

Academic writing progress: A two-year comparative study of EME and non-EME undergraduate business students

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Abstract

Academic writing development in English Medium Education (EME) contexts is under-researched, particularly its longitudinal trajectory. This study, conducted in a private business university in Spain, compares the academic writing progress of students in EME programmes with those in non-EME (Spanish as a Medium of Education, SME) over the first two years of their academic courses. Using pre- and post-test holistic IELTS writing scores, the study involved EME participants who received 60 hours of English for Academic Purposes (EAP) training, and SME participants who received 240 hours of English for Specific and Academic Purposes (ESP/EAP) courses. The study allowed for controlled comparison as the same content lecturers teach in both mediums, and the same language lecturers teach ESP/EAP. Findings indicated that initially higher-scoring EME participants showed limited improvement, whereas SME participants demonstrated substantial improvement in writing proficiency. Limited progress in EME students is linked to insufficient ESP/EAP support and a possible lack of linguistic feedback within content courses, as evidenced by assessment inconsistencies between English and Spanish-medium programme academic guides. This study highlights the need for dedicated writing development in EME contexts, increased collaboration between EME content and ESP/EAP lecturers and encourages greater attention to linguistic feedback in content courses to foster sustained writing development.

Keywords: academic writing development, English Medium Education, Spanish Medium Education, English for Specific and Academic Purposes, longitudinal study, IELTS holistic scores.

Resumen

Progreso en la escritura académica en inglés: Un estudio comparativo de dos años en una universidad privada de negocios con estudiantes de programas en inglés y en español como lenguas de educación

El desarrollo de la escritura académica en inglés en contextos de Inglés como Lengua de Educación (EME) es un ámbito poco investigado, especialmente en lo que respecta a su evolución longitudinal. Este estudio, realizado en una universidad privada de negocios en España, compara el progreso en la escritura académica de estudiantes matriculados en programas EME con el de aquellos matriculados en programas Español como Lengua de Educación (no-EME) durante los dos primeros años de sus estudios universitarios. A través de puntuaciones holísticas del IELTS en pruebas iniciales y finales, el estudio incluyó a participantes EME que recibieron 60 horas de formación en Inglés para Fines Académicos (IFA) y a participantes no-EME que recibieron 240 horas de formación en Inglés para Fines Específicos y Académicos (IFE/IFA). El diseño del estudio permitió una comparación controlada, ya que los mismos docentes de materias de contenido impartieron clase en ambos programas, y los mismos profesores de idiomas impartieron IFE/IFA. Los resultados demostraron que los participantes matriculados en EME, que partían de puntuaciones iniciales más altas, experimentaron una mejora limitada, mientras que los participantes no-EME evidenciaron un progreso sustancial en su competencia escrita. Esta mejora limitada en los estudiantes EME podría atribuirse a un apoyo insuficiente en IFA y a una perceptible ausencia de retroalimentación lingüística en las asignaturas de contenido, circunstancia que se ve acentuada por las inconsistencias en los criterios de evaluación entre las guías académicas de los programas en inglés y en español. La investigación subraya la necesidad de un desarrollo específico de la escritura en contextos EME, una mayor colaboración entre el profesorado de contenido y el de IFE/IFA y una atención más sistemática a la retroalimentación lingüística en las asignaturas de contenido para favorecer un desarrollo sostenido de la competencia escrita.

Palabras clave: desarrollo de la escritura académica, Inglés como Lengua de Educación (EME), Español como Lengua de Educación (ELE), Inglés para Fines Específicos y Académicos (IFE/IFA), estudio longitudinal, puntuaciones holísticas del IELTS.

1. Introduction

Across the globe, the landscape of higher education is increasingly characterised by the widespread adoption of English-medium Education

(EME), a phenomenon reshaping pedagogical practices and participant experiences on an unprecedented scale in the 21st century (Dafouz & Smit, 2020; Dearden, 2014; Macaro et al., 2018). This transition to EME is not merely a linguistic adjustment; it represents a profound transformation in how knowledge is disseminated, acquired and applied in higher education settings (Airey, 2020; Dafouz, 2025; Dafouz & Gray, 2022; Helm, 2019). EME impacts how learning is evaluated, emphasising EME students' ability to demonstrate understanding and mastery through various assessment methods, particularly written assignments and examinations (Sánchez-Pérez, 2023).

For the growing number of non-native English-speaking students enrolled in EME programmes, this reliance on written assessments introduces a layer of complexity. Understanding disciplinary content through a second language is compounded by the need to articulate a sophisticated level of written academic English, a skill that requires more than just content knowledge or advanced English proficiency (Bhatia, 2004). It is worth considering that many EME students are second-language writers (Arnbjörnsdóttir & Prinz, 2017), and neither EFL form-focused writing materials nor composition materials for L1 writers will support their needs. These needs are often overlooked, and as a result, may negatively impact the academic performance of said students, particularly in settings where they are expected to produce a 10,000-word thesis on completion of their degree. To alleviate the struggles of students in EME programmes, some universities compensate by implementing English for Specific and Academic Purposes (ESP/EAP) courses. Many researchers (Breeze, 2014; Costa & Mastellotto, 2022; Rose et al., 2020) have exemplified the benefits of ESP or EAP courses in preparing participants to succeed in EME.

