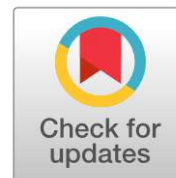


ENGLISH MEDIUM INSTRUCTION IN HIGHER EDUCATION: GLOBAL TRENDS, CHALLENGES, AND THE CALL FOR MULTILINGUAL APPROACHES

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Abstract

This review article examines the widespread adoption of English Medium Instruction (EMI) in higher education, driven by globalization and the need to prepare students for the international job market. While EMI aims to enhance English proficiency and academic and employment prospects, it also presents challenges in terms of linguistic equity, pedagogical effectiveness, and the academic success of students. Through a synthesis of research, this review explores the implications and challenges of EMI and scrutinizes the assumption that EMI inherently improves English proficiency alongside content learning. The article also critiques the monolingual ideology of EMI policies and advocates for the recent call by researchers for a multilingual approach that includes translanguaging practices to better accommodate the linguistic diversity of student populations. In doing so, it highlights the need for a critical reassessment of EMI implementation based on the suggestion that by integrating students' wider linguistic resources, EMI can evolve from its monolingual origins to embrace a more effective and equitable multilingual framework.

Keywords: English medium instruction, language proficiency, English-only policy, multilingual education, translanguaging

Article history:

Received: 17 April 2024

Reviewed: 25 May 2024

Accepted: 30 May 2024

Published: 22 June 2024

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Citation: Gülle, T. (2024). English Medium Instruction in Higher Education: Global Trends, Challenges, and the Call for Multilingual Approaches. *English Studies at NBU*, 10(1), 73-94.

<https://doi.org/10.33919/esnbu.24.1.5>

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In recent decades, English Medium Instruction (EMI) has proliferated in higher education institutions across the globe. This shift towards English as the preferred medium of instruction reflects broader trends in globalization and the increasing mobility of students and academics. The rationale behind the adoption of EMI includes, but is not limited to, enhancing the international standing of educational institutions and improving the English proficiency of students, thereby better preparing them for an international job market. However, the adoption of EMI also presents considerable challenges and raises questions around its linguistic and academic dimensions. For example, linguistic equity, pedagogical effectiveness, and the academic success and language development of students within EMI programs are subjects of ongoing research.

By synthesizing research from diverse contexts, this review examines the spread of EMI in higher education, its implications, challenges, and the linguistic and academic outcomes associated with its implementation. It also explores the evolving perspectives on the role of language in EMI settings and the emerging advocacy for more inclusive and multilingual approaches. Through a synthesis of various studies and scholarly discussions, this review seeks to illustrate the complexities and multidimensional impacts of EMI, and propose a reconsideration of linguistic aspects of EMI implementation.

The Spread of English Medium Instruction

Coleman (2006) points out that ‘once a medium obtains a dominant market share, it becomes less and less practical to opt for another medium, and the dominance is thus enhanced’, a process named ‘the Microsoft effect’ (p. 4). This effect is visible in the spread of EMI as more and more educational institutions are offering courses or all programs in English, particularly in higher education (HE) (Dearden, 2015). Higher education institutions (HEIs) seek to extend their reach, both in terms of their international student body and faculty as well as their programs and research agendas (Hesford et al., 2009; Horner & Tetreault, 2017). As a result, EMI has become more common in HEIs in countries where English is an L2 (Rose & McKinley, 2018; Pun & Curle, 2021) - the setting with which EMI tends to be associated. The frequently cited definition of EMI by Dearden (2015) is a case in point:

The use of the English language to teach academic subjects in countries or jurisdictions *where the first language (L1) of the majority of the population is not English.* (p. 4, emphasis added)

A similar definition comes from Macaro et al. (2016), who define EMI as ‘the teaching of academic subjects through the medium of English in *non-Anglophone countries.*’ (p. 51, emphasis added). On the other hand, Jenkins (2020) questions the confinement of EMI to settings where English is not the L1, and argues that the presence of large numbers of international students in otherwise English-L1 settings makes them EMI settings as well.

