English proficiency, pedagogy, and confidence: what really matters in EMI teaching?

Routledge
Taylor & Francis Group

Journal of Multilingual and Multicultural Development

ISSN: 0143-4632 (Print) 1747-7557 (Online) Journal homepage: www.tandfonline.com/journals/rmmm20

English proficiency, pedagogy, and confidence: what really matters in EMI teaching?

Marie Vander Borght, Hans Malmström, Ron Martinez & Diane Pecorari

To cite this article: Marie Vander Borght, Hans Malmström, Ron Martinez & Diane Pecorari (28 Jul 2025): English proficiency, pedagogy, and confidence: what really matters in EMI teaching?, Journal of Multilingual and Multicultural Development, DOI: 10.1080/01434632.2025.2537740

To link to this article: https://doi.org/10.1080/01434632.2025.2537740

Published online: 28 Jul 2025.

JOURNAL OF MULTILINGUAL AND MULTICULTURAL DEVELOPMENT
https://doi.org/10.1080/01434632.2025.2537740

English proficiency, pedagogy, and confidence: what really matters in EMI teaching?

Marie Vander Borght [a], Hans Malmström [a], Ron Martinez [b] and Diane Pecorari [c]

[a]Department of Communication and Learning in Science, Chalmers University of Technology, Gothenburg, Sweden; [b]Department of Modern Foreign Languages (DELEM), Federal University of Paraná (UFPR), Curitiba, Brazil; [c]School of Education, University of Leeds, Leeds, United Kingdom

ABSTRACT

English-medium instruction (EMI) lecturers in many European universities already command high English proficiency, leaving open the question of what else shapes their classroom practice. We surveyed 978 STEM teachers across 21 Swedish universities to examine how self-rated language proficiency, pedagogical training, and teaching self-efficacy relate to preferred teaching approaches (*interactive, organised, transmissive, unreflective*). Logistic-regression analyses showed that teachers with formal pedagogical training were about 2.5 times more likely to adopt interactive methods, while higher self-efficacy provided additional leverage. Incremental differences in English proficiency had only a modest effect, principally helping teachers avoid unreflective practices. These findings challenge the view that language skill is the main constraint on EMI quality once a high-proficiency threshold is met. We argue that effective EMI teacher development programmes should move beyond language enhancement to comprehensive professional development that strengthens pedagogical expertise and confidence—an intervention mix likely to yield greater gains in interactive teaching than narrow language-focused support.

ARTICLE HISTORY
Received 27 March 2025
Accepted 18 July 2025

KEYWORDS
English-medium instruction; teaching approaches; language proficiency; self-efficacy; training; pedagogy

Introduction

The use of English as a language for disciplinary teaching and learning in higher education (HE) creates educational settings where, typically, many students and teachers use English as a second language (L2) (Pecorari and Malmström 2018). Despite the growing popularity of English-medium instruction (EMI) (Agnew and Neghina 2021), several significant challenges have been identified for the EMI classroom. For example, EMI teachers report feeling less spontaneous and flexible, treat lectures more formally, and sometimes cover less content compared to when they are teaching in their first language (L1) (Airey 2011; Breeze and Sancho Guinda 2021). While some teachers express confidence in their ability to teach the disciplinary content, many express concerns relating to their English skills, highlighting the central role of language in EMI (Dearden 2014; Lasagabaster and Doiz 2021).

Although English is essential for presenting and engaging with the academic content in EMI, Airey (2020, 4) has noted that 'content lecturers tend to underestimate the role of languages and other semiotic resources in the teaching and learning of their discipline', and both Dearden (2014) and Macaro (2018) have raised serious concerns about the linguistic abilities of EMI teachers

CONTACT Marie Vander Borght borght@chalmers.se

and the possible consequences for teaching and learning. Classroom observations to some extent confirm such concerns, indicating that student-teacher interactions in EMI classrooms tend to be limited and predominantly teacher-centred (Sahan, Rose, and Macaro 2021). Lasagabaster (2022, 52) emphasises a need for a 're-evaluation of the [EMI] teaching methodology that should go hand in hand with a greater focus on student-centred learning that would benefit not only students but also teachers themselves'. A small number of studies (Dang, Bonar, and Yao 2023; Lavelle 2016; Wang 2021) have hinted at the influence of language on teaching, but this relationship remains empirically underexplored.

When pedagogical preparation and training for EMI is discussed, it tends to focus primarily on language support rather than broader pedagogical competencies (e.g. Macaro, Akincioglu, and Han 2020). However, recent research suggests that EMI teachers may need specialised pedagogical preparation that goes beyond language enhancement to include strategies for facilitating learning in multilingual classrooms (Deroey 2023). While a few studies (e.g. Tsui 2018) have investigated the impact of pedagogical preparation and training on EMI teaching, the relationship between preparation for teaching, proficiency in the teaching language and teaching practice has not been thoroughly investigated.

Beyond questions of language proficiency, teaching approaches, and teaching preparedness, teachers' self-efficacy – their beliefs about their ability to manage teaching tasks effectively – emerge as a crucial factor in EMI settings. Research suggests that teaching through a second language can affect teachers' confidence in their pedagogical abilities (Werther et al. 2014), potentially influencing both their choice of teaching approaches and student learning outcomes (Wang 2021). As has been noted elsewhere (e.g. Dong and Han 2024), EMI teachers often experience heightened emotional vulnerability, which may affect their sense of teaching competence and, consequently, their classroom practices. In addition, the relationship between teaching self-efficacy, English proficiency, and teaching approaches is worthy of further study.

The present study seeks to understand the extent to which language proficiency may influence teachers' orientation towards interactivity in the EMI classroom, as well as how proficiency interacts with other factors (pedagogical training and teaching self-efficacy) in this context. By exploring these dynamics, this research will contribute to ongoing discussions about the role of language proficiency in relation to other factors in EMI settings, and the implications for the quality of EMI education.

Background

Research on EMI teaching has identified several factors potentially affecting teachers' classroom practices. While EMI teachers' English proficiency has received the most attention, self-efficacy and pedagogical training have also been recognised as crucial influences on EMI instruction.

Teaching approaches in EMI

A number of reports identify limited interaction and teacher-centred approaches in EMI classrooms (e.g. Lasagabaster 2022). Comparisons are frequently drawn with L1 settings, where teacher-student engagement is often assumed to be more prevalent. According to Ismailov et al.'s (2021, 20) systematic literature review, students across EMI settings report frustration with lecture-heavy, non-interactive teaching methods. These transmissive, non-interactive approaches, characterised by teachers simply narrating textbook content or reading directly from slides, reportedly undermine student engagement, motivation, and learning. Classes dominated by teacher-led instruction, with limited discussion or interaction, are described by students as 'traditional', 'dull', 'one-way', and lacking in internationalisation opportunities and perspectives (20). Such reports have caused scholars to identify 'an urgent need to move from the mainly monologic and little interactive EMI classroom to a more student-centred approach' (Lasagabaster 2022, 25) in EMI.

