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EMI PROFESSORS' READINESS: A SYSTEMATIC LITERATURE REVIEW

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Abstract

Research across various fields has underscored the importance of English in both academic and professional contexts. Consequently, many higher education institutions have introduced English-medium instruction (EMI) programmes in countries across Europe, sub-Saharan Africa, and East Asia. EMI encompasses a range of factors that influence its effective implementation, including the language proficiency of both students and professors, academic content and curricula, cultural and social contexts, as well as institutional policies and practices.

This study focuses on EMI professors, whose role is central to the educational process. It examines EMI professors' readiness from multiple dimensions through a systematic literature review. Specifically, the review analyses professors' qualifications, certifications, and training, assessing their adequacy in supporting instructional effectiveness in EMI settings. It also explores professors' pedagogical competencies, their ability to employ effective teaching strategies, and their linguistic proficiency in delivering disciplinary content in English. The review synthesises findings from 11 empirical and theoretical studies published up to December 2023.

In addition, the review examines the pedagogical practices adopted by EMI professors and evaluates their effectiveness in facilitating content delivery. The synthesis provides insights into EMI professors' instructional readiness and contributes to ongoing discussions on improving the quality of EMI programmes. The findings highlight the importance of robust training programmes and adequate linguistic proficiency for effective EMI teaching. They indicate that the success of EMI programmes depends largely on professors' preparedness, not only in terms of English proficiency but also with respect to EMI-specific pedagogical strategies. Persistent concerns remain regarding professors' ability to deliver complex academic content in English, underscoring the need for institutional training programmes rather than reliance on individual experience alone.

Keywords: English as a Medium of Instruction; Professors' readiness; Higher education; Instructional effectiveness; Teacher training.

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1 Introduction

Given the growing importance of English in academic and professional domains, an increasing number of higher education institutions (HEIs) have introduced English-medium instruction (EMI) programmes in countries across Europe, sub-Saharan Africa, and East Asia (Bowles & Murphy, 2020; Macaro et al., 2018; Williams, 2015). According to Coleman (2006), Doiz et al. (2013), Knight (2018), and Macaro et al. (2018), multiple factors explain the expanding trend of what has been termed the *Englishisation of higher education*. English has become widely recognised as the dominant international language of academia and the workplace. As universities worldwide seek to enhance their internationalisation, partly through the use of English as a medium for delivering academic programmes, changes in language policy have increasingly become unavoidable.

Abdel Latif and Alhamad (2023) analyse the controversies, policies, and realities of EMI practices in Arab universities and identify several challenges that must be addressed to ensure successful EMI implementation. These include the availability of sufficient resources, adequate infrastructure, and, critically, qualified faculty capable of teaching effectively through English. Such challenges are particularly pronounced in contexts where English is neither a first nor a second language, but rather a foreign language. In the Moroccan higher education system (MHES), for example, Arabic and Amazigh are the official languages, while French has historically functioned as the primary language of instruction. As a result, English occupies a marginal position within the system. The Moroccan education system has long been shaped by French linguistic and educational traditions, with French serving as the dominant instructional language (Troudi, 2022).

Since independence, Morocco has introduced several educational reforms emphasising the reinforcement of English across different levels of the education system. More recently, the Ministry of Higher Education, Scientific Research and Innovation launched the *Plan to Accelerate the Transformation of the Higher Education, Scientific Research and Innovation Ecosystem*, which places renewed emphasis on the adoption of EMI. Within this evolving context, concerns regarding instructional quality and student learning outcomes have intensified.

The conceptualisation of EMI involves a complex set of interrelated factors, including the language proficiency of both professors and students, cultural and social contexts, and institutional policies and practices. The present study focuses specifically on EMI professors' readiness. Because EMI relies heavily on the ability of non-language specialists to teach disciplinary content through English, professors are required to demonstrate sufficient linguistic competence alongside appropriate pedagogical skills. This study therefore seeks to examine the requirements EMI professors must meet in order to achieve the intended objectives of EMI programmes.

Drawing on existing empirical research, this study adopts a systematic literature review (SLR) to address the following overarching research question: *To what extent are EMI professors ready to teach academic content in English?* By

synthesising findings from previous studies, the review aims to provide a comprehensive understanding of the dimensions that shape EMI professors' readiness.

This paper is organised as follows. Section 2 reviews the literature on EMI professors' readiness and outlines the state of the art. Section 3 describes the methodology adopted for the systematic literature review. Section 4 presents the main findings, while Sections 5 and 6 discuss the implications of the findings and offer concluding remarks, respectively.

2 EMI Professors' Readiness

Implementing an English-medium instruction (EMI) programme involves several interrelated factors, most notably the English proficiency of both students and professors, as well as the academic content and curriculum. EMI has become an area of sustained research and debate, with scholars examining its models and typologies, evaluating its benefits and challenges, and identifying best practices for effective implementation. The present study focuses specifically on professors' readiness to teach disciplinary content through English.