The extent of academic research into EMI across the world indicates the prominence of EMI. The countries where the outcomes, challenges, and linguistic and pedagogical implications of EMI have been researched include Denmark (Jensen & Thøgersen, 2011), United Arab Emirates (Moore-Jones, 2015), Germany (Erling & Hilgendorf, 2006), Korea (Im & Kim, 2015; Joe & Lee, 2013), Taiwan (Huang & Singh, 2014), Italy (Costa & Coleman, 2013), the Netherlands (Wilkinson, 2013), China (Hu & Lei, 2014), and Türkiye (British Council & TEPAV, 2015; Yüksel et al., 2022), to name a few. This supports Brumfit’s (2004) argument that ‘for the first time in recorded history all the known world has a shared second language of advanced education’ (p. 166).

Among the several perceived benefits that provide grounds for the decision by an increasing number of HEIs to offer EMI programs, a common one is increasing L2-English proficiency among students - and this is so, although developing L2 skills is not referred to as an objective in definitions of EMI (Galloway et al., 2020). Both learners and practitioners have the ‘expectation that English language proficiency will develop in tandem with subject discipline knowledge’ (Rose & Galloway, 2019, p. 195). However, limited English proficiency has been identified as a challenge with implications for the successful attainment and expression of content/disciplinary knowledge in EMI programs (Galloway et al., 2017; Galloway & Rose, 2021; Wang et al., 2018). How students perform in EMI is, therefore, an important question, and the next section provides a review of studies comparing academic outcomes in EMI and non-EMI programs.

Academic outcomes in EMI and non-EMI programs

One group of studies suggests that studying through an L2 does not necessarily compromise academic outcomes. Dafouz et al. (2014) found that Spanish students' academic performance (operationalized as course grades) in various EMI and non-EMI programs, including History, Accounting, and Finance, showed no significant difference. This was supported by a subsequent study by Dafouz and Camacho (2016) in Financial Accounting, where similar academic outcomes were observed between EMI and non-EMI students, who were argued to be comparable as both classes were taught by the same instructor and used the same syllabus and assessment formats. Likewise, Costa and Mariotti (2017) reported no significant difference in exam scores between EMI and Italian medium instruction students in Economics. Airey (2015) nuances the discussion by pointing out that while students in EMI physics courses were less fluent in English disciplinary language, the description of disciplinary concepts by students in EMI vs L1 medium courses were rated similarly, which implies that students' understanding is not compromised in EMI.

However, it is important to consider potential confounding factors due to the differing student populations in EMI versus non-EMI programs. For example, Zaif et al. (2017) found no significant difference in academic outcomes between EMI and Turkish-medium accounting students but noted that EMI students had obtained higher university entrance exam scores. Hernandez-Nanclares and Jimenez-Munoz (2017) observed comparable performance between EMI and Spanish medium students, but a comparison between the higher performance groups showed that Spanish medium instruction students outperformed EMI students, which means that comparison of average exam scores may be concealing differences between sub-groups of students.

Several other studies, on the other hand, show that EMI may put students at a disadvantage in terms of content learning. Evans and Morrison (2011) found that EMI students in China initially struggled with lecture comprehension and participation due to unfamiliar technical vocabulary, and preferred Cantonese for better engagement and understanding. Hellekjær (2010) also observed comprehension difficulties among Norwegian and German students in English, due to factors like pronunciation,

vocabulary, and notetaking challenges. In Turkey, Sert (2008) assessed three instructional approaches - EMI, English-aided instruction, and Turkish medium instruction - across economics and administrative sciences faculties, finding none fully effective in achieving both language and content learning goals. EMI, in particular, was criticized for content understanding issues, though it improved English skills more than the other approaches. Neville-Barton and Barton (2005) noted a performance gap of 12 to 15% in favor of L1-Mandarin over L2-English in mathematics tests among students in China, indicating a clear advantage for L1 as the test delivery language.