Contrasting perspectives exist regarding writing challenges in EME research. The finding that Japanese students with ESP found it less demanding (Aizawa et al., 2020) stands in contrast to evidence of significant difficulties for other students (Breeze & Dafouz, 2017; Evans & Morrison, 2011; Zhou et al., 2022), a discrepancy previously analysed (see Lohan & Dafouz, 2024). However, recent research has highlighted a scarcity of studies focusing on academic writing in EME, especially in Spain, where subject evaluation in Higher Education (HE) is largely based on written assessments (Sánchez-Pérez, 2023). One semester's longitudinal study concludes that while EME positively influences lexical development, it does not sufficiently improve other aspects of writing proficiency, such as pragmatics and discourse

(Sánchez-Pérez, 2023). Building on the recognised need for more research on writing in EME, this study addresses a critical further gap: the absence of longitudinal studies comparing the writing development of EME and non-EME students with varying amounts of explicit training.

More specifically, this paper reports on a two-year longitudinal comparative study examining the development of academic writing skills between two carefully selected groups: participants enrolled in the EME Bachelor degrees in Marketing and Business Administration, and participants enrolled in the Spanish-medium (SME) degrees of *Grado en Marketing* and *Grado en Administración de Empresas*. Data extracted from these specific cohorts allows for a direct comparison of their writing development. All participants in both groups participate in an EAP course in their second year. In addition to this, EME participants experience language exposure through their content courses, whereas SME participants receive four hours of ESP/EAP weekly.

The paper begins with a literature review on the impact of academic writing on students in EME. This is followed by a description of the methodological procedures and analysis. Section 4 presents the results, leading to a discussion of the findings. A brief conclusion with recommendations for further research is presented in the final section.

2. Literature review

2.1. Academic writing in EME

Research has validated standardised English tests, with a rigorous writing component, to be a competent way to assess participants on entry-level to EME programmes (Dimova, 2020), a view shared by others who consider writing components to be an intrinsic part of the placement process (Ferris & Lombardi, 2020). Indeed, some researchers emphasise that writing tasks are integral to assessment (Dafouz, 2020), serving as a tool to evaluate participants' progression across disciplines and levels of study. For instance, a 2019 report indicated that final written exams represented 70.2% of the evaluation process in Spanish public universities (Panadero et al., 2019). Furthermore, the requirement for participants to complete substantial assignments, such as a bachelor's thesis of up to 10,000 words, underscores the critical significance of this skill. To manage such a demanding task, students need to develop strong academic writing skills. Emphasising the

fundamental role of academic writing, Wingate (2015, p. 15) points out that it is the “main mode of knowledge construction and communication”. Therefore, academic writing in higher education is a skill to be learned and a key metric by which participants are evaluated at various critical junctures, including their initial placement or acceptance on courses, their performance in formal examinations, and the production of significant academic assignments.

2.2. EME and language development

Writing serves as an important tool for EME students to engage with the target language and develop their linguistic abilities. However, the existing body of research within EME has presented varied findings regarding overall language gains. For instance, studies in Asian (Lei & Hu, 2014; Yang, 2015) and Turkish (Rogier, 2012) contexts have yielded contrasting results, with some failing to find conclusive evidence of significant language development and others, like Rogier’s work showing IELTS score improvements after four years on EME programmes, suggesting positive gains. Notably, Sánchez-Pérez (2023), working within the Spanish university context where writing is often central to assessment, specifically identified a lack of research focusing on the development and assessment of writing skills within the Spanish EME landscape. Her longitudinal study (conducted over one semester in Spain) found that participants’ academic writing levels increased after an EAP course, suggesting the potential for targeted instruction to impact writing development in this setting. Yet, the specific development of writing skills for students learning through English in Spain, particularly when compared to their non-EME counterparts over longer periods, remains an under-investigated area. This ongoing gap underscores the need for further research focusing specifically on writing within the Spanish EME context and beyond.

2.3. ESP/EAP support courses in higher education

The academic writing needs of EME students, who are second language writers, require targeted support beyond general EFL instruction or L1 composition (Arnbjörnsdóttir & Prinz, 2017). Students often struggle to identify academic genres and adapt to English academic discourse (Kuteeva, 2013). These needs are frequently addressed through ESP/EAP courses (Aizawa et al., 2020). Successful EME students typically possess strong

academic English skills; thus, EME students with lower English proficiency would particularly benefit from such ESP/EAP support (Kamaşak & Sahan, 2023; Roothoof et al., 2025; Soruç et al., 2021). Research shows that enhancing students' English language proficiency can improve their success in English-taught programmes (Rose et al., 2020). Furthermore, integrating EME and ESP/EAP courses has demonstrably improved students' preparedness for EME assignments (Costa & Mastellotto, 2022).