Based on the literature reviewed, only a limited number of systematic literature reviews (SLRs) have directly addressed EMI. The first, conducted by Macaro et al. (2018), examines the global landscape of EMI in higher education institutions (HEIs) and synthesises empirical research to identify its benefits and challenges. One of the primary challenges highlighted concerns the English proficiency of both professors and students. EMI professors frequently report insufficient confidence in their English skills, which may negatively affect instructional quality, while students often experience difficulties understanding lectures delivered in English. The second SLR, by Nyoni et al. (2023), investigates the implementation of EMI policies across diverse educational contexts, focusing on contextual, institutional, and pedagogical factors influencing successful enactment. Their findings indicate that effective EMI depends largely on educators' preparedness, not only in terms of English proficiency but also with respect to EMI-specific pedagogical strategies.

Although these SLRs provide valuable insights into institutional policies, student outcomes, language ideologies, and large-scale implementation challenges, they tend to address teachers' readiness only indirectly. In many cases, instructors' roles are subsumed under broader institutional or student-centred perspectives, rather than being examined as a distinct analytical construct. As a result, dimensions such as EMI professors' qualifications, pedagogical competencies, English proficiency, and classroom practices are rarely explored in an integrated manner. Consequently, EMI professors' readiness remains under-theorised and under-represented in existing SLRs, despite the central role professors play in the classroom-level success of EMI policies.

The limited number of studies explicitly focusing on EMI professors' readiness therefore reflects not a lack of relevance, but rather the fragmentation and marginalisation of this research area. Macaro et al. (2018, 2020) report that many EMI professors perceive themselves as insufficiently prepared for EMI teaching. Their findings identify several recurrent concerns. First, with regard to linguistic competence, many professors lack confidence in their English proficiency, which can adversely affect their instructional performance. Second, in terms of training and professional development, most institutions fail to provide dedicated EMI-focused training programmes, leading professors to rely largely on their general teaching experience. Third, regarding teaching quality, concerns persist about professors' ability to deliver complex academic content in English. Some instructors report that teaching through English constrains their capacity to engage students or adapt content to local contexts, as they might when teaching in their first language.

Focusing specifically on professional development (PD) and certification, Macaro et al. (2020) examine the competencies required for effective EMI teaching and the barriers professors face in developing these competencies. Using a quantitative approach, the authors administered an online survey to 463 EMI professors from countries including China, Spain, Turkey, Italy, and Japan. The findings reveal that approximately two-thirds of respondents had not received any EMI-related professional development, highlighting a widespread lack of preparation. Only 23.4% reported that their institutions offered EMI teaching certification, although many expressed a preference for such certification, viewing it as a means of enhancing both teaching quality and institutional reputation. Importantly, respondents agreed that EMI teaching requires more than English proficiency alone; it also demands pedagogical skills tailored to linguistically diverse classrooms. Despite recognising the need for further training, professors reported limited willingness to invest additional time in PD due to heavy workloads and insufficient institutional support.

Lasagabaster (2022) similarly observes that, although many HEIs worldwide have rapidly adopted EMI, relatively few have implemented pre-service or in-service training to support instructors in this new teaching context. He identifies teacher preparedness as a cornerstone of successful EMI implementation and argues that EMI professors require both high levels of English proficiency and robust pedagogical competence. Specifically, advanced proficiency levels (e.g. CEFR C1) are often considered necessary for effective EMI teaching. In addition, EMI professors must receive methodological training that equips them to adopt flexible, student-centred approaches capable of addressing diverse linguistic and cultural backgrounds. Lasagabaster also highlights the growing need for shared guidelines and international certification standards to ensure consistent levels of EMI teaching readiness.

Empirical studies further support the central role of training and experience in shaping EMI readiness. Lo and Othman (2023), for example, investigate lecturers' preparedness for EMI in Malaysian HEIs by examining their knowledge, skills, abilities, attitudes, and contextual variables such as age, gender, academic

qualifications, teaching experience, and exposure to EMI training. Their findings demonstrate significant differences in skills and abilities between lecturers who had received EMI training and those who had not. Moreover, lecturers with greater EMI teaching experience exhibited higher levels of readiness. The authors identify several factors contributing to EMI lecturers' effectiveness, including familiarity with EMI practices and pedagogical strategies, understanding of EMI-related challenges and expectations, adaptability in teaching methods and assessment practices, and positive attitudes towards EMI.

In line with these findings, Prabjandee and Nilpirom (2022) propose a pedagogical framework for EMI instructors, referred to as the "4E" model. This framework emphasises: (a) embracing EMI through positive attitudes, (b) effective EMI lesson planning, (c) executing EMI lessons using scaffolding and interactional strategies, and (d) engaging in reflective practice to continuously evaluate and improve instructional approaches. These recommendations highlight the importance of sustained reflection and pedagogical adaptability in addressing the challenges associated with EMI teaching.

From an institutional perspective, the literature suggests that HEIs often demonstrate enthusiasm for EMI adoption without a corresponding commitment to instructor support. A large-scale survey conducted by Wächter and Maiworm (2014) on English-taught programmes in Europe found that, while 95% of respondents rated EMI teachers' English proficiency as good or very good, many institutions were reluctant to invest in systematic teacher training or accreditation. This discrepancy underscores a persistent gap between institutional EMI ambitions and the practical support provided to instructors.

