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Tuned for Success: A Case Study on Teacher–Student Alignment and Cognitive Demands in EMI Environments

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Abstract: *In the realm of English-Medium Instruction (EMI) education, diversity comes to the forefront as numerous cultures, identities, habits, customs, and languages converge. This paper aims to shed light on the relevance of linguistic alignment between students and teachers in a higher education setting where English is used as the medium of instruction. The study explores the perspectives of international students majoring in different academic disciplines at a university located in Belgrade, at the heart of the Balkans. The fact that neither these students nor their instructors are native speakers of English makes the setting in which they operate even more fragile. A quantitative research instrument was used to gain insight into students' views regarding several dimensions, namely perceived in-class language comprehension, language proficiency, linguistic interference, and harmonisation between students and their instructors. In interpreting the results, these dimensions are also examined through a cognitive–psychological lens, considering the role of processing demands, cognitive load, and learner perceptions in shaping comprehension within the observed environment. The results indicate strong correlations among all the dimensions investigated, underscoring the importance of achieving linguistic harmonisation in order to attain the desired educational outcomes.*

Keywords: *EMI; proficiency; comprehension; interference; processing; cognitive load; perceptions; harmonisation; instructors; students.*

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1. Introduction

The intertwined nature of language, culture and pedagogy has long been recognised and has become increasingly prominent in the field of English-Medium Instruction. According to previous studies on the effectiveness of English-medium instruction (McKinley & Rose, 2022; Soruç et al., 2024), several core dimensions should be taken into consideration.

The first of these addresses the issue of EMI instructors' language proficiency and clarity in terms of intelligibility, fluency, and contextual appropriateness; that is, their L2 pedagogical fluency. There are a variety of ways to improve this fluency and hence support greater comprehension: adjusting the pace of delivery, improving articulation, and using a neutral accent (McKinley & Rose, 2022); employing simplified syntax and controlled vocabulary tailored to the language proficiency of each group; avoiding culturally specific idiomatic expressions unless these are explained; and employing strategic repetition, paraphrasing, and highlighting as a means of reinforcing key concepts. All the above strategies have been reported to exert a significant influence on students' comprehension, engagement, and confidence within EMI contexts (Soruç et al., 2024).

A second dimension – cross-linguistic influence – explores how the L1s of both instructors and students may influence their use of English. Such interference can hinder understanding, conversely it may also enrich learning if translanguaging practices are employed (Lu et al., 2023). This can be achieved by the use of code-switching to clarify complex ideas, including lexical borrowings, elements of pronunciation influenced by the phonology of a mother tongue (such as a Spanish speaker pronouncing “school” as “eschool”), the use of false friends (e.g., “actual” in Spanish meaning “current”, “traffic” in Serbian meaning “kiosk”), as well as grammatical structures transferred from an L1, such as differences in word order or the ways in which articles are used.

A third dimension – learner self-appraised academic literacy – focuses on how students evaluate their own ability to understand and use English in an academic environment. Indicators include confidence in class participation, the ability to follow lectures without recourse to the L1, confidence in academic language skills in English, and the ability to express abstract ideas or articulate critical thinking effectively. Thus, Roothoof et al. (2025, p.22) found significant discrepancies between students' self-assessment of their competence in writing and their actual performance, suggesting that perceived proficiency may not align with academic outcomes:

"students' general self-perceived competence in academic writing has little or no correlation with their overall performance on this specific written assignment. Although it is doubtless good that students have high self-esteem, we might speculate that their confidence could be a side-effect of EMI courses in which teachers feel that correction is not part of their role as content teachers."

The fourth and final dimension concerns the degree of linguistic harmonisation between teachers and students, which can be assessed by measuring the alignment of linguistic expectations, language use, and adaptive strategies shared by instructors and learners. Such practices may include instructors adjusting lexis and the pace of speech in response to student feedback, the use of shared multilingual glossaries or visual aids, the collaborative negotiation of intended meaning in class, and the establishment of feedback mechanisms through which students can express their linguistic needs (Carrió-Pastor & Bellés-Fortuño, 2021). There is little doubt that high levels of linguistic harmonisation can positively influence mutual understanding, reduce miscommunication, and foster an inclusive pedagogy. Indicators include shared terminology understood by all participants, responsive linguistic mediation, and active feedback loops, with outcomes continuously monitored and used to optimise teaching practices.

The correlation between these four broad dimensions is complex, which in turn reflects the complexity of teaching academic content in EMI settings. In light of this, the current study addresses the following research questions (RQs):

RQ1: What is the incidence of student-reported comprehension gaps and linguistic interference in EMI programmes?