Not all EMI classrooms are defined by an absence of teacher-student interaction, however. Work by Sahan, Rose, and Macaro (2021) highlights significant variation across EMI classrooms with respect to interaction between teachers and students. Their study focused on classroom observations of EMI teaching practices and teacher-student interaction across 85 EMI classes in seven Turkish universities. The degree of teacher-student interaction varied across the sample of classes observed ranged from 11.7% to 36.5% of the total classroom speaking time, with an average of 20.7%. While there is a dearth of directly comparable research, Sahan et al. interpret their findings as suggesting that the average level of teacher-student interaction reported by them is notably higher than in some other EMI contexts.

The findings of Ismailov et al. (2021) and Sahan, Rose, and Macaro (2021) demonstrate that interactive teaching practices can and do occur in EMI settings, and that these practices are generally valued by students, but that teacher-centred teaching is more prevalent. Compared with other pedagogical approaches, interactivity is a particularly complex phenomenon in EMI settings. On one hand, in many settings interactivity is valued and indeed taught to novice university teachers as something they should aspire to in their practice. It is, in other words, a matter of pedagogical orientation, and teachers may set greater or lesser store by it. At the same time, interaction places a high burden on the teacher's communicative abilities, and so it is also closely related to teachers' proficiency in the teaching language. It is therefore worth wondering whether teachers who are less able to communicate in English (or perceive themselves that way) are less able or less inclined to adopt interactive practices in the EMI classroom.

EMI teachers' English proficiency

Widespread consensus exists that EMI teachers require good English skills. For example, Molino et al. (2022) note that teachers need a high level of English proficiency

> for ensuring the comprehension of disciplinary contents. Not only do lecturers define terms, explain concepts, and give examples, but they also redress misconceptions, guide students through discourse, make sure that learners focus on what is important, and establish meaningful interpersonal relations with them to facilitate the co-construction of meanings. (111)

When EMI teachers have been asked to self-evaluate their English proficiency, a divided picture emerges; some express strong confidence in their own English abilities for teaching (e.g. Jensen and Thøgersen 2011; Werther et al. 2014), while others report feelings of insecurity concerning their English skills, often specifically related to the task of teaching (Fortanet Gómez 2012; Lasagabaster 2022; Macaro, Akincioglu, and Han 2020). Students are equally divided. For example, Bolton and Kuteeva's (2012) survey of students at a major comprehensive university in Sweden revealed negative opinions concerning EMI teachers' English proficiency, as exemplified by this comment from a student of economics: 'some guest lecturers and teachers who give lectures in English are catastrophically bad at English, which significantly affects the quality of education. It is good with English as the teaching language, but there should be rules to teachers' competence' (435). In a study from a Turkish EMI context (Karakas 2016), by contrast, a majority of the undergraduate university students rated the English proficiency of their EMI lecturers as either good or excellent.

Testing, rather than self-reporting, has been limited in assessing EMI teachers' English skills, but existing studies highlight varied proficiency levels. Klaassen and Bos (2010) used the Quick Placement Test to screen EMI teachers at a Dutch technical university, finding an average proficiency in the upper C1 range, though only 77% of the teachers achieved a passing score. Locally developed English proficiency tests for EMI teachers also indicate that many teachers tested meet the language requirements specified (typically set at the high B2 or C1 level), though a small percentage do not (Kling and Dimova 2015; van Splunder et al. 2022). Somewhat conflicting findings recently emerged in a study examining specific aspects of English proficiency among early career EMI teachers in

Sweden. This research identified gaps in both receptive and productive language skills for significant numbers of teachers (Malmström, Pecorari, and Warnby 2023).

EMI teachers' self-efficacy

Teaching self-efficacy, i.e. teachers' beliefs in their teaching competence (Bandura 1977), is central to any teaching and learning context, due to its association with teaching performance and classroom behaviour (Tschannen-Moran and Hoy 2001). Moreover, teaching self-efficacy has a direct bearing on students' learning outcomes, as it influences teachers' ability to employ strategies that enhance student learning (Markova 2021; Wang 2021). EMI teachers' self-efficacy has been studied from perspectives including the relationship with job satisfaction (Zhang, Zhu, and Hu 2023) and professional development (Tsui 2018). Other studies have focused on dimensions directly or indirectly associated with self-efficacy, e.g. EMI teachers' perceptions of helplessness due to lack of institutional support (Lasagabaster 2022) or emotional vulnerability (Dong and Han 2024) and their sense of classroom identity and agency (Ou and Gu 2024).

Frequently teachers' low levels of self-belief in their EMI teaching competence have been attributed to their low level of confidence in their English skills (e.g. Werther et al. 2014). However, to the best of our knowledge, only one study to date (Wang 2021) has attempted to provide direct empirical evidence speaking to this question, finding a positive correlation between these teachers' English proficiency and their teaching self-efficacy. Wang's (2021) findings are valuable but highlight significant gaps in the literature. Wang emphasises the need for further research, particularly larger-scale studies involving more diverse teacher samples from various geographical contexts to better account for cultural and linguistic differences.

Teacher preparation in EMI

Despite the rapid expansion of EMI programmes globally, systematic approaches to preparing teachers for EMI remain surprisingly underdeveloped (Macaro, Akincioglu, and Han 2020). Many institutions offer some form of preparation for university teaching generally (e.g. Ödalen et al. 2018), and in Sweden, where this study is set, such preparation is legally mandated. In some emerging EMI contexts, teacher preparation targets the EMI classroom, but often such programmes centre on language enhancement rather than pedagogical development (Deroey 2023). The result is a pattern of teacher preparation which is either language-centric and assumes that strong English skills alone are sufficient for effective EMI teaching or pedagogy-centric and assumes that the same palette of skills is needed for university teaching, regardless of the medium of instruction.

Recent research suggests this narrow and bifurcated focus may be inadequate. For instance, Tsui (2018) found that EMI teachers who received comprehensive pedagogical training reported greater confidence in their teaching abilities and were more likely to implement student-centred approaches. Similarly, in their review of EMI teacher development programmes, Macaro, Akincioglu, and Han (2020) argue that effective EMI teaching requires specialised pedagogical competencies beyond those needed for L1 instruction, including strategies for facilitating learning in multilingual classrooms and techniques for making content accessible through an L2.

However, empirical evidence linking teacher preparation to EMI teaching practices remains limited. While several studies have documented the types of preparation programmes available (e.g. Martinez and Fernandes 2020), few have examined their benefits. This gap is particularly notable given recurring concerns about teaching quality in EMI programmes (Rose et al. 2023) and calls for more interactive, student-centred approaches (Lasagabaster 2022). Understanding how pedagogical preparation shapes teaching practices could provide valuable insights for improving EMI implementation.

The relationships among teaching practice in EMI, English proficiency, and pedagogical preparation

At the heart of the EMI cost–benefit equation is the belief that English should not stand in the way of teaching and learning disciplinary content. This implies a relationship between stakeholders' English proficiency and the conditions for effective teaching and learning, a relationship extensively discussed in the research literature, frequently from the point of view of teachers' (reportedly deficient) English proficiency, e.g. 'One of the main concerns raised through research has been whether the quality of instruction and learning is affected due to the fact that most lecturers and students involved in EMI are foreign language (L2) speakers of English' (Dimova and Jensen 2024, 206).

