

International Journal of Learning, Teaching and Educational Research
Vol. 24, No. 7, pp. 301-318, July 2025
<https://doi.org/10.26803/ijlter.24.7.15>
Received May 16, 2025; Revised Jun 17, 2025; Accepted Jun 20, 2025

Bilingual Instruction Increases Linguistic Challenges in EMI: Evidence from Chinese Graduate Students in South Korea

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Abstract. As English-medium instruction (EMI) becomes increasingly prevalent in Korean higher education, a growing number of Chinese students are required to take EMI courses as part of their academic requirements. This study investigated the linguistic challenges faced by these students and examined how English proficiency, degree level, and medium of instruction influence their experiences. As many as 226 Chinese graduate students from various disciplines were recruited through convenience sampling via a structured questionnaire survey. Quantitative data were analyzed using independent samples t-tests and ANOVA. The results indicated that writing and speaking posed the most significant linguistic challenges, with students struggling with difficulty in academic writing and using technical vocabulary in oral communication. Students with lower English proficiency and those at the master's level reported more linguistic challenges than their counterparts. Additionally, students enrolled in bilingual (English-Korean) EMI courses experienced greater linguistic burden than those in predominantly English-medium classes. These findings highlighted the need for targeted language support, including writing workshops, vocabulary training, and oral practice sessions. Institutions should also clarify EMI language policies to reduce confusion and support equitable access. The study contributes to ongoing discussions about equitable access and effective support for international students in multilingual EMI environments.

Keywords: English-Medium Instruction; International students; Linguistic challenges; English proficiency; Korean higher education

1. Introduction

English Medium Instruction (EMI) has emerged as a significant trend of internationalization in global higher education in the twenty-first century (Aizawa et al., 2023; Galloway et al., 2017).

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EMI typically is defined as the use of English to teach academic subjects in contexts where it is not the majority's first language (Macaro et al., 2018; Zhou & Rose, 2025). However, EMI is not only a language medium, but many Asian governments have also promoted EMI to increase global competitiveness (Lee et al., 2021; Lee, 2024). For instance, over the past decade, the Korean government has expanded EMI programs in universities to cultivate globally competent graduates, enhance faculty collaboration, and attract international students (Chun et al., 2017; Park et al., 2022). As a result, South Korea has recently emerged as an attractive higher education destination for international students. Among them, Chinese students constitute a large proportion of the international student population (Lee, 2017). This trend is influenced by Korean pop culture, affordability, geographical proximity, and accessible degree offering (Murdoch, 2019; Williams, 2023).

While non-academic factors have driven their enrollment, EMI poses language-related challenges for students, particularly in English as a Foreign Language (EFL) context (Aizawa et al., 2023). In South Korea, instructors often provide Korean-language summaries or supplementary materials to help students overcome linguistic barriers and reinforce content comprehension (Kim et al., 2018; Lee, 2024). However, although these bilingual practices may support comprehension for domestic students who speak Korean as their L1, Korean students often rely on their first language to comprehend English material (Kim, 2017; Murdoch, 2019). The bilingual practice's impact on international students has received limited attention, particularly in regard to those from non-English-speaking backgrounds. This raises questions about the inclusiveness and effectiveness of bilingual support in multilingual classrooms.

To address this gap, the present study investigated how the language of instruction affects the EMI linguistic challenges experienced by Chinese students in EMI courses at Korean universities. It also examined the role of student background factors such as gender, language proficiency, degree level, and academic major in shaping these challenges. Specifically, this study addressed the following research questions:

RQ1: What specific linguistic challenges do Chinese graduate students face in EMI courses at Korean universities?

RQ2: To what extent do gender, degree level, and English proficiency level predict differences in Chinese graduate students' linguistic challenges?

RQ3: To what extent do the academic major and medium of instruction predict differences in Chinese graduate students' linguistic challenges?