RQ2: To what extent does cross-linguistic interference predict comprehension efficacy, and is this relationship mediated by students' self-appraised English competence?

RQ3: What is the degree of student-teacher linguistic harmonisation, and how is this seen in terms of students' own perceived English proficiency?

Levels of teacher–student linguistic harmonisation in EMI classrooms are explored in the following sections. Following this Introduction, Section 1 provides a literature review, presenting a condensed yet detailed outline of the four dimensions of EMI efficacy listed above: instructor L2 pedagogical fluency (operationalised through discipline-specific scaffolding), cross-linguistic influence (quantified through classroom discourse analysis), learner self-appraised academic literacy (measured using self-efficacy scales), and teacher–student linguistic harmonisation (observed through interactional accommodation patterns). In Section 2 we will focus on the methodology used (data collection procedures, statistical tests applied, participants), to be followed in Section 3 by the findings and a discussion. Section 4 will then offer conclusions, as well as mentioning some limitations of the present investigation, plus suggestions for further research.

1.1. Language and Content in EMI Classrooms

Whatever the specific form of an EMI setting, questions commonly arise pertaining to the command of English of both students and teachers, as well as the correlation between language and content, that is, the issue of whether academic success has been attained. Such questions usually revolve around language provision, including the integration of ESP and EAP within EMI settings, as well as teacher training, among other factors, given that a lack of understanding in the classroom is unlikely to lead to successful educational outcomes (Bradford, 2018). In this regard, Ekoç (2018) suggests that the proficiency in the language of instruction might be one of the most influential factors when it comes to the incorporation of EMI at the university level, and Yuan (2021) notes the importance of equipping teachers with adequate EMI resources, both tangible and intangible ones.

The form and content of EMI are exceedingly complex, as they represent a mixture of practices governed at multiple levels: personal, institutional, national, and local (Widodo, 2016). It is rare to achieve complete harmonisation across all these dimensions and thereby provide an optimal EMI context for either teachers or students, given that EMI education presents participants with numerous daily challenges (Floris, 2014).

Not surprisingly, one of the obstacles most commonly cited is language. In some scenarios, it is the students who struggle to understand the content conveyed (Kim, 2017), and this is where EMI teachers might resort to the L1, with the goal of facilitating understanding and supporting and enhancing the teaching-learning flow (Macaro, 2018). It might in fact be the case that teachers' language proficiency is lower than that of their students (Zacharias, 2013), which would naturally tend to lead to more active L1 use. Dimova et al. (2015) even describe how the EMI environment can create problems in terms of certain aspects of the L1 and the role of a teacher, which in turn can influence the whole in-class dynamics negatively. As noted above, forms of EMI can be more or less rigid, some allowing for a more active use of the L1, and others advocating the sole use of the language of instruction, this most often being English. While both approaches have their advantages and disadvantages, it remains a topic of debate whether, and to what extent, L1 should have a presence in the EMI classroom.

Comprehension is one of the key issues in any classroom, particularly in EMI settings, which are typically characterised not only by diverse personality traits and learning styles but also by varying cultural backgrounds and linguistic repertoires. When comprehension in such a scenario is compromised, teachers and students respond by means of various strategies. Björkman (2014, p.124) lists four of these, used when students need further clarification of a specific matter: repeating, simplifying, underlining crucial information, and paraphrasing.

Reliance on the L1 can enhance confidence and thereby support understanding, both among students and, at times, among teachers (Pun & Macaro, 2019). However, the question remains as to whether the continuous use of the L1 compromises the inherent, intended nature of EMI. That is, to what extent is L1 use compatible with EMI principles? Unfortunately, there is no clear, precise answer to this question. It depends on the students and teachers involved, as well as the institutional, national, regional, and other policies that are in place in a given context (Sahan et al., 2021). Another question that arises frequently, particularly in relation to repetition, clarification, elaboration, translation, and other practices that may influence the overall dynamics of an EMI setting, concerns the quality of classes compared with those conducted in the L1. However, at the present time, no substantial body of research is available to provide a straightforward answer to this issue (Maíz-Arévalo, 2017).

