International Journal of
Organizational Innovation

TAIWANESE COLLEGE STUDENTS' ATTITUDES AND PERCEPTIONS TOWARDS EMI COURSES

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Abstract

With the ongoing trend of globalization, Taiwan's push for bilingual policies has in-
creased the demand for English, prompting university professors to seek effective
teaching methods. This study investigates Taiwanese university students' views on
and the effectiveness of English as a Medium of Instruction (EMI) courses. It focuses

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on two aspects: (1) the main challenges students face in EMI programs and how institutions support their language and academic needs; (2) the extent to which EMI courses enhance students' English proficiency. The study involved 201 students, including 123 English majors and 78 non-English majors. Data were collected through an online questionnaire and analyzed using SPSS software. Results show that most students highly rate the learning outcomes of EMI courses, believing they significantly improve English listening and speaking skills. Compared to English courses taught in Chinese, fully English-taught courses have a more pronounced effect on non-native speakers. However, many non-English majors find these courses challenging and believe there is room for curriculum improvement. In conclusion, EMI courses should be widely implemented in language learning and continuously refined to enhance student motivation and effectiveness. Regular updates to teaching methods are essential to meet diverse student needs, promoting overall progress in the learning environment.

Keywords: English as a foreign language, EMI (English as a Medium of Instruction), self-efficacy, student learning outcomes.

Introduction

In recent years, there has been a notable surge in the importance of learning English, spurred on by the Taiwanese government's initiation of a bilingual policy. This policy underscores the significance of Taiwan's bilingual education system, with the goal of bolstering students' English proficiency through tailored learning programs (Chen et al., 2020). The ultimate aim is to nurture individuals with both international competitiveness and professional prowess, equipped with bilingual capabilities. Within the higher education landscape of universities and colleges, subjects spanning humanities, education, and select general education courses are frequently conducted entirely in English, reflecting the implementation of bilingual education. One pivotal strategy driving this educational evolution is English as a Medium of Instruction (EMI), which is shaping teaching methodologies, classroom dynamics, and curriculum frameworks.

Underpinning the national bilingual policy's momentum, EMI has ushered in a new era of pedagogical trends within higher education. It encompasses not

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only the dynamics within classrooms but also extends to institutional reforms and transitions, encompassing teaching environments, educational technologies, and pedagogical innovations. At Taiwan Normal University, for instance, the establishment of an EMI Teacher Professional Development Community underscores the commitment to enhancing pedagogical practices and exploring innovative teaching theories. This emphasis on professional development underscores the pivotal role that teacher training plays in the efficacy and outcomes of EMI instruction. Despite these concerted efforts, research by Phuong et al., (2019) indicates a spectrum of student perceptions regarding EMI, ranging from comprehensive understanding to utter confusion. This variance is posited to be linked to students' diverse backgrounds, suggesting that prevailing EMI teaching environments, such as those within foreign language departments or early childhood education programs, may not fully align with the needs of students across various disciplines.

Addressing the evolving landscape of EMI instruction necessitates a multifaceted approach. It extends beyond curriculum design and pedagogical training to encompass students' self-regulated learning and self-efficacy. Cultural nuances and linguistic barriers further compound the challenges faced by students engaging in EMI courses, potentially hindering their comprehension and cultural integration (AI Zumor, 2019).

Therefore, this study delves into the effects of comprehensive English instruction on university students, with the goal of pinpointing areas for enhancement within current EMI settings. By illuminating these deficiencies, the study seeks to lay the groundwork for a language learning ecosystem that is more inclusive, captivating, and efficient.

This study examines the learning outcomes of Taiwanese university students enrolled in EMI (English as a Medium of Instruction) courses. Participants are drawn from various departments at the National University of Tainan and the National University of Pingtung. The research investigates challenges faced by learners in EMI courses, their satisfaction levels, and the relationship between self-efficacy and academic achievement. It also delves into the influence of instructors and cultural conflicts on students' EMI learning experiences, while comparing outcomes between English majors and non-English majors.