2. Literature Review

2.1 EMI in South Korea

The English medium instruction (EMI) trend is particularly evident in East Asian universities, where it is promoted as a strategy to enhance global competitiveness (Lee & Lee, 2018). EMI refers to the teaching of academic subjects in English in contexts where English is not the dominant first language (Macaro et al., 2018). In South Korea, EMI has expanded rapidly since it became a university evaluation criterion in 2002 (Jon et al., 2014; Kang, 2012), especially

in science and engineering universities, where they provide between 70% to 100% of their courses in English (Kim et al., 2024). However, Korean universities have been criticized for implementing EMI policies without sufficient support for students and instructors (Kim, 2017). For instance, students with limited English proficiency are still required to take some EMI courses (Lee, 2024).

Moreover, in-service professional development opportunities for EMI instructors remain limited. As a consequence, this training deficit has generated resistance to EMI teaching among some faculty (Bradford et al., 2024; Park et al., 2022). Much of the existing literature has focused on Korean students' EMI experiences (Bolton et al., 2022; Kang & Cho, 2020), but relatively few studies (e.g., Lee et al., 2021) have examined the experiences of international students. With the increasing number of international students, it is necessary to consider whether international students have sufficient English proficiency to cope with the EMI challenge.

2.2 The Importance of English Proficiency in the Higher Education EMI Environment

In higher education settings, English proficiency is generally considered a prerequisite for participation in EMI courses. While many L2 learners continue to struggle with limited English proficiency (Aizawa et al., 2023), there remains some debate about the extent to which English proficiency affects students' success in EMI environments. Language proficiency is typically evaluated using standardized tests such as the Test of English as a Foreign Language (TOEFL) and the International English Language Testing System (IELTS) (Yan & Cheng, 2015). Several studies from various regions have shown that low English proficiency can significantly hinder students' understanding of EMI course content (Al-Wossabi, 2024; Lee, 2024; Simbolon et al., 2025).

Consequently, scholars have emphasized the importance of achieving a certain English proficiency threshold, such as some Western countries require students to achieve proficiency at the C1 of the Common European Framework of Reference for Languages (CEFR) (Lasagabaster, 2022). Although Rose and McKinley (2018) found fewer challenges among Japanese students above IELTS 6.5, it remains unclear whether this threshold applies to learners from different linguistic backgrounds.

In South Korea, the requirements for EMI courses tend to be relatively low compared to Western institutions. For example, some business and engineering programs typically require an IELTS 6.0 or equivalent, while most programs accept a minimum IELTS score of 5.5 (Bolton et al., 2022). Although Korean universities generally have minimum English language requirements, many international students nevertheless still face linguistic challenges. Only a few studies (e.g., Murdoch, 2019) have critically examined whether current admission standards are sufficient to support international students' EMI participation.

2.3 EMI Linguistic Challenges

Linguistic challenges are a key barrier to student success in an EMI setting, directly impacting students' academic achievement and classroom engagement (Evans & Morrison, 2011; Simbolon et al., 2025). These challenges are particularly salient for English as a Foreign Language (EFL) learners who have to acquire subject content through a second language (L2). For instance, unfamiliarity with discipline-specific vocabulary can significantly affect students' understanding (Lee et al., 2020). Many L2 students struggle to fully participate in EMI courses due to linguistic challenges, including difficulties in comprehending lectures, engaging in discussions, and completing academic tasks in English (Aizawa et al., 2023). In Asia, EMI research has expanded to countries like Japan, Turkey and Indonesia, highlighting similar difficulties faced by L2 learners (Kamaşak et al., 2021; Rakhshandehroo, 2017; Simbolon et al., 2025).

Among the four core language skills, speaking and writing are frequently reported as the most challenging areas in EMI courses (Chou, 2018; Sahan & Rose, 2021). Academic writing, in particular, requires both linguistic accuracy and adherence to disciplinary conventions (Akhtar & Saidalvi, 2020; Sang, 2017). Lower proficiency not only limits students' confidence but also their ability to express critical ideas or engage meaningfully in classroom interaction (Li & Pei, 2024). To address these difficulties, institutions have introduced support services and flexible language policies, such as code-switching (Chun et al., 2017; Sahan & Rose, 2021), although the effectiveness of such practices continues to be debated.