With regard to the kind of support provided to EMI participants, teacher training and general language courses are commonly cited as key elements. Yet it is rare to find any references to the potential of either ESP or EAP here. That is, apart from general language proficiency, knowledge of language for specific purposes is also required by EMI students and teachers, and this need can sometimes consume a considerable amount of time, as additional explanations and support are sought and provided. Although a notable trend has emerged of excluding ESP courses from EMI programmes (justified by the fact that in many cases English is already present), it can be argued that ESP courses, if well-tailored, can go hand in hand with EMI content and significantly improve the whole learning process (Lasagabaster & Doiz, 2021). Along with EAP courses and/or built-in sessions, ESP academic content can be beneficial to both those who lack confidence in English (on a general level) and those who exhibit a greater command of it, in both cases by helping them to navigate between linguistic and vocational concepts successfully and effectively.

It is not uncommon to observe code-switching in EMI contexts. Ferguson (2009), for instance, underlines “the utility of CS [codeswitching] as a communicative and pedagogic resource in bilingual contexts, especially where pupils struggle to understand difficult subject matter whilst simultaneously learning a foreign language, one that is nominally the official medium of instruction” (p.231). In a similar vein, comparisons between academic success in EMI and L1 programmes have been widely discussed, with classroom language practices often viewed as mutually exclusive rather than as coexisting approaches in which English is used alongside the L1 as a medium of instruction (Macaro, 2018; Graham et al., 2021). In this regard, students and instructors, or their respective HEIs, may develop their own context-specific linguistic practices. That is, they can agree on how and to what extent the L2 and L1 (if at all) will be used; for example, course materials may be provided and explored in English, while lectures are delivered in the L1 (see Airey 2012 for a Swedish context). However, in many EMI classrooms we find not one but a whole array of L1s; in addition to this, it is often the case that English is not the mother tongue of either instructors or students.

Different dimensions of language can be addressed when the teaching practices of EMI instructors are explored: general language competence, academic language competence, levels of anxiety when teaching in a non-native language, language transfer (either positive or negative), etc. Across these dimensions, instructors need to be able to convey academic content, ask and answer questions, elicit knowledge, and provide feedback; that is, they should be capable of managing the entire instructional process in what is typically a foreign language (Freeman et al., 2015). When instructors do not feel sufficiently confident in their linguistic abilities, EMI classroom interaction may evolve into a context characterised by a lack of meaningful questioning and negotiation, resulting in a predominantly teacher-centred environment that is likely to reduce student engagement and academic attainment (Dafouz Milne & Sanchez García, 2013; Macaro et al., 2016).

1.2. Linguistic Dimensions and EMI Effectiveness

Assessing the level of linguistic comprehension in an EMI environment typically requires consideration of various interconnected factors, including linguistic proficiency, pedagogical strategies, sociolinguistic context, learning styles, and motivation, among others. Recent research from Sweden illustrates this complexity: students attending EMI lectures rated their own comprehension of both the content of a lecture and the lecturer's English on a 1–10 scale, with reported comprehension ranging from as low as 60% to as high as 90%. These differences were linked to factors such as the clarity of the instructor's accent, their pace of speech, and the effective use of visual aids (Siegel, 2020). A lecturer's level of L2 proficiency plays a critical role, not least because non-native English-speaking instructors may be prone to use convoluted or culturally specific language that reduces clarity (Siegel, 2020). In a similar vein, students' L2 listening skills (especially their familiarity with discipline-specific vocabulary and their ability to follow fast-paced speech) can limit understanding, and both students and teachers should be aware of this: "Teachers should suggest to students appropriate ways to listen to L2 lectures (...) the problems in comprehension lay with the students rather than the lecturers' crafting and delivery of the lecture (e.g., Flowerdew 1994) (...) Some work has shifted responsibility, at least in part, from students to steps lecturers can take to incorporate L2 acquisition theory and acknowledge L2 English proficiency in order to improve student comprehension and learning. (Siegel, 2020, pp. 78-79)."

Furthermore, in multilingual classrooms such as EMI settings, the presence of non-standard varieties of English introduces another layer of complexity; while such variation can enrich teaching–learning processes, it may also reduce comprehension when standard forms of English are expected. In this regard, the findings reported by Lu et al. (2023) showed that international students in Taiwan did not favour the use of non-standard English varieties in the classroom, believing that they might negatively affect comprehension and the teaching–learning process. To overcome these and similar obstacles that might come to the fore in the context of education delivered in a foreign language, instructors require not only linguistic proficiency but also a range of pedagogical tools and strategies to support their teaching practices, including multimodal instruction, scaffolding, linguistic narrowing and broadening, paraphrasing, and translanguaging (Prabjandee & Nilpirom, 2022).

