
Practice-Oriented Paper

Impact of EMI on College EFL Learners in Taiwan

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EMI (English as a medium of instruction) is a global trend in higher education including in Taiwan. This study shows the challenges, engagement, and self-perception of students enrolled in EMI courses taught by a native English speaker and a Taiwanese instructor. It emphasizes the influential role of instructors' teaching methods, accents, and cultural backgrounds on students' participation, learning difficulties, and confidence. The findings suggest that both native-English and Taiwanese instructors play a crucial role in EMI courses, with implications for the design and implementation of effective EMI programs in Taiwan.

With the increasing globalization and internationalization, the importance of English is rising. English has become the most widely used language worldwide since a few decades ago. More and more non-native English countries consider English as the most important language. Taking Taiwan as an example, our government has a vision of becoming a bilingual country in 2030. The Taiwanese government plans to promote English Medium Instruction (EMI) in schools nationwide (Ministry of Education, 2022).

The purpose of EMI is to promote relationships between countries, improve global competitiveness, and enhance students' English ability; however, there has been controversy in recent years. For example, not many teachers are able to use English to teach academic subjects. They may have some difficulties with

English speaking or even have some trouble with the teaching materials written in English (Altay, Curle, Soruç, and Yuksel, 2021). In addition, some students are having difficulties comprehending classroom lectures and textbook materials because of their language proficiency level. (Aizawa and Rose, 2020) Because English is not the mother tongue or official language in Taiwan, the authors cannot help wondering: What is the impact of bringing EMI to college EFL learners in particular?

According to the definition provided by Oxford EMI Training, EMI refers to the use of English to teach academic subjects in countries where it is not the dominant language of communication (Dearden, 2015). For EMI courses, the delivery of content, the classroom environment, the assessment of students' outcomes, and learning sources should be in English. Though other languages can be used in a limited way in a specific situation, for instance, student-to-student interactions during the discussions may sometimes use their mother tongue to help their understanding and comprehension, the students need to present their outcome of the discussion in English (Dearden and Spain, 2021).

The purpose of this study is to collect opinions about EMI in two Introduction to Linguistics classes of college EFL learners in Taiwan. One is taught by a native-English instructor; the other is taught by a Taiwanese instructor. The authors would like to know how EMI had been implemented in the classes and overall feelings of the students taking the course, and their preferred learning styles as well as challenges they might experience in the EMI course. Additionally, the authors will find out if EMI helps students' language ability, or reduce their learning motivation, and discuss if there are more advantages or disadvantages for most students. EMI has become popular in Taiwanese universities. Additionally, an increasing number of studies have been done to scrutinize the differences between Taiwanese university students' attitudes and foreign students' attitudes toward EMI courses (Tu, 2012). Two main studies on this topic are summarized below.

First, Tu (2012) conducted a mixed population study to investigate students' attitudes toward EMI courses at Southern Taiwan University of Technology and Science (STUST). It aimed to discuss students' self-evaluation, learning

anxiety, and achievements toward EMI courses. The participants were Taiwanese students and foreign students, most taking EMI courses from engineering and business departments. According to Tu, foreign students have lower levels of learning anxiety, suggesting that they may be more comfortable with EMI courses. However, the results showed that local students have lower levels of learning motivation, which may indicate that they may not see the value or relevance of English in their academic pursuits.

Secondly, Yan (2018) used questionnaires and interviews to analyze students' learning outcomes toward EMI courses at STUST. The purpose was to investigate students' perceptions, difficulties, attainment, and expectations. The participants came from the departments of Applied English as well as International Management in Business and Finance (IMBF). There were some international students in the IMBF. EMI courses were perceived by students as beneficial to improving their English proficiency. However, the students from the Applied English department reported anxiety and challenges due to their English proficiency level. Conversely, the students from the IMBF department did not perceive any challenges or difficulties. The research also revealed that students had high expectations for the university to offer more EMI courses to further enhance their English proficiency.

Several studies have explored the challenges in English-medium instruction (EMI) courses across different countries. Aizawa and Rose (2020) found that Japanese students who learned English in a Japanese-medium environment (JPE) faced greater difficulties in EMI courses, such as slower reading speeds and a smaller vocabulary, compared to those taught in an English-medium environment (EME). In Turkey, Altay et al. (2021) discovered that higher English proficiency scores correlated with fewer challenges in EMI courses for Turkish students studying International Relations, and scores improved after receiving EMI. Galloway and Ruegg (2022) examined EMI lecture support needs in Japan and China, highlighting differences in priorities between domestic and international students regarding lecturers' English proficiency and teaching skills. In Vietnam, Vo et al. (2022) identified issues like varying student English proficiency, limited teaching resources, a lack of EMI workshops, and

student passivity in EMI courses.