Literature Review

Definitions of Terms

EMI (English as a Medium of Instruction): Refers to courses in educational institutions where English, not the primary language, is used for instruction, encompassing content delivery, interaction, materials, support, and assessment. (Ministry of Education, 2021)

EAP (English for Academic Purposes): Aims to improve language skills, particularly in academic contexts like writing and integrated learning skills. In contrast, ESP targets specific academic fields and professional requirements of learners.

Students' Satisfaction With EMI Courses

According to the Taiwan Education Review Monthly, students' perceptions of the outcomes of EMI teaching were highlighted in a survey conducted by the Oxford University EMI Center across 55 countries worldwide. The survey found that the two most important attributes of EMI teachers are the "ability to explain complex concepts" and the "ability to create interactive environments" (Morell, 2020). However, the traditional classroom setting in Taiwan tends to be teacher-centered, particularly in specific academic subjects. In situations where students lack prior knowledge, coupled with their tendency to be silent and less proactive in asking questions during class, they often serve as knowledge receivers, placing greater emphasis on receptive skills such as listening and reading, while neglecting productive skills like speaking and writing. Nevertheless, one of the distinctive features of EMI teaching is student-centered group discussions (Ministry of Education, 2022). Teachers of specialized subjects must adapt their teaching methods accordingly. Additionally, adopting EMI requires enhancing English expression skills and refining EMI teaching strategies (Rifiyanti, 2023), which necessitates spending more time on lesson planning and activity design, especially when addressing complex and challenging topics. Furthermore, some teachers of specialized subjects believe that time should be dedicated to teaching the subject matter rather than teaching English to students. Consequently, when faced with students who struggle to comprehend or discuss the subject matter in English, maintaining a certain level of English usage may lead to frustration for both teachers and students. Another issue that requires consideration is the selection of textbooks. Many studies have pointed out the challenges faced by EMI teachers and students, emphasizing the

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importance of appropriate textbook selection alongside considerations of teachers' and students' English proficiency and student-centered interaction (Lai, 2022). Opting for English-medium instruction while using textbooks written in Chinese may result in a mismatch between the curriculum, teaching materials, and instruction, potentially leading to a mere translation of the course content.

Students' Self-Efficacy

Students' self-efficacy in learning refers to the confidence and ability students have to successfully complete tasks in specific learning domains. According to Zhao et al. (1977), self-efficacy is the belief individuals have in their ability to effectively accomplish specific tasks, which can influence their motivation, effort, and academic achievement. For instance, Ruegg (2010) noted that students' confidence in their writing ability can affect their motivation and academic achievement. In summary, self-efficacy has a strong correlation with students' learning outcomes. Anastasiou et al., (2013) emphasized the significance of self-efficacy in influencing individual learning and behavior. Currently, there is relatively limited research on students' self-efficacy in

English-Medium Instruction (EMI) settings.

Ozdemir et al., (2023) suggested that students may enhance their self-efficacy perceptions in environments where English is used as the medium of instruction, but this depends on other factors. Tompson (2021) proposed that students could potentially bolster their self-efficacy perceptions within English-medium instructional settings, contingent upon various additional influences. Liu et al. (2008) analyzed the impact of communication unwillingness and foreign language anxiety on students' self-efficacy in learning English in China. Their study revealed a negative correlation between students' levels of foreign language anxiety and communication unwillingness with their self-efficacy levels. Fan (2022) utilized a dynamic systems approach to investigate the development of willingness to communicate and emphasized the impact of students' self-efficacy on willingness to communicate. Peng et al. (2010) developed a model of willingness to communicate in Chinese EFL classrooms and examined the impact of students' self-efficacy on their willingness to communicate. They discovered a strong correlation between students' self-efficacy and their willingness to communicate. Wang et al. (2010) reviewed the

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expectancy-value theory of achievement motivation and examined how students' expectations of the value of learning activities affect their self-efficacy.

These studies provide insights into the role of self-efficacy in student learning, especially in English as a Medium of Instruction (EMI) contexts and emphasize the significance of taking into account students' confidence and beliefs in their ability to succeed in such environments. The current study attempted to seek answers for the following research questions:

1. What are the key challenges faced by students in EMI programs, and how can institutions provide effective support for their language and academic needs?
2. What is the specific extent to which EMI courses enhance the English language proficiency of Taiwanese university students?