Linguistic interference is common whenever there is some language contact observed; that is why it comes as no surprise in EMI environments. The influence of the L1 on the L2 can be observed through pronunciation and intonation patterns, lexical choices, grammatical constructions, and the use of calques. With regard to linguistic interference, a study conducted in a Turkish EMI context (Soruç et al., 2024) showed that students may struggle to comprehend course content when their instructors exhibit strong native accents, non-standard lexical and grammatical patterns, or awkward idiomatic expressions. Another investigation, portraying a situation from Thailand, pointed to similar obstacles and described them as common (Prabjandee & Nilpirom, 2022).

While EMI students may interpret the challenges resulting from linguistic interference in different ways, such challenges can affect student satisfaction and the ability to achieve academic goals. In this respect, a group of international students in Taiwan expressed their lack of satisfaction with active in-class usage of non-standard language varieties, as well as translanguaging practices. Moreover, many of them pointed out that it is due to these circumstances that their academic success may be jeopardised (Lan, 2022).

Another important dimension concerns students' perceptions of their own language proficiency. When students lack confidence, inhibition creeps in, which might lead to poor academic performance. Conversely, the belief that they comprehend the language to which they are exposed positively influences their academic performance. This was also confirmed in the Turkish study described above, where students who perceived their language proficiency as insufficient struggled to comprehend, participate, and fully engage with classroom activities and interactions

(Soruç et al., 2024). Another study conducted in Turkey (Kamaşak et al., 2021) showed that EMI students may encounter comprehension difficulties, and that the situation becomes even more complex when limited general language proficiency is combined with discipline-specific vocabulary (ESP components). A similar situation was reported by Tsui (2024), who found that complex academic concepts introduced in a foreign language could be challenging to understand and master, even when general comprehension of the subject matter was satisfactory.

An investigation done by Gülle (2024) addresses the common assumption pertaining to a direct correlation between EMI teaching-learning practices and enhanced language proficiency. The author found that exposure to a foreign language in such settings does not, per se, lead to improved English-language skills among participants.

Linguistic harmonisation between students and their instructors is undoubtedly significant as it has the potential to either hinder or enhance academic outcomes. Although it is commonly associated with participants' proficiency levels, linguistic harmonisation extends beyond these factors and encompasses the mechanisms used to facilitate mutual understanding, including scaffolding, translanguaging, culturally and linguistically sensitive practices, and other adaptive strategies. When the language of an international classroom is harmonised, all the participants benefit from it – which directly correlates with overall success.

This has been practically proved via a number of studies addressing the notion of harmonisation (Tai, 2022; Lu et al., 2023). Students are generally supportive of interactive, multimodal practices and context-sensitive approaches, whereas excessively complex, rigid, or rapidly delivered instructor language may lead to student inhibition (Gülle, 2024). In addition, discursive alignment within the classroom is shaped by diverse sociolinguistic factors, which may require a balance between different accents, registers, and cultural nuances.

Although achieving linguistic harmonisation in EMI classrooms may appear challenging, it can be facilitated by increasing instructors' awareness of potential linguistic mismatches, cultural dimensions, and the needs that arise within the academic environment, as well as by providing appropriate training to support adaptive communication practices (Mirhosseini & De Costa, 2025).

There are a number of factors that can either hinder or enhance student comprehension in EMI classrooms; Figure 1 presents some of those identified by the authors through observations conducted across a variety of EMI classrooms in which they participated (the figure does not aim to provide a comprehensive problem–solution model, but rather an illustration of challenges that EMI lecturers may encounter).