EAP focuses on target language features within academic contexts and is most effective when tailored to students' specific needs (Hyland, 2016). This integrated approach implies the need for more ESP/EAP provision in EME degree programmes that is responsive to evolving linguistic demands (Ellis, 1994; Hyland, 2016). This emphasis on responsive language support highlights the shared concerns and challenges in supporting students in both EME and EAP contexts, viewing their development as interconnected. This holistic viewpoint advocates for EME researchers and practitioners to consider the theoretical and pedagogical insights of EAP and its parent field, ESP (Wingate, 2022). Wingate further explains that expanding students' knowledge of disciplinary literacy in the communicative aspects of their chosen field can alleviate some of the difficulties they encounter (2022). Many authors (Dafouz & Gray, 2022; Lasagabaster, 2018; Yuan, 2021) concur with this assertion, emphasising the critical importance of collaboration between language specialists and content teachers.

2.4. IELTS writing task 2

Established in 1989 by the British Council, IDP IELTS, and Cambridge University Press & Assessment, IELTS is a prominent and expanding international language test that evaluates the English language proficiency of L2 speakers who intend to study or work in English-speaking contexts. Its results are currently trusted by more than 12,000 universities globally (IELTS, 2023). Regarding research in EME, it has been applied in studies to assess the predictive validity of students' academic success (Barkaoui, 2025; Rose et al., 2020; Schoepp, 2018) and as a means to evaluate language proficiency development (Rogier, 2012).

The academic writing task 2, which is the key component of this present study on language proficiency development, is not without its critics. Researchers (Uysal, 2010; Peltekov, 2021) found that the writing task has reduced authenticity, emphasising its reliance on personal opinion rather

than external sources, and does not align completely with the type of academic tasks which students would encounter in university courses. The assessment rubric consists of 4 parts: 1) task response; 2) coherence and cohesion; 3) lexical resource; 4) grammatical range and accuracy. Researchers (Uysal, 2010; Peltekov, 2021) highlight the issue of emphasis on paragraphing and coherence, which may be prioritised over meaning. However, as a measure of writing proficiency, it is considered acceptable guidance for decisions about language study (Peltekov, 2021; Dimova, 2020). Furthermore, it is considered a benchmark of international language assessment in academic English proficiency (Harrington & Roche, 2014).

This study seeks to address the identified research gap in academic writing in EME settings by investigating the following research question:

What are the holistic IELTS writing proficiency scores of participants enrolled in the EME programme and those enrolled in the non-EME (SME) programme at both the beginning (Test 1) and the end (Test 2) of the two-year study period?

3. Methodology

3.1. Participants and setting

The setting for this two-year longitudinal comparative study is a private business university with a distinctive approach to language support. Unlike many institutions, this university integrates EAP courses as a mandatory component within the core curriculum of all its undergraduate degree programmes. Within this framework, our research focused on two specific cohorts of participants: those enrolled in the English-medium education (EME) Bachelor degrees in Marketing and Business Administration, and their counterparts in the Spanish-medium (SME) *degrees of Grado en Marketing and Grado en Administración de Empresas*. A prerequisite for inclusion in the data analysis was that all participants had demonstrated a minimum B2 level of English proficiency according to the Common European Framework of Reference for Languages (CEFR) upon university entry. Consequently, all participants in both the EME and SME groups were enrolled in a mandatory EAP course during their second year of study as part of their degree requirements, comprising 6 ECTS.

The EME group received additional language exposure through their English-taught content courses, which consisted of 240 hours per term. As part of the subject evaluation, students are required to submit a group writing assignment and complete two written tests. However, a situational analysis study from this larger study (Lohan & Dafouz, 2024) found that the assessment criteria did not include a writing proficiency component. Therefore, participants did not receive specific feedback on their English or writing skills from their content lecturers. In contrast, the SME group received four hours of ESP/EAP instruction per week as part of their elective complementary programmes, which included explicit feedback on their writing skills.

The dataset for this two-year longitudinal comparative study was derived from a departmental initiative designed to evaluate the academic writing skills of all commencing undergraduate participants. As students entering this private business university are generally not considered to have English as their first or native language, this initiative involved administering a writing test, based on the IELTS Academic Writing Task 2, to all first-year students at the beginning of their studies to establish their academic English writing level, identifying grammatical, cohesive, structural, and general lexical proficiency needs. For this study, we focused on the holistic scores as they provide a reliable measure of overall writing quality, which was the primary objective of this initial evaluation. A further test was administered after two academic years of study to evaluate their development. The objective of the evaluation was to provide the department with concrete evidence to help with the development of courses more suited to students' particular needs and to compare results to see if students are improving their written level while/after attending the courses.

Within this larger dataset, our research focuses on the completely anonymised data of participants specifically enrolled in the EME Bachelor degrees in Marketing and Business Administration, and the SME degrees of *Grado en Marketing and Grado en Administración de Empresas*. Writing samples of these two degrees were extracted at two time points: upon entry to the university (September 2022) and after two years of study (May 2024). The only information associated with each data point within the departmental initiative was the participant number and an indication of whether they possessed a language certificate at entry; no individual participant identities were recorded or are identifiable at any point in this research, with data being analysed solely at the degree programme level. This targeted selection

enabled a direct comparison of writing development within cognate degree programmes.