Similar concerns have been raised elsewhere (e.g. Rose et al. 2023; Sahan, Rose, and Macaro 2021). In his emic account of the implications of adopting English as a teaching language in international business schools, Lavelle (2016) cites both positive and negative consequences, concluding that 'teaching in L2 English does affect the way teachers work [and] it may alter a teacher's conception of his role as a teacher' (140–141). Lavelle expresses concern that many of his teacher colleagues are 'drawn in potentially disquieting numbers towards the transmitter role' (141). This and other accounts cited above are not isolated concerns. In their meta-analysis of learner- and teacher-centred EMI pedagogy, Ismailov et al. (2021) highlight that in a quarter of the studies, students perceived that lecturers' limited English proficiency posed a significant challenge to understanding course content, saying specifically 'that it prevent[s] course instruction "in a deeper way"' (18).

The reasoning presented so far suggests a degree of interplay between multiple factors in EMI teaching effectiveness. While language proficiency has been studied, other relevant factors also warrant attention, but empirical research about their interaction remains limited. This paper aims to address this gap by further investigating key influences on EMI teaching approaches, guided by the following research question: What is the relationship among English language proficiency, teaching practices, teaching self-efficacy and the pedagogical training of EMI teachers?

Methodology

The methodological approach adopted included a survey instrument that gathered data on teachers' background, along with a self-assessment of their English proficiency across multiple skills using the Common European Framework of Reference for Languages framework (CEFR; Council of Europe 2018). Additionally, a validated tool was employed to measure both their teaching approaches and self-efficacy. The following sections detail our participant recruitment strategy and explain how these instruments were implemented.

Participants and sampling

This research targeted EMI teachers working in Sweden. As an early adopter, Sweden has played a leading role in EMI implementation in Europe (Mežek and Björkman 2024). Swedish HE is highly internationalised, with a growing number of international students and staff (Swedish Higher Education Authority 2023). Over the past decade, internationally recruited researchers and staff have nearly doubled, driving an expansion of English-taught programmes. Currently, 62% of master's programmes are conducted in English, with some universities offering only English-taught courses at this level (Malmström and Pecorari 2024).

To limit possible disciplinary effects (e.g. Breeze and Sancho Guinda 2021; Macaro 2020), only teachers working in science, technology, engineering and mathematics (STEM) faculties were invited to respond to the questionnaire. From an initial sample of 1425 teachers, we excluded teachers who reported English as an L1 ($n = 303$) to focus specifically on EMI teachers using English as an additional language. We further refined the sample by excluding cases where teachers scored equally on the interactive and transmissive approaches ($n = 144$), as these could not be meaningfully

classified as either. After additional data cleaning, this resulted in a final analysed sample of 978 teachers. The study was fully compliant with Swedish law on human-participant research and received the relevant approvals from the authors' institutions. All participants gave their informed consent to participate.

Participants reported 40 different L1s, with 551 (56.3%) having Swedish as an L1. The next most common L1s were German, Spanish and French. This level of multilingualism is broadly representative of the workforce in Swedish HE, especially in the STEM fields (Swedish Higher Education Authority 2023).

The majority of the participants were male (n = 646; 66.1%), in line with STEM teaching staff in Sweden generally (Statistics Sweden 2024). Table 1 shows university teaching experience and EMI experience. More than half (n = 575; 58.8%) had ten or more years of experience in university teaching, and most of those (n = 461; 47.1%) had ten or more years of experience in EMI. A small number had no university (n = 3; .3%) or EMI (n = 36; 3.7%) teaching experience but were expected to teach in EMI in the near future.

Instruments

Data were gathered using Microsoft Forms. First, university teachers were asked to provide some background information, such as their gender, L1(s), teaching experience and the extent of their pedagogical training. Second, the teachers self-reported their English language proficiency using the CEFR self-assessment grid (Council of Europe 2018). The CEFR is an internationally acknowledged framework for assessing skills in various languages and categorises language proficiency into six levels: A1 and A2 (basic user), B1 and B2 (independent user), and C1 and C2 (proficient user). Each level is characterised by specific 'can do' descriptors that detail the skills attained at each level when speaking, listening, reading, and writing. Despite the CEFR being widely adopted and having a substantial impact on language education globally, it has not escaped critique. For instance, it is viewed as possibly being incomplete in capturing the language skills needed for teaching (Richards and Pun 2023), and questions remain about the validity of self-assessing language skills. Nevertheless, it was selected because of its proven time efficiency and ease of use.

The participants were presented with the descriptors of the skills one by one, and with one descriptor at a time (Figure A1 in the Appendix shows example descriptors), beginning with the one associated with the lowest (A1) level. Participants who answered that they had attained that level were then presented with the descriptor for the A2 level for that skill, and so on. Participants who indicated not having attained a given level for that particular skill were not presented with the higher levels but instead were directed to the A1 level of the next skill. The teachers were therefore presented with up to a total of 24 descriptors (six for each of the four skills). Each response to a descriptor was coded by awarding one point for each level which participants reported having attained on each skill. Thus, for example, a score of three for a given skill indicates B1 attainment.

The participants self-reported high levels of English proficiency. The majority of the participants reported a C2 level for listening (74.0%), reading (81.7%), writing (87.7%), and speaking (79.3%).

Table 1. Overview of participants' teaching experience.

	University teaching		EMI teaching	
Years	*N*	%	*N*	%
None	3	.3	36	3.7
Less than 1 year	52	5.3	82	8.4
1–3 years	136	13.9	159	16.3
4–6 years	129	13.2	144	14.7
7–9 years	79	8.1	91	9.3
10 or more years	575	58.8	461	47.1
Not sure/prefer not to say	4	.4	5	.5

All other participants predominantly rated themselves as C1 (17.2% for listening, 10.8% for reading, 6.7% for writing, and 13.3% for speaking), with all others falling below C1. No respondents responded below the A2 level for listening and B1 level for reading.

The third part of the questionnaire tapped into teaching approaches and self-efficacy when teaching in an EMI setting, using the items from the Higher Education Approaches to Teaching (HEAT) Inventory (Postareff et al. 2023). The HEAT consists of 16 items. Each HEAT item uses a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree' in response to statements such as 'in my teaching, I create situations where I encourage students to discuss their thoughts and opinions about the topic'. Because the present study was concerned specifically with EMI settings, the prompts were prefaced with an instruction to participants to answer while thinking about their experience of university teaching in English.

The first 12 items address the four different teaching approaches identified by Postareff et al. (2023): interactive, transmissive, organised and unreflective. The interactive approach investigates whether teachers see themselves as encouraging student discussion of opinions and thoughts during class, recalling what is frequently referred to as a student-centred teaching approach. The transmissive (or often called the teacher-centred) approach relates to whether teachers see the transfer of knowledge to students as the primary goal of their teaching. The other two approaches are the organised and unreflective approaches. Teachers who embrace the organised approach are systematic and invest the requisite time and effort into their teaching preparations. The unreflective approach is adopted by teachers who experience difficulty in conceptualising the nature of learning and in identifying effective strategies to support students' learning processes.

