support they needed. They interpreted their psychological capability in relation to their communication and IT skills and English proficiency (TDF: 'knowledge'; 'skills – cognitive and interpersonal'). A UoRM staff considered her multilingual abilities (speaking fluent English, Mandarin and Tamil) as a source of strength in supporting and communicating with students from different language backgrounds.

Although, overall, the support staff considered their capability at a higher level when supporting students and teachers face to face compared to online.

> *This occurs during online sessions where we can't really see the other person, I mean face to face. You don't see their face or body language, and it's sometimes like I'm talking to myself. So, it makes me question myself, like, am I really able to handle this or is there something that I need to brush up or improve? Psychologically, I feel I am regulating my emotions and I am getting used to it (UoRM support staff).*

6.2.1.3. Physical opportunity. Teachers in both institutions discussed their physical opportunity in terms of equipment (e.g., computers and laptops), physical environment (e.g., space and office), teaching resources (e.g., materials, library resources), digital resources (e.g. YuJa platform, IT support) and time that enabled them to deliver EMI classes online (all related to the TDF: 'environmental context and resources'). In line with the high ratings for these questions in the survey, their qualitative comments demonstrated a positive perspective to the physical opportunities they had to deliver their work. Teaching online was also perceived positively in relation to providing them with flexibility in space, location and time, and avoiding travel.

> Teaching online is, of course, less tiring, I think, than physically moving to a classroom. Then you have to, I mean, walk to this particular building, get a key, do all kinds of preparations, …. and all these things are kind of a strain, both physically and mentally; whereas when it's an online class, all you need to do is be ready 5 minutes before the class, have your computer ready, and then you can start right away (Waseda teacher).

The support staff at both universities similarly reported high levels of physical opportunity to support students and teachers. They referred to having sufficient time, adequate space, and instruments (e.g., IT devices) to fulfil their jobs (TDF: 'environmental context and resources').

6.2.1.4. Social opportunity. Teachers' views were divided on social opportunity. Teaching online was deemed by some to have generated a new social opportunity to work with students and colleagues in a different environment. Others believed teaching online constrained their social opportunity as they had to focus on and work with, almost entirely, computers. Teaching online was often perceived as a solitary and time-consuming experience, especially at the beginning of their journey in online teaching. It should be noted that these experiences were discussed in the light of the pandemic when social opportunities were inadvertently affected by the COVID-19 lockdown and social distancing regulations. The restricted social opportunity was linked to students' limited participation in online classes, lack of personal interest in online teaching, and limited social support available/offered in online teaching (TDF: 'social influences'). A note-worthy difference between teachers in the two universities was that at Waseda, the limited social opportunity experience, particularly at the earlier stages of online teaching, seemed to have been affected by the institutional policy of asking teachers to develop their teaching in the 'on-demand format' as the institution (TDF: 'social influences') attempted to avoid overloading the IT systems and platforms (e.g., Zoom live streaming, a physical opportunity issue), influencing the social culture of teaching.

So, we couldn't meet face to face, we were just, you know, emailing each other. […] And at the time the internet connection wasn't sufficient. So, we were recommended to prepare our lectures on-demand because if many faculty members conducted their lecture through the Zoom, for example, live streaming type, then the internet connection wouldn't work (Waseda teacher).

The support staff overall seemed to have benefited from the opportunity of supporting teachers and students in an online setting and in turn were influenced by this. They recognised the scope for improving their social support of students/teachers in future online courses, and the importance of creating a positive social culture through this opportunity (TDF: 'social influences').