The use of this data is considered ethically viable as it originates from a departmental initiative intended for internal assessment, quality assurance, and the improvement of teaching practices, and not explicitly for external research requiring individual participant consent, particularly given the fully anonymous nature of the data. The final total sample deemed viable for the study was 86 participants, split into two independent cohorts: the EME group ($N = 52$) and the non-EME (SME) group ($N = 34$).

3.2. Data collection and procedure

The writing data for this study was collected using a standardised academic writing task, specifically modelled on Part 2 of the IELTS Academic Writing test. The following prompt was used:

Recent research has shown that business meetings and training are increasingly taking place online.

What are the advantages and disadvantages of this?

The thought process behind the choice of question is that a general question would enable participants to answer freely, without requiring in-depth knowledge of a particular business topic, yet it encapsulates a business subject that will be under discussion in the first two years of studies, thus enabling a comparative analysis to take place. Furthermore, the fact that the question includes a discussion on advantages and disadvantages encourages the use of applying a formal structure where discourse markers should be employed effectively to organise participants' opinions on the topic.

Participants were given 30 minutes of class time to complete this task and were instructed to write between 180 and 240 words, in line with the IELTS Writing Task 2 criteria. Prior to the administration of the test, participants were explicitly informed that their performance would have no bearing on their overall grade for the subject. Instead, it was communicated that the test's purpose was twofold: first, to gain an understanding of their academic writing needs at the point of entry to the university; and second, to evaluate any potential development in their writing skills following the EAP course, which

was scheduled to take place during their second academic year. It is important to note that while all participants would receive the official EAP course in their second year, participants enrolled in the SME degrees would also receive an additional 180 hours of ESP/EAP instruction during their two years of study.

3.3. Data analysis

To ensure a robust and consistent evaluation of the collected writing samples, a rigorous process of inter-rater reliability was implemented. Four instructors from the department, including the author of this paper, all PhD Students in Applied Linguistics and Education, served as raters. These experienced evaluators independently assessed the writing tasks, a procedure designed to minimise subjective bias and variations in grading standards across different individuals. The level of inter-rater concordance achieved was approximately 86.5% for both the EME and SME cohorts, indicating a high degree of agreement among the raters. Any initial disagreements among the raters were resolved through a process of consensus discussion to arrive at a final, agreed-upon score for each writing sample.

The assessment of writing proficiency levels was conducted using the official IELTS Academic Writing band descriptors, a holistic rubric based on a 9-point scale. The application of this rubric yielded overall numerical scores reflecting each participant's writing proficiency. The use of this standardised, numerically-scaled rubric allows for statistical analysis and comparison of these overall writing scores between groups.

The primary aim of the quantitative analysis was to determine if there were any statistically significant differences in the overall academic writing proficiency scores between the EME and SME cohorts. To achieve this, a two-pronged approach was employed. First, the overall IELTS rubric scores for each cohort were compared between the initial testing phase and the assessment after two years to identify any statistically significant growth within each group individually. Second, to establish the baseline, the overall scores of the EME and SME cohorts were also compared at the initial testing phase to ascertain any preexisting differences in their writing proficiency levels. Following these individual and initial comparisons, the study then examined the differential patterns of change in their writing proficiency levels over the two-year period by comparing the scores at the final testing phase. This purely quantitative approach enabled a direct comparison of the central tendencies and the distribution of these scores

both within and between the two cohorts over time, allowing for inferences regarding the impact of the different learning environments and language support provisions on their general academic writing outcomes, as reflected in the total scores.

4. Results

4.1. Initial writing proficiency scores (Test 1)

To provide an overview of the academic writing proficiency levels of the two cohorts, EME and SME, at the start of the study, the descriptive statistics for their initial IELTS scores are summarised in Table 1 below. The data reveal a clear difference in mean scores, with the EME group ($M = 6.50$, $SD = 0.92$) compared to the SME group ($M = 5.05$, $SD = 0.74$) at the beginning of the study. This initial disparity suggests that the EME participants, as a group, possessed a higher level of academic writing proficiency upon entry to the university. Furthermore, the non-overlapping 95% confidence intervals for the means (EME: 6.24 – 6.75; SME: 4.80 – 5.31) provide preliminary evidence of a statistically significant difference in the initial writing abilities of the two cohorts. Notable, given that both cohorts met the B2-level entry requirement for this study. The EME cohort's average score, however, places them at the upper end of the B2 range, while the SME scores are at the lower end.

	N	Mean	Std. deviation	Std. error	Mean		Minimum	Maximum
					Lower limit	Higher limit		
SME	34	5.0588	0.73613	0.12625	4.8020	5.3157	3.00	7.00
EME	52	6.5000	0.91823	0.12733	6.2444	6.7556	4.00	8.00
Total	86	5.9302	1.10390	0.11904	5.6936	6.1669	3.00	8.00

Table 1. Descriptive statistics for writing scores at the initial testing phase (T1).