Taiwanese universities are implementing EMI courses since 2002 (Tu, 2012) and there is research being done to evaluate the effectiveness and challenges of this approach. In the current study, the authors identify crucial difficulties that students encounter in EMI courses in order to address them and improve the learning experience. The suggestions that come out of this research can help guide future EMI course development and ensure that the needs of students are being met.

The research questions to be answered in this study include:

1. How is the students' engagement in EMI content courses?
2. What challenges have the students encountered (i.e., style differences, preferences, and difficulties)?
3. How have the students perceived their language fluency changes?

Methods

In a public university of science and technology in southern Taiwan, the undergraduate program in the English department offers a required linguistics course where all students are taught in English. The participants in this study were invited to participate voluntarily in three questionnaires. They were taking a required course, Introduction to Linguistics, conducted with EMI. All the students are Taiwanese majoring in English, learning English as the target language. There were 62 students who participated in this study. The participants in this study were divided into two groups since they had separate instructors. The class taught by Taiwanese professor is Group A ($n = 29$), the other class taught by the native instructor is Group B ($n = 33$).

The three survey instruments for data collection are bilingual versions: 1) Learning engagement scale for college students, 2) challenges in EMI courses (style differences, preferences, and difficulties), and 3) perception of students' language fluency changes. To determine these differences, an independent samples t-test was used to compare the mean scores of Group A and Group B for each item.

The learning engagement scale for college students (LESCS) questionnaire

(Lin and Huang, 2012) aimed to investigate students' engagement levels. The first section of this questionnaire asked for the participants' highest English proficiency score. The rest can be divided into five sections: skills (question items 1–4), sentiments (question items 5–9), behaviors (question items 10–13), attitudes (question items 14–17), and interactions (question items 18–20). The skills section aims to evaluate whether students can use strategies to memorize the main points and content in the class. The sentiments section focuses on investigating the interaction between teachers, students, and schools. The behaviors section aims to evaluate students' attendance rate and concentration in classes. The attitudes section aims to evaluate students' engagement and devotion toward the class. The interactions section focuses on evaluating the interplay between peers and teachers in the class.

The second questionnaire—challenges in EMI courses—was adapted from Chiu (2019). It can be divided into three sections: student's preference for different aspects of EMI courses (question items 1–6), changes of learning style (question items 7–15), and difficulties in EMI courses (question items 16–20). The changes of learning style section focuses on students' reflection on how their learning style has changed since starting EMI lectures. The difficulties section looks at the challenges students might face in EMI courses.

The third questionnaire looks into whether students perceive changes in language fluency changes before and after EMI (Aizawa and Rose, 2020). It asks students to reflect on their language proficiency in various areas such as speaking, listening, reading, and writing before and after taking the EMI course. This questionnaire can be divided into four sections: English listening ability (question items 1–4), English speaking ability (question items 5–9), English reading ability (question items 10–14), and English writing ability (question items 15–20).

The first questionnaire was delivered before midterm week. At the appropriate time, the authors explained the purpose of the research and emphasized the importance of filling out the first questionnaire. After midterm week, the second and the third questionnaires were delivered.

Results

The data is summarized below along with the average scores (M /Mean) and standard deviation score (SD).

Student's Engagement in EMI Content Course

Participants were asked to rate various aspects related to their experience in the EMI course (Table 1). It is observed that in the behaviors section, including items 10-13, participants from Group B gave higher scores on three questions compared to Group A. For example, in item 10 ("I hardly skip class"), the mean score from Group B is 4.30, higher than Group A's mean score of 4.00. Similarly, in item 12 ("Unless I am ill, I go to school"), Group B's mean score is 4.24, compared to Group A's mean score of 4.00. This suggests that students in Group B, who were taught by a native instructor, had a lower tendency to skip classes and demonstrated a more positive attitude towards the EMI course.