6.2.1.5. Motivation. Teachers' views were divided when discussing reflective motivation. Those reporting high levels of motivation explained it in the light of their new learning experiences in online teaching and opportunities to learn more about their students' and their own interests (TDF: 'beliefs about consequences'), skills, and capabilities (TDF: 'beliefs about capabilities'). A few teachers argued that teaching online had made them a stronger and more resourceful teacher (TDF: social/professional role and identity). Those reporting low levels of motivation frequently linked it to student-fronted challenges in teaching online (e.g., student engagement and participation). One teacher expressed use of English in large size classes and working with different accents online as a challenge affecting her motivation. Explaining that understanding different accents online was difficult especially when the internet connection was poor (linked to physical opportunity and TDF 'environmental context and resources'), arguing this challenge had a damaging impact on her motivation (TDF: 'beliefs about capabilities'; 'beliefs about consequences'; 'intentions'). These beliefs were intertwined with psychological capability through TDF domains 'knowledge' and 'skills - cognitive and interpersonal', which were having a knock-on effect on motivation.

The support staff reported high levels of motivation in supporting teachers and students in EMI courses online and explained their motivation in terms of their professionalism (TDF: social/professional role and identity), for example, feeling committed and responsible, and supporting students to succeed in their course. They considered working online as central to their work, perceiving themselves as playing a significant role in promoting the relationship between teachers and students. Students' limited proficiency was recognised as a problem affecting staff's motivation linking to TDF domains 'beliefs about capabilities' to communicate with the students, and 'beliefs about consequences' that this would be difficult.

First, we have to try to understand what the students say and want, what their concerns are, but their English level is a problem (UoRM support staff).

It was also implied that sometimes the EMI support students receive on their course does not match what they had expected, affecting students' motivation and success (TDF: 'beliefs about consequences').

6.2.1.6. Automatic motivation. The interviews revealed that the survey question about *automatic motivation* was often interpreted synonymous with 'teaching naturally'. Some interpreted it in the light of the automaticity of the skills they had gained in using a specific software or platform (e.g., Zoom), delivering classes synchronously and asynchronously, and use of different resources during online teaching (e.g., YouTube), which had led to learned behaviours (TDF: 'reinforcement'). Automatic motivation was also associated with automaticity in delivering teaching smoothly online (e.g., presenting slides and sharing links). Many teachers suggested that after overcoming the initial challenges of teaching online, their behaviours had become habitual, what they considered as a routine, implying they developed efficient skills in online teaching and therefore doing it naturally and automatically (TDF: 'reinforcement'). Some teachers discussed the automatic approach to teaching in relation to teaching in English and teaching online, arguing teaching in English was engrained in their teaching identity and present in their skills repertoire, something they had done before and do without thinking, again through learned behaviour (TDF: 'reinforcement'). In contrast, teaching online was something more recent, requiring skills that are still emerging and as a result, it naturally takes effort and time to become habitual.

Overall, staff suggested they supported students and teachers, to a great extent, automatically, especially as they were doing it for some time at the data collection point, suggesting that these learned behaviours had become habitual (TDF: 'reinforcement').

6.2.2. RQ2: challenges

While the above section focused specifically on the COM-B questions from the survey, the following section discusses the wider challenges presented in the interviews. When discussing challenges, COM-B and TDF constructs are naturally going to be mentioned, therefore have been added to the narrative where relevant.

The analysis of qualitative data suggested that all the teachers found teaching online challenging, requiring time and effort to learn how to deliver it effectively (TDF: 'environmental context and resources'; 'behavioural regulation'; 'knowledge'; 'skills'). The data contained several references to suggest online teaching was perceived as demanding (TDF: 'beliefs about consequences') primarily because it was a new adventure in which many did not have prior experience. It is worth noting that for most teachers teaching online experience commenced at the beginning of the pandemic, a complex period which affected not only their professional life but also their personal and social life. Some of the challenges reported below should be considered in the light of the circumstances under which they started teaching online.