Methodology

This study delves into the obstacles encountered by Taiwanese college students when learning English through EMI, their satisfaction with EMI courses, the impact of self-efficacy on EMI outcomes, and the specific language skills they acquire.

Using a quantitative approach, the study surveys 201 Taiwanese university students. This chapter provides an overview of the study's design, covering participant recruitment, data collection procedures, research instruments, and data analysis techniques.

Participants

Participants in this study were 212 college students ranging from freshmen to seniors at two universities in southern Taiwan. Among them, 78 out of the 212 students are non-English majors who are taking general English courses. The other 123 students are from the Department of English and the Department of Applied English Regarding the course arrangement, non-English department students attend a general English class once a week, which lasts for two to three hours; students in the English department and Applied English department have more than half of their weekly classes conducted in English.

Instruments

This study utilized a 5-point Likert scale, ranging from "strongly agree" (5 points) to "strongly disagree" (1 point). The questionnaire consisted of three sections with a total of 45 items, aimed at

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investigating college students' perceptions of EMI learning outcomes. The questionnaire was customized based on individual needs. The first section comprised 15 items, assessing students' opinions and satisfaction with EMI courses. The second section aimed to explore challenges encountered by students in EMI courses, consisting of 15 items. The third section was designed to examine the correlation between students' self-efficacy and learning outcomes. Additionally, all three questionnaires were administered at the end of the second semester.

The first section consists of 15 items assessing students' perceptions of and satisfaction with EMI courses.

The second section aims to explore the challenges students encounter in EMI courses, comprising 15 items.

The third section examines the relationship between students' self-efficacy and learning outcomes.

Procedures

Data was collected from 201 voluntary participants, primarily from the Department of Chinese Music and Musicology at National Tainan University of the Arts, and the Department of English and Applied English at National Pingtung

University, spanning grades one to four. A questionnaire, targeting students with EMI teaching experience, was distributed after obtaining permission from professors. The questionnaire was uploaded to social media platforms with an introduction to the study's purpose and clarification of the term EMI. After two weeks, completed questionnaires were collected, and missing items were reviewed. All data collection procedures are outlined in tables.

Data Analysis

Following data collection, the researcher analyzed the gathered data using SPSS. Descriptive statistics were employed to identify the top five items with the highest mean values, reflecting students' perspectives on EMI learning. These items shed light on students' learning experiences, satisfaction levels, and challenges encountered in EMI courses. Additionally, the analysis investigated the correlation between students' self-efficacy and learning outcomes in EMI classrooms, utilizing the Student Perceptions of Self-Efficacy Questionnaire to gauge student attitudes.

Results

This chapter primarily outlines the findings from the questionnaire and test

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outcomes, organized according to the research questions. Initially, students' views and satisfaction levels regarding the EMI learning experience are presented. Subsequently, a comparison is drawn between the perspectives of English major students and non-English major students on EMI courses. Following this, the discussion delves into students' understanding of, advantages, and disadvantages associated with EMI courses. Finally, the test results are scrutinized to evaluate the learning outcomes.

Research question one: What are the key challenges faced by students in EMI programs, and how can institutions provide effective support for their language and academic needs?

1. English proficiency presents a challenging aspect in EMI courses.

Before delving into the primary challenges Taiwanese university students encounter in EMI courses, let's first discuss the most and least challenging aspects of English proficiency for these students in EMI courses overall. The following discussion will address the most challenging and least challenging aspects of English proficiency for Taiwanese university students in EMI courses. Data will be presented using descriptive statistics to outline the specific challenges students encounter in learning English through EMI courses. In the "Challenges" section, the most distinctive English challenges with the highest mean values were found in: Q4: I find speaking English most challenging (M=4.87), Q2: Sometimes I don't understand during EMI courses (M=4.73), and Q3: I feel there are too few opportunities for communication in EMI courses (M=4.64) (See Table 1). As for the least challenging aspects, they appeared in: Q4: I can think critically about EMI courses (M=3.75), Q6: I can adapt to cultural differences (M=4.07), and Q7: Cultural conflicts have not affected me (M=4.11).