To determine if this difference was statistically significant, a one-way ANOVA was conducted (Table 2).

Source of variance	Sum of squares	Df	Mean square	F	p-value
Between groups	42.699	1	42.699	58.912	< .001
Within groups	60.882	84	0.725		
Total	103.581	85			

Table 2. ANOVA results for Test 1 scores.

The results of the ANOVA produced a highly significant F-statistic ($F(1, 84) = 58.912, p < .001$), indicating that the difference in mean Test 1 scores was unlikely due to chance. Table 3 presents the effect sizes for the Test 1 scores.

	Point Estimate	95% Confidence Interval	
		Lower	Upper
Eta squared (η^2)	0.412	0.252	0.534
Epsilon squared (ϵ^2)	0.405	0.243	0.529
Omega squared (fixed effects) (ω^2)	0.402	0.241	0.526
Omega squared (random effects) (ω^2)	0.402	0.241	0.526

Table 3. ANOVA effect sizes for differences in Test 1 scores.

Table 3 clarified the magnitude of this significant difference. The eta squared ($\eta^2 = 0.412$), epsilon squared ($\epsilon^2 = 0.405$), and omega squared ($\omega^2 = 0.402$) all demonstrated a large effect size, suggesting that a substantial portion of the variance in initial test scores was related to the language medium programme.

To check the robustness of the ANOVA results against variance assumption violations, Welch's F-test was also examined, as shown in Table 4.

	Statistic	df1	df2	p-value
Welch	64.599	1	80.433	< .001

Note: Welch's F-test was used to account for unequal variance, resulting in non-integer degrees of freedom.

Table 4. Welch's F-test for equality of means for Test 1 scores

The results of Welch's F-test (Table 4) also showed a highly significant difference between the groups ($F(1, 80.43) = 64.60, p < .001$), reflecting a strong between-group difference in initial writing proficiency. This reinforces the conclusion that the EME participants began with a significantly higher level of writing proficiency than the SME participants.

4.2. Final writing proficiency scores (Test 2)

Following the initial assessment of writing proficiency (Test 1), the participants entered their respective programmes, English or Spanish medium. The EME group's programme was conducted in English and included one 6-ECTS EAP course (60 hours in total). In contrast, the SME group's programme was in Spanish, and they received four 6-ECTS courses (240 hours) of ESP/EAP instruction. The specific hours and nature of

these programmes are detailed in Section 3.1. At the end of the two years, the final writing proficiency test (Test 2) was conducted. The prompt for Test 1 was reused to ensure validity. The results of this assessment begin with the descriptive statistics in Table 5.

	N	Mean	Std. deviation	Std. error	Mean Lower limit	Mean Higher limit	Minimum
SME	34	6.9412	0.64860	0.11123	6.7149	7.1675	6.00
EME	52	7.5577	1.03684	0.14378	7.2690	7.8464	5.00
Total	86	7.3140	0.94883	0.10231	7.1105	7.5174	5.00

Table 5. Descriptive statistics for writing scores at the final testing phase (T2).

Table 5 demonstrates that at the end of the study, the EME group ($M = 7.56$, $SD = 1.04$) had a higher mean writing score than the SME group ($M = 6.94$, $SD = 0.64$). Confidence intervals (EME: 7.27 to 7.85; SME: 6.71 to 7.17) suggest a persistent difference in average scores. A one-way ANOVA was conducted to further examine the mean Test 2 scores between the two groups (Table 6).

Source of variance	Sum of squares	Df	Mean square	F	p-value
Between groups	7.814	1	7.814	9.553	0.003
Within groups	68.709	84	0.818		
Total	76.523	85			

Table 6. ANOVA results for Test 2 scores.

The results in Table 6 revealed a significant difference ($F(1, 84) = 9.553$, $p = 0.003$), indicating that the disparity remained unlikely due to chance. The effect sizes for Test 2 were calculated to explain the practical importance of the findings, as shown in Table 7. The results indicated a small to medium effect of the programme of study on writing proficiency in the Test 2 scores ($\eta^2 = 0.102$, $\epsilon^2 = 0.091$, $\omega^2 = 0.090$).

	Point Estimate	95% Confidence Interval	
		Lower	Upper
Eta squared (η^2)	0.102	0.013	0.232
Epsilon squared (ϵ^2)	0.091	0.001	0.223
Omega squared (fixed effects) (ω^2)	0.090	0.001	0.221
Omega squared (random effects) (ω^2)	0.090	0.001	0.221

Note: Eta squared and Epsilon squared are estimated based on the fixed effects model.

Table 7. ANOVA effect sizes for differences in Test 2 scores.

The findings in Table 7 suggest that while a statistically significant difference remained, the proportion of variance in Test 2 scores attributable to the programme (English or Spanish medium) was smaller than in the Test 1 scores. To confirm the robustness of this result, Welch's F-test for equality of means was conducted. The result was statistically significant (Welch's $F(1, 83.880) = 11.50, p = .001$), reinforcing the persistence of the group difference despite potential violations of the homogeneity of variances assumption.