The challenges teachers reported for teaching EMI online can be divided into three groups: Pedagogic, practical, and proficiency related. The key pedagogic challenges were engaging students in class activities (e.g., encouraging students to keep their cameras on; TDF: 'skills - cognitive and interpersonal'), designing engaging materials (TDF: 'knowledge'; 'beliefs about consequences'), promoting student participation (TDF: 'skills - cognitive and interpersonal'), and monitoring their interaction (TDF: 'behavioural regulation'). These issues, repeatedly discussed by different teachers, were often presented in connection with consequences they had for how it

made them feel (TDF: 'emotions'), class leadership and time management (TDF: 'behavioural regulation'), and fall into each of the COM-B constructs.

> *It really makes me feel very uncomfortable when I can't see the faces of the people. That could easily be a challenge, and that's why I always insist that everyone should turn on their screen (Waseda teacher).*

Accommodating certain disciplinary-related requirements of the course (e.g., field work online) was also reported as a challenge for teaching specific subjects. While highlighting the challenges, the teachers often offered solutions for the problems they had encountered (e.g., effective use of breakout rooms to address poor engagement), implying they employed their problem-solving skills in challenging circumstances (TDF: skills – cognitive and interpersonal').

From a practical perspective, the key challenges reported were related to internet connectivity, students' access to relevant technology and devices, and working with students in different time zones (TDF: 'environmental context and resources'). The analysis suggested that while most participants had initially found working with the new technology challenging, with practice (TDF: 'reinforcement'), self-training, or training offered by the university they had overcome many of the challenges.

As for their own language proficiency, overall, most participants felt confident (TDF: 'beliefs about capabilities) and agreed that they can do their jobs effectively in English. A small group of participants expressed concerns over the challenges they faced in relation to their own English language proficiency when teaching/working online.

> *If I need to conduct my class in English with 30 or 40 students, I may have some difficulties to manage because the sound is unclear. So, in my own language, I could guess a lot what they're saying, but as you know, each international student has their own accent …. English is my second language, then dealing with 30 or 40 student is for me the challenge (Waseda teacher).*

The participants agreed that the proficiency level set by the central administration was appropriate for their courses, but they argued not all students had, in effect, the required proficiency level (TDF: 'social influences'). This was perceived as a challenge in teaching EMI online with the potential to lead to issues of academic misconduct. Lack of proficiency, intriguingly, was distinguished from academic skills, intellectual ability, and preparedness for university study. Proficiency was often contextualised in a wider context of academic skills and abilities, implying students' other skills and abilities may be more important than their English proficiency.

> *It doesn't mean that if they cannot speak English fluently, they don't have that intellectual capacity to do a degree or to go to a university (UoRM teacher).*

It is worth noting that the same challenges were shared by both groups of teachers from the two universities; the practical and proficiency related challenges were also shared by the support staff at these universities.

6.2.3. RQ3: training and support

The analysis provided below focuses on issues related to training for EMI and for teaching online separately. Following the behavioural diagnosis from the COM-B and TDF, we have added the intervention types from the BCW mentioned by participants as considerations for future intervention design. Unlike other parts of the qualitative data indicating core similarities between the two universities, this analysis suggested a qualitative difference between the two universities. Before presenting the analysis, it is necessary to note that none of the teachers mentioned receiving any EMI specific training. Instead, they discussed either general English language teaching training (e.g., EFL training) or teaching at HE-level training as examples of training they had received.

UoRM teachers all reported having received specialised training for teaching in HE, achieving a university-wide or nationally recognised teaching certification (e.g., Fellowship of Higher Education Academy). The analysis suggested the teacher training programme provided by UoRM had been successful in introducing the teachers to important pedagogic issues (e.g., asking questions and providing feedback), and raising awareness of issues related to inclusive education (BCW intervention types: 'education'; 'training'). Only one UoRM teacher mentioned her training prepared her to teach students whose first language was not English. In terms of training for online teaching, UoRM teachers referred to different kinds of in-house training, mainly synchronous and interactive, they had received before starting to teach online. The teachers acknowledged that while the training was available even before the pandemic, they only appreciated it at the start of the pandemic when UoRM took a pro-active approach to offering it.