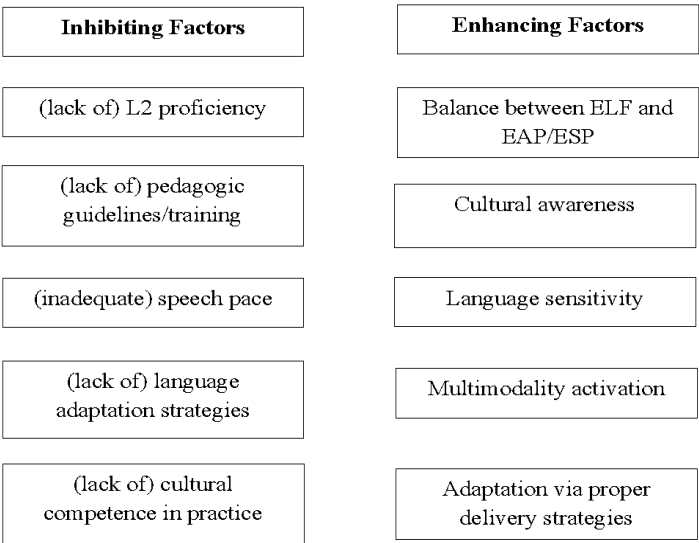


Figure 1. Inhibiting and Enhancing Factors for Comprehension in EMI Settings

Varying levels of L2 proficiency among students create difficulties when lecturers fail to adapt their delivery to students' diverse needs. Furthermore, lecturers' own language competence, which may, for example, be limited or characterised by strong accents, can further hinder comprehension. Furthermore, comprehension is compromised when lecturers do not make appropriate communicative decisions at both macro level (overall structure) and micro language level (word choice, syntax), which might lead to cognitively overwhelming lectures. Such situations are exacerbated by a common lack of pedagogical training in EMI-specific teaching/communication strategies. As stated earlier, additional barriers include, but are not limited to, high speech rates, heavy accents, vague cultural references, and metaphorical language that is not universal or easily accessible.

Without doubt, comprehension in EMI settings extends beyond linguistic and pedagogical factors; managing the cognitive demands associated with processing academic content in a foreign language is equally important, given that EMI students must invest considerable effort in both decoding foreign-language input and constructing discipline-specific meaning. From a cognitive perspective, such dual demands may place additional pressure on working memory—the system responsible for storing and integrating information during the comprehension process (Sweller, 1988).

Cognitive overload may be a phenomenon accompanying the demands described above, potentially resulting in slower and/or incomplete comprehension of input in EMI classrooms, as explained by Cognitive Load Theory (Sweller, 1988). The relationship between cognitive load and second language acquisition (SLA)—that is, the processes involved in foreign-language teaching and learning—has been investigated by Nawal (2018), Rocabado et al. (2025), Jiang (2024), among others. Across different contexts, these authors highlighted the role of cognitive load in SLA and concluded that reducing cognitive load may positively influence language-learning processes.

While increased cognitive load may hinder comprehension in EMI classrooms, mechanisms such as prediction and alignment may facilitate it. A body of research conducted on the issue has suggested that language comprehension does involve some active anticipation of upcoming linguistic input based on prior context and knowledge, thus helping the brain manage the information with less effort and more efficiency (Hubbard & Federmeier 2024). In interactive settings, of which EMI is undoubtedly one, this process may be further facilitated by the alignment of linguistic representations between interlocutors.

This alignment occurs automatically; the interlocutors start relying on the shared linguistic patterns, thus reducing cognitive demands and enhancing communication. Conversely, when such alignment is lacking, cognitive demands increase, making EMI contexts even more challenging.

In addition to the dimensions discussed above, learners' perceptions of their own capabilities should not be neglected; self-efficacy, defined as an individual's belief in their capacity to perform specific tasks (Bandura, 1977) plays a significant role in academic scenarios. In EMI scenarios specifically, students showing more developed self-efficacy might also be more likely to engage with complex input, as well as show more resilience when facing any obstacles. On the other hand, those students characterised by lower self-efficacy might amplify the perceived difficulty of the input and contribute to increased processing effort, thus hindering the overall academic success.

2. Methodology

2.1. Study Design

This study adopted a quantitative correlational design to investigate the relationship between comprehension of the spoken English of instructors, perceived interference due to instructors' language proficiency, and students' self-reported English proficiency.

2.2. Participants

The study sample comprised 62 students enrolled in EMI programmes at a higher education institution located in Belgrade, Central Serbia. The sample represents a highly international cohort, as the participants originate from more than 20 countries and are pursuing degrees across the social and natural sciences. It should also be noted that English is not the native language of either the students or their instructors; nonetheless, all students possess at least a certificate confirming a B2 level of English proficiency, as required for enrolment in EMI programmes in Serbia.

Similarly, instructors are required to demonstrate a minimum C1 level of English proficiency.

2.3. Data Collection

For the purposes of this study, data were collected via an online questionnaire encompassing open-ended and closed-ended items. A set of items was developed to assess language comprehension, self-perceived proficiency, linguistic interference, and linguistic harmonisation:

- Comprehension Level: “What percentage of the instructors’ spoken English do you understand?”
- Interference Frequency: “How often does the instructors’ spoken English interfere with your understanding?”
- Perceived English Proficiency: “My English proficiency is not high enough to follow explanations of course content in English.”
- Harmonisation Level: “The English of instructors and the English of students are fully harmonised”

3. Analysis and Discussion

The analyses were conducted using IBM SPSS Statistics Version 27.