2. The institution provides effective resources to support students.

Furthermore, how institutions provide effective resources for students. The results show that the highest mean values come from item Q13: EMI courses provide opportunities for peer assistance and group discussions (M=4.67), Q10: EMI courses offer students rich academic resources (M=4.59), and Q14: EMI courses provide more opportunities for students to communicate with teachers (M=4.57) (Refer to Table 2.)

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Table 1. The primary challenges faced by Taiwanese university students in EMI courses (N=212)

Question	Item	Mean	Rank	Cronbach's α
Q4	I find speaking English most challenging	4.87	1	0.91
Q2	Sometimes I don't understand during EMI courses	4.73	2	0.85
Q3	I feel there are too few opportunities for communication in EMI courses	4.64	3	0.83

The bottom three items are Q12: EMI courses do not offer adequate teacher resources (M=4.06), Q11: EMI courses lack sufficient equipment resources for students (M=4.07), and Q15:

Table 2. Effective assistance provided by institutions to Taiwanese university students in EMI courses. (N=212)

Question	Item	Mean	Rank	Cronbach's α
Q13	EMI courses provide opportunities for peer assistance and group discussions	4.67	1	0.82
Q10	EMI courses offer students rich academic resources	4.59	2	0.81
Q14	EMI courses provide more opportunities for students to communicate with teachers	4.57	3	0.76

*Table 3. The primary challenges faced by Taiwanese university students in EMI courses (*N=212)

Question	Item	Mean	Rank	Cronbach's α
Q3	I think the EMI course is helpful for learning English listening	4.73	1	0.86
Q8	I learned how to interact with classmates in the EMI course	4.64	2	0.91
Q6	I have received rich learning resources in the EMI course	4.64	3	0.84

Institutions fail to promptly resolve equipment issues (M=4.09)

3. English-medium instruction courses enhance students' language proficiency.

Research question two: What is the specific extent to which Enhancement of English Language Proficiency Through EMI Courses of Taiwanese university students? Before discussing the improved abilities of Taiwanese college students in EMI courses, we first discuss what these students learn the most and the least about in EMI courses. The following discussion will discuss where Taiwanese college students learn the most and least about their English proficiency in EMI courses. Data will be presented below using descriptive statistics to provide an overview of the specific challenges students encounter when learning English through EMI courses.

In the "most" part, the places with the highest averages appear in: Q3: I think the EMI course is helpful for learning English listening (M=4.73), Q8: I learned how to interact with classmates in the EMI course (M=4.64), Q6: I have received rich learning resources in the EMI course (M=4.64) (Table 3). As for the least learned aspects, they appear in: Q2: I learned how to use English conversation in the EMI course (M=3.75), Q10: I learned about cultural differences in the EMI course (M=4.07), Q13: I learned in the EMI course to how to write in English (M=4.11).Demonstrating the improvement in English proficiency among non-English major students in EMI courses.

The most significant features of English proficiency enhancement in EMI courses for non-English major students are as follows. These data are presented using

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descriptive statistics to demonstrate the improvement in English proficiency among non-English major students in EMI English courses. Among non-English major students, the highest average values for English enhancement are observed in the following aspects: Q3: I believe EMI courses help improve English listening skills (M=4.64), Q4: I believe EMI courses enhance my familiarity with English (M=4.55), Q1: I believe EMI courses improve my speaking ability (M=4.42), Q10: I believe EMI courses enhance my cultural adaptation (M=4.42) (Table 4).

As for the least distinctive features of English proficiency enhancement in EMI English learning for non-English major students, the lowest average values for learning enhancement are found in the following aspects include Q6: I believe teachers provide sufficient support for students' academic needs (M=3.74), Q13: I believe

EMI courses enhance my competitiveness in the workplace (M=3.69) and Q10: I learned about cultural differences in the EMI course (M=3.51).