Macaro et al. (2018), reviewing 83 studies, concluded that 'any cost-benefit evaluation of EMI is inconclusive at best and impossible at worst.' (p. 64). Irrespective of its relative efficiency in comparison to teaching and learning through L1, EMI has been shown to present various challenges, and the next section is devoted to a review of those challenges.

Challenges in EMI

'[A] widely purported benefit of EMI is that it kills two birds with one stone; in other words, students simultaneously acquire both English and content knowledge' (Rose et al., 2020, p. 2150). In that regard, Byun et al. (2011) points to overall satisfaction with EMI and improvement in students' language proficiency as positive outcomes. Similarly, Pecorari and Malmström (2018) suggest that while the main purpose of EMI is not to teach English as an L2, students in EMI settings are provided with language support in the form of additional courses, which in turn helps students develop their L2-English. However, they also state that the idea that EMI will improve language skills for students due to exposure has not yet been backed up by sufficient research.

Tertiary education is considerably more demanding in comparison to earlier levels of education in terms of both cognitive and linguistic requirements (Chin & Li, 2021). Although L2-English students are usually required to have a certain level of English proficiency before they can begin their EMI HE programs, this does not necessarily mean that they are not confronted with language-related challenges in their academic studies. In HE, insufficient command of English may emerge as 'a major stumbling block' (Pulcini & Campagna, 2015, p. 72) that hinders the successful

implementation of EMI. Therefore, instructors and students' inadequate L2 proficiency is an important consideration (e.g., Costa & Coleman, 2013; Kerestecioğlu & Bayyurt, 2018; Moore-Jones, 2015).

Several studies used surveys to examine the perspectives of EMI students and instructors regarding challenges. In Italy, Costa and Coleman (2013) found that although EMI was generally rated positively, limited English proficiency was viewed a major hurdle. Tatzl (2011) noted that in Austria, lecturers faced difficulties due to the varied English proficiency levels among students, who reported struggling with vocabulary and technical terms. In Germany, instructors identified students' insufficient English skills, increased workload, and bias in assessments as primary EMI challenges (Gürtler & Kronewald, 2015). Kamaşak et al. (2021) showed in their questionnaire study involving around 500 EMI students in Türkiye that students generally did not report significant language challenges, though they found productive skills particularly difficult. This finding was echoed by Yüksel et al. (2021), who noted that both speaking and writing in English were perceived to present substantial challenges. While challenges are attributed to poor English skills among both students and lecturers (Ekoç, 2020), even high-proficiency students may perceive EMI to be challenging (Kamaşak et al., 2021).

Both comprehension and production seem to be at stake in EMI. Aizawa and Rose (2019) discovered that students at all proficiency levels struggled, with more proficient students facing difficulties in academic literacy such as essay writing, and less proficient students having trouble understanding instructors and grammatical structures, among others. Chang (2010) found that a significant portion of Taiwanese EMI students had low comprehension levels, which negatively affected their learning. Yıldız et al. (2017) also highlighted problems with unfamiliar terminology. The effects of poor English proficiency extend to academic performance, as noted by Söderlundh (2012) in Sweden, Arkin and Osam (2015) in Türkiye, and Alhassan et al. (2021) in Sudan, with students struggling to convey ideas effectively and performing poorly on tests.

Kirkpatrick (2014) argued that language policies requiring the use of English only at universities might disadvantage lower-proficiency students if ongoing support is

lacking. In the absence of support, various consequences may arise, which are summarized by Galloway et al. (2017) as follows:

- detrimental effects on subject learning and understanding lessons and lectures
- longer time to complete the course
- chance of dropping out
- problems communicating disciplinary content
- asking/answering fewer questions
- code-switching
- resistance to EMI. (p. 6)

In an effort to mitigate such challenges, universities usually require their students to meet language proficiency requirements through international or in-house tests of English. An important question in that regard is to what extent proficiency tests can predict academic performance in EMI.