Several Waseda teachers and staff reported not having received training for either EMI or online teaching. Waseda teachers often referred to their PhD training as a source of teacher training, and for many this was done in a different context and many years ago. The training for online teaching was offered through pre-recorded (on-demand) videos, which was not perceived as an effective approach to training as they lacked opportunities for hands-on practice and interactive learning (BCW intervention types: 'education'; 'training'). Some teachers referred to other online training opportunities available at Waseda (e.g., learning from colleagues; BCW intervention type: 'modelling'), but the general sense was that a more interactive and well-planned approach to training staff was expected.

In terms of support needed, teachers and staff usually asked for more IT support, arguing delivering online teaching efficiently was very challenging without having the right technical support (BCW intervention type: 'environmental restructuring'). The participants felt developing more skills for online teaching was an ongoing and unquestionable requisite, an area the universities should invest in. This type of training need was explained in relation to working with new software and platforms, developing advanced skills in teaching online (e.g., holding and delivering a webinar), and using new technological facilities (e.g., installing a 360-degree camera) (BCW intervention types: 'education'; 'training').

7. Discussion

To respond to calls for comparative research in EMI pedagogy (Bolton et al., 2024; Macaro et al., 2016; Shao & Rose, 2024), the current study set out to understand and compare teachers' and support staff's views in two different EMI contexts. As a first systematic attempt in the published literature to use the COM-B model and TDF to examine EMI teachers' and support staff's views, experiences, and challenges, the study aimed to help develop a better understanding of these experiences in delivering EMI courses online through a theoretical lens that can be used in behavioural science to develop future interventions. The findings of the study underscored several key similarities between the views and experiences in the two contexts, for example, staff being experienced professionals with a multilingual and multicultural background and high levels of education and certification in their fields. Other similarities included staff reporting high levels of physical and psychological capability to teach/work in their contexts and having access to a range of resources to promote these capabilities.

In line with recent research findings (e.g., Lee, 2022; Querol-Julián, 2023) that characterise teaching online as demanding, teaching EMI courses online in the current study was commonly perceived as time-consuming and effortful; a challenge primarily imposed on teachers and staff by the online dimension of their work. In both contexts, the key challenges reported were pedagogic, practical, and proficiency related. Designing and delivering interesting and engaging materials, promoting student participation, and monitoring engagement and interaction were the most recurring pedagogic challenges underscored in both contexts. While these challenges are frequently reported in recent studies investigating teaching languages online (e.g., Lee, 2022; Tao & Gao, 2022), accommodating disciplinary-based requirements of EMI courses online appeared to be an EMI-related specific challenge reported in the current study. This is a novel finding that enriches our understanding of digitally mediated EMI teaching and learning. Students' limited proficiency was considered a critical player, affecting communication with teachers and staff, impeding success in EMI courses, and leading to academic misconduct. Intriguingly, student proficiency was perceived as only one of a myriad of different factors (e.g., intellectual ability and motivation) shaping academic success. Overall, the challenges reported in the current study are similar to those reported by other researchers working in both EMI and online teaching (Macaro et al., 2016; Sahan et al., 2021; Shao & Rose, 2022).

The findings of the study also highlighted some important differences between the two EMI contexts; such differences resulted from either the contextual characteristics of the EMI provision in the university/country or the universities' local policies. For example, while in UoRM (like most other universities in Malaysia where English is the language of higher education) the EMI courses were entirely delivered in English, in Waseda some courses were partly delivered in EMI. The two universities were unsurprisingly different in contextual reasons for offering EMI courses, history and size. One key difference between the two university contexts was the policies adopted for training teachers and staff: UoRM adopted a structured, pre-planned, and interactive approach to training, while Waseda's approach was more ad-hoc and on-demand. The interactive approach to online training at UoRM was appreciated for addressing staff's IT needs and creating a social opportunity to establish a support network, particularly during the Covid-19 pandemic. Although some of Waseda's approach to HE teacher training programme had been designed in cooperation with universities abroad (e.g., a two-week EMI training program at the University of Washington), their training programme was less likely to get prevalent campus wide among EMI teachers due to their huge numbers. Given Waseda's size, the 'on-demand' format of the online training appeared to be inevitable, though it was perceived as neither popular nor effective by many. Overall, the results suggest universities' policies played a critical role in shaping the participants' experiences and behaviours; these policies can only be understood as the outcome of the decisions made considering a range of factors including universities' characteristics (e.g., size), resources (e.g., virtual learning environment), and socio-cultural contexts. In addition, it is necessary to interpret these differences in the context of "crisis-prompted remote teaching" (Gacs, Geortlar, & Spadova, 2020, p. 380) that spread out during the COVID-19 pandemic, compared to "a planned online teaching" that typically takes place in university contexts around the world.