The literature indicates that EMI professors' readiness is shaped by multiple interdependent dimensions, including qualifications, pedagogical competencies, English proficiency, and instructional practices. However, these dimensions are rarely addressed holistically. To address this gap, the present study seeks to examine EMI professors' readiness through a systematic literature review guided by the following sub-research questions:

- SQ1: To what extent are EMI professors qualified to teach EMI courses?
- SQ2: What pedagogical competencies do EMI professors demonstrate?
- SQ3: To what extent do EMI professors possess adequate English proficiency?
- SQ4: What instructional practices do EMI professors employ when teaching content in English?

The following section outlines the methodology adopted to address these questions.

3 Methodology

A systematic literature review (SLR) was adopted to synthesise existing research and provide high-quality evidence addressing the research questions of this study. An SLR follows a structured and transparent protocol designed to identify, evaluate, and

synthesise relevant studies in a rigorous manner. Unlike traditional narrative literature reviews, an SLR relies on a predefined methodology that reduces researcher bias and enhances the reliability and validity of its findings (Kitchenham, 2004).

The SLR process begins with the formulation of a clearly defined research question, which guides the development of the review protocol. An exhaustive and systematic search of the literature is then conducted across multiple databases to capture all relevant studies and minimise publication bias. Retrieved records are screened against explicit inclusion and exclusion criteria. Studies that meet these criteria undergo a quality assessment (QA) process using standardised appraisal tools to evaluate methodological rigour and potential sources of bias. Relevant data are subsequently extracted using predefined forms and analysed to address the research question and associated sub-research questions. This review was not prospectively registered.

3.1 Search strategy

A systematic search strategy was employed to retrieve publications related to English-medium instruction and professors' readiness from multiple electronic databases. Keywords associated with EMI and instructional preparedness were combined using Boolean operators to identify relevant studies. The following search string was applied:

(EMI OR (English AND Medium)) AND (Teacher OR Professor OR Instructor OR Lecturer) AND (Readiness OR Preparedness)

This search strategy was designed to capture a wide range of studies examining EMI across different higher education contexts and disciplinary settings.

3.2 Inclusion and exclusion criteria

An initial exploratory search was conducted in ScienceDirect to identify commonly used keywords appearing in the titles and abstracts of relevant studies. A subsequent comprehensive search incorporating all identified keywords was then carried out across selected databases. The search covered publications from the earliest available records up to December 2023.

Studies were included if they met the following criteria:

- Written in English or French;
- Contained an abstract;
- Employed empirical qualitative, quantitative, or mixed-methods designs;
- Included theoretical studies, systematic literature reviews, or meta-analyses;
- Published as journal articles, conference proceedings, book chapters, or book reviews.

Studies were excluded if they:

- Were written in languages other than English or French;
- Lacked a clear research design or methodological framework;

- Did not include an abstract, methodology, or research questions;
- Consisted of informal literature surveys or non-systematic reviews.

3.3 Sources of data and search strategy

Relevant studies were identified through searches of the following electronic databases: Scopus, Web of Science (WoS), ScienceDirect, Taylor & Francis Online, JSTOR, and Springer. The selection of databases was based on their coverage of peer-reviewed literature and accessibility of key bibliographic information, including titles, abstracts, and keywords. Scopus, WoS, ScienceDirect, and Taylor & Francis Online were prioritised due to their extensive indexing and impact indicators (Pranckutė, 2021).

JSTOR was excluded from the final search because a substantial proportion of its records lack abstracts, which limited their suitability for systematic screening. Springer was also excluded, as its primary focus on science, technology, and medicine resulted in limited relevance to the research focus of this review.

Search terms consisted of combinations of keywords related to EMI, instructors, and preparedness, including synonymous terms and variant expressions. Boolean operators (AND, OR) were used to refine searches in accordance with the specific requirements of each database.

The selection process comprised three stages. First, all records identified through database searches were compiled, yielding the following results: Scopus (n = 46), Web of Science (n = 32), Taylor & Francis Online (n = 6), and ScienceDirect (n = 1). Duplicate records (n = 29) were removed. Second, titles, abstracts, and author-provided keywords were screened for relevance to the study focus. Third, full-text articles of the remaining records were retrieved and assessed for eligibility and methodological quality.

Figure 1 illustrates the study selection process in accordance with systematic review procedures.

The quality assessment of the selected studies was informed by the critical appraisal tools used in Joanna Briggs Institute (JBI) systematic reviews, in addition to the eligibility criteria. Each study was evaluated using the following quality assessment (QA) questions:

- **QA1:** Does the study clearly state the philosophical or theoretical premises on which it is based?
- **QA2:** Is the study methodology appropriate for addressing the research question?
- **QA3:** Are the data collection methods appropriate to the stated methodology?
- **QA4:** Are the data analysed and presented in ways that are congruent with the stated methodological position?

For each criterion, responses of *No*, *Partially*, and *Yes* were assigned numerical values of 0, 0.5, and 1, respectively. Table 1 reports the total quality assessment

scores of the included studies, together with the individual scores for each QA criterion.