The relationship between proficiency at entry into EMI and academic success

Several studies found English proficiency to be a predictor of academic performance as measured by exam or course grades. Li (2017, 2018) and Martirosyan, Hwang, and Wanjohi (2015) found correlations between English proficiency and academic success, suggesting that while other factors also affect academic performance, language proficiency plays a crucial role. In this regard, one important question for EMI programs is how different tests may help ensure that students arrive at EMI programs with sufficient English proficiency.

Investigations into the predictive power of international English proficiency tests like TOEFL and IELTS have yielded mixed results. Cho and Bridgeman (2012) found that TOEFL scores only modestly predicted GPA, suggesting that while high proficiency may benefit academic performance, the relationship is not strongly predictive. Yen and Kuzma (2009) and Schoepp (2018) found significant relationships between IELTS scores and GPA, indicating that language proficiency, as measured by these tests, has a predictive value for academic success in EMI programs, though the strength of this relationship may diminish over time as students adapt and improve their language skills (Yen & Kuzma,

2009). Therefore, Schoepp (2018) suggests that for lower proficiency learners, a bilingual method rather than EMI may be a more viable teaching option.

The predictive power of in-house language tests and subject-specific English proficiency tests (ESP) has also been explored. Bo et al. (2022) demonstrated a significant correlation between in-house language test scores and GPA in a Singaporean university, with proficiency impacting academic performance differently across disciplines. Xie and Curle (2022) found a significant relationship between Business English proficiency and academic success in business management studies, suggesting that subject-specific English tests may offer valuable insights for EMI programs.

However, the challenge of comparing different proficiency tests and ensuring score equivalence remains. Students admitted through different tests may have differing success rates in EMI programs (Kamaşak et al., 2021; Tweedie & Chu, 2019), which points to the complexity of establishing a standard for English proficiency. Also, as Deygers et al. (2018) argue, the alignment of two different language tests to the same CEFR level does not necessarily mean that the tests are comparable in terms of content or construct. It should also be noted that GPA may not always provide an accurate representation of learning and academic achievement (Ekoç, 2020).

English proficiency at entry into EMI programs seems to predict academic outcomes, but the variance explained does not seem to be substantial. Also, the effectiveness of different proficiency tests as measures of readiness for these programs varies, and there are obviously other factors that affect academic success. Still, it is important to understand what minimum language requirement would ensure that failure in EMI is not attributable to insufficient proficiency - if such a level can be delineated.

The question of whether a specific English proficiency threshold ensures success in EMI programs has seen varied responses from research. Studies across 104 universities in 52 countries by Sahan et al. (2021) revealed diverse English proficiency requirements, with IELTS scores ranging from 4.5 to 7.0 and TOEFL iBT scores from 56 to 100, translating to CEFR levels between B1 and B2 as the most common prerequisites.

This indicates a lack of consensus on the minimum proficiency needed for EMI programs, and the determination of a proficiency threshold for EMI success remains debated.

Harsch (2018) argued against the possibility of defining a clear proficiency threshold for EMI success due to the complexity of language proficiency and the difficulty in obtaining comparable test results. However, Trenkic and Warmington (2019) suggested that a threshold level might exist, based on their findings that language skills significantly impacted academic outcomes for L2-English students but not for native English students in UK higher education, implying a proficiency level beyond which language no longer hinders academic performance. Deygers et al. (2018) examined language requirements across European universities, noting that while CEFR B2 was a common minimum, there was scepticism about its adequacy for EMI success. Carlsen (2018) proposed B2 as a suitable minimum for academic success, indicating that students at or above this level could manage their studies without facing significant language-related challenges. However, studies in contexts such as Türkiye and Japan (Yüksel et al., 2021; Aizawa et al., 2020) revealed that students at or above B2 level still faced linguistic challenges in EMI, with improvements noted at higher proficiency levels and Yüksel et al. (2021) identified C1 as a threshold for engineering students. These findings imply that while B2 may serve as a general guideline, challenges in EMI can persist above this level, suggesting the need for lecturers to accommodate the linguistic needs of EMI students.