Descriptive statistics, including means, standard deviations, skewness, and kurtosis, were calculated to provide an overview of the dataset. Upon gaining a broad insight of trends, cross-tabulations were engaged to investigate the links between the items:

- Comprehension Level $\times$ Interference Level
- Comprehension Level $\times$ Perceived English Proficiency
- Perceived English Proficiency $\times$ Interference Level

The use of cross-tabulations allowed for a structured comparison of categorical data, providing insights into potential associations between the selected variables.

The descriptive statistics indicate that respondents reported a high level of understanding of lecturers' spoken English ($M = 3.47$, $SD = 0.78$). At the same time, the extent to which lecturers' spoken English interfered with students' understanding of explanations was moderate ($M = 2.39$, $SD = 0.82$), suggesting that, overall, the use of English does not constitute a major obstacle for students.

The statement *"My English language proficiency is not sufficient for me to follow explanations of course content delivered in English"* recorded the lowest mean score ($M = 1.77$, $SD = 0.97$), indicating that most participants did not perceive their English language proficiency as a barrier to the learning process (see Table 1).

Furthermore, respondents generally agreed that the English used by lecturers and students is well aligned ($M = 3.98$, $SD = 0.80$), making this the highest-rated variable in the dataset.

With regard to the distributions, the skewness and kurtosis values fall within acceptable limits for statistical analysis, indicating that the data are approximately normally distributed.

The validity of the study was supported by the use of well-established statistical procedures. Furthermore, the selection of questionnaire items based on relevant linguistic and pedagogical constructs contributed to content validity by ensuring alignment with the study objectives.

A Chi-Square test of independence was performed to examine the relationship between Comprehension Level $\times$ Interference Frequency. The relationship between these variables was found to be statistically significant, $\chi^2(6, N=62) = 33.33$, $p < .001$.

As shown in Table 2, the results indicate that higher levels of comprehension are associated with lower levels of linguistic interference.

Specifically, most students reporting high levels of comprehension (32/38) experienced very low interference (“hardly ever”). Most students reporting moderate comprehension (17 participants) experienced moderate or high levels of interference (“almost every sentence” or “several times in each class”). As expected, students reporting low comprehension ($n = 5$) generally experienced moderate or high interference. Very low comprehension was rare ($n = 2$); interestingly, both respondents in this category reported low levels of interference (“hardly ever”), which may suggest that the item was misunderstood.

Table 1. Descriptive statistics for students' perceptions of the use of English in EMI instruction

Item	N	Min	Max	M	Std. Error	SD	Skewness	Std. Error	Kurtosis
What proportion of the lecturers' spoken English do you understand?	62	1	4	3.47	.099	0.78	-1.48	.30	1.71
How often does the lecturers' spoken English interfere with your understanding of what they are saying?	62	1	3	2.39	.104	0.82	-0.84	.30	-0.98
My English language proficiency is not sufficient for me to follow explanations of course content delivered in English.	62	1	4	1.77	.123	0.97	1.04	.30	0.020
The English used by lecturers and students is well aligned.	62	2	5	3.98	.102	0.80	-0.37	.30	-0.398

Note. $N = 62$. M = mean; SD = standard deviation.

Table 2. Comprehension Level $\times$ Interference Frequency

What percentage of the instructors' spoken English do you understand? How often does the instructors' spoken English interfere with your understanding of what they are saying?
Crosstabulation

		How often does the instructors' spoken English interfere with your understanding of what they are saying?			Total
		Almost every sentence	Several times in each class	Hardly ever	
What percentage of the instructors' spoken English do you understand?	Less than 50%	0	0	2	2
	50-75%	2	3	0	5
	75-90%	6	8	3	17
	Above 90%	5	1	32	38
Total		13	12	37	62

A Chi-Square test of independence was performed to examine the relationship between Comprehension Level $\times$ Perceived Proficiency. The results indicate a statistically significant association between these variables, $\chi^2(9, N=62) = 46.32, p < .001$.

As shown in Table 3, most students reporting high levels of comprehension ($n=37/38$) feel that their English is sufficient, which is not surprising. However, students reporting moderate levels of comprehension were divided, with approximately 65% describing their L2 proficiency as sufficient and 35% perceiving it as insufficient. Similarly, students reporting low levels of comprehension ($n = 5$) perceived their English proficiency as insufficient.

Among the respondents reporting very low levels of comprehension ($n = 1$), a similar pattern emerged: despite reporting very low comprehension, this participant remained neutral regarding their English proficiency.

