



A Study on the Engagement and Learning Outcomes of Non-English-Speaking Students in EMI Classrooms

Jindi Jiang¹ and Angela Farrell^{2*}

1.School of Foreign Languages, Shandong University of Technology, Zibo 255000, China

2.Faculty of Arts Humanities and Social Sciences, University of Limerick, Limerick V94 T9PX, Ireland

jiangjindi@sdut.edu.cn

*Corresponding author: emillybronte618@gmail.com

Abstract: In the context of globalization in education, economy, and culture, global connections are increasingly strengthened. EMI (English-Medium Instruction) classrooms have gradually been widely established in non-English speaking countries, aiming to continuously improve students' language skills and cross-cultural adaptability. Student engagement has a direct impact on the quality of EMI classroom teaching and students' learning outcomes. Therefore, this paper first provides a brief analysis of the impact of student engagement on learning outcomes in EMI classrooms in non-English speaking countries. It then explores the value of the EMI classroom environment in enhancing student engagement and discusses strategies to increase student engagement in EMI classrooms. The goal is to significantly improve student engagement in EMI classrooms in non-English speaking countries and promote better learning outcomes for students.

Keywords: Non-English speaking students; EMI (English-Medium Instruction) classrooms; engagement; learning outcomes

1. Introduction

In the context of cross-cultural communication, the importance of English as an international lingua franca has become increasingly prominent. Non-English speaking countries are placing greater emphasis on building EMI classrooms as part of their talent development processes. The fundamental goal is to improve students' language skills and academic achievements, ultimately enhancing their cross-cultural communication abilities. However, some students experience foreign language anxiety in EMI classrooms, which can directly affect their engagement and learning outcomes. Studies abroad have indicated that to fully utilize EMI classrooms to cultivate students' language skills, it is essential to focus on creating an effective EMI classroom environment that helps students adapt to new cultural contexts in both academic and social settings. English-Medium Instruction (EMI) is a prevalent approach in higher education, particularly in European and Asian countries, aimed at internationalizing institutions through teaching in English (Iryna, Myhovich, 2022). The implementation of EMI programs requires significant changes in teaching methods and content delivery, often necessitating training for lecturers to effectively teach in a non-native language (Maria, del, Mar, Sánchez-Pérez, 2020).

In this context, it is crucial to actively draw on international research findings to formulate targeted teaching strategies, optimize classroom interaction modes, and provide personalized learning paths. In recent years, as globalization has accelerated, the importance of English as an international lingua franca has become increasingly evident. The application of English-Medium Instruction (EMI) in

higher education has become increasingly widespread. Researching the engagement and learning outcomes of non-English speaking students in EMI classrooms has become an important topic in current educational research. Domestic studies on the engagement and learning outcomes of non-English speaking students in EMI classrooms primarily focus on several aspects: the application of EMI in teaching Chinese, students' learning strategies, teachers' teaching abilities, the impact of policies and practices, and students' motivation for engagement. Liu Yuanman and Li Jingwen investigated the supportive role of English as a medium in teaching Chinese to non-native speakers, noting that in multi-national mixed classes, English, as a common medium, can assist in teaching, textbook compilation, and student learning(Liu Yuanman & Li Jingwen, 2023). Tian Chaofang and Qin Mi explored the use of English as a medium in the initial stages of teaching Chinese as a foreign language, suggesting that it helps overcome teaching difficulties in the early stages(Tian Chaofang & Qin Mi, 2023). Zhang Xiaohan and Zou Bin studied the translation learning strategies of Chinese university students in an EMI setting, finding that translation has potential effectiveness in overcoming language barriers, particularly in reading and writing activities(Zhang Xiaohan & Zou Bin, 2023). Hu Zhuanglin conducted a systematic study of the all-English teaching model and teachers' EMI capabilities in Chinese universities, highlighting the challenges and opportunities faced by universities in advancing educational internationalization(Hu Zhuanglin, 2015), and noting that teachers' teaching abilities and course settings are key to improving EMI teaching effectiveness(Hu Zhuanglin, 2021). Lin Xiao analyzed the EMI policies of universities in Malaysia, Singapore, Thailand, and Europe, finding significant policy support and socio-cultural background influences in these regions(Lin Xiao, 2016). Shen Qian analyzed the impact of students' interests, motivations, and curiosity on EMI teaching effectiveness(Shen Qian, 2023). Chen Jie and Yu Yutian pointed out that current EMI courses suffer from being overly simplistic and inefficient, suggesting that these could be improved by enhancing teacher training, promoting small-class teaching, and encouraging multi-modal interactive teaching(2018). Domestic research has provided useful insights for further improving the quality of EMI teaching and has identified practical issues that need to be addressed. Future research should focus more on diversifying teaching methods, meeting students' personalized needs, and optimizing policy support to promote the effective implementation of EMI in non-English speaking countries.