Assessment in EMI

While considerable research has focused on the learning and teaching aspects of EMI programs, the area of assessment within these programs requires further exploration. Xiao and Cheung (2021) emphasize the significance of assessment practices on students' learning processes and outcomes, indicating a need for more focused research in this domain.

Studies have explored the impact of the language of instruction on the complexity of questions and student responses. For example, Hu and Li (2017) found that irrespective of the language of instruction, teachers often used lower-order questions, but student responses in Chinese showcased higher cognitive complexity compared to those in English, where students were more inclined to remain silent. Hu and Duan

(2019) also noted that both questions and responses in EMI settings tended to lack in cognitive and linguistic complexity. Similarly, Pun and Macaro (2019) observed that increased use of L2 in classrooms correlated with more lower-order questions being posed.

Fairness in assessment is another concern. Ball and Lindsay (2013) revealed lecturers' worries about the fairness of exams, especially when assessments demanded lengthy written responses in English. In Macaro et al. (2016), instructors reported that students struggled with understanding exam questions due to limited vocabulary, leading to failures despite instructors' efforts to simplify questions and translate key terms into students' L1.

The potential for incorporating multilingual and translingual practices into assessment has been suggested as a way to address these challenges. Cots (2013), for example, criticizes the common policy requirement for using a single language in teaching and assessment as unrealistic, suggesting that multilingual practices could be more natural and effective. Lasagabaster (2022), on the other hand, highlights the lack of research on assessment practices in EMI settings, pointing out unanswered questions about the use of translanguaging, the feasibility of multilingual practices among students from diverse linguistic backgrounds, lecturer attitudes towards alternative assessment methods, and how international students perceive the use of native languages by local students in exams.

Time for the multilingual turn in EMI?

Research on EMI shows several educational benefits of multilingual and translingual practices. Code-switching has been found to serve various educational functions, such as supporting comprehension, creating a comfortable setting, and maintaining discipline (Lasagabaster, 2013); explaining unknown lexical items and building rapport with students (Tien & Li, 2013); explaining grammar or vocabulary (Tian & Kunschak, 2014; Macaro et al., 2020); explaining cognitively demanding content (Kim et al., 2017); and providing feedback to student responses in the L1 (Macaro et al., 2020).

The translanguaging approach, which challenges the conceptualization of monolingual practices as the norm, is becoming increasingly recognized for its benefits in EMI settings. Despite English-only policies, translanguaging has been noted across diverse contexts, including Denmark (Dimova, 2020), Sweden (Söderlundh, 2012), Spain (Doiz et al., 2019), Japan (Aizawa & Rose, 2019), China (Galloway et al., 2017), Hong Kong (Pun & Macaro, 2019), Ukraine (Tarnopolsky & Goodman, 2014), and Türkiye (Ekoç, 2020). Research from contexts as diverse as Malawi (Reilly, 2021), Cambodia (Boun & Wright, 2021), Italy (Dalziel & Guarda, 2021), and Sweden (Toth & Paulsrud, 2017) supports the strategic use of translanguaging to facilitate interaction and learning in EMI programs, as translanguaging enhances teaching and learning and improves comprehension and student engagement by allowing the use of their full linguistic repertoire. Lin and He (2017) demonstrate that using multiple languages, such as a student employing Urdu to explain a term, enriches interactions and helps construct shared meaning, challenging restrictive monolingual ideologies. In Türkiye, Sahan et al. (2021) identified a bilingual teaching model at seven EMI universities in Türkiye, noting enhanced participation and engagement through the use of L1 when students shared the same L1. Furthermore, a Mechanical Engineering case study by Sahan and Rose (2021) found that both students and instructors engaged in translanguaging to better process and understand new material, thus deepening their engagement with academic discourse in both English and Turkish. Sahan and Rose, therefore, caution that an English-only policy could ‘erode students’ learning potential’ (p. 33). Siegel (2022) found in surveys across Indonesia, Spain, and the United States that although many students prefer notetaking in English during English lectures, a significant number also practice translanguaging, blending English with their L1. Siegel recommends allowing students to use their L1 at lower proficiency levels, both languages at intermediate levels, and transition solely to English at advanced levels.