In interaction sections (items 18-20), Group B rated higher than that of Group A. For example, in item 18, "I actively raise questions during class.", ($M=2.70$), item 19, "I am eager to express my perspectives in course discussion.", ($M=3.06$), and item 20, ". During class, I enjoy putting questions to the teacher.", ($M=3.30$). These questions suggest that these students might have enjoyed the interactions with the native-speaker instructor. The higher scores in question 18, 19, and 20 indicate that the students in Group B, who were taught by the native-speaker instructor, actively raised questions, expressed their perspectives, and enjoyed interacting with the teacher during class.

In sum, the survey in engagement indicates that behaviors and interactions show evident differences in Group A and B. The native-speaker instructor was found to have a more encouraging impact for the EMI course.

Student Willingness to Engage with EMI

As shown in Table 2, there are differences between the preferences and experiences of students taught by the Taiwanese instructor (Group A) and those taught by the native-speaker instructor (Group B). Group A exhibited a stronger preference for certain aspects of EMI courses compared to Group B. For instance, Group A scored higher on question 1, "I enjoy EMI" ($M = 3.75$), and on question 6, "I

Table 1

Descriptive Statistics of Students' Engagement from Groups A and B.

No.	Description	Group A ($n = 29$)		Group B ($n = 33$)	
		The Nationality of the Instructor		Native	
		Taiwanese	Mean	SD	Mean
SKILLS					
1.	I will take notes to memorize the major points of each class.	4.10	0.79	3.67	0.88
2.	I will apply what I learned to my assignments.	4.23	0.88	4.15	0.70
3.	I can identify the major points of class materials.	3.90	0.79	4.00	0.65
4.	I will use all means to comprehend class lectures.	3.97	0.75	3.94	0.74
SENTIMENTS					
5.	The university is one of my favorite places.	2.97	0.87	2.97	0.87
6.	I get along well with my classmates.	4.27	0.85	4.24	0.92
7.	I am proud to be at my university.	3.67	0.94	3.39	0.95
8.	The relationships between me and teachers are positive.	3.67	0.91	3.76	1.02
9.	Teachers show respect to me.	4.23	0.67	4.27	0.71
BEHAVIORS					
10.	I hardly skip class.	4.00	0.86	4.30	0.83
11.	I am seldom late for class.	3.83	0.78	3.94	1.13
12.	Unless I am ill, I go to school.	4.00	0.89	4.24	0.95
13.	I seldom fall asleep during class.	3.77	0.92	3.45	1.18
ATTITUDES					
14.	I preview every new unit before the class.	2.63	1.05	2.48	1.08
15.	I review at the end of each unit.	2.67	0.94	2.79	0.98
16.	When I'm in class, I pay complete attention to the teachers' lecture.	3.77	0.72	3.36	0.85
17.	If the lectures/class materials are boring, I will try my best to learn.	3.33	0.83	3.42	0.85
INTERACTIONS					
18.	I actively raise questions during class.	2.57	1.17	2.70	1.06
19.	I am eager to express my perspectives in course discussion.	2.87	1.26	3.06	1.07
20.	During class, I enjoy putting questions to the teacher	3.17	1.32	3.30	1.11

Table 2

Descriptive Statistics of Students' Challenges from Groups A and B

No.	Description	Group A (n = 29)		Group B (n = 33)	
		The Nationality of the Instructor		Native	
		Taiwanese		Mean	SD
		Mean	SD	Mean	SD
1.	I enjoy EMI.	3.75	0.83	3.39	1.11
2.	EMI helps heat up classroom atmosphere.	3.13	0.78	3.22	0.85
3.	EMI allows me to discuss with classmates more often.	3.38	0.99	3.61	0.95
4.	EMI helps me interact with my teachers.	3.75	1.20	3.33	0.75
5.	I think EMI material is appropriate in terms of difficulty.	3.38	0.99	3.17	0.83
6.	I am willing to use EMI in the future.	3.75	0.97	3.28	1.15
7.	EMI helps me gain confidence in using English.	3.50	1.00	3.50	0.96
8.	EMI helps me gain deeper understanding in course.	3.13	0.78	2.89	1.05
9.	EMI helps me want to discuss with classmates in English actively.	3.13	1.05	3.33	0.88
10.	EMI helps me use English in daily life.	3.25	0.97	2.83	0.96
11.	EMI helps me gain higher scores in English Proficiency Tests (TOEIC, IETLS, TOEFL, etc.).	3.75	0.66	3.89	0.81
12.	EMI helps me develop the habits of preview before class and review after class.	2.25	0.83	2.78	1.03
13.	EMI helps me enhance my listening comprehension.	4.38	0.48	3.89	0.66
14.	EMI helps me communicate with English native speakers more naturally.	3.63	1.22	3.61	0.89
15.	EMI helps me realize my level of English.	4.50	0.50	4.11	0.74
16.	EMI helps me want to enhance my English.	4.13	0.60	4.00	0.67
17.	EMIL helps me set clear goals for my English studying.	3.75	0.97	3.67	1.05
18.	EMI activities help me stay focus in the class	4.00	0.50	3.72	0.65
19.	EMI helps me learn more about the situation of my study.	2.63	0.70	2.94	0.78
20.	I encountered many difficulties in EMI.	3.56	1.11	3.63	1.12