From the logistic regression analysis coefficients, the logistic regression equation and Exp(B) values (i.e., Δodds or odds ratio [OR]) were obtained. Among the variables, including [Number of EMI course enrollments = 8 times], [English proficiency as a challenging aspect in EMI courses], [Institution providing effective resources for students], [English-medium instruction courses enhancing language proficiency], [Gender = Female], [Age = 20–22 years], [Demonstrating improvement in English proficiency among non-English major students in EMI courses], and [English majors], all eight variables reached statistical significance ($p < .05$),

Table 4. Improved portions of EMI courses for non-English majors (N=78)

Question	Item	Mean	Rank	Cronbach's α
Q3	I think the EMI course is helpful for learning English listening	4.64	1	0.88
Q4	I believe EMI courses enhance my familiarity with English	4.55	2	0.83
Q1	I believe EMI courses improve my speaking ability	4.42	3	0.79
Q10	I believe EMI courses enhance my cultural adaptation	4.42	3	0.89

indicating their importance, as shown in Table 5. Therefore, further analysis of these eight significant variables was conducted. Based on the distribution of the original 201 data points, students who enrolled in EMI courses 8 times accounted for 32.84% (66 students), those enrolled 7 times comprised 23.38% (47 students), those enrolled 6 times made up 13.43% (27 students), those enrolled 5 times constituted 12.44% (25 students), those enrolled 4 times represented 7.96% (16 students), those enrolled 3 times accounted for 5.47% (11 students), those enrolled 2 times comprised 2.99% (6 students), and those who participated only once made up 1.49% (3 students). Notably, the majority of students participated 8 times, with relatively small variation in mean participation.

From the logistic regression analysis, the significant variable [Number of EMI course enrollments] had an Exp(B) = .538, indicating that Δodds = .538. This suggests that students who enrolled in EMI courses 8 times had 0.538 times higher satisfaction with learning outcomes compared to students with fewer EMI course enrollments.

Students who perceived [English proficiency as a challenging aspect in EMI courses] reported a learning outcome satisfaction rate of 41.01% (333 students). This group constituted the majority, with relatively low variation in the mean. According to the logistic regression analysis, the significant variable [English proficiency as a challenging aspect in EMI courses] had an Exp(B) = 0.369, indicating Δodds = 0.369. This suggests that students who perceived English proficiency as a challenge in EMI courses had 0.369 times higher satisfaction with learning outcomes compared to those who did not identify this challenge.

For [Institution providing effective resources for students], 87.99% (2,286 students) reported that their institution provided effective resources, making this group the majority with relatively small variation in mean responses. The logistic regression analysis indicated that this significant variable had an Exp(B) = 1.561, or Δodds = 1.561, suggesting that students who perceived their institution as providing effective resources had 1.561 times higher satisfaction with learning outcomes compared to those who did not.

Another significant variable, [English-medium instruction (EMI) courses enhancing language proficiency], had an

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Exp(B) = 0.612, or Δodds = 0.612, indicating that students who perceived EMI courses as improving their English proficiency had 0.612 times higher satisfaction with learning outcomes compared to those who did not.

Regarding gender differences, 86.35% (3,284 students) of female students and 73.56% (670 students) of male students reported satisfaction with their learning outcomes. Female students constituted the majority, with relatively low variation in mean responses. Logistic regression analysis revealed a significant effect for [Gender = Female], with Exp(B) = 2.245, or Δodds = 2.245, indicating that female students had 2.245 times higher satisfaction with learning outcomes compared to male students.

Additionally, students aged 20–22 years reported a learning outcome satisfaction rate of 91.40% (3,463 students), whereas students outside this age range had a significantly lower satisfaction rate of 39.21% (491 students).

The logistic regression analysis indicated that [Age = 20–22 years] was a significant predictor, with Exp(B) = 6.243, or Δodds = 6.243, suggesting that students within this age group had 6.243 times higher satisfaction with learning outcomes compared to those outside this range. For the variable [Demonstrating

improvement in English proficiency among non-English major students in EMI courses], the logistic regression analysis showed a significant result, with Exp(B) = 2.143, or Δodds = 2.143, indicating that students with higher English proficiency had 2.143 times higher satisfaction with learning outcomes compared to those with lower English proficiency.