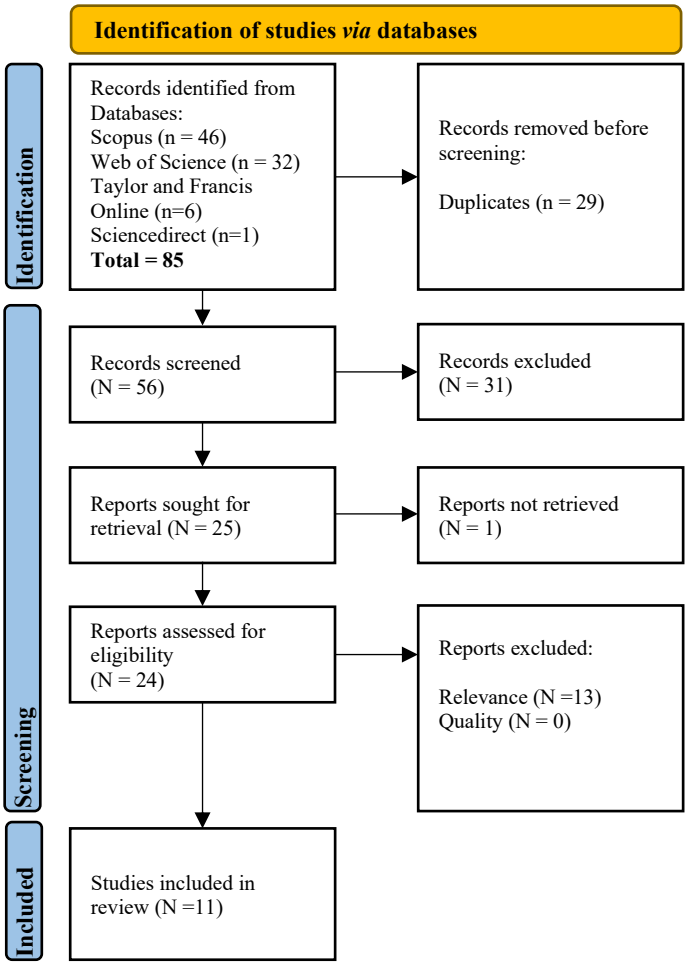

Figure 1. Flow diagram illustrating articles' selection process

Table 1. Result of Quality Assessment Process

Authors	QA1	QA2	QA3	QA4	Total score
Kim and See (2020)	1	1	1	1	4
Lin and Lin (2020)	0.5	1	1	1	3.5
Lo and Othman (2023)	1	1	1	1	4
Phan & Doan (2020)	1	1	1	1	4
Tsui (2017)	1	1	1	1	4
Sanmugam and Harun (2021)	0.5	1	1	1	3.5
Idris, Abdullah and Yusof (2007)	1	1	1	1	4
Rakhshandehroo and Rakhshandehroo (2023)	0.5	1	1	1	3.5
Sah and Li (2020)	1	1	1	1	4
Sah and Guofang (2017)	1	1	1	1	4

Kaur (2020)	0.5	1	1	1	3.5

3.4 Characteristics of the included publications

The studies included in this systematic literature review were selected based on their methodological quality and relevance to the sub-research questions. They display a range of characteristics in terms of publication type and research focus. The final sample comprises ten journal articles, conference papers, and one review study, as presented in Table 2.

Table 2. Studies included in the current SLR

Author(s) and year	Title of the research paper	Journal	Volume, pages
Kim and See (2020)	Multiple roles of language teachers in supporting CLIL: A study in a Korean university	English Teaching	75(4), 23-40
Lin and Lin (2020)	Conducting EMI with students of diversified backgrounds: The case of business management	Journal of Business Education	35(2), 89-102
Lo and Othman (2023)	Lecturers' readiness for EMI in Malaysia higher education	Asian EFL Journal	12(1), 67-88
Phan & Doan (2020)	English as a medium of instruction in Vietnamese universities: Policies of encouragement and pedagogies of assumption	English Medium Instruction in Higher Education in Asia-Pacific	Routledge, 101-120
Tsui (2017)	EMI teacher development programs in Taiwan	International Journal of Language and Education	15(4), 55-69
Sanmugam and Harun (2021)	Technical instructions in English: Voices of technical lecturers	Journal of Language and Technical Education	8(3), 23-41
Idris, Abdullah and Yusof (2007)	The professional preparation of Malaysian teachers in the implementation of teaching and learning of mathematics and science in English	Eurasian Journal of Educational Research	7(29), 81-100
Rakhshandehroo and Rakhshandehroo (2023)	The attitude of Iranian students and instructors toward implementing EMI through virtual exchange	Journal of Educational Studies	12(2), 45-58
Sah and Li (2020)	Translanguaging or unequal languaging? Unfolding the plurilingual discourse of English medium instruction policy in Nepal's public schools	International Journal of Bilingual Education and Bilingualism	23(3), 281-297

Sah and Guofang (2017)	English medium instruction as linguistic capital in Nepal: Promises and realities	International Journal of Multilingualism	14(3), 318-333
Kaur (2020)	Using English for Interaction in the EMI Classroom: Experiences and Challenges at a Malaysian Public University Journal of Educational Interaction and Development	In: Bowles, H., Murphy, A.C. (eds) English-Medium Instruction and the Internationalisation of Universities. International and Development Education. Palgrave Macmillan, Cham.	129-154

The main findings derived from the studies listed in Table 2 are presented in the following section.