4.3. Comparison between the pre- and post-tests

Having examined the writing proficiency scores of the EME and SME groups at the initial (Test 1) and final (Test 2) assessments, this section now focuses on comparing the changes in scores over the two-year period. Figure 1 illustrates the longitudinal trends in mean Test scores for the EME and SME groups across the two assessment points.

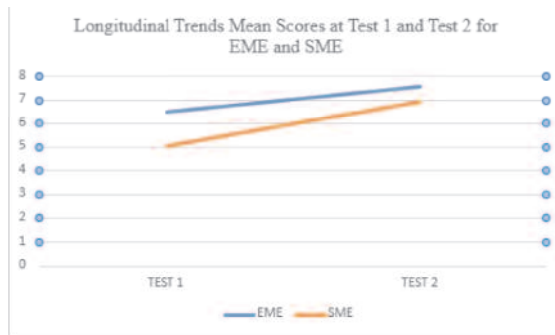


Figure 1. Longitudinal trends mean scores.

As shown in Figure 1, both the EME (blue line) and SME (orange line) groups demonstrated an upward trend in mean writing scores over the two-year period. To statistically assess these changes, a repeated measures ANOVA was conducted. This test assessed the main effect of time (Test 1 vs. Test 2), the main effect of group (EME vs. SME), and their interaction. Table 8 presents the results.

Source of variance	Type III sum of squares	df	Mean square	F	Sig. (p)
Within-subject effects					
Time (Test 1 vs. Test 2)	88.851	1	88.851	172.853	< .001
Time * Group (Test 1 vs. Test 2)	6.990	1	6.990	13.599	< .001
Error	43.178	84	0.514		
Between-subject effects					
Group (EME vs. SME)	43.523	1	43.523	42.307	< .001
Error (Between participants)	86.413	84	1.029		

Note: Sphericity assumed. Mauchly's Test of Sphericity was not violated ($W = 1.000$).
All effects are statistically significant.

Table 8. Repeated measures ANOVA summary: Writing scores by group and time (Test 1 and Test 2).

The results in Table 8 confirmed a reliable increase in writing scores over time for both groups ($F(1,84) = 172.853, p < .001$). The interaction between time and group ($F(1,84) = 13.599, p < .001$) indicated that SME participants made greater gains than EME participants over the two-year period. However, the main effect of group ($F(1,84) = 42.307, p < .001$) showed that EME participants had higher overall writing scores across both assessments. These patterns are consistent with Figure 1, which shows a steeper upward trend for SME students but consistently higher scores for the EME group.

While Table 8 and Figure 1 highlight group-level trends, they do not reflect individual variation. To explore this, individual change scores were calculated and are visualised in Figure 2, which presents the distribution of score changes for both groups.

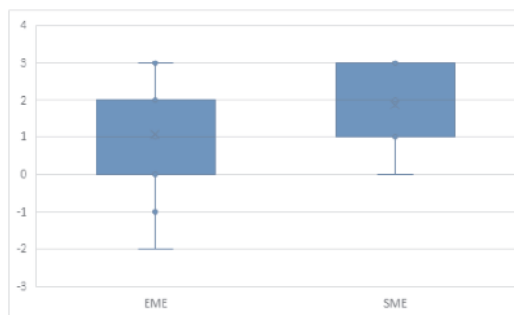


Figure 2. Box plots of individual change score distributions.

In Figure 2, the SME group showed a mean increase of 1.88 points ($SD = 0.84$), indicating relatively consistent improvement. In contrast, the EME group had a smaller average gain of 1.06 points and greater variability (SD

= 1.16), including some negative change scores. These patterns suggest more heterogeneous outcomes within the EME cohort. A detailed breakdown of individual score transitions is provided in Table 9.

Language medium	Score Test 1: Sept 2022	Score Test 2: May 2024	Number of participants per score	Language medium	Score Test 1: Sept 2022	Score Test 2: May 2024	Number of participants per score
EME	8	9	3	SME	7	7	1
EME	8	8	3	SME	6	8	2
EME	7	9	3	SME	6	7	4
EME	7	8	9	SME	5	8	4
EME	7	7	8	SME	5	7	11
EME	7	6	1	SME	5	6	7
EME	7	5	1	SME	4	7	4
EME	6	9	4	SME	3	6	1
EME	6	8	4	Total			34
EME	6	7	8				
EME	6	5	1				
EME	5	8	1				
EME	5	7	3				
EME	5	6	1				
EME	5	5	1				
EME	4	7	1				
Total			52				

Table 9. Individual score transitions in the EME and SME groups from Test 1 to Test 2.