These four dimensions are separate and one neither implies nor excludes another, though some apparent (dis)affinities exist. For example, the transmissive approach, with its emphasis on the teacher communicating information to students, is to some extent at odds with (if not actually contradictory to) the interactive approach, in which students are encouraged to discuss their way forward to understanding of the content. However, teachers adopting either approach could also see themselves as doing so in a structured way, i.e. the organised approach. Further, in the context where this study is set, these dimensions are not neutral. Two of them, the interactive approach and the organised approach, are widely understood to be regarded as beneficial and productive, while the other two, the transmissive and unreflective approaches, are viewed unfavourably by many stakeholders in Swedish HE. Of the four dimensions, two – the interactive and transmissive approaches – are of most direct relevance to the questions under investigation and therefore come into focus in the presentation of the findings below.

For each of the four teaching approaches, we calculated composite scores by summing responses on the five-point Likert scale. Each approach could therefore have a composite score ranging from three to 15. Higher scores indicate stronger alignment with that particular teaching approach.

The HEAT inventory also maps teaching self-efficacy (four statements) and looks into how confident teachers feel in managing difficult teaching tasks, possessing the necessary pedagogical skills, coping with teaching tasks and feeling confident that the students learn in their courses. To measure overall teaching self-efficacy, we created a composite score by summing responses to all four self-efficacy statements. With the same five-point Likert scale coding, composite scores for self-efficacy ranged from four to 20, with higher scores indicating greater teaching self-efficacy.

Analysis

Data from the present study were analysed with SPSS. First, descriptive statistical analyses were performed for the self-reported English language proficiency, teaching approaches, teaching self-efficacy and background information of the EMI teachers. Then, after confirming that the data met the assumptions for parametric testing (normal distribution, linear relationships, and homoscedasticity), binary logistic regression analyses were calculated to examine whether language proficiency and other factors affect EMI teachers' choice between interactive versus transmissive

teaching style. Multilinear regression analyses were then performed with the organised and unreflective teaching approaches as dependent variables. Finally, linear regression analyses were conducted using teaching self-efficacy as a dependent variable.

The binary logistic regression to examine the possible interplay of language proficiency and other factors on EMI teachers' orientation towards interactivity in the classroom, specifically examining the factors that predict teachers' likelihood of adopting an interactive versus transmissive teaching style, was chosen for several reasons:

1. The nature of our dependent variable (teaching approach) conceptually aligned with a binary outcome, as research suggests EMI teachers tend towards either interactive or transmissive approaches (e.g. Lasagabaster 2022; Sahan, Rose, and Macaro 2021). Teachers were classified as predominantly interactive (1) or transmissive (0) based on their relative scores on these two HEAT inventory scales. Specifically, for each teacher, we calculated mean scores on both the interactive scale (three items) and transmissive scale (three items), with possible values ranging from 1–5 on each scale. Teachers whose mean score on the interactive scale exceeded their mean score on the transmissive scale were classified as predominantly interactive (1), while those whose mean score on the transmissive scale exceeded their mean score on the interactive scale were classified as predominantly transmissive (0). This approach created a meaningful binary classification that captured each teacher's dominant orientation towards teaching. As mentioned earlier, cases with equal scores on both scales (n = 144) were excluded, as they did not demonstrate a clear preference for either approach.
2. The highly skewed distribution of CEFR proficiency levels in our sample (88.8% at C2 level) necessitated recoding language proficiency as a binary variable for each skill (high = C2/level 6 versus lower = C1 and below/levels 1–5). In this case, 'lower' does not mean 'low'; rather, it simply was a way to indicate any value under C2, as self-assessed by the respondents. This approach allowed us to meaningfully examine the relationship between proficiency and teaching style while accounting for the data's distributional characteristics. Given this heavily skewed distribution towards very high proficiency levels, our analysis of language proficiency effects should be considered exploratory. While this limits our ability to make broad generalisations about language proficiency effects in EMI contexts with more varied teacher populations, it allows us to examine whether differential effects exist even within this highly proficient sample.
3. Our predictor variables included both continuous (teaching self-efficacy mean scores) and categorical (pedagogical training and language proficiency) variables, which binary logistic regression can accommodate effectively. Other covariates were tested in our models, such as institutional English support and years of experience, but these were ultimately excluded because they consistently emerged as non-significant.

Four separate models (one for each language skill) were run to examine whether different aspects of language proficiency might relate differently to teaching approach. This approach was chosen to avoid potential multicollinearity issues, as language skills are typically highly correlated with each other. Separate models also allowed us to examine the unique contribution of each language skill while maintaining the same baseline predictors (pedagogical training and self-efficacy).

Each model included teaching approach as a dependent variable (1 = interactive, 0 = transmissive) and the following independent variables:

- pedagogical training (1 = yes, 0 = no)
- teaching self-efficacy (continuous mean score)
- language proficiency for the specific skill (1 = high/C2, 0 = lower/≤C1)

Model fit was assessed using the Hosmer-Lemeshow test, with $p > .05$ indicating adequate fit. The Nagelkerke R^2 was used to estimate explained variance, and odds ratios with 95% confidence intervals were calculated to measure effect sizes. Sensitivity analyses confirmed that results

remained stable after excluding English L1 speakers from the sample, suggesting the robustness of the findings.

The analytical method treated teaching approach and self-efficacy differently, reflecting that they are distinct theoretical constructs. Teaching style was operationalised as a binary variable (interactive vs. transmissive), in alignment with established literature that frames EMI teaching approaches as fundamentally distinct pedagogical orientations rather than points on a continuum (e.g. Ismailov et al. 2021; Klaassen 2001; Lasagabaster 2022; Lavelle 2016; Sahan, Rose, and Macaro 2021). The HEAT inventory specifically measures these as separate constructs, and classroom observations suggest teachers tend to align with one primary approach in their practice. By contrast, self-efficacy was treated as a continuous variable, reflecting its theoretical conceptualisation as a spectrum of confidence levels (Bandura 1977; Tschannen-Moran and Hoy 2001).

Results

The first set of analyses examined the relationship amongst teachers' English language proficiency, teaching self-efficacy, pedagogical training and an interactive (versus transmissive) teaching style. Table 2 shows that all four models were statistically significant ($p < .001$) and showed similar overall classification accuracy (approximately 70%). Moreover, the models explained between 6.7% and 7.7% of the variance in teaching style, and the Hosmer-Lemeshow test indicated good model fit for all models.

Pedagogical training emerged as the strongest predictor of an interactive teaching style across all models, with consistent odds ratios (*ORs*) around 2.55 ($p < .001$). Teachers with pedagogical training were approximately 2.5 times more likely to value an interactive teaching style than those without training, controlling for other variables. Teaching self-efficacy was also a significant predictor across all models (*ORs* ranging from 1.406 to 1.448, all $p < .01$), indicating that teachers with higher self-efficacy were more likely to say they adopted an interactive teaching style.