2.4 The Multilingual Model in the EMI

The combination of English and the student's L1 in EMI courses is referred to as the multilingual model (Macaro et al., 2018). Students who transition from L1-medium education often face additional challenges, as they must simultaneously adapt to a new language of instruction and engage with increasingly complex academic content (Zhou & Rose, 2025). While "English-only" instruction was once widely preferred in the EMI context (Jinghui, 2023), there has been a growing shift toward integrating the student's L1 to provide instructional support (Sahan & Rose, 2021). The use of L1 can create a more inclusive and supportive learning environment, where EFL learners can confidently engage with English academic materials and classroom interaction (Lee, 2024).

For example, Karakaş (2023) found that the use of L1 helps Turkish students better comprehend complex academic content and reduces their linguistic challenges. Given that most students and instructors typically share Korean as their L1, the integration of Korean and English language instruction has become widespread and is essential for effective EMI classroom communication (Murdoch, 2019). This study fills this research gap by investigating whether the different medium of instruction affects the linguistic challenges experienced by Chinese students in Korean EMI courses.

3. Methodology

3.1 Research Design

To address the proposed research questions, this study adopted a cross-sectional descriptive quantitative research design and employed an online questionnaire to collect data. Group comparisons were conducted using independent samples t-tests and one-way ANOVA based on key demographic variables such as gender, degree level, standardized proficiency test scores, academic major, and medium of instruction. The questionnaire consisted of two parts. The first part included seven demographic items, such as gender, degree level, major, previous EMI experience, English language proficiency (standardized test scores), and primary language used in EMI courses.

The second part contained a 20-item Linguistic Challenge Scale (see Appendix A), slightly adapted from Evans and Morrison (2011) to reflect the linguistic demands of EMI courses. This scale has been widely applied in Asian EMI studies (Cui et al., 2024; Kamaşak et al., 2021). All items were rated on a 6-point Likert scale (1= Strongly Disagree, 6= Strongly Agree). To ensure the clarity and reliability of the instrument, a pilot study with 31 EMI students was conducted. The scale demonstrated excellent internal consistency, with a Cronbach's alpha of 0.963 for the overall measure. Additionally, the four constructs related to linguistic challenges also showed high reliability (writing $\alpha = 0.929$; speaking $\alpha = 0.910$; listening $\alpha = 0.922$; reading $\alpha = 0.906$).

3.2 Participants

The participants of this study were Chinese graduate students enrolled at two national universities in South Korea. According to the 2024 Public Korean Higher Education Report, one of the selected universities has the largest number of international students enrolled in degree programs among all national universities in the country. As many as 832 students from mainland China were enrolled at this institution in 2024. In response to the call for more research across various EMI contexts and disciplines (Yuksel et al., 2023), recent studies have included students from different majors (Curle et al., 2020).

Similarly, this study included Chinese graduate students from various majors. Participants were recruited through convenience sampling via the two universities' social media platforms and WeChat groups targeting Chinese students. Eligible volunteers were required to have taken at least one semester-long EMI course. During the four-week data collection period, 250 students completed the online questionnaire, of which 226 responses were valid for analysis, resulting in a valid response rate of 90.3%. Most participants (92.9%, $n=210$) had no EMI experience before university, while only 16 students (7.1%) reported previous EMI exposure.

3.3 Data Collection

The questionnaire was initially developed in English, and then carefully translated into Chinese using a back-translation method. Two experts proofread the English version, and two doctoral-level researchers in English education reviewed the translation and back-translation process, following methods used in cross-cultural research, to ensure content accuracy and cross-language

consistency (Brislin & Freimanis, 2001). The survey was administered online via the Wenjuanxing, a widely used tool for data collection in China. Ethical considerations were addressed in the questionnaire introduction, and submission of the questionnaire was taken as informed consent.