4 Main Findings

4.1 Qualifications of EMI professors

The qualifications of EMI professors generally consist of a combination of academic degrees and, less frequently, teaching certifications. The findings indicate that EMI professors are often not formally certified to teach through English; instead, they rely on postgraduate qualifications or self-assessed language proficiency (Pham & Doan, 2020; Sanmugam & Harun, 2013). Pham and Doan (2020) report that several Vietnamese universities promote EMI primarily to attract international students and enhance institutional prestige. Within these contexts, only a limited number of professors receive formal EMI training, while others assume that their postgraduate experience in English is sufficient preparation for EMI teaching. Similarly, Kim and Lee (2020) observe that in many contexts, particularly across Asia, professors are required to teach in EMI settings without adequate pedagogical or linguistic support, a situation that may negatively affect teaching effectiveness.

Findings from Lo and Othman (2023) further reveal that, despite holding high academic qualifications, Malaysian university professors often struggle to deliver content in English. Professional development (PD) initiatives in these contexts tend to prioritise disciplinary expertise rather than language development or teaching methodologies. Although EMI professors typically possess advanced degrees in their respective fields, they frequently lack structured training in pedagogical strategies appropriate for teaching content through English (Idris et al., 2007). In technical disciplines, Sanmugam and Harun (2013) demonstrate that lecturers face challenges related both to linguistic proficiency and to their ability to explain technical content in English. While these professors possess strong technical expertise, many lack the confidence and skills required to teach effectively in a second language, revealing gaps in both linguistic and pedagogical readiness.

Rakhshandehroo and Rakhshandehroo (2023) argue that EMI professors require ongoing professional development focused specifically on English language proficiency and teaching strategies for non-native English-speaking classrooms. Without targeted support, professors may encounter difficulties managing classrooms in which English functions as a second language for both instructors and students. This position aligns with Tsui's (2017) emphasis on the importance of tailored professional development that addresses the linguistic and cultural challenges inherent in EMI contexts. Kaur (2020) likewise stresses the need for specialised EMI training, noting that postgraduate qualifications demonstrate disciplinary knowledge but do not necessarily ensure readiness to teach through English. This issue persists even in contexts with relatively established EMI programmes, such as Malaysia and Vietnam. Pham and Doan (2020) attribute this situation to an institutional emphasis on student recruitment, which often overshadows the need to provide systematic support for EMI professors. They therefore advocate a coordinated institutional approach that prioritises both certification and pedagogical training for EMI instructors.

4.2 EMI professors' pedagogical competencies

EMI professors' pedagogical competencies extend beyond subject-matter expertise to include the ability to deliver academic content effectively through English, which often functions as a second language for both instructors and students. A central pedagogical competency in EMI contexts is professors' ability to engage students in active classroom interaction (Kaur, 2020). This requires the effective use of English not only for content transmission but also for facilitating classroom discourse, discussions, and debates. Kaur emphasises that EMI professors must balance content delivery with the creation of a supportive learning environment for students facing the dual challenge of learning disciplinary knowledge through a non-native language.

Similarly, Sah and Li (2020) argue that EMI professors need to adopt interactive teaching approaches that promote meaningful student participation. Many professors, however, report feeling unprepared for this aspect of teaching, as traditional instructional methods do not always transfer effectively to EMI settings where language barriers introduce additional challenges.

Language scaffolding represents another essential pedagogical competency in EMI classrooms. Effective EMI teaching involves strategies such as simplifying instructions, rephrasing explanations, or presenting key concepts in multiple ways to ensure student comprehension (Kim & Lee, 2020). Idris et al. (2007) note that many EMI professors, particularly in technical fields, experience difficulty explaining complex concepts in English. To address these challenges, professors often simplify technical terminology, use analogies, and present abstract concepts in more accessible language. This competency is particularly important in disciplines such as science and engineering, where specialised vocabulary may pose additional difficulties for non-native English speakers.

Pedagogical flexibility is also emphasised by Sanmugam and Harun (2013). In technical education contexts, professors frequently adjust their instructional approaches in response to students' varying levels of English proficiency. This may involve the use of translanguaging strategies to support content comprehension. Translanguaging allows instructors to balance conceptual complexity with linguistic accessibility by drawing on multiple linguistic resources. Practices such as bilingual explanations or code-switching for complex terminology can support comprehension and contribute to the development of students' academic English proficiency.

In the Nepalese context, Sah and Li (2020) report that EMI professors are often expected to teach through English with minimal formal preparation, relying primarily on their individual language competence. They draw on Canagarajah's (2014) notion of *translanguaging competence*, defined as the ability to purposefully mobilise linguistic and semiotic resources across languages within the classroom. While Sah and Li (2020) show that translanguaging pedagogy can facilitate content understanding, their findings also point to substantial gaps in teachers' preparedness to implement these practices in a principled and effective manner.

These findings highlight the need for a high degree of pedagogical adaptability, as EMI professors must continuously assess students' comprehension and adjust their instructional language accordingly. Lo and Othman (2023) reinforce this observation by noting that EMI contexts also demand flexibility in assessment practices. Professors are required to develop assessment approaches that evaluate content knowledge while accounting for students' language development, without penalising them for limited English proficiency.

4.3 EMI professors' English proficiency

EMI professors' English proficiency does not only affect content delivery but also impacts classroom interaction, student engagement, and learning outcomes. Their English proficiency varies widely across contexts. Even if they possess adequate proficiency for conversational English they may struggle with the demands of academic and/or technical vocabulary necessary for effective instruction.