For language proficiency, the relationship with teaching style varied by skill. High reading proficiency showed the strongest relationship ($OR = 1.674$, $p < .01$), followed by listening ($OR = 1.430$, $p < .05$). While speaking ($OR = 1.334$, $p = .097$) and writing proficiency ($OR = 1.249$, $p = .291$) showed positive associations with interactive teaching, these relationships were not statistically significant.

Further analysis investigated the organised and unreflective teaching dimensions. Multiple linear regression analyses were performed with each teaching approach as the dependent variable and language proficiency (binary high/low for each skill), teaching self-efficacy, and pedagogical training as predictors (see Table 3).

For unreflective teaching, the model explained 29.1% of the variance ($F(3, 974) = 134.954$, $p < .001$). Teaching self-efficacy emerged as the strongest predictor of an unreflective approach ($\beta = -.518$, $p < .001$), with higher self-efficacy associated with less unreflective teaching. Language proficiency also played a role: both reading ($\beta = -.071$, $p < .01$) and listening proficiency ($\beta = -.066$, $p < .05$) were significantly associated with lower levels of unreflective teaching. Writing (β

Table 2. Binary logistic regression models predicting interactive teaching style ($N = 978$).

Predictor	Model 1 (Reading)	Model 2 (Writing)	Model 3 (Speaking)	Model 4 (Listening)
Language proficiency	1.674** (1.184–2.366)	1.249 (0.827–1.886)	1.334 (0.949–1.875)	1.430* (1.048–1.952)
Self-efficacy	1.406** (1.100–1.796)	1.448** (1.135–1.848)	1.408** (1.099–1.804)	1.425** (1.116–1.819)
Pedagogy training	2.531*** (1.810–3.538)	2.555*** (1.830–3.568)	2.559*** (1.833–3.573)	2.545*** (1.822–3.555)
Model fit:				
Nagelkerke R^2	.077	.067	.070	.073
H-L test (p)	.840	.392	.421	.796
Classification %	70.4	70.2	70.3	70.6

Note. Values are odds ratios with 95%. Confidence intervals in parentheses. *$p < .05$, **$p < .01$, ***$p < .001$.

Table 3. Multiple regression results for organised and unreflective approaches.

	Unreflective teaching		Organised teaching	
Predictor	*B* (SE)	*β*	*B* (SE)	*β*
Self-efficacy	−.608*** (.032)	−.518	.358*** (.032)	.340
Pedagogy training	−.082 (.048)	−.047	.118* (.048)	.075
Language Proficiency (High vs. Low):				
• Reading	−.125** (.048)	−.071	.004 (.048)	.002
• Writing	−.051 (.057)	−.025	.059 (.057)	.031
• Speaking	−.077 (.047)	−.046	−.007 (.047)	−.005
• Listening	−.103* (.043)	−.066	.006 (.042)	.004
R^2	.294		.130	
Adjusted R^2	.291		.127	
F	134.954***		48.465***	

Note. *$p < .05$, **$p < .01$, ***$p < .001$.

= −.025, $p = .370$) and speaking proficiency ($\beta = -.046$, $p = .100$) showed similar negative trends but were not statistically significant.

For organised teaching, the model explained 12.7% of the variance ($F(3, 974) = 48.465$, $p < .001$). Teaching self-efficacy was again the strongest predictor ($\beta = .340$, $p < .001$), with higher self-efficacy associated with a more organised teaching approach. Pedagogical training also showed a significant positive relationship ($\beta = .075$, $p < .05$). Notably, none of the language proficiency measures significantly predicted organised teaching approaches (all *p*s > .300).

These findings suggest that teachers with higher levels of self-reported language proficiency, particularly in receptive skills (reading and listening), are less likely to embrace unreflective teaching practices. In contrast, language proficiency plays a less direct role in promoting organised teaching. A high degree of self-efficacy, however, is less likely to co-occur with unreflective teaching and more likely to co-occur with the organised approach. Moreover, pedagogical training specifically benefits organised teaching practices, highlighting the importance of professional development beyond language proficiency.

Thus – across all models – pedagogical training demonstrated the largest effect size, followed by teaching self-efficacy, and then language proficiency. While language proficiency was relevant, particularly in reading and listening, it had a weaker and less consistent impact compared to pedagogical training and self-efficacy.

To further explore the relationship between self-efficacy, language proficiency, and pedagogical training, linear regression analyses were conducted with self-efficacy as the dependent variable and language proficiency (binary high/low for each skill) and pedagogical training as independent variables. Table 4 shows that speaking proficiency and pedagogical training both significantly predict self-efficacy ($p < .001$). This suggests that teachers reporting higher speaking proficiency and those with pedagogical training tend to feel more confident in their teaching abilities. Among the language skills, speaking is the strongest predictor of higher self-efficacy ($\beta = .185$).

Overall, these findings suggest that pedagogical training among EMI instructors is most closely related to interactive teaching, with self-efficacy playing an additional supporting role. Language proficiency, and particularly reading and listening skills, are also related to teaching approaches, but this link is less prominent.

Table 4. Linear regression analyses for self-efficacy.

	Self-efficacy				
Independent variables	*B*	*SE*	*β*	*t*	*p*
Reading	.316	.219	.052	1.439	.150
Writing	.151	.261	.021	.578	.564
Speaking	1.068	.212	.185	5.038	<.001
Listening	.174	.185	.033	.922	.357
Pedagogy training	.789	.185	.132	4.268	<.001

Discussion

This study examined the relationships among English proficiency, teaching self-efficacy, and pedagogical training in predicting approaches to teaching in EMI settings. The results contribute to a growing body of research indicating that EMI effectiveness depends not only on language ability but also on pedagogical competence and instructor confidence (e.g. Tsui 2018; Wang 2021).

Teachers who had received formal training were far more likely to report adopting an interactive teaching style. This suggests that the ability to engage students actively is not necessarily an innate quality, and neither is the ability to do so solely dictated by language proficiency; it is a skill that can be developed. The results align with previous work (Macaro, Akincioglu, and Han 2020; Tsui 2018) that emphasises the value of teacher development in EMI settings. Moreover, pedagogical training appears, from these findings, to have a specific value as a driver of interactive teaching behaviours. It is important to note that this finding is based on teachers *self-reported* approaches to teaching, and it is possible that their reports are not fully aligned with their actual classroom practice. More specifically, teachers who undergo formal pedagogical instruction in a context which prizes interactivity may be inclined to report the approach that they have learned is desirable. Even so, an awareness that interactive teaching is desirable may make teachers more inclined to adopt it than they otherwise would be.

Alongside pedagogical training, teaching self-efficacy stands out as another strong predictor of interactivity. Instructors who had a higher degree of confidence in their teaching abilities were significantly more likely to report adopting an interactive teaching approach. This finding supports prior research (Wang 2021; Zhang, Zhu, and Hu 2023), which has suggested that self-assurance in teaching ability may be just as critical as actual instructional skill. Yet this leads to an intriguing inference: if self-efficacy is a key driver of teaching behaviour, might pedagogical training also influence self-efficacy? The results of the linear regression analysis with self-efficacy as a dependent variable seem to support this. Prior research (Tschannen-Moran and Hoy 2001) also suggests that teachers with more training tend to feel more competent, which raises the possibility that pedagogical training exerts its effect not only directly (by providing concrete strategies) but also indirectly (by increasing confidence). This indicates that pedagogical training may be doubly beneficial – both equipping teachers with new skills and by making them more likely to apply them.