3.4 Data Analysis

All quantitative data were analyzed using SPSS Statistics 23.0. The data analysis was conducted in several stages. First, descriptive statistics (means, standard deviations, skewness, and kurtosis) were computed to assess overall trends and differences in participants' responses to the linguistic challenge items. Next, item-level and domain-level means were calculated to identify specific areas of difficulty in the four skills: listening, speaking, reading, and writing. To examine group differences, a series of independent sample t-tests were conducted to compare linguistic challenges based on gender, English proficiency level (converted to IELTS equivalents according to Tai and Zhao, 2024), and degree level (master's vs. doctoral students). Cohen's *d* was calculated to determine effect sizes. Two one-way ANOVAs were conducted to assess differences in linguistic challenges across academic majors and across different types of language instruction (all English, English with limited Korean support, and bilingual instruction). Where significant differences emerged, post hoc LSD tests were performed to determine the specific group comparisons.

4. Results

4.1 Language-Related Challenges Faced by Chinese Students

To address the first research question, descriptive statistics were computed for students' linguistic challenges. All items were rated on a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree), with a sample size of $N = 226$. With 3.5 as the midpoint reference (Link et al., 1989; Zhou et al., 2023), item-level means ranged from 3.633 to 3.916, suggesting a consistent trend toward agreement with the presence of linguistic challenges. The overall linguistic challenge mean was 3.86 ($SD = 1.099$), indicating Chinese graduate students generally experienced a moderate level of linguistic challenge in their EMI courses. Standard deviations ranged from 1.211 to 1.526, reflecting moderate variability in responses. The data distribution analysis revealed negative skewness (range: -0.46 to 0.00) and platykurtic kurtosis (range: -0.84 to -0.02) across all items. This indicates that responses were clustered toward the higher end of the scale (e.g., agree or strongly agree).

At the domain level, the most challenging item in the writing domain was "writing papers that meet academic journal standards" ($M = 3.881$). For speaking, the item "using technical terms in spoken English" received the highest score ($M = 3.912$). In reading, students reported the most difficulty with "identifying key ideas in a text" ($M = 3.633$). In the listening domain, students found "taking clear and concise notes while listening" most difficult ($M = 3.916$). As shown in Table 1, writing challenges had the highest mean score ($M = 3.861$, $SD = 1.122$), followed by speaking ($M = 3.853$). These findings are consistent with Galloway et al. (2017), who found that EMI students struggle more with productive skills such as speaking and writing.

Table 1: Descriptive Statistics for Linguistic Challenge (N = 226)

Dimension	Number of Items	M	SD
Writing	5	3.861	1.122
Reading	5	3.782	1.119
Speaking	5	3.853	1.161
Listening	5	3.835	1.259
Overall	20	3.833	1.099

Note: All items were rated on a 6-point Likert scale (1 = Strongly Disagree to 6 = Strongly Agree).

4.2 Group Differences in Linguistic Challenges: Gender, Proficiency, and Degree Level

The sample comprised 226 Chinese graduate students. Three independent samples t-test were conducted to examine whether gender, degree level, and English proficiency level predict students' linguistic challenges. The results indicated that English proficiency and degree level were significant predictors, while gender differences were not statistically significant.

4.2.1 Gender Differences in Linguistic Challenges

The sample consisted of 94 males and 132 females. An independent samples t-test was conducted to examine whether gender predicts students' linguistic challenges. As illustrated in Table 2, there was no significant difference in linguistic challenges between male (M = 3.87, SD = 1.04) and female students (M = 3.81, SD = 1.14), $t(224) = 0.42$, $p = .677$. This finding is consistent with previous studies by Kamaşak et al. (2020) and Gaffas (2025) who also reported that there were no significant gender differences in students' linguistic challenges in the EMI setting. However, other studies in different EMI contexts identified gender-based variation in students' language experiences. For example, a study conducted in Kazakhstan found that male and female students differed in their perceptions of English use, L1 usage, and confidence in speaking and academic tasks (Hajar & Mhamed, 2021).

Table 2: Independent Samples T-test Results by Gender

Variable	Group	N	M (SD)	t(df)	p	Cohen's d	95% CI
Gender	Male	94	3.87 (1.04)	0.42 (224)	.677	0.06	[-0.231, 0.351]
	Female	132	3.81 (1.14)				

4.2.2 Proficiency-Based Differences in Linguistic Challenges

The second independent sample t-test was conducted to examine the effect of standardized test performance on students' linguistic challenges. Participants were asked to report their English standardized test scores (e.g., IELTS, TOEFL) as an objective measure of proficiency level. As shown in Table 3, a conversion framework proposed by Tai and Zhao (2024) was employed to equate Gaokao (Chinese Higher Education Examination) English scores and TOEFL scores to equivalent IELTS scores.