Studying the engagement and learning outcomes of non-English speaking students in English-Medium Instruction (EMI) classrooms has significant theoretical and practical importance. By analyzing student engagement and learning outcomes, this paper aims to reveal several key issues:

- (1) Explore the impact of student engagement on language skill development. This paper examines how student engagement in EMI classrooms affects their language skill development through data analysis. We believe that students with higher engagement show better performance in language skills, which effectively enhances their English listening, speaking, reading, and writing abilities.
- (2) Study the relationship between student engagement and academic achievement. This paper analyzes the relationship between students' engagement in EMI classrooms and their academic achievement. By comparing the average academic achievement scores of students with different levels of engagement, we demonstrate that students with higher engagement achieve greater academic success.
- (3) Explore the impact of student engagement on cross-cultural adaptability. This study investigates the enhancing effect of student engagement in EMI classrooms on their cross-cultural adaptability. Students with high engagement have more opportunities to interact with and adapt to different cultural backgrounds during classroom interactions, which is crucial for cultivating their cross-cultural communication skills.

2. The Impact of Engagement of Non-English Speaking Students in EMI Classrooms on Learning Outcomes

2.1 The Impact of Engagement on Language Skill Development

The engagement of students in EMI classrooms directly affects the development of language skills. Teachers can only gradually enhance students' language skills by focusing on increasing student engagement and enriching classroom resources based on this (Zhou Ying, 2023). The reason why student engagement can improve language skills is that only by actively participating in the classroom can students use English to express their opinions, exchange ideas, and engage in immediate language use, thereby training their oral expression abilities. Furthermore, enhancing student engagement can also lead students to actively engage in learning English knowledge, such as actively listening to the teacher's explanations and reading English textbooks, which helps students gradually accumulate a large vocabulary and become familiar with grammatical structures, ultimately further enhancing their reading comprehension abilities. It is worth noting that in EMI classrooms, teachers can not only guide students in continually practicing basic language skills but can also help students gradually learn to use English in specific academic and cultural contexts. By continuously increasing student engagement, teachers can guide students to more frequently encounter and adapt to academic English expressions and use them effectively in professional fields, ultimately laying a solid foundation for students' future academic and professional development in an international environment (Nguyen A, 2023). Therefore, there is an inseparable link between student engagement in EMI classrooms and their language skill development. See figure 1 for details.