The need to transition from a monolingual mindset to a multilingual approach in education, that encourages the inclusion of students’ wider linguistic repertoires, including translanguaging, was raised by Doiz et al. (2012). This is particularly important as the increasingly diverse student populations at EMI universities create an inherently multilingual academic environment where language proficiency affects academic success

(Van der Walt & Kidd, 2013). Therefore, EMI institutions need to adopt policies that reflect the multilingual reality of these programs and encourage research into translanguaging within EMI classrooms (Galloway et al., 2020). In that regard, Sahan and Rose (2021) criticize the English-only focus in EMI, advocating for a pedagogical shift that recognizes the multilingual nature of classrooms and promotes translanguaging. They add that '[g]iven that the primary concern of EMI education is content learning, an insistence on English-only instruction appears ideologically (mis)guided rather than pedagogically sound.' (2021, p. 26). Similarly, Veitch (2021, p. 9) supports a holistic approach in which 'multilingual practices, such as translanguaging, are natural, legitimised and acceptable.' Jenkins (2020, p. 66) even proposes renaming EMI to 'Translanguaging as Medium of Instruction' to normalize the use of languages other than English in educational settings.

Macaro (2020) suggests that in an English-medium instruction (EMI) setting, if the primary goal is to enhance students' communication skills in English, substantial input and interaction in English are essential. Conversely, if the objective is to deepen academic understanding, incorporating students' first language (L1) might be necessary. However, in classrooms with many international students, the appropriateness of using the majority's L1 is questionable if these students lack proficiency in that language (Macaro, 2020)

Conclusion

The spread of EMI is partly driven by internationalization, with aims to extend institutional reach and enhance international competitiveness. As EMI continues to expand globally, its implications stretch beyond mere language and content learning, to include equity in education and linguistic inclusivity.

The current review reveals a complex picture where the benefits of EMI are not universally realized, with significant pedagogical and linguistic challenges. The assumption that EMI inherently improves English proficiency alongside content acquisition is critically challenged by (1) research suggesting that EMI may compromise content understanding and academic performance due to linguistic barriers and (2) the limited, and inconclusive, research on linguistic gains in EMI. The findings from various

EMI settings indicate that the effectiveness of EMI is contingent upon students' English proficiency, which if inadequate, can compromise the depth of learning and academic outcomes.

The review also shows that the focus on English as the sole medium of instruction risks oversimplifying the linguistic reality of EMI programs. First, this approach may disadvantage students who are less proficient in English. The English-only policy also seems to influence the complexity of examination questions and student responses, and raises concerns about fairness and equity in EMI content assessment. Moreover, while some studies suggest that English proficiency at entry correlates with academic performance, the relationship is not straightforward or uniformly predictive. This brings into question the reliance on English proficiency tests as sole indicators of a student's readiness for EMI programs and points to the need for ongoing provision of language support once students are in EMI programs.

The evidence regarding the current state of EMI provision points towards the necessity for an approach that integrates multilingual practices. By challenging the monolingual ideologies that have traditionally underpinned EMI policies, the recent discourse around translanguaging and multilingualism in EMI offers a promising way forward that acknowledges and calls for leveraging the wider language resources of EMI students in learning, teaching, and assessment. Therefore, while EMI continues to be an attractive model for HE, it is in need of a critical re-evaluation in terms of language policies. As such, for the future of EMI, the quantitative increase needs to be accompanied with an evolution in policy from a monolingual to a multilingual framework that responds to the linguistic needs of all EMI students.

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