Table 3: Standardized Test Score Conversion Table

IELTS	TOEFL iBT	GaoKao English
IELTS 6	60-78	120-150

Participants were categorized into lower (IELTS <6.0, 71.7%) and higher proficiency (IELTS ≥6.0, 28.3%) groups. The results revealed a statistically significant difference in LC scores between the two groups. As illustrated in Table 4, students with higher proficiency (IELTS ≥6.0) reported lower linguistic challenges (M = 3.21, SD = 1.04) compared to those with lower proficiency (IELTS <6.0; M = 4.08, SD = 1.03), $t(224) = -5.69$, $p < .001$. This result is consistent with Zhou and Rose (2025), who reported that limited English proficiency can substantially hinder students' engagement and performance in EMI contexts. Gaffas (2025) similarly indicates that students with lower levels of English proficiency (IELTS scores) face more linguistic challenges in the EMI environment. The large effect size ($d = 0.83$) exceeds Cohen's (1988) benchmark for a large effect ($d = 0.80$), suggesting language proficiency strongly predicts linguistic challenges.

Table 4: Independent Samples T-test Results by Proficiency Level

Variable	Group	N	M (SD)	t(df)	p	Cohen's d	95% CI
Proficiency Level	IELTS <6.0	162	4.08 (1.03)	-5.69 (224)	<.001	0.83	[-1.164, -0.565]
	IELTS ≥6.0	64	3.21 (1.04)				

4.2.3 Degree-Level Differences in Linguistic Challenges

The sample consisted of a majority of doctoral students (N = 126), with master's students representing 44.2% of the sample (N = 100). To examine the influence of academic degree level on linguistic challenges, an independent samples t-test was conducted. Levene's test indicated homogeneity of variances ($F = 2.205$, $p = .139$), satisfying the assumption for equal variances. The analysis revealed a statistically significant difference in linguistic challenge scores between the two groups. As shown in Table 5, master's students reported higher linguistic challenges (M = 4.01, SD = 1.00) compared to doctoral students (M = 3.69, SD = 1.16), $t(224) = 2.143$, $p = .033$. The mean difference of 0.32 (95% CI: 0.025 to 0.601) corresponded to a small-to-medium effect size ($d = 0.30$), suggesting that degree level may moderately influence linguistic difficulties.

Table 5: Independent Samples T-test Results by Degree Level

Variable	Group	N	M (SD)	t(df)	p	Cohen's d	95% CI
Degree level	Master's	100	4.01 (1.00)	2.14 (224)	.033	0.30	[0.025, 0.601]
	Doctoral	126	3.69 (1.16)				

4.3 Differences in Linguistic Challenges by Academic Major

As shown in Table 6, participants were categorized into four fields based on their majors: Humanities and Social Sciences ($n = 46$, 20.4%), Business and Economics ($n = 76$, 33.6%), Engineering ($n = 56$, 24.8%), and Natural Sciences and Medicine ($n = 48$, 21.2%). Students in Natural Sciences and Medicine reported the highest average linguistic challenge score ($M = 4.11$), followed by Engineering ($M = 3.93$), Business and Economics ($M = 3.77$), and Humanities and Social Sciences ($M = 3.53$). A one-way ANOVA was conducted to examine whether participants' linguistic challenges differ significantly across academic majors.

As shown in Table 7, the results indicated no statistically significant differences among the groups, $F(3, 222) = 2.545$, $p = .057$. These findings contrast with Kamaşak et al. (2020), who found that social science majors experienced greater difficulty in reading and writing compared to engineering majors. However, no such differences were observed in this study. Although the p -value approached the conventional threshold of significance ($p < .05$), it did not reach statistical significance, suggesting that participants from different majors did not experience significantly different levels of linguistic challenges.