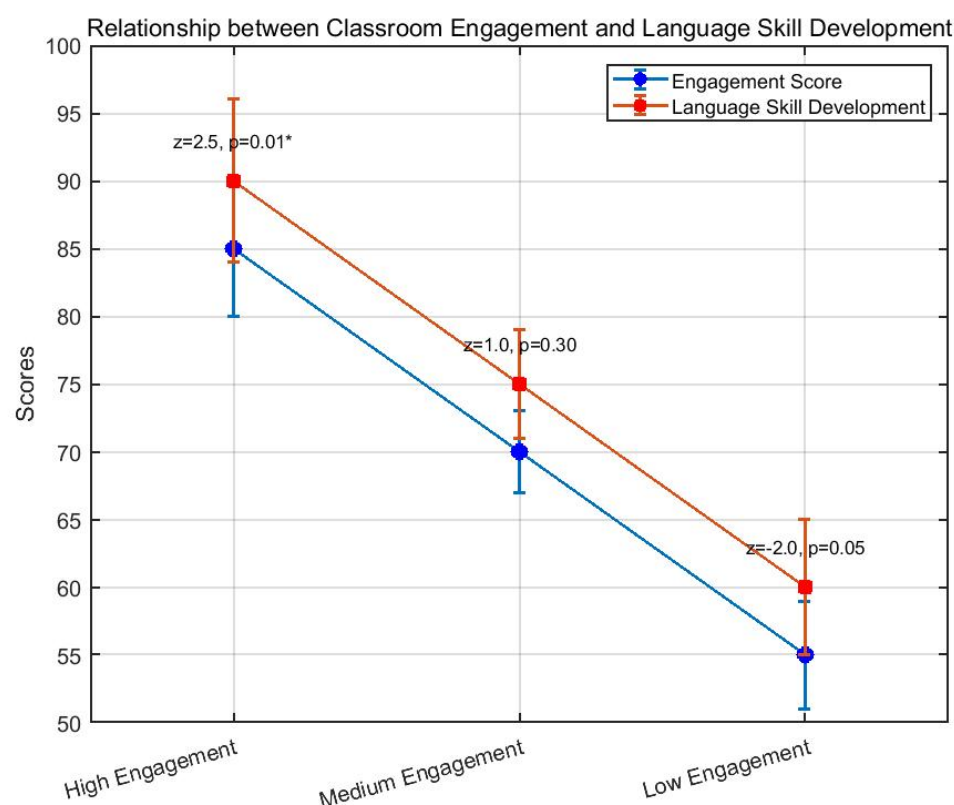


Figure 1: Relationship between Classroom Engagement and Language Skill Development

As can be seen from figure 1, students in the high-engagement group achieved an average score of 90 in language skill development, significantly higher than the 75 scored by the medium-engagement

group and the 60 scored by the low-engagement group. From a statistical perspective, the gap is very significant, with a z-value of 2.5 between the high-engagement group and the low-engagement group, and a corresponding p-value of 0.01, indicating that the difference between the two groups is highly significant at a 99% confidence level. As student engagement increases, there is also a rising trend in the development of language skills, which can be observed from the changes in the average scores, as well as the z-value and p-value; the z-value decreases and the p-value increases as engagement moves from high to low, showing that the positive correlation between engagement and language skill development gradually weakens until it becomes insignificant in the low-engagement group. Thus, it is evident that the engagement of non-English speaking students in EMI classrooms has a significant impact on the development of language skills, where high engagement significantly enhances students' language skills, while low engagement may lead to lagging in language learning. Therefore, actively taking effective measures to enhance student engagement in EMI teaching is crucial for promoting the development of students' language skills and improving overall learning outcomes.

2.2 The Impact of Engagement on Academic Achievement

For non-English speaking students, the primary way to engage with and use English during academic studies and interactions is through EMI classrooms. Therefore, the classroom teaching model and learning atmosphere directly impact students' academic achievements, and only by continuously enhancing student engagement and guiding students to actively engage in learning and explore knowledge can their level of academic achievement be strengthened(He Juanjuan, 2024). In typical EMI classroom discussions, students with higher engagement can more frequently engage in intellectual exchanges with classmates and teachers, which helps them to understand and master knowledge more deeply, thereby enhancing learning outcomes. Additionally, highly engaged students are more proactive in participating in academic lectures and actively collecting and learning from a vast array of academic resources, which is crucial for broadening their academic horizons and enhancing their academic literacy(Calvo L C S, Cogo A, Kadri M S E, et al., 2022). The relationship between the engagement of non-English speaking students in EMI classrooms and their academic achievements can be seen in figure 2:

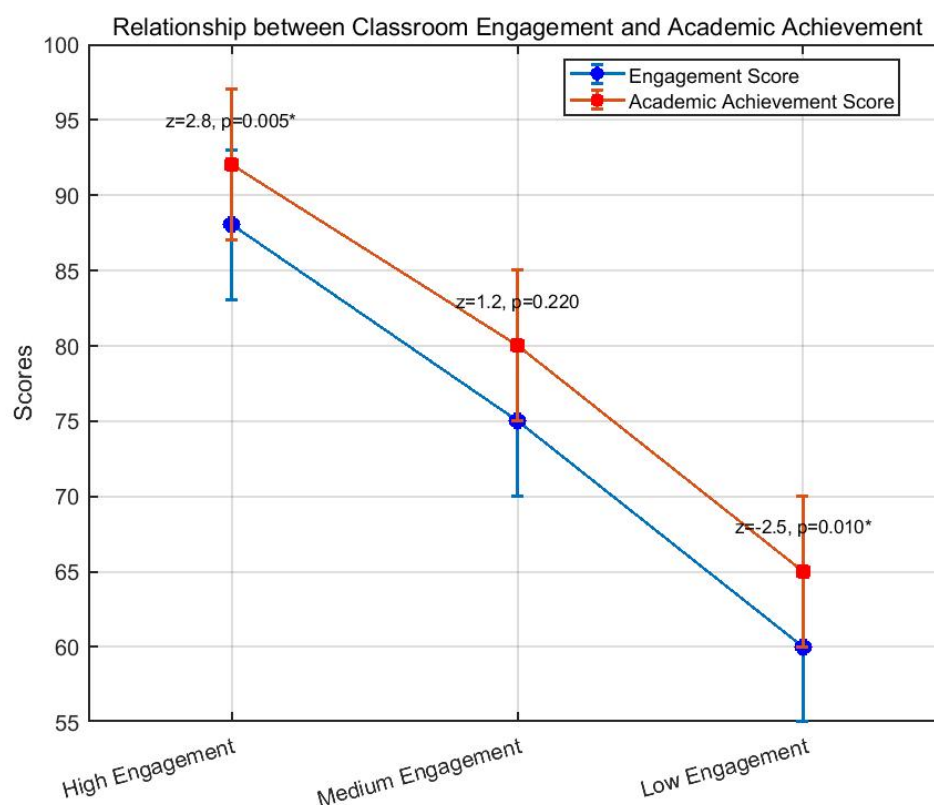


Figure 2: Relationship Between Classroom Engagement and Academic Achievement

As seen from figure 2, there are significant differences in academic achievements among students with varying degrees of engagement. Students in the high-engagement group scored an average of 92, which is considerably higher than the 80 scored by the medium-engagement group and 65 by the low-engagement group. Statistical results adequately demonstrate this; the z-value between the high-engagement group and the low-engagement group is 2.8, with a corresponding p-value of 0.005, indicating that the differences between these two groups are highly significant at a 99.5% confidence level. Moreover, there is a clear positive correlation between student engagement and academic achievement. As student engagement increases, so does academic achievement, as evidenced by the changes in average scores and the values of z and p; from the high to the low-engagement groups, the z-value gradually decreases and the p-value increases, indicating that the positive correlation between engagement and academic achievement weakens until it becomes insignificant in the low-engagement group. This demonstrates that the engagement of non-English speaking students in EMI classrooms significantly impacts their academic achievement; high engagement significantly enhances academic success, while low engagement may lead to relatively lower academic research levels. The academic achievements of students in the medium-engagement group, while lower than those in the high-engagement group, are higher than those in the low-engagement group, and their z and p values show that the difference between the medium and low-engagement groups is significant, but not significant when compared to the high-engagement group. This indicates that increasing engagement can positively affect students' academic achievements.