As shown in Table 9, there was a considerable variation in outcomes within the EME group. While some participants demonstrated marked gains (such as four who advanced from Band 6 to 9), a reasonable proportion showed minimal or no change. Interestingly, eight participants who began at Band 7 (CEFR B2) maintained the same score over two years, suggesting that continued development may not always translate to an immediate increase on the IELTS scale. Among those starting at Band 8, scores either remained stable or increased to Band 9 (discussed further in section 5). Moreover, the data indicated instances of score decline with one participant each dropping from Band 7 to 6 and 7 to 5, and 6 to 5.

On the other hand, the SME group demonstrated a more consistent upward trajectory. Participants at lower proficiency starting levels showed substantial improvement: eleven progressed from Band 5 to 7, four from Band 5 to 8, and all four who began at Band 4 reached Band 7. Only one participant

remained at Band 7, and no declines were observed. This reflects a predominantly positive trajectory in the SME group, in contrast to the more variable outcomes seen in the EME cohort.

5. Discussion

This discussion analyses the holistic IELTS writing proficiency scores for participants in the EME and SME programme at the beginning (Test 1) and end (Test 2) of the two-year study period. By examining the development trajectories of both groups, this section will explore the various pedagogical and institutional factors of the different language medium programmes that may have influenced the outcomes.

At the outset of the study (Test 1), as exhibited in Table 2, Section 4.1, the EME participants demonstrated a higher level of writing proficiency compared to their SME counterparts. This initial proficiency gap meant that while EME participants started at a more advanced level, the SME participants, with their lower initial scores, had greater potential for growth. This trend aligns with research on IELTS score progression (Kang et al., 2021), which suggests that learning gains are more pronounced at the beginning stages of language acquisition before reaching a plateau at higher bands (Green, 2005).

The initial disparity in writing proficiency is a key finding that may reflect differences in prior educational experiences. The EME participants' stronger initial proficiency likely reflects their background, which may have been an influencing factor in their choice to enrol in an EME programme. A narrative study on four of the participants (2 EME, 2 SME) in this study revealed that both EME students had experience in their schools studying subjects in English (Lohan, under review), and two of the three participants who had spent at least a year abroad during high school were from the EME cohort, with one from the SME cohort. This aligns with previous research (Dearden et al., 2016; Nguyen, 2023) found that students with better language proficiency and subject-specific terminology often came from private school institutions where some core subjects were taught through English. While this study did not gather detailed data on participants' specific secondary school language instruction, this is a possible contribution within the context of this private business university, where the higher fees could indicate a student body with more exposure to English-medium taught instruction, a relationship future research could explore.

By the end of the two-year study period (Test 2), an examination of the final proficiency scores revealed varied outcomes for both cohorts, as presented in Table 9 (section 4.3). The SME participants demonstrated significant improvement by Test 2. Their scores frequently showed a progression from approximately IELTS Band 5 (a ‘modest user’, with a partial command of the language, although likely to make mistakes) at Test 1 to IELTS Band 7 (a ‘good user’, with an operational command of the language and occasional inaccuracies) at Test 2. While these SME participants exhibited significant improvements, their final proficiency levels did not surpass those of the EME participants but rather appeared to narrow the initial proficiency gaps. Moreover, none of these participants experienced a decline in their holistic writing scores.

The advancements observed by the SME participants’ holistic IELTS writing scores (Table 9) appear to be associated with their explicit language instruction. A situational analysis of the programme context (Lohan & Dafouz, 2024) found that the SME programme’s inclusion of 240 hours of ESP/EAP instruction provided a structured learning environment that facilitated these considerable gains. The instruction included targeted exercises in academic writing, grammar, and vocabulary tailored to their course programme. This aligns with research on the effectiveness of explicit attention to academic genres, register and discourse conventions (Bitchener & Ferris, 2012; Hyland, 2019; Roothoof et al., 2025). Similarly, the finding that dedicated study time, particularly for writing skills, correlates significantly with IELTS writing score gains (Kang et al., 2021) is consistent with the positive outcomes observed in the SME cohort.

Conversely, for the EME group, some participants demonstrated gains, but there was also some stagnation around the band score 7 (C1 CEFR), and in some cases, even a decline in the holistic writing proficiency scores. Specifically, three participants’ scores declined. Minor improvements were observed in high IELTS scores, aligning with established research indicating that significant gains in these bands are less frequent (Green, 2005). This is because high IELTS scorers often reach a plateau where further improvement becomes increasingly difficult as they are already performing at a high level and the incremental gains required to move up a band are harder to achieve (Green, 2005).

The EME programme’s 60 hours of EAP provision offered support; however, this limited timeframe restricted participants’ writing development,

resulting in less focused language acquisition in the content subjects. The observed stagnation at band score 7 (C1, CEFR level) corroborates findings which attribute this to repeated written language practice without sufficient feedback or targeted instruction (Sánchez-Pérez, 2023; Wilkinson, 2013). The lack of explicit feedback on language in these courses is a key contributing factor. This could be related to EME lecturers prioritising subject content, leading them to assess language indirectly through communicative success rather than by providing explicit feedback on linguistic features (Dafouz, 2020; Rodríguez Melchor & Walsh, 2022) and not perceiving themselves as language teachers (Airey, 2012; Doiz et al., 2019). Our study also captured an actual decline in band scores in three EME students, further suggesting a lack of feedback as a potential contributing factor.