Some of the differences observed in the data demonstrated diversity in personal views and experiences rather than contextual differences. For example, variations in levels of motivation to teach EMI courses online were linked to personal experiences (e.g., self-satisfaction after learning how to work with a new platform) and professional academic needs (e.g., learning to teach a specific course). Views on social opportunity were not united as some considered it limited when teaching online, a mode of delivery often perceived as a *solitary act*, referring to social distancing restrictions imposed during the pandemic. Interestingly, support staff had more positive views than the teachers about their social opportunity to support EMI courses online, implying they had better prospects of socially supporting students and one another.

Regarding EMI teachers' proficiency, Lasagabaster (2022, p. 14) maintains "English language competence appears as the main stumbling block" in delivering EMI courses. In our study, a large majority of teachers and staff were confident about their own English proficiency and believed it did not affect their work. A very small group, however, felt their proficiency may act as a barrier in their communication, particularly when teaching/working with EMI online, emphasizing Shao and Rose's (2022) concern about the 'problematic E in EMI'.

It is clear from the challenges and influences on behaviour reported in this study that all aspects of the COM-B were involved, suggesting it is a useful model to understand teachers and support staff behaviour when it comes to teaching and supporting staff and students in EMI courses online. It is beyond the scope of this work to address which aspects of capability, opportunity and motivation are most influential and thus the prime areas to target for future intervention. However, from the behavioural analysis and more granual level understanding with the TDF, it appears that knowledge, skills (cognitive and interpersonal) and behavioural regulation are important to enhance capability. Intervention strategies involving education, training and modelling would be most useful here. There was also strong evidence that opportunity factors should be addressed both in terms of the TDF factor 'environmental context and resources', a physical opportunity (e.g. IT/internet/time/space), and the TDF factor 'social influences' including university culture, a social opportunity. These could benefit from the intervention type 'environmental restructuring', both for the physical and

social environment. Teachers and support staff were also influenced by their levels of reflective motivation, through the TDF domain 'beliefs about capabilities', linked to their own confidence in engaging students, and the TDF domain 'beliefs about consequences', related to positive and/or negative student interactions and engagement in the classrooms. Their identity (TDF: social/professional role and identity) as a teacher or support staff also motivated them to try to achieve the best outcomes in this setting, and while some felt that teaching and supporting staff and students in an EMI online class setting was something that they did without thinking (automatic motivation), others felt that they needed more practice through education and training.

In line with previous research (Macaro et al., 2018), the results of the current study suggest that teachers have not received EMI-specific training before starting to teach EMI courses. Although many teachers in this study considered teaching in English natural and habitual as they have been doing it for a long time, they acknowledge they were not EMI trained. The alternative teacher training courses (e.g., training to teach at HE), offered to some, was appreciated, but the main source of EMI knowledge and skills seemed to reside in their personal experiences.

Finally, recent research findings in online teaching and learning (Derakhshan et al., 2021; Dewaele et al., 2022; Querol-Julián, 2023) suggest emotions play an important role in language teaching. In our data, there were several references to how teachers' and staff's emotions (e.g., enjoyment) affected working with EMI online. The analysis suggested these emotions were active players influencing the participants' behaviour when working with EMI courses online, often linked to beliefs about consequences. Future research should examine emotions as a potential variable shaping capability, opportunity, and motivation.