Compared to pedagogical training and self-efficacy, English proficiency played an appreciably smaller role in predicting an interactive teaching approach. While reading and listening proficiency showed statistically significant relationships with teaching style, writing and speaking proficiency did not. These findings, within the context of high-proficiency EMI settings, challenge the assumption that teaching quality among already proficient teachers is primarily constrained by incremental differences in language ability. This does not mean that English proficiency is unimportant; it certainly plays a role in classroom discourse, particularly in reading and listening comprehension. However, within our sample of highly proficient teachers, our results suggest that differences between C1 and C2 proficiency levels showed limited impact on teaching approaches, though we cannot generalise about broader proficiency effects across more varied teacher populations. This aligns with research suggesting that proficiency alone is not a sufficient condition for effective EMI instruction (Macaro 2018; Rose et al. 2023).

It should be noted, though, that the participants in this study reported high English proficiency, and in this respect are typical of the Swedish population as a whole. With 88.8% of participants self-assessing at C2 level, our sample represents teachers who have already surpassed basic proficiency thresholds for EMI teaching. This high baseline proficiency may explain why pedagogical training and self-efficacy emerged as stronger predictors than incremental differences in language ability. Our findings should therefore be interpreted primarily in the context of high-proficiency EMI settings, where teachers have sufficient language competence to benefit from pedagogical preparation. In contexts where EMI teachers have more varied or lower baseline proficiency levels, language

skills might play a more prominent role relative to other factors, as teachers below certain proficiency thresholds may face more fundamental linguistic constraints that limit their ability to implement interactive teaching approaches regardless of their pedagogical training. Future research should examine whether similar patterns emerge among teachers with more diverse proficiency levels to better understand the threshold effects suggested by these findings.

The relationship between language proficiency and teaching approaches becomes even more nuanced when examining organised and unreflective teaching dimensions. Our analysis revealed that while language skills play a modest role in predicting interactive teaching, they have a more substantial, negative relationship with an unreflective approach. Specifically, teachers with stronger reading and listening proficiency were less likely to report adopting an unreflective approach, suggesting that receptive language skills may help teachers better understand and respond to student learning needs. This finding adds an important dimension to our understanding of how language proficiency shapes teaching practice: while it may not directly drive interactive teaching, it appears to provide a foundation that helps teachers move beyond unreflective approaches.

Particularly revealing are the distinct patterns between organised and unreflective teaching. Higher self-efficacy was the strongest predictor for adopting an organised approach and not adopting an unreflective approach, suggesting it plays a role in helping teachers develop and maintain effective pedagogical practices. Notably, pedagogical training showed a significant positive relationship with organised teaching but had no relationship with unreflective teaching. This pattern suggests that formal training may be particularly effective at helping teachers develop specific organisational strategies and systematic approaches to instruction, while the avoidance of unreflective teaching may depend more on teachers' confidence and language comprehension abilities.

While not a central research question in our study, the differential impact of receptive versus productive language skills on teaching approaches warrants further examination. One hypothesis that we tentatively put forward is that the CEFR descriptors, by which our participants self-assessed their proficiency, emphasise more discipline-specific competence (e.g. ability to read and critically comprehend highly technical information) at the C levels, particularly at C2. The ability to engage at this level may have a knock-on positive effect on factors such as self-efficacy and willingness to engage in dialogically-constructed class discourse in dynamic ways. Beyond the CEFR framework itself, there are several theoretical reasons why strong receptive skills might be particularly important for EMI teaching effectiveness. First, reading proficiency allows teachers to engage more deeply with course materials, research literature, and pedagogical resources, potentially enabling better lesson preparation and more confident content delivery. Second, strong listening skills may help teachers better gauge student comprehension, pick up on subtle cues about engagement or confusion, and respond more appropriately to student needs during class discussions. This aligns with research on classroom discourse that emphasises the importance of teacher 'noticing' in facilitating effective learning interactions (Schmidt 2001; Walsh 2013).

Additionally, while speaking and writing skills are certainly important, teachers may be able to compensate for limitations in productive skills through preparation and structured delivery, whereas weak receptive skills could more fundamentally impair their ability to engage in spontaneous classroom interaction and respond to emerging student needs. These interpretations of an unexpected finding are speculative, but nonetheless they suggest promising directions for future research into the specific mechanisms by which different language skills influence teaching practice.

The findings presented here would seem to indicate that universities implementing EMI programmes should ensure that pedagogical preparation is an integral part of faculty development, rather than focusing solely on language support. Our results strongly suggest that professional development initiatives that emphasise teaching strategies, rather than just English proficiency, will yield the most substantial improvements in classroom practice. Furthermore, EMI teacher training could enhance self-efficacy even more by providing opportunities for guided teaching practice, peer feedback, and mentoring, all of which could empower instructors to adopt more

interactive methods. The extent to which such practices may ultimately improve student engagement and learning outcomes is yet to be determined, but a worthwhile pursuit underscored by the present study. Future research should continue to explore how these factors interact and how institutional support structures can be optimised to enhance EMI teaching quality across diverse educational contexts, including different geographic regions.

Finally, it is worth noting that the findings of the present study demonstrate the value of generic HE pedagogy training for teachers in the EMI setting. It is arguably the case that training tailored specifically for the EMI classroom may be more valuable still in preparing able practitioners and causing them to perceive themselves as such.

Conclusion

In this study, pedagogical training emerged as the most powerful driver of interactive teaching in the Swedish EMI context, overshadowing the comparatively modest influence of English proficiency. Although reading and listening skills demonstrated some significance within our high-proficiency sample, our findings suggest that among teachers who have already achieved high proficiency levels, incremental differences in language ability had less predictive power than pedagogical training and self-efficacy for teaching approaches. Our analysis of organised and unreflective teaching dimensions uncovered additional nuance. While pedagogical training still remained the primary driver of interactive and organised teaching approaches, language proficiency – particularly receptive skills – seems to play a role in helping teachers avoid unreflective practices. While more research in this latter regard is necessary, this finding suggests that both pedagogical preparation and (to some extent) language ability contribute to teaching effectiveness, but through different mechanisms and with distinct effects on various aspects of teaching practice.

These results, while grounded in a Swedish STEM setting, underscore the broader importance of equipping EMI instructors with robust pedagogical frameworks that encourage active learning. The finding that different aspects of teaching quality – interactive, organised, and unreflective approaches – respond differently to pedagogical training suggests the need for comprehensive teacher development programmes that address multiple dimensions of teaching practice. Future studies should investigate these dynamics across diverse disciplines and geographic contexts to clarify the relative contributions of language skills, training, and self-efficacy in shaping successful EMI. As local circumstances and institutional cultures inevitably influence both the perceived and actual utility of interactive teaching, research that attends closely to these contexts will be essential for developing actionable recommendations. In line with Baker and Hüttner's (2019) reminder to prioritise local practices and understandings, our work underscores that effective EMI is not solely about language proficiency but, more crucially, about cultivating pedagogical confidence and competence appropriate to each unique educational setting.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Funding

The authors gratefully acknowledge the support of the Swedish Research Council [grant number 2022-03643].