am willing to use EMI in the future” ($M = 3.75$). The result shows that students are taught by the Taiwanese instructor have more favorable attitude and greater willingness to use EMI in the future.

The Impact of EMI on Students’ English Ability

To better understand the effect of EMI courses on English proficiency, the mean scores for each question were calculated and compared. The students taught by the Taiwanese instructor (Group A) believed that EMI helps improve their English ability and boosts their confidence in using English. For example, in response to question 10, “EMI helps me use English in daily life,” Group A had a mean score of 3.25. Similarly, for question 13, “EMI helps me enhance my listening comprehension,” the mean score was 4.38. These results suggest that students taught by the Taiwanese instructor perceive EMI courses as beneficial for both practical English use and listening comprehension skills.

The Challenges Students Encounter in EMI Content

To better understand the students’ difficulties, the mean scores for each question were calculated and compared. Students taught by the native instructor experienced more challenges in the EMI class. For instance, in response to question 3, “EMI allows me to discuss with classmates more often,” the mean score was 3.61, while for question 20, “I encountered many difficulties in EMI,” the mean score was 3.63. These results indicate that students taught by the native instructor

face greater difficulties in EMI courses, reflecting challenges in engaging in discussions and managing course demands.

Students’ Perception of English Fluency Changes

Students from Group A perceived their English proficiency to be higher in listening, reading, and writing skills compared to students from Group B. Conversely, students from Group B perceived their speaking skills to be superior compared to those of Group A.

Listening ability. To measure changes in students’ English listening skill after receiving EMI courses, the mean scores for each question were calculated and compared. Students taught by the Taiwanese instructor (Group A) had

higher scores compared to those taught by the native instructor (Group B). For example, in response to question 1, "I'm able to understand the speaker with an unfamiliar accent," Group A had a mean score of 3.57; for question 2, "When I watch videos, movies, series, or TV shows, I'm able to understand the main idea without English subtitles," the mean score was 3.43; and for question 3, "I'm able to understand the listening text when the speaker speaks fast," the mean score was 3.29. These results suggest that Group A experienced significant improvements in their English listening ability as a result of the EMI courses.

Reading ability. To measure changes in students' English reading skill after receiving EMI courses, the mean scores for each question were calculated and compared. Students taught by the Taiwanese instructor (Group A) had higher scores compared to those taught by the native instructor (Group B). For example, in response to question 11, "I'm able to get the information from the long passage," ($M=4.00$), and for question 13, "When doing reading test, I am able to quickly find the paragraph where answers located in accordance to the questions," ($M=3.71$). These results suggest that Group A experienced significant improvements in their English reading ability as a result of the EMI courses.

Writing ability. To measure changes in students' English writing skill after receiving EMI courses, the mean scores for each question were calculated and compared. Students taught by the Taiwanese instructor (Group A) had higher scores compared to those taught by the native instructor (Group B). For example, in response to question 17, "I'm able to write various sentences to express my opinion," ($M=3.86$), and for question 18, "I am able to stick to the topic while writing," ($M=4.00$). These results suggest that Group A experienced significant improvements in their English writing ability as a result of the EMI courses.