Table 6: Descriptive Statistics of Linguistic Challenge Scores by Academic Major

Academic Major	N	M	SD
Humanities & Social Sciences (Literature, languages, education, law, communication, sociology, etc.)	46	3.53	1.18
Business & Economics (Business, accounting, marketing, management, finance, etc.)	76	3.77	1.15
Engineering (Computer science, architecture, design engineering, etc.)	56	3.93	1.09
Natural Sciences & Medicine (Mathematics, physics, biology, chemistry, medicine, etc.)	48	4.11	0.87

Table 7: Differences in Linguistic Challenges across Academic Majors

Source	Sum of Squares	df	Mean Square	F	p
Between Groups	9.039	3	3.013	2.545	.057
Within Groups	262.808	222	1.184		
Total	271.847	225			

4.4 Differences in Linguistic Challenges by Medium of Instruction

Participants were categorized into three groups based on the primary language of instruction in their EMI courses: all-English instruction (14.6%), English instruction with limited Korean assistance (61.9%), and bilingual instruction (approximately 50% English and 50% Korean). As shown in Table 8, students in the bilingual instruction group reported the highest overall linguistic challenge ($M = 4.17$, $SD = 0.95$).

Table 8: Descriptive Statistics of Linguistic Challenge Scores by Medium of Instruction

Medium of Instruction	N	M	SD
All in English instruction	33	3.59	1.34
English instruction with limited Korean assistance	140	3.76	1.07
Bilingual (approx. 50% English & 50% Korean)	53	4.17	0.95

As illustrated in Table 9, a one-way ANOVA revealed a statistically significant difference in linguistic challenges among the three instructional types ($F(2, 223) = 3.65, p = .028$). As shown in Table 10, post hoc LSD tests indicated that students receiving bilingual instruction reported significantly higher levels of language-related challenges compared to those in both the all-English ($p = .017$) and limited Korean assistance ($p = .022$) groups. However, no significant difference was found between the all-English instruction group and the English with limited Korean assistance group ($p > .05$). These results suggest that more language mixing in the teaching and learning process may increase students' linguistic challenges, possibly due to the additional cognitive load associated with switching between the two languages. International students in the EMI program face the additional burden of learning both Korean and English, which may hinder their academic progress (Murdoch, 2019).

Table 9: Results for Linguistic Challenges by Medium of Instruction

Source	SS	df	MS	F	p
Between Groups	8.61	2	4.31	3.65	0.28
Within Groups	263.23	223	1.18		
Total	271.85	225			

Note: SS = Sum of Squares; MS = Mean Square

Table 10: Post Hoc LSD Test Results for Linguistic Challenges by Medium of Instruction

Comparison	Mean Difference	p	Significance
Bilingual vs. All-English	0.58	.017	Significant
Bilingual vs. English with limited Korean aid	0.41	.022	Significant
English with limited Korean aid vs. All-English	0.17	.398	Not Significant

Note: LSD = Least Significant Difference

5. Discussion and Implication

5.1 Productive Skills as the Main Linguistic Challenge in EMI: Writing and Speaking

This study found that the most significant linguistic challenge faced by Chinese students was writing and speaking. This aligns with the findings of Kamaşak et al. (2021), who reported that Turkish students also considered writing to be the most difficult EMI challenge. Chinese students reported "writing papers that meet the standards of academic journals" as the greatest challenge. This difficulty could be attributed to limited training in academic writing conventions and the high demands for clarity, coherence, and accuracy in academic writing.

Previous research highlighted that academic writing poses considerable obstacles for L2 learners due to challenges in connecting ideas and organizing coherent paragraphs (Pun & Jin, 2021; Simbolon et al., 2025). However, academic writing holds particular significance at the graduate level (Akhtar & Saidalvi, 2020; Sang, 2017) as it serves not only academic purposes but also prepares students for professional fields (Bawa & Watson, 2017).