Kaur (2020) emphasises that many EMI professors are proficient in basic English, especially in reading and writing thanks to their academic training. However, spoken English and listening comprehension present challenges during classroom interactions. They might be amplified when students themselves have limited English proficiency, which makes classroom communication/interaction difficult and ineffective. In technical education setting, Sanmugam and Harun (2013) state that many EMI professors can handle written material effectively but struggle to explain technical content orally. The study indicates that even though knowledgeable in their fields, these instructors may lack the necessary oral proficiency to deliver lectures fluently and clearly in English, which in turn limits the quality of instruction.

Even with adequate academic English proficiency, transition to pedagogical English is where gaps are most pronounced. In Vietnamese universities for instance, Pham and Doan (2020) highlight that professors with postgraduate degrees from

English-speaking countries tend to be comfortable with academic writing and research in English. Nevertheless, they often face challenges when they teach in English, particularly when it comes to adapt complex academic material to students with varying levels of English proficiency. This reflects a broader issue where academic proficiency (reading and writing research papers) does not necessarily translate into effective classroom communication. By the same token, Lo and Othman (2023) underscore that EMI professors in Malaysia, often struggle with pedagogical English. Many of them can write academic papers in English but encounter difficulties to explain abstract concepts or engage students in discussions; their proficiency in written English does not always extend to oral proficiency. Their findings suggest a gap between written and spoken pedagogical competence. Cummins' contribution provides a suitable theoretical framework for the analysis of these findings. EMI professors, in addition to the Basic Interpersonal Communication Skills (BICS), need what Cummins (1981, 2000) refers to as a Cognitive Academic Language Proficiency (CALP). A sufficient interpersonal English fluency (BICS) to manage classroom interaction and informal communication does not provide EMI professors with ability to explain abstract concepts, structure academic discourse, and model discipline-specific language accurately (CALP). In EMI settings, both BICS and CALP are essential. They provide professors with the necessary linguistic proficiency to teach academic content through English, design meaningful assessments, and support students with diverse language backgrounds. Recognising this distinction enables professors to better evaluate their own language competencies and design instructions that support students' academic language development alongside content learning.

Finally, the lack of confidence in using English by EMI professors' may impact their classroom management. Kim and Lee (2020) find that professors' hesitation to speak in English is often related to their fear of making mistakes or being misunderstood. That leads to less interaction in the classroom and reduces opportunities for students' engagement and active learning. Rakhshandehroo & Rakhshandehroo (2023) further point out that EMI professors might avoid complex interactions with students in English due to their limited language skills; they limit their teaching to providing lectures to minimise classroom interactions instead of engaging students in discussions and/or problem-solving and critical thinking activities.

4.4 EMI professors' practices to teach content in English

Lo and Othman (2023) emphasise that lecturers' ability to work independently and communicate effectively plays a crucial role in supporting students with diverse linguistic needs. Effective EMI teaching requires instructors to adapt instructional methods to accommodate varying levels of English proficiency. This includes differentiating instruction and adjusting teaching strategies to enhance comprehension among students from diverse backgrounds. In technical subjects, EMI professors often slow their speech and segment explanations into manageable units.

Visual aids are frequently used to supplement verbal explanations, helping bridge language gaps and facilitating comprehension of abstract concepts.

In contexts where students' English proficiency is limited, many EMI professors employ code-switching as a pragmatic instructional strategy. Sah and Li (2020) report that in Nepal, professors frequently alternate between English and students' first languages to clarify complex concepts or instructions. This practice helps ensure content comprehension without overwhelming students linguistically. Comparable practices are documented in Vietnamese universities, where professors engage in translanguaging by moving flexibly between languages in both spoken and written instruction (Pham & Doan, 2020). Such strategies allow students to engage with content at an appropriate pace. However, Rakhshandehroo and Rakhshandehroo (2023) caution that excessive reliance on code-switching may limit students' exposure to English and potentially slow language development. Within content-oriented EMI contexts, however, these practices can be pedagogically justified, as students are not assessed on language mastery and English functions primarily as a medium of instruction.

The use of translations and bilingual materials represents another instructional approach. Dual-language resources can support comprehension of technical terminology that is difficult to grasp in a second or foreign language. Sanmugam and Harun (2013) note that professors often provide reading materials in both English and students' first languages, a practice also reported among Malaysian polytechnic instructors by Idris et al. (2007). In addition, some EMI professors allow students to use a combination of English and their first language in assessments (Lo & Othman, 2023). Although this approach remains contested, it reflects instructional flexibility and helps maintain a focus on content mastery rather than penalising students for language limitations.

Student-centred teaching practices also play a role in encouraging interactive use of English. By promoting peer interaction in English, EMI professors create low-pressure opportunities for language practice alongside content learning. Flipped classroom approaches further support this aim by allowing students to engage with course materials in English outside class through readings or recorded lectures, while class time is devoted to discussion and problem-solving. Formative assessment methods, including quizzes, presentations, and group discussions, are commonly used to monitor students' understanding of course content.