2.3 The Impact of Engagement on Cross-Cultural Adaptability

In the construction of EMI classrooms, the English language environment can create a platform for language learning practice for non-English speaking students, increasing interaction between students and teachers from different cultural backgrounds, which greatly enhances cross-cultural

adaptability(Yang Xiaoxia, 2023). Student engagement directly affects the enhancement of students' cross-cultural adaptability. Students with high engagement can continuously improve their academic English expression skills through classroom speaking, academic reports, and other activities, enabling effective academic communication in a multicultural environment and enhancing cross-cultural adaptability. Furthermore, when facing cultural differences and conflicts, highly engaged students gradually learn to listen and understand perspectives and thoughts from different cultural backgrounds, developing an open and inclusive attitude, which fosters the formation of cross-cultural adaptability and mastery of handling cultural differences and conflicts, further enhancing their cross-cultural adaptability. From this perspective, it is crucial for teachers in EMI education to highly value enhancing student engagement as an effective way to promote the improvement of cross-cultural adaptability and optimization of learning outcomes(Mao Yuanyuan & Gao Zhen & Qiao Panpan, 2023).

3.The Value of the EMI Classroom Environment in Enhancing the Engagement of Non-English Speaking Students

3.1 The Facilitating Role of the Immersive Language Environment

The immersive language environment in EMI classrooms helps students use English as the primary language of communication, offering a comprehensive, immersive language learning experience that significantly enhances students' language abilities and greatly promotes their active participation in the classroom(Zheng Zhenjie, 2023). This is because in EMI classrooms, all teaching activities and communications are conducted in English, compelling students to constantly use English to understand and express themselves, increasing their opportunities to engage with and use English, helping them consolidate and expand their language knowledge, and enhancing their willingness to participate in the classroom. In such an immersive language environment, where students come from various cultural backgrounds, the mode of communication and interaction itself becomes a cross-cultural experience. Therefore, under conditions of high classroom engagement, students can gain rich cross-cultural experiences, broadening their international perspectives and cultivating their cross-cultural communication skills, thus fully leveraging the immersive language environment in EMI classrooms to benefit students' learning outcomes(Cheng Fang & Ma Ying, 2024).

3.2 The Value of an Inclusive Classroom Culture

EMI classrooms focus on using English as the medium of instruction to build the teaching environment, which for non-English speaking students is not only a platform for language learning and practice but also a new cultural environment to adapt to and integrate into. In this context, building an inclusive classroom culture plays an indispensable role in promoting student engagement and enhancing learning outcomes(Kai K, Mikko V, Sirkka K K, et al., 2024). This inclusive classroom culture focuses on understanding each student's cultural background and learning needs, encouraging students to actively express their views and ideas in the classroom. The cultural environment and learning atmosphere formed on this basis can stimulate students' enthusiasm for learning, attract their attention, and guide them to actively participate in discussions and activities in the classroom, ultimately enhancing their activity and engagement in the classroom.

3.3 The Cognitive Stimulation Function of Internationalized Content

Compared to other courses, EMI classrooms exhibit certain uniqueness with a major feature being the internationalization of teaching content, which provides non-English speaking students with a variety of learning materials, aiding in enhancing their cognitive functions and strengthening the learning effect as student engagement increases. The reason why the cognitive stimulation of internationalized

content can be greatly advantageous is that the teaching content in EMI classrooms mainly consists of knowledge, perspectives, and cultural elements from different countries and regions. Over time, this can broaden students' international perspectives, helping them encounter diverse ideas and concepts. This diversity in knowledge can stimulate students' curiosity and thirst for knowledge, guiding them to actively and continuously explore and deeply think about the knowledge, which is important for students to gradually develop strong critical thinking and innovative capabilities (Zhao Shujun, 2024).