In terms of speaking, students reported difficulty in “effectively using technical vocabulary during verbal communication,” suggesting that Chinese students may struggle to spontaneously incorporate subject-specific vocabulary in classroom discussions or presentations. Chou (2018) similarly emphasized that effective oral communication remains a long-term challenge for many L2 learners in EMI contexts. To address these issues, Li and Pei (2024) recommended incorporating vocabulary building activities into the EMI program to improve students’ language skills and academic performance. Although listening and reading were not perceived as major challenges overall, one listening item, “taking concise and clear notes while listening in the EMI lecture,” was considered challenging. This suggests that while students may not find listening to itself particularly difficult, the act of taking notes is a complex task that involves both receptive and productive skills.

5.2 Group Differences in Linguistic Challenges: Effects of English Proficiency

This result aligns with studies showing the importance of higher English proficiency in EMI contexts (Al-Wossabi, 2024; Gaffas, 2025). In EMI programs without English proficiency requirements, students’ language abilities may vary widely (Jinghui, 2023). Scholars have emphasized that EMI programs should set an entrance threshold (Simbolon et al., 2025), such as a minimum IELTS score of 6.5 in English-speaking countries (Graddol, 2006). However, despite mandatory English education, many L2 learners still lack the proficiency required in EMI programs (Lee, 2024).

In contrast, many Korean universities currently admit international students with IELTS scores of only 5.5. Whether this threshold is sufficient to ensure student’s success, especially given that Chinese students with less than an IELTS 6 level experienced significantly greater language challenges. Certainly, a more inclusive admissions policy may expand access for international students, but it may also place international students with limited English skills at a disadvantage. Therefore, Korean universities should consider their language entry requirements. This may raise their IELTS score to at least 6.0 and provide language support services for students who do not meet this threshold, for instance, language workshops, tutoring services, and language enhancement programs tailored to the specific needs of EMI students (Li & Pei, 2024).

5.3 Group Differences in Linguistic Challenges: Effects of Degree Level

This study also found master’s degree students experienced significantly more linguistic challenges in EMI courses than doctoral students. While direct comparisons across degree levels remain limited in the EMI literature, this finding may reflect differences in academic experience, exposure to English in academic contexts, and familiarity with subject-specific terminology. Similarly,

Hajar and Mhamed (2021) reported that PhD students expressed greater confidence in oral presentations and were more likely to report that their previous academic experience had helped them improve their reading and writing skills. Furthermore, postgraduate students in Sweden reported greater confidence and satisfaction in EMI courses compared to undergraduates (Bolton & Kuteeva, 2012), which may reflect greater academic maturity and better preparedness. In the Korean context, it is common for master's and doctoral students to attend the same classes, particularly in integrated master-doctoral degrees (Jung & Soo, 2019; Lee & Lee, 2021). This structure may pose additional linguistic and academic challenges for master's students, who may feel less prepared to engage with complex content or participate in advanced discussions. In contrast, doctoral students may perceive fewer challenges in EMI settings, potentially due to greater academic maturity.

5.4 Instructional Language Balance in EMI: Challenges of English Korean Use

This study found that Chinese students in EMI courses with approximately equal use of English and Korean reported significantly greater linguistic challenges than those in all-English instruction and English instruction with limited Korean classrooms. This finding may be attributed to the increased cognitive demands of processing two languages simultaneously, especially for some Chinese students who are less proficient in the Korean language. Furthermore, this may be related to the fact that Chinese students often transition directly from a Chinese-mediated education system (Li & Pei, 2024). Students with no previous exposure to EMI struggle to learn effectively in EMI courses (Lee et al., 2021); only a few Chinese students reported prior EMI experience.

Some scholars have argued that Korean can be used effectively in the classroom (Kim et al., 2018). However, the present findings showed that this English Korean bilingual instruction in EMI courses posed the greatest linguistic challenge for Chinese students. Similar results were reported by Lee (2024), who found that increased Korean use led to less English usage among Korean students and increased students' difficulty in comprehension. This finding suggests that while local language support may benefit domestic students, excessive bilingualism may hinder the language development and content understanding of both domestic and international students.

Rakhshandehroo (2017) found that although Iranian students in Japanese EMI courses encountered relatively few challenges with English medium instruction itself, they still required a high level of Japanese proficiency to fully engage in academic seminars. Similarly, this study found that Chinese students in EMI courses that involve both English and Korean reported greater linguistic challenges. These findings are consistent with cognitive load theory (Sweller, 1988), which highlights how unnecessary or excessive processing, such as managing two languages can overload working memory and hinder comprehension. For international students with limited proficiency in both languages, processing dual input may impair comprehension and performance.