Table 3. Comprehension Level $\times$ Perceived Proficiency

What percentage of the instructors' spoken English do you understand? My English proficiency is not high enough to follow explanations of course content in English. Crosstabulation

		My English proficiency is not high enough to follow explanations of course content in English.			
		Strongly disagree	Disagree	Neutral	Agree
What percentage of the instructors' spoken English do you understand?	Less than 50%	1	0	1	0
	50-75%	0	0	2	3
	75-90%	3	8	5	1
	Above 90%	28	9	0	1
Total		32	17	8	5

From a cognitive standpoint, effective comprehension points to the ability to manage working memory resources in an efficient way, while concurrently decoding linguistic input and constructing discipline-relevant meaning (Sweller, 1988). High comprehension levels signal that the dual demands of EMI settings remain attainable, with learners also being able to anticipate some of the upcoming input (Hubbard & Federmeier 2024). Somewhat lower comprehension levels, on the other hand, signal increased processing demands that may go beyond the available cognitive capacity.

Cognitive overload may also be reflected in episodes of linguistic interference. Although a wide range of factors may contribute to such interference, disruptions become particularly evident in EMI settings, where learners are required to process foreign-language input that may be dense, structurally complex, and cognitively demanding.

Table 4. Perceived Proficiency x Interference Frequency

My English proficiency is not high enough to follow explanations of course content in English
How often does the instructors' spoken English interfere with your understanding of what they are saying? Crosstabulation

		How often does the instructors' spoken English interfere with your understanding of what they are saying?			Total
		Almost every sentence	Several times in each class	Hardly ever	
My English proficiency is not high enough to follow explanations of course content in English.	Strongly disagree	2	1	29	32
	Disagree	6	5	6	17
	Neutral	2	5	1	8
	Agree	3	1	1	5
Total		13	12	37	62

The chi-square analysis revealed a statistically significant association between the variables ($\chi^2(9) = 32.74$, $p < .001$). Similarly to the pattern observed above, Table 4 demonstrates an association between linguistic interference and perceived proficiency levels.

Thus, respondents who perceive their English proficiency as highly sufficient rarely experience linguistic interference (“hardly ever”, 29/32). What is surprising, however, is the number of respondents who report their L2 as being sufficient (they “disagree” that their proficiency is not high enough) yet still experience interference in “almost every sentence” ($n=6/17$) or “several times in each class” ($n=5/17$). Those who feel neutral about their L2 proficiency observe that episodes of interference occur “several times in each class” ($n=5/8$). Finally, those students who report their L2 as being insufficient acknowledge interference situations in “almost every sentence” ($n=3/5$). Once again, these responses may reflect limited comprehension and language proficiency. However, one respondent who described their L2 proficiency as insufficient reported “hardly ever” experiencing linguistic interference, suggesting a possible inconsistency in the response pattern.

Table 5. Crosstabulation of students' perceived English language proficiency and perceived alignment between lecturers' and students' English

Perceived English language proficiency	Agree	Disagree	Neutral	Strongly agree	Total
Strongly disagree	11	1	7	13	32
Disagree	9	1	6	1	17
Neutral	6	0	0	2	8
Agree	3	0	1	1	5
Total	29	2	14	17	62

Row variable: *My English language proficiency is not sufficient for me to follow explanations of course content delivered in English.*

Column variable: *The English used by lecturers and students is well aligned.*

Note. Values represent the number of respondents in each response category ($N = 62$).

Table 5 illustrates a clear association between perceived L2 proficiency and linguistic harmonisation in the investigated EMI context. Those respondents who report their English to be highly proficient or sufficient (“strongly disagree” and “disagree” that their English is not sufficient) also see an alignment between their own English and that of their instructors ($n=34/49$). However, some respondents (13/49) expressed a neutral view regarding this alignment, while only two did not perceive it within their EMI environment. It is noteworthy that even respondents who perceived their L2 proficiency as only moderately sufficient or insufficient reported linguistic harmonisation between their own English and that of their instructors (12/13).

The findings of this study reveal a statistically significant association between students’ reported comprehension of instructors’ spoken English and the frequency of linguistic interference experienced during EMI courses. These findings are consistent with previous studies that have highlighted the importance of comprehensible input (Siegel, 2020; McKinley & Rose 2022).

Not surprisingly, the data show that students with higher proficiency levels tend to experience less interference-related issues, which is in agreement with the findings reported by Macaro et al. (2016, 2018), who concluded that EMI students can find comprehension challenging even if their academic performance remains intact.

Students’ perceptions of their own English proficiency may reflect how capable they feel of managing the cognitive demands associated with EMI classrooms.