ORCID

Marie Vander Borght http://orcid.org/0009-0003-2895-9336
Hans Malmström http://orcid.org/0000-0003-2450-7650
Ron Martinez http://orcid.org/0000-0003-4098-0093
Diane Pecorari http://orcid.org/0000-0001-5299-8982

References

Agnew, M., and C. Neghina. 2021. *The Changing Landscape of English-taught Programmes*. British Council. https://studyportals.com/wp-content/uploads/2021/12/British-Council_Studyportals_The-changing-landscape-of-English-taught-programmes-in-2021.pdf.

Airey, J. 2011. "Talking about Teaching in English." *Ibérica* 22:35–54.

Airey, J. 2020. "The Content Lecturer and English-Medium Instruction (EMI): Epilogue to the Special Issue on EMI in Higher Education." *International Journal of Bilingual Education and Bilingualism* 23 (3): 340–346. https://doi.org/10.1080/13670050.2020.1732290.

Baker, W., and J. Hüttner. 2019. "We Are Not the Language Police": Signs of Positioning in Third-Space Teaching Practices in EMI." *International Journal of Bilingual Education and Bilingualism* 22 (1): 60–75. https://doi.org/10.1080/13670050.2018.1474248.

Bandura, A. 1977. "Self-efficacy: Toward a Unifying Theory of Behavioral Change." *Psychological Review* 84 (2): 191–215. https://doi.org/10.1037/0033-295x.84.2.191.

Bolton, K., and M. Kuteeva. 2012. "English as an Academic Language at a Swedish University: Parallel Language use and the 'Threat' of English." *Journal of Multilingual and Multicultural Development* 33 (5): 429–447. https://doi.org/10.1080/01434632.2012.670241.

Breeze, R., and C. Sancho Guinda. 2021. *Teaching English-Medium Instruction Courses in Higher Education: A Guide for non-native Speakers*. London: Bloomsbury Publishing.

Council of Europe. 2018. *Common European Framework of Reference for Languages: Learning, Teaching, Assessment. Companion Volume with New Descriptors*. Strasbourg: Council of Europe Publishing.

Dang, T. K. A., G. Bonar, and J. Yao. 2023. "Professional Learning for Educators Teaching in English-Medium-Instruction in Higher Education: A Systematic Review." *Teaching in Higher Education* 28 (4): 840–858. https://doi.org/10.1080/13562517.2020.1863350.

Dearden, J. 2014. *English as a Medium of Instruction: Growing Global Phenomenon*. British Council. https://ora.ox.ac.uk/objects/uuid:4f72cdf8-b2eb-4d41-a785-4a283bf6caaa/download_file?file_format=pdf&hyrax_fileset_id=m76ff3ec69df0d4e194de40880f32f2f2&safe_filename=EMI-%2Ba%2BGrowing%2BGlobal%2BPhenomenon.pdf&type_of_work=Report.

Deroey, K. L. 2023. "English Medium Instruction Lecturer Training Programmes: Content, Delivery, Ways Forward." *Journal of English for Academic Purposes* 62:Article 101223. https://doi.org/10.1016/j.jeap.2023.101223.

Dimova, S., and C. Jensen. 2024. "EMI Students' Perceptions of Lecturers' English Competences for Teaching." In *The Affective Dimension in English-Medium Instruction in Higher Education*, edited by D. Lasagabaster, A. Fernández-Costales, and F. D. L. González-Mujico 206–223. Bristol: Multilingual Matters.

Dong, J., and Y. Han. 2024. "Examining Chinese Teachers' Emotional Vulnerability of Teaching International Students in an English Medium Instruction Programme." *System* 122:Article 103297. https://doi.org/10.1016/j.system.2024.103297.

Fortanet Gómez, I. 2012. "Academics' Beliefs about Language use and Proficiency in Spanish Multilingual Higher Education." *AILA Review* 25 (1): 48–63. https://doi.org/10.1075/aila.25.04for.

Ismailov, M., T. K. Chiu, J. Dearden, Y. Yamamoto, and N. Djalilova. 2021. "Challenges to Internationalisation of University Programmes: A Systematic Thematic Synthesis of Qualitative Research on Learner-Centred English Medium Instruction (EMI) Pedagogy." *Sustainability* 13 (22): Article 12642. https://doi.org/10.3390/su132212642.

Jensen, C., and J. Thøgersen. 2011. "Danish University Lecturers' Attitudes towards English as the Medium of Instruction." *Ibérica: Revista de la Asociación Europea de Lenguas Para Fines Específicos* 22:13–33.

Karakas, A. 2016. "Turkish Lecturers' and Students' Perceptions of English in English-medium Instruction Universities." Unpublished doctoral thesis, University of Southampton. https://eprints.soton.ac.uk/394814/1/Ali-Karakas-MAIN-THESIS%2520for%2520final%2520submission.pdf.

Klaassen, R. 2001. "The International University Curriculum: Challenges in English-medium Engineering Education." Unpublished doctoral thesis, Delft University of Technology.

Klaassen, R. G., and M. Bos. 2010. "English Language Screening for Scientific Staff at Delft University of Technology." *Hermes Journal of Language and Communication Studies* 45:61–75.

Kling, J., and S. Dimova. 2015. "The Test of Oral English for Academic Staff (TOEPAS): Validation of Standards and Scoring Procedures." In *Fremdsprachen in Studium und Lehre – Chancen und Herausforderungen für den Wissenserwerb (Foreign Languages in Higher Education)*, edited by A. Knapp, and K. Aguado, 247–268. Frankfurt/M, Germany: Peter Lang.

Lasagabaster, D. 2022. "Teacher Preparedness for English-Medium Instruction." *Journal of English-Medium Instruction* 1 (1): 48–64. https://doi.org/10.1075/jemi.21011.las.

Lasagabaster, D., and A. Doiz. 2021. *Language use in English-Medium Instruction at University: International Perspectives on Teacher Practice*. New York: Routledge. https://doi.org/10.4324/9781003134534.