As students continually engage in learning internationalized content in EMI classrooms, their cognitive functions are gradually stimulated and enhanced, their cross-cultural communication skills are strengthened, and by attempting to use English to understand and express internationalized content, students can form a solid linguistic foundation, which is significantly important for them to gradually build strong confidence in using English for academic communication. As students' language and thinking abilities, as well as confidence, continue to improve, not only can this enhance student engagement in the classroom but it also plays an indispensable role in strengthening teaching effectiveness. An analysis of the impact of the EMI classroom environment on the engagement and learning outcomes of non-English speaking students can be seen in figure 3.

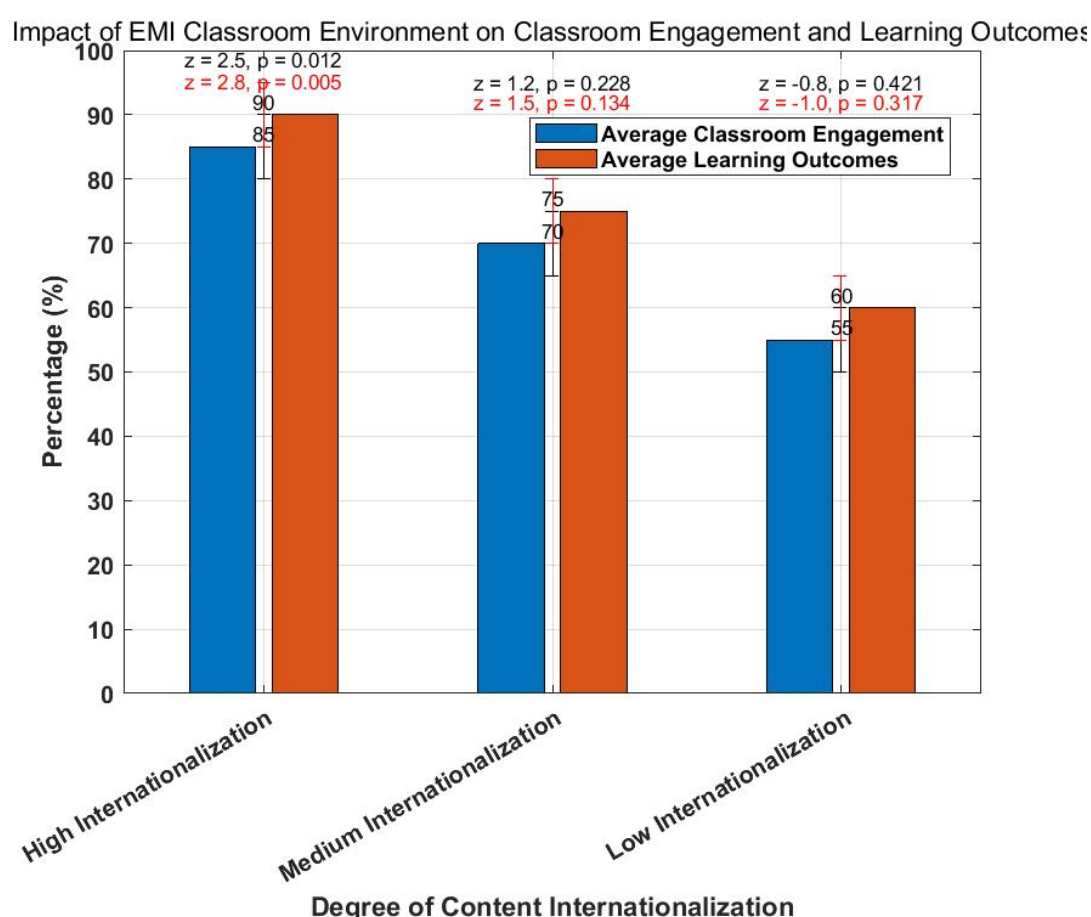


Figure 3: Impact of EMI Environment on Classroom Engagement and Learning Outcomes