8. Conclusions

This study makes an original contribution to the field of digitally mediated EMI courses by providing evidence about teachers' and support staff's experiences and challenges in two rather different EMI contexts. In addition, the study offers insight into the socio-historical and contextual factors, institutional policies and individual's capability, opportunity and motivation that shape the delivery of EMI courses online. The findings demonstrate similar experiences in the two contexts, including challenges in teaching and supporting EMI students online (e.g., promoting student participation and engagement), lack of a specifically designed EMI professional training, and the need for university support in offering ongoing training. The findings further underline a range of differences between the two EMI contexts from staff professional characteristics (e.g., level of certification) to university local policies (e.g., amount and type of staff training). More importantly, the findings underline the diversity in experiences and challenges between the two contexts, implying valid observations in one context (e.g., concerns about teacher English proficiency) may not be pertinent to other EMI contexts. It is important to note that the sample size of the study was too small to allow for inferential statistics, and the six-item COM-B measure could not be tested for internal reliability due to its nature of single-item questions, therefore the findings should be interpreted with care. Notably, it was not the intention of this study to test and validate a new scale, but instead to collect a snapshot of the influences on behaviour that could then be investigated in more detail through qualitative inquiry. The study may have also benefitted from classroom observation data to triangulate perceptions with classroom practices; however, this was beyond the scope of this work.

While the aim of this study was not to find a set of one-size-fits-all practical solutions, its findings offer useful insights for institutions seeking to understand and enhance teachers' and support staff's behaviours in online EMI settings. Mapping interview data to the COM-B model, which forms the core of the BCW (Michie et al., 2011), provides a useful theoretical lens to understand the factors that contribute to teachers' and support staff's behaviours in online EMI contexts. Often, these influences on behaviour did not seem to differ between each institution, though localised policies and practices did reveal unique differences. It is therefore advisable for individual institutions to conduct the short survey and interviews as in this study to understand their own setting and help identify what influences staff and student behaviour, leading to appropriate diagnosis and tailored interventions. It is also vital that the information gained can be fed back to teachers and support staff so that they can fully understand their professional development needs, recognise their strengths, and identify good practices to share with peers. Since the completion of this study, the research team has hosted community-of-practice events at UoRM, Waseda and the University of Bedfordshire, engaging with teachers, support staff, and other stakeholders in online EMI settings. This has created an opportunity within each of the country settings to better support the delivery of digitally mediated EMI classes, including an understanding of how to perform a behavioural diagnosis using the TDF and COM-B model. The fruitful discussions have led to better understanding of staff behaviour in the localised areas, and demonstrated the importance of case-study approaches in generating and co-creating localised and practical solutions that research of this kind can support. The behavioural analysis produced in this study can be used for future intervention development and optimisation.

CRediT authorship contribution statement

Parvaneh Tavakoli: Writing – review & editing, Writing – original draft, Methodology, Funding acquisition, Conceptualization. **Chihiro Inoue:** Writing – original draft, Methodology, Conceptualization. **Fumiyo Nakatsuhara:** Writing – original draft, Funding acquisition, Conceptualization. **Yasuyo Sawaki:** Writing – original draft, Supervision, Conceptualization. **Tetsuo Harada:** Writing – review & editing, Conceptualization. **Takumi Uchihara:** Writing – review & editing, Data curation. **Akiko Kiyota:** Project administration, Data curation. **Mohd Ridhwan Abdullah:** Writing – review & editing, Project administration, Data curation. **Mohamed Hasif Jazila Sakri:** Project administration, Data curation. **Noorul Amilin Nordin:** Project administration, Data curation. **Angel Chater:** Writing – review & editing, Writing – original draft, Conceptualization.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.system.2026.104077.

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