Based on these findings, this study concludes that [Number of EMI course enrollments], [English proficiency as a challenging aspect in EMI courses], [EMI courses enhancing English proficiency], [Institution providing effective resources], [Gender = Female], [Age = 20–22 years], [Demonstrating improvement in English proficiency among non-English major students], and [English majors] are the eight key variables influencing learning outcomes.

Among students, 61.19% (123 students) were English majors, while 38.81% (78 students) were non-English majors, with English majors comprising the majority. However, logistic regression analysis indicated a significant effect for [English majors], with Exp(B) = 0.403, or Δodds = 0.403, suggesting that English majors had 0.403 times higher satisfaction with learning outcomes compared to non-English majors.

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Table 5.   Summary Table of Logistic Regression Coefficients

Variable	β	S.E.	Wald	df	Sig.	Exp(B)	Exp(B)的 95% Confidence Interval	
							Lower Bound	Upper Bound
Intercept	.385	.368	1.154	1	.354			
Number of EMI Course Enrollments = 8 times	.458	.125	24.671	1	.000	.538	.547	.670
English Proficiency as a Challenging Aspect in EMI Courses	1.627	.241	80.142	1	.001	.369	.201	.294
Institution Providing Effective Resources for Students	.493	.140	24.618	1	.000	1.203	1.715	2.6547
EMI Courses Enhancing English Language Proficiency	.360	.174	3.834	1	.026	.612	.316	.756
Gender = Female	.656	.124	39.640	1	.000	2.819	.914	1.963
Gender = male	0	.	.	0	.	.	.	.
Age=20-22	1.988	.185	41.324	1	.000	5.697	3.812	12.2413
Demonstrating Improvement in English Proficiency	2.611	.223	54.236	1	.000	2.678	2.036	3.680
English major	.584	.237	9.246	1	.006	.365	.214	.527
non-English majors	0	.	.	0	.	.	.	.

*p＜.05; **p＜.01; ***p＜.001

Based on the results of logistic regression analysis, the coefficients provide the logistic regression equation and the Exp(B) values, representing Δodds (Odds Ratio, OR). Among the variables examined, the following eight variables were found to be significant (*P < .05) and critical predictors, as shown in Table 5:[Participation in EMI courses = 8 times], [English proficiency as a challenge in EMI courses], [Institutions providing effective resources for students], [English-taught courses improving English language ability], [Gender = Female], [Age = 20–22 years], [Improvement in English proficiency for non-English major students in EMI courses], [English majors],

Further analysis of these eight significant variables, based on the distribution of 201 raw data records, revealed the following:

Students who participated in EMI courses 8 times accounted for 32.84% (66 individuals), 7 times for 23.38% (47 individuals), 6 times for 13.43% (27 individuals), 5 times for 12.44% (25 individuals), 4 times for 7.96% (16 individuals), 3 times for 5.47% (11 individuals), 2 times for 2.99% (6 individuals), and 1

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time for 1.49% (3 individuals). The majority of students participated 8 times, showing relatively low variance. Logistic regression analysis indicated that the Exp(B) for [Participation in EMI courses = 8 times] was .538 (Δodds = .538), implying that students participating 8 times had 0.538 times greater satisfaction with learning outcomes than those with fewer participations.

Among students who considered [English proficiency as a challenge in EMI courses], the learning outcome satisfaction rate was 41.01% (333 individuals). This group formed the majority, with low average variance. Logistic regression analysis showed an Exp(B) of .369 (Δodds = .369), indicating that these students experienced 0.369 times greater satisfaction compared to those who did not perceive this challenge.

For students reporting [Institutions providing effective resources for students], the satisfaction rate was 87.99% (2,286 individuals), with the majority showing low average variance. Logistic regression analysis revealed an Exp(B) of 1.561 (Δodds = 1.561), suggesting these students had 1.561 times greater satisfaction compared to those lacking such resources.