This bilingual burden (Lee, 2024; Murdoch, 2019) may therefore impede the educational progress of EMI international students in multilingual settings.

5.5 Implication

The findings of this study can offer several practical implications for both EMI program design and institutional language policy makers. Firstly, EMI courses should provide targeted support to strengthen L2 students' productive skills. For instance, many Korean universities have implemented "study buddy" programs and Korean language courses, which have proven effective in improving international students' academic learning (Murdoch, 2019). Institutions should also consider offering academic writing workshops, oral practice, and subject-specific vocabulary training in English (Lee, 2024; Li & Pei, 2024). These targeted interventions can help international students better cope with EMI linguistic challenges. Secondly, the results highlighted the importance of setting appropriate English language entry requirements. Korean universities should consider raising the language threshold to ensure students can cope with EMI courses.

In addition, universities should provide language support services to help students with insufficient proficiency, such as English preparatory courses (Macaro et al., 2018; Singh, 2019). Consequently, this study points to the complex role of bilingual instruction in the Korean EMI context. Excessive code-switching between English and Korean appears to increase the linguistic challenges in international students, especially those unfamiliar with Korean. Institutional guidelines may be also needed to clearly define the balance between the use of English and Korean in EMI courses with diverse student populations. The use of multiple languages should be clearly communicated in the syllabus. Students need to understand from the start which lectures or parts of lectures will be delivered in English or Korean (Williams; 2023).

6. Conclusion and Limitation

This study investigated the EMI linguistic challenges faced by Chinese graduate students in EMI courses at Korean universities, focusing on the influence of English proficiency, degree level and instructional language balance. The findings revealed that productive skills, particularly academic writing and speaking, posed the most significant challenges for students, aligning with prior EMI research. Chinese students with lower English proficiency and master's students appeared to face more linguistic challenges. Furthermore, students enrolled in bilingual (English and Korean) EMI courses reported greater linguistic difficulties, suggesting that bilingual instruction may create additional challenges when learners are not proficient in the second language. These findings suggest the need for improved language support services, especially those targeting writing and oral presentation skills. In addition, institutions should clarify the EMI language policies to minimize confusion and reduce the switching between English and Korean.

However, this study acknowledges several limitations. The sample was limited to Chinese graduate students in Korean universities, which may restrict the

generalizability of the findings to students from other linguistic and cultural backgrounds. In addition, as the data were collected using a self-reported questionnaire through voluntary participation, there is a potential for sampling bias due to inaccuracies in participants' self-perception (Cui et al., 2024). Future research should address these limitations by including more diverse populations of international students and employing qualitative methods such as in-depth interviews, focus groups, or classroom observations to gain richer insights.

7. References

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Appendix
Appendix A: Linguistic Challenge Scale

Using an appropriate academic writing style is difficult for me.
Proofreading written assignments according to academic conventions is difficult for me.
Integrating ideas from different sources when completing written assignments is difficult for me.
Writing papers that meet academic journal standards is difficult for me.
Expressing my ideas clearly and logically in written form is difficult for me.
Skimming texts to grasp the main idea quickly is difficult for me.
Identifying key ideas in a text is difficult for me.
Identifying supporting ideas and examples while reading is difficult for me.
Understanding technical terms during the reading is difficult for me.
Organizing concise and effective notes after reading is difficult for me.
Actively participating in class discussions is difficult for me.
Expressing my ideas fluently is difficult for me.
Asking and answering questions actively is difficult for me.
Expressing information and ideas effectively in spoken English is difficult for me.
Using technical terms in spoken English is difficult for me.
Understanding lectures and grasping the main ideas is difficult for me.
Understanding lectures delivered in different English accents is difficult for me.
Taking clear and concise notes during lectures is difficult for me.
Distinguishing between different viewpoints and ideas while listening to lectures is difficult for me.
Understanding technical vocabulary while listening is difficult for me. English Medium Instruction