Lavelle, T. 2016. "English in the Classroom: Meeting the Challenge of English Medium Instruction in International Business Schools." In *Teaching and Learning at Business Schools*, edited by P. Mårtensson, B. Magnus, and K. Nilsson, 137–153. London: Gower.
Macaro, E. 2018. *English Medium Instruction: Content and Language in Policy and Practice*. Oxford: Oxford University Press.
Macaro, E. 2020. "Exploring the Role of Language in English Medium Instruction." *International Journal of Bilingual Education and Bilingualism* 23 (3): 263–276. https://doi.org/10.1080/13670050.2019.1620678.
Macaro, E., M. Akincioglu, and S. Han. 2020. "English Medium Instruction in Higher Education: Teacher Perspectives on Professional Development and Certification." *International Journal of Applied Linguistics* 30 (1): 144–157. https://doi.org/10.1111/ijal.12272.
Malmström, H., and D. Pecorari. 2024. "Language of Instruction and Publication in Sweden." *Chalmers Studies in Communication and Learning in Higher Education 2024*, 1. https://doi.org/10.17196/cls.csclhe/2024/01.
Malmström, H., D. Pecorari, and M. Warnby. 2023. "Teachers' Receptive and Productive Vocabulary Sizes in English-Medium Instruction." *Journal of Multilingual and Multicultural Development* 1–19. https://doi.org/10.1080/01434632.2023.2260781.
Markova, Z. 2021. "Towards a Comprehensive Conceptualisation of Teachers' Self-efficacy Beliefs." *Cambridge Journal of Education* 51 (5): 653–671. https://doi.org/10.1080/0305764X.2021.1906844.
Martinez, R., and K. Fernandes. 2020. "Development of a Teacher Training Course for English Medium Instruction for Higher Education Professors in Brazil." In *Teacher Training for English-Medium Instruction in Higher Education*, edited by M. Del Mar Sanchez-Perez, 125–152. Hershey, PA: IGI Global.
Mežek, Š, and B. Björkman. 2024. "English-medium Instruction in Higher Education in Scandinavia." In *The Routledge Handbook of English-Medium Instruction in Higher Education*, edited by K. Bolton, W. Botha, and B. T. L. Lin, 190–203. London: Routledge.
Molino, A., S. Dimova, J. Kling, and S. Larsen. 2022. *The Evolution of EMI Research in European Higher Education*. New York: Routledge.
Ödalen, J., D. Brommesson, GÓ Erlingsson, J. K. Schaffer, and M. Fogelgren. 2018. "Teaching University Teachers to Become Better Teachers: The Effects of Pedagogical Training Courses at Six Swedish Universities." *Higher Education Research and Development* 38 (2): 339–353. https://doi.org/10.1080/07294360.2018.1512955.
Ou, A. W., and M. M. Gu. 2024. "Teacher Professional Identities and Their Impacts on Translanguaging Pedagogies in a STEM EMI Classroom Context in China: A Nexus Analysis." *Language and Education* 38 (1): 42–64. https://doi.org/10.1080/09500782.2023.2244915.
Pecorari, D., and H. Malmström. 2018. "At the Crossroads of TESOL and English Medium Instruction." *TESOL Quarterly* 52 (3): 497–515. https://doi.org/10.1002/tesq.470
Postareff, L., J. Lahdenperä, T. Hailikari, and A. Parpala. 2023. "The Dimensions of Approaches to Teaching in Higher Education: A New Analysis of Teaching Profiles." *Higher Education* 88 (1): 37–59. https://doi.org/10.1007/s10734-023-01104-x.
Richards, J. C., and J. Pun. 2023. "A Typology of English-Medium Instruction." *RELC Journal* 54 (1): 216–240. https://doi.org/10.1177/0033688220968584.
Rose, H., E. Macaro, K. Sahan, I. Aizawa, S. Zhou, and M. Wei. 2023. "Defining English Medium Instruction: Striving for Comparative Equivalence." *Language Teaching* 56 (4): 539–550. https://doi.org/10.1017/S0261444821000483.
Sahan, K., H. Rose, and E. Macaro. 2021. "Models of EMI Pedagogies: At the Interface of Language use and Interaction." *System* 101:Article 102616. https://doi.org/10.1016/j.system.2021.102616.
Schmidt, R. 2001. "Attention." In *Cognition and Second Language Instruction*, edited by P. Robinson, 3–32. Cambridge: Cambridge University Press.
Statistics Sweden. 2024. "Employees in Higher Education [Data set]." SCB Statistical Database. Accessed January 16, 2024. https://www.scb.se/en/finding-statistics/statistics-by-subject-area/education-and-research-in-the-higher-education-sector/higher-education/employees-in-higher-education/.
Swedish Higher Education Authority. 2023. *Annual Status Report*. https://www.uka.se/swedish-higher-education-authority/Our-results/annual-status-report.
Tschannen-Moran, M., and A. W. Hoy. 2001. "Teacher Efficacy: Capturing an Elusive Construct." *Teaching and Teacher Education* 17 (7): 783–805. https://doi.org/10.1016/S0742-051X(01)00036-1.
Tsui, C. 2018. "Teacher Efficacy: A Case Study of Faculty Beliefs in an English-Medium Instruction Teacher Training Program." *Taiwan Journal of TESOL* 15 (1): 101–128. https://doi.org/10.30397/TJTESOL.201804_15(1).0004.
van Splunder, F., C. Verguts, T. De Moor, and S. De Paepe. 2022. "The Interuniversity Test of Academic English (ITACE): Assessing Lecturers' English Proficiency in Flanders." *Journal of English-Medium Instruction* 1 (2): 255–274. https://doi.org/10.1075/jemi.21007.van.
Walsh, S. 2013. *Classroom Discourse and Teacher Development*. Edinburgh: Edinburgh University Press.
Wang, C. 2021. "The Relationship between Teachers' Classroom English Proficiency and Their Teaching Self-efficacy in an English Medium Instruction Context." *Frontiers in Psychology* 12:Article 611743. https://doi.org/10.3389/fpsyg.2021.611743.

Werther, C., L. Denver, C. Jensen, and I. M. Mees. 2014. "Using English as a Medium of Instruction at University Level in Denmark: The Lecturer's Perspective." *Journal of Multilingual and Multicultural Development* 35 (5): 443–462. https://doi.org/10.1080/01434632.2013.868901.

Zhang, T., L. Zhu, and J. Hu. 2023. "A Structural Model of job Satisfaction among EMI Teachers: The Role of Self-efficacy, Burnout, and Classroom Language Proficiency." *Journal of Multilingual and Multicultural Development* 1–20. https://doi.org/10.1080/01434632.2023.2296644.

Appendix. Instrument for Self-Reported Language Proficiency

When **speaking** in English I can . . .	
. . . use simple phrases and sentences to describe where I live and people I know.	
yes	no
	A1 level
. . . use a series of phrases and sentences to describe in simple terms my family and other people, living conditions, my educational background and my present or most recent job.	
yes	no
	A2 level
. . . connect phrases in a simple way in order to describe experiences and events, my dreams, hopes and ambitions. I can briefly give reasons and explanations for opinions and plans. I can narrate a story or relate the plot of a book or film and describe my reactions.	
yes	no
	B1 level
. . . present clear, detailed descriptions on a wide range of subjects related to my field of interest. I can explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.	
yes	no
	B2 level
. . . present clear, detailed descriptions of complex subjects integrating sub-themes, developing particular points and rounding off with an appropriate conclusion.	
yes	no
	C1 level
. . . present a clear, smoothly-flowing description or argument in a style appropriate to the context and with an effective logical structure which helps the recipient to notice and remember significant points.	
yes	no
C2 level	**C1 level**

Figure A1. Example of CEFR descriptors for speaking. *Note*. The participants only saw one descriptor at a time.