A situational analysis of this same university (Lohan & Dafouz, 2024) found inconsistent evaluation criteria. While the course syllabi for Spanish-medium subjects explicitly stated penalties for orthographical errors, the equivalent English-medium courses contained no such mention. This discrepancy could disadvantage EME students' performance in an IELTS Academic Writing Task 2, particularly in the Grammatical Range and Accuracy criterion, which assesses the correct use of grammar and spelling. Another study (Mancho-Barés & Aguilar-Pérez, 2020) found that 80% of content lecturers who identified as disciplinary specialists provided corrective feedback on assignments, even though they stated in interviews that they do not assess language.

Despite the initial higher scores, the lack of significant improvement and even decline in some EME participants' writing scores in this study highlights the potential need for more explicit, consistent, and targeted linguistic feedback in EME content courses to support the ongoing development of academic writing. The potential benefits of earlier EAP intervention, focusing on foundational writing strategies in the first year, could have yielded more significant and measurable improvements over the course of their studies. For instance, substantial improvement in English proficiency language skills over a four-year period was noted among EMI students in Turkey, with particularly significant gains attributed to their compulsory two-semester preparatory English course (Yuksel et al., 2023). Implementing such support from the outset is necessary to address the specific linguistic and rhetorical demands of university-level English-medium education, ensuring students build a robust academic writing foundation.

Overall, the findings emphasise the importance of shared responsibility for academic writing development. This could be achieved through collaboration like team teaching, bringing language experts and content lecturers together (Doiz et al., 2019) or through professional development courses for content lecturers to aid them in providing integrated language support. These efforts, alongside early intervention, consistent corrective feedback, and the provision of extra ESP/EAP courses, appear to be a contributing factor in the English language proficiency of students in EME contexts.

6. Conclusion

This study aimed to contribute to the understanding of how different mediums of language instruction, and varying amounts of explicit EAP training influence the academic writing development of university students in EME and non-EME contexts. Writing in EME is an under-researched area in EME (Breeze & Dafouz, 2017; Sánchez-Pérez, 2023). To address this gap, this comparative study analysed the holistic IELTS writing score development of EME participants (with 60 hours of EAP) and non-EME participants (SME, with 240 hours of explicit language training) over two years using pre- and post-test scores. The key finding was that while the initially higher-scoring EME participants showed limited overall improvement, the SME participants demonstrated substantial gains in their writing proficiency, although they did not surpass the EME group's initial level.

Our analysis suggests a positive impact of explicit and sustained language instruction on writing development, as indicated by the SME group's progress. Conversely, the limited gains in the EME group point to potential shortcomings in their language support, likely due to insufficient EAP, inconsistent linguistic feedback in the content courses (Lohan & Dafouz, 2024), and content lecturers' beliefs in linguistic assessment (Doiz et al., 2019; Lasagabaster, 2018). These findings emphasise the importance of dedicated and potentially earlier intervention, complemented by greater collaboration between content and language specialists (Costa & Mastellotto, 2021; Dafouz & Gray, 2022; Lasagabaster, 2018) as key strategies for enhancing academic writing development across the student body.

While the sample size in this initial investigation was considered significant for its scope into writing development within these specific programmes

over two years, future research with even larger participant numbers would enhance the generalisability of these findings to broader university populations. Another limitation is the lack of participant background data, such as first language or extramural English exposure, which was not collected to ensure anonymity. Additionally, the exclusive focus on holistic scores; however, while this approach was well-suited for a macro-level evaluation of writing development, a more in-depth analysis of the lexical development of these cohorts is addressed in a forthcoming paper.

The study's focus on a single institutional setting is a limitation highlighted in general EME research (Macaro et al., 2018). However, this unique setting also allowed for a strengthened comparison of EME and non-EME writing development, as the same lecturers often taught equivalent content courses in both mediums and the EAP instruction is frequently delivered by the same language specialists across both cohort streams. This consistency in lecturers and language support provision helps to control for instructor variability. This enables a more focused analysis of the instructional medium's impact, though the findings' direct transferability to diverse institutional contexts would necessitate further investigation.

Finally, the study's focus on the first two years presents a limitation, as the longer-term trajectories of writing development, particularly after experiences like study abroad programmes and the conclusion of explicit language training for the SME students, remain to be further explored. Future research should track these cohorts beyond this initial period to provide a more comprehensive understanding. Additionally, investigating the effectiveness of different models of collaboration between content and language specialists and the optimal timing and intensity of EAP interventions for diverse student populations would be valuable in informing pedagogical practices and curriculum design within international higher education contexts.

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Author contributions

Rhona P. Lohan was the principal author and was responsible for Conceptualisation, Methodology, Investigation, Data Curation, and Writing – Original Draft.

Cristina Marín Palacios performed the Formal Analysis (statistical analysis) and contributed to Writing – Review & Editing.

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