Another significant variable was [English-taught courses improving English language ability], with an Exp(B) of .612 (Δodds = .612). This indicates that students in such courses had 0.612 times greater satisfaction with learning outcomes than those not benefiting from these courses.

Female students exhibited a satisfaction rate of 86.35% (3,284 individuals), compared to 73.56% (670 individuals) for male students. The majority of students were female, with low average variance. Logistic regression analysis indicated an Exp(B) of 2.245 (Δodds = 2.245), meaning that females had 2.245 times greater satisfaction compared to males.

Students aged 20–22 years had a satisfaction rate of 91.40% (3,463 individuals), significantly higher than 39.21% (491 individuals) for students outside this age range. Logistic regression analysis demonstrated an Exp(B) of 6.243 (Δodds = 6.243), signifying that students aged 20–22 had 6.243 times greater satisfaction than others.

Regarding [Improvement in English proficiency for non-English major students in EMI courses], the Exp(B) was 2.143 (Δodds = 2.143), indicating that students with higher proficiency

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demonstrated 2.143 times greater satisfaction than those with lower proficiency.

These findings suggest that the following eight variables significantly influence learning outcomes: [Participation in EMI courses], [English proficiency as a challenge in EMI courses], [English-taught courses improving English language ability], [Institutions providing effective resources for students], [Gender = Female], [Age = 20–22 years], [Improvement in English proficiency for non-English major students in EMI courses], and [English majors].

Among English majors, 61.19% (123 individuals) were satisfied, compared to 38.81% (78 individuals) for non-English majors. Logistic regression analysis revealed an Exp(B) of .403 (Δodds = .403), indicating that English majors had 0.403 times greater satisfaction compared to non-English majors.

Discussion

This study aimed to explore the effectiveness of EMI English learning among Taiwanese university students and the challenges they face in EMI courses. The participants included 123 English major students and 78 non-English major students. Data for research

questions one and two were collected from three different questionnaires and analyzed using the SPSS statistical software. The following will discuss all the significant findings of this study in the sequence of each research question.

Based on the survey results of 212 Taiwanese university students on research question one, it was found that the majority of them perceived communication difficulties in EMI courses, indicating limited opportunities for English communication. Some students reported challenges in various language skills, such as speaking, listening, and understanding English vocabulary. They felt they lacked the necessary vocabulary size and fluency to effectively engage in EMI courses. Additionally, students expressed that there were few opportunities for peer interaction and group discussions in EMI courses.

For research question two, based on the survey results from 212 Taiwanese university students, it was found that both English major and non-English major students perceived that they gained the most in listening skills in EMI courses, indicating significant improvement in their English listening proficiency. Some students also reported learning to collaborate in English

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through group work in EMI courses. Additionally, students felt that they had access to abundant learning resources in EMI courses.

Conclusion

This chapter is divided into four main sections. The first section includes summaries of the two research questions, the second section presents the limitations of the study, and the third section proposes suggestions for future research.

Recommendations

In this section, the researcher provides several suggestions. Firstly, while this study involved only 212 university students, it's recommended to expand the participant pool in future research. It's suggested to recruit more participants from diverse majors to enrich the database. Secondly, as all participants in this study were from just two universities, the researcher suggests recruiting more participants from various regions of Taiwan in future studies to enhance accuracy. Thirdly, based on the research findings, future studies could use language proficiency levels as a factor to differentiate student groups and examine their effects. Additionally, since this study solely relied on questionnaires and

exams for data collection, future research could gather more detailed information through interviews. Lastly, while this study focused solely on students' challenges and improvements in EMI courses, the researcher recommends further exploration of the challenges faced by instructors in EMI courses in future studies.

Limitations

This section outlines several limitations of the current study. Firstly, there were only 1123 English major students and 78 non-English major students included as participants. Secondly, all participants were exclusively from two universities located in southern Taiwan. Thirdly, the study did not categorize students according to their English proficiency levels, potentially affecting the accuracy of the data collected. Fourthly, the sole tool employed in this study was questionnaires. Lastly, the data collected from the questionnaires relied solely on students' responses, posing challenges in determining the honesty of their answers.

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