Adapting course materials to match both academic demands and students' English proficiency represents a persistent challenge for EMI professors. Sanmugam and Harun (2013) report that technical instructors often invest considerable time in adapting textbooks or lecture materials into simpler English or providing supplementary explanatory notes. Idris et al. (2007) similarly find that EMI professors sometimes adjust assessment tasks to emphasise conceptual understanding rather than linguistic accuracy. In technical subjects, this may involve simplifying exam language or allowing students to demonstrate understanding through diagrams or equations rather than extended written responses.

5 Discussion and Implications for Further Research

This SLR points out that EMI professors' readiness is a multidimensional, dynamic, and context-sensitive construct rather than a "fixed attribute" limited to English proficiency or disciplinary expertise alone. The main challenge faced by EMI professors is not the use of English per se, but their capacity to orchestrate cognition, language, and interaction simultaneously in content classrooms. EMI professors' readiness is shaped by the integration of professors' qualifications, pedagogical competencies, English language proficiency, and the classroom practices they implement in EMI settings. It is not a binary state but rather an integration of content knowledge, linguistic and pedagogical skills and abilities, and attitudes towards EMI. From this perspective, EMI professors have to understand their job scope and acquire and/or develop abilities relevant to EMI settings (Lo & Othman, 2023).

EMI professors are formally qualified in their academic disciplines and, in some cases, hold degrees obtained in EMI contexts. This background is often assumed by institutions to be sufficient preparation for EMI teaching, a situation described as a "pedagogy of assumption." However, the literature indicates that academic qualifications alone do not translate into EMI readiness. While such qualifications ensure content expertise, they do not necessarily provide the linguistic proficiency or pedagogical competence required to teach disciplinary knowledge through a second or foreign language. Regardless of linguistic challenges, pedagogical competence emerges as the most fragile dimension. In many countries, including Morocco, professors lack training in student-centred, interaction-oriented, and language-aware pedagogies. Consequently, EMI classes tend to become more monologic and lecture-driven, with reduced opportunities for interaction, negotiation of meaning, and formative feedback. This shift can be explained by the pedagogical insecurity that professors in general, and EMI professors in particular, may experience. They often prefer to simplify content, avoid spontaneous discussion, or restrict student participation in order to manage linguistic risk. As a result, opportunities for deeper conceptual understanding and student engagement are limited. Studies conducted in business, science, and engineering EMI contexts point out that interactional competence, task design, and scaffolding strategies are crucial for effective EMI teaching. Institutional training programmes therefore appear essential in addressing these challenges (Lin & Lin, 2021).

To assess the effectiveness of such programmes, Tsui (2017) suggests applying Kirkpatrick's Four Levels Model to higher education settings. This business-originated model measures training success across four dimensions: (1) reaction, which examines whether training is well received; (2) learning, which assesses whether participants acquire new knowledge or skills; (3) behaviour, which evaluates whether learning is applied in professional practice; and (4) results, which consider the impact on institutional outcomes. The first two dimensions (reaction and learning) are typically assessed during training sessions, while the third and fourth dimensions (behaviour and results) are evaluated after EMI professors return to their classrooms.

From a theoretical perspective, this research allows for the formulation of a working definition of EMI professors' readiness based on the factors that determine professors' ability to teach content effectively through English: *the necessary qualifications, language proficiency, pedagogical skills, and adaptable teaching practices required to deliver academic content in English while supporting meaningful content comprehension and student engagement*. These factors encompass a broad range of competencies, qualifications, and contextual elements that influence professors' preparedness to achieve EMI programme goals. Table 3 below summaries these keys factors:

Table 3. Key factors impacting EMI Professors' readiness

Key Factor	Description
Qualifications and training	Formal training in EMI, including certification programs that ensure professors meet standards in both language proficiency and pedagogical skills.
English language proficiency	Professors' ability to use English fluently including both conversational and academic proficiency (BICS and CALP). Confidence in using English (interaction with and feedback to students).
Pedagogical competencies	Adaptability of teaching methods, use of multimodal approaches Flexibility of using student-centered teaching methods, effective instructional strategies suitable for a linguistically diverse classroom. Engagement with EMI-specific pedagogy to support both content and language learning. Implementation of practices such as simplified language, multimodal resources, and collaborative learning to support both content and language acquisition
Professional development and support	Continuous professional development to refine teaching methods, improve language skills, and ensure institutional support (training and resources).

Worth mentioning is that EMI readiness is a dynamic process in the sense that professors have to continuously reflect on and adapt their teaching practices. They need to undergo regular evaluation and receive feedback in order to maintain and enhance their readiness. Another implication of this research is the critical need for holistic professional development that addresses the linguistic and pedagogical challenges faced by EMI professors. The interaction between these elements impacts professors' readiness to manage their EMI classrooms. Many EMI professors report adequate receptive skills, such as reading and writing, but struggle with spontaneous spoken interaction, classroom discourse management, and real-time explanation of abstract concepts (Tsui, 2017).