Speaking skill. To measure changes in students' English speaking skill after receiving EMI courses, the mean scores for each question were calculated and compared. Students taught by the native instructor (Group B) had higher scores compared to those taught by the Taiwanese instructor (Group A). For example, in response to question 5, "I'm able to speak English without the long pause," ($M=2.94$), and for question 6, "I am able to share my opinions on a topic in English," ($M=3.53$). These results suggest that Group B experienced significant

Table 3 (this table is not referred to anywhere in the text)

Students' Perception of English Fluency Changes (Groups A and B)

No.	Description The Nationality of the Instructor	Group A (<i>n</i> = 29)		Group B (<i>n</i> = 33)	
		Taiwanese Mean	SD	Native Mean	SD
1.	I'm able to understand the speaker with the unfamiliar accent.	3.57	0.90	3.00	1.17
2.	When I watch videos, movies, series, or TV shows, I'm able to understand the main idea of them without English subtitles.	3.43	0.49	3.24	1.08
3.	I'm able to understand the listening text when the speaker speaks fast.	3.29	0.70	2.71	0.96
4.	When I hear a new word, I can remember the pronunciation and find the word.	2.86	0.99	3.47	1.04
5.	I'm able to speak English without the long pause.	2.71	0.70	2.94	1.03
6.	I am able to share my opinions on a topic in English.	3.43	1.05	3.53	1.11
7.	While speaking, even though I don't understand the speaker, I would still speculate the points and ask again.	3.86	0.99	3.82	1.06
8.	Talking to my teachers in English makes me feel confident and comfortable.	3.14	0.99	3.12	1.13
9.	I'm able to use the proper words when I speak English.	3.24	0.90	3.43	1.08
10.	While reading, I'm able to find out the main point from the text quickly.	3.43	0.90	3.41	1.13
11.	I'm able to get the information from the long passage.	4.00	0.76	3.59	1.11
12.	I read additional materials (books, novels, articles, news, etc. written in English) out of class.	3.14	1.12	3.06	1.20
13.	When doing reading test, I am able to quickly find the paragraph where answers located in accordance to the questions.	3.71	0.90	3.40	1.26
14.	Although I don't understand all vocabulary in a passage, I'm able to comprehend the passage.	3.57	1.05	3.76	1.07
15.	Although I don't understand all vocabulary in a passage, I'm able to comprehend the passage.	3.00	0.93	2.88	1.04
16.	While writing, I'm able to use the appropriate words or vocabulary.	3.57	1.18	3.18	1.20
17.	I'm able to write various sentences to express my opinion.	3.86	0.99	3.47	1.19
18.	I am able to stick to the topic while writing.	4.00	0.93	3.41	1.23
19.	I am able to finish a writing within reasonable time and word limit.	3.57	0.73	3.24	1.18
20.	I am able to use follow proper grammar rules while writing.	3.29	1.03	2.94	1.13

improvements in their English writing ability as a result of the EMI courses.

It is important to note that perception might not necessarily be equivalent to their actual language skills. Perception could be influenced by various factors, including confidence levels, cultural background, and exposure to different English accents. (Yan, 2018). Therefore, the higher perception of English proficiency in Group A does not necessarily mean that their actual language abilities are superior to those of Group B.

Discussion

The findings from three questionnaires suggest that native instructors create a more supportive environment in EMI courses, with their students showing greater levels of engagement. According to the first questionnaire, students perceive EMI as improving the quality of interactions between themselves and the instructor. Nevertheless, participants reported encountering some difficulties in EMI courses and frequently engaged in active discussions with peers when questions arose. Additionally, EMI contributes to enhancing participants' English fluency. Students taught by native instructors showed improvement in their English speaking skill, while those taught by Taiwanese instructors experienced gains in listening, writing, and reading skills.

Conclusion

The findings of this research revealed the positive effects of both Taiwanese and native English-speaking instructors in the context of teaching EMI courses. Students participating in the EMI course led by a Taiwanese instructor exhibited heightened enthusiasm for engaging with the course content. Furthermore, they reported a heightened sense of comfort in this setting, primarily because the Taiwanese instructor demonstrated a better grasp of selecting appropriate teaching materials and crafting class activities that were customized to meet the students' English proficiency levels. On the other hand, EMI courses taught by native English-speaking instructors were notably successful in bolstering students' learning behaviors and fostering increased interaction between teachers and students. It was evident that both groups of students indicated that EMI

had a significant impact on their improvement in listening comprehension, willingness to communicate in English, and their capacity to maintain focus and concentration during class.

In conclusion, the study highlights the importance of this educational shift in the broader context of the Taiwanese government's bilingualism initiative and presents valuable insights into the preferences and experiences of college English majors in Taiwan. These findings are instrumental in guiding the ongoing development and implementation of EMI programs in higher education in Taiwan and beyond.

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Received: October 31, 2023

Accepted: November 23, 2024