In this regard, lower perceived proficiency could be associated with less automatic language processing, requiring more deliberate attention and greater reliance on working memory. As a result, comprehension may become slower and more effortful, particularly in cognitively demanding academic contexts such as EMI settings.

These results also speak in favour of the Bandura’s (1977) self-efficacy theory, since it has been confirmed that the ways students’ see their proficiency does correlate with comprehension and interference. Students with lower levels of confidence may experience increased anxiety and inhibition, which may prevent them from processing input effectively (Sweller, 1988).

Another important conclusion to draw attention to pertains to overall linguistic harmonisation. When students perceive high levels of linguistic harmonisation, they report fewer comprehension difficulties, and vice versa. This is closely related to the view of Airey (2012), who pointed out that such harmonisation can enhance academic literacy and lower communicative obstacles. In a similar vein, Kamaşak et al. (2021) emphasise the fact that different expectations of instructors and students respectively can also lead to significant challenges in terms of comprehension, while Gülle (2024) challenges the assumption that pure exposure to English in EMI contexts directly improves students' English proficiency and advocates multilingual approaches that acknowledge linguistic diversity in such classrooms.

Lastly, the perceived degree of harmonisation between instructors' and students' language could be seen as the extent of cognitive alignment in the observed classroom. In line with Interactive Alignment Theory, successful communication requires the gradual convergence of linguistic representations between the interlocutors, which facilitates understanding by reducing the need for complex processing (Pickering & Garrod, 2004). In the investigated EMI context, higher levels of harmonisation may suggest that such alignment has been achieved.

Conversely, when harmonisation is lower, the lack of shared linguistic ground leads to increased processing demands and may lead to comprehension difficulties.

4. Implications, Limitations and Conclusions

This study aimed to explore the role of linguistic harmonisation in EMI classrooms, particularly in contexts where English is the L1 of neither students nor instructors. The findings reveal significant associations between perceived comprehension, language proficiency, linguistic interference, and overall linguistic harmonisation in the classroom, thereby supporting the initial assumption that language is not merely a medium of instruction but also a facilitator of successful academic interaction.

In response to RQ1, both the gaps in content comprehension and linguistic interference are acknowledged by students, suggesting that language proficiency has a prominent impact on the whole EMI experience. With regard to RQ2, the results suggest that linguistic interference is associated with comprehension efficacy, while perceived language proficiency may influence the extent to which such interference affects comprehension. Lastly, with regard to RQ3, it should be emphasised that teacher–student linguistic harmonisation should not be overlooked and may be supported through strategies such as scaffolding, translanguaging practices, and strategic code-switching.

In light of these findings, introducing EAP and ESP courses, either as independent modules or integrating them within the existing EMI curricula, might provide meaningful support for both students and instructors. In this respect, ongoing collaboration between content and language teachers, accompanied by context-specific professional development and training, can both improve pedagogical practices and promote more inclusive educational environments. Promoting multilingualism in EMI settings, embracing the diversity of World Englishes, acknowledging the concept of "MY English", and increasing diversity awareness through intercultural sensitivity and intelligence activities, can strengthen both individual and institutional commitments to equity and inclusion. To achieve all this, institutions can adapt their language support programmes in EMI environments by developing personalised strategies that address students' specific needs.

Despite the contributions of this study, its limited scope should be acknowledged, given the fact that it has focused on a relatively small sample within a single HEI in one geographical location. This highlights the need for broader and more diverse research to validate and build on all the findings presented here. Apart from this limitation, there are also some methodological constraints that should be considered; to wit, it should not be overlooked that the data were based on the participants' self-reported measures, which could be rather susceptible to different inaccuracies

(like recall gaps, social preferences, *political correctness* in the classroom, etc.). In addition to that, the potentially quite important dimension of linguistic performance could have been/should be measured in a more standardised way, in order for the interpretation of the outcomes to be fully captured. Also, the study's cross-sectional character could limit the ability to draw conclusions vis-a-vis directionality and/or causality observed. Lastly, it is a worthy note that cognitive demands have not been addressed directly; explicit qualifications regarding cognitive load and its impact merit, with no doubt, consideration in some future work as well.

Despite all the limitations, however, this case study could serve as a solid starting point for future research into EMI-related practices, encouraging scholars, policymakers, and practitioners to explore linguistic harmonisation in international classrooms as one of the key factors contributing to academic success.

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Informed Consent

The authors have obtained informed consent from all participants.

Conflict of Interest

The authors declare that there is no conflict of interest.

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