From Bloom's Revised Taxonomy perspective, higher-order cognitive processes such as analysing, evaluating, and creating presuppose advanced linguistic resources that include abstract lexis and discipline-specific discourse structures. In

EMI settings, professors are therefore required to mediate cognitive complexity through a second language, a task for which many are insufficiently prepared. They tend to privilege lower-order cognitive processes, particularly remembering and understanding, through extended lecturing and reduced dialogic engagement (Kaur, 2020). This "pedagogical shift" addresses low English language proficiency. Spontaneous interaction and problem-based discussion require real-time language processing that places heavy cognitive and linguistic pressure on both EMI professors and EMI students. As a result, EMI classrooms often exhibit a "flattening" of cognitive demand, undermining the very epistemic goals of higher education. Quantitative evidence from Malaysia further shows that EMI professors' perceived readiness improves significantly when they receive targeted training, suggesting that proficiency alone does not guarantee readiness, but that proficiency combined with pedagogical and intercultural training does (Lo & Othman, 2023). Thus, English proficiency should be conceptualised as "functional and pedagogical," not merely linguistic. That is why EMI professors should be trained and equipped with specific pedagogical strategies for EMI settings; content expertise alone does not translate into effective EMI teaching.

By implementing targeted training programmes, setting clear proficiency benchmarks, and fostering supportive institutional environments, the quality of EMI programmes can be significantly enhanced. This, in turn, will lead to better educational outcomes for students and more effective internationalisation of higher education institutions.

The findings of this SLR underscore the lack of international, or even national, standards for EMI teaching certification. Variation across regions and institutions means that there is no consistent benchmark for what constitutes readiness to teach in EMI. One suggestion that can be made is the growing need for certification programmes, whether national or international, that standardise the qualifications required to teach in EMI settings. Such certifications would ensure that professors are not only proficient in English but also equipped with the necessary pedagogical skills.

From the perspective of EMI professors, they are required to adapt their teaching methods to suit diverse students' needs, especially in environments where students may have varying levels of English proficiency. They have to intentionally and strategically employ strategies such as simplifying language, providing written support, code-switching, or translanguaging to facilitate comprehension. Without training or guidance, these strategies may be misused. For instance, studies on translanguaging reveal that many professors lack the pedagogical preparation to use translanguaging effectively and ethically. Translanguaging practices risk becoming ad hoc or reproducing linguistic hierarchies rather than supporting inclusive learning (Sah & Li, 2018).

Furthermore, EMI professors have to implement suitable practices such as simplifying content, using visual aids, and employing multimodal resources. Classroom interaction, multimodality, and collaboration between teachers and students are identified as practices that enhance teaching effectiveness in EMI

settings. Classroom interaction serves as a bridge between content knowledge and language skills. It fosters a dynamic environment in which students are active participants through discussions, debates, and problem-solving activities in English. Sah and Li (2020) state that promoting classroom dialogue is crucial for improving both content understanding and communication skills, as students have opportunities to express their ideas in English, thereby enhancing both content mastery and language fluency. Multimodality is also an effective tool for overcoming language barriers. Rakhshandehroo and Rakhshandehroo (2023) note that multimodality is particularly suitable in EMI environments, as it allows professors to adapt their teaching to meet students' needs, enabling learners to access content in ways that align with their individual learning preferences. Collaboration between teachers and students, as well as among students themselves, is another practice that is particularly suitable for EMI settings. Tsui (2017) and Kim and Lee (2020) emphasise the importance of peer interaction and collaborative learning in EMI classrooms. Group work, discussions, and peer feedback sessions provide students with opportunities to practise English in a supportive setting while engaging with content. Pham and Doan (2020) further underscore that teacher–student collaboration is equally important. Code-switching and the use of students' first languages may appear counterproductive to the goals of EMI, but they are often used as culturally responsive practices to facilitate content understanding. Sah and Li (2020) demonstrate that, in some cases, professors strategically switch between English and students' first languages to ensure clarity, particularly when explaining complex concepts or instructions. However, such practices may limit students' exposure to English, which could hinder language development.

This review is subject to several limitations that should be acknowledged. First, the number of studies included in the synthesis is relatively small, reflecting the limited body of research explicitly addressing EMI professors' readiness rather than a lack of methodological rigour. Second, the restriction to studies published in English and French may have resulted in the exclusion of relevant research published in other languages. Finally, although a systematic search strategy was employed, the review relied on published literature, and relevant unpublished or grey literature may not have been captured. These limitations should be considered when interpreting the findings and point to directions for future research.

6 Conclusion

This study draws on existing research to present a systematic literature review that examines EMI professors' readiness to teach academic content through English. The reviewed studies highlight the importance of professors' qualifications and pedagogical skills in EMI contexts. Without adequate training and institutional support, EMI professors face considerable difficulty adapting their teaching practices to meet the linguistic and pedagogical demands of EMI instruction. To address these challenges, professors must be equipped with appropriate tools and

resources that enable them to integrate language and content teaching effectively and to foster inclusive learning environments. Pedagogical flexibility and translanguaging should therefore be recognised and legitimised as intentional and context-sensitive EMI strategies. Supporting professors' readiness through professional development programmes and continuous training emerges as a key condition for successful EMI implementation.

EMI professors' readiness depends on the integration of several interrelated dimensions, including disciplinary qualifications, pedagogical competence, English language proficiency, and instructional practices. This readiness is not static but is systematically developed through sustained training, clear pedagogical guidance, and recognition of EMI teaching as a specialised professional practice. By investing in instructors' language development and EMI-specific pedagogical strategies, higher education institutions can improve teaching quality and promote more effective student learning outcomes.

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