As shown in figure 3, the different levels of internationalization of teaching content presented in EMI classrooms have a direct impact on the classroom engagement and learning outcomes of non-English speaking students. Data analysis comparing Group A (high internationalization), Group B (medium internationalization), and Group C (low internationalization) shows that Group A students have the

highest average classroom engagement rate (85%), compared to 70% for Group B and 55% for Group C. This indicates that as the degree of internationalization of teaching content increases, there is a clear upward trend in students' classroom engagement. The Z-value for Group A is 2.5 with a P-value of 0.012, further illustrating a significant positive correlation between highly internationalized teaching content and student classroom engagement. Additionally, the average learning outcomes for Group A students reach 90%, while for Groups B and C, they are 75% and 60% respectively, further demonstrating that higher internationalized teaching content plays a positive role in enhancing the learning outcomes of non-English speaking students. With a Z-value of 2.8 and a P-value of 0.005 for Group A, there is a significant positive correlation between highly internationalized teaching content and student learning outcomes.

4. Strategies to Enhance the Engagement of Non-English Speaking Students in EMI Classrooms

4.1 Innovative Teaching Methods

Innovative teaching methods are crucial for enhancing student engagement in EMI classrooms. In practice, teachers can adopt task-based learning to innovate EMI classroom teaching, guiding students to use English for communication and thinking while completing tasks, thereby enhancing their language skills and cross-cultural communication abilities. Additionally, the flipped classroom can be utilized for innovative teaching models, providing more time and opportunities for language input and output, guiding students to actively participate in discussions and interactions, and flexibly applying their knowledge during deep thinking processes. This promotes the development of language learning and cross-cultural communication skills in an EMI environment, leading to significant improvements in learning outcomes.

In the International Business Management (EMI) course, teachers can combine task-based learning with the flipped classroom model to enhance student classroom engagement and learning outcomes. Teachers pose a practical question: "Design a market entry strategy for a new international market." Subsequently, students are divided into groups, each selecting a country as their target market to conduct detailed market research, collecting information about the economy, culture, and legal aspects of the market, and based on their findings, developing a detailed market entry strategy including market positioning, competitive analysis, marketing strategies, and financial plans. Each group prepares a comprehensive market entry strategy report in English and a presentation to be delivered in the classroom.

In the flipped classroom model, teachers upload study materials such as market research methods and strategic planning steps to an online learning platform beforehand, allowing students to study independently before class. During class, students discuss their market entry strategies in groups, with the teacher providing guidance and feedback. Students can also ask each other questions and share their insights and experiences. Through this pre-class preparation and classroom discussion, students have more time to think deeply and apply their knowledge flexibly to solve real problems. By using innovative teaching methods such as task-based learning and the flipped classroom, students can practice their language skills in real situations, enhance their teamwork and cross-cultural communication skills, and deeply think and flexibly apply their knowledge. This not only improves student engagement in EMI classrooms but also significantly enhances their language usage and mastery of professional knowledge.

4.2 Optimizing Classroom Interaction Models

From the perspective of the learning needs and characteristics of non-English speaking students, in actual EMI classroom teaching, teachers can continuously optimize classroom interactions to promote

learning outcomes. Implementing collaborative learning encourages students to interactively learn in groups, where each group of students needs to collaboratively complete a learning task or solve a problem. On this basis, teachers can fully exercise their guiding role, encouraging students to analyze the structure of an English article, discuss solutions to environmental issues, etc. Throughout the learning activity, students engage in ample discussion and collaboration, enhancing their English speaking and listening skills, as well as fostering teamwork and communication abilities, which helps to increase student engagement in EMI classrooms.

In the “Sustainable Development” EMI course, teachers might pose the question: “What are the challenges and opportunities for sustainable development in your country?” Subsequently, students are required to form groups to research, write reports in English, and orally present their findings in class. Active interaction allows students to practice and apply English in real situations, gain in-depth knowledge about sustainable development, and enhance their global awareness and cross-cultural communication skills. It is evident that continuously optimizing classroom interaction models plays a crucial role in effectively enhancing student classroom engagement and learning outcomes, as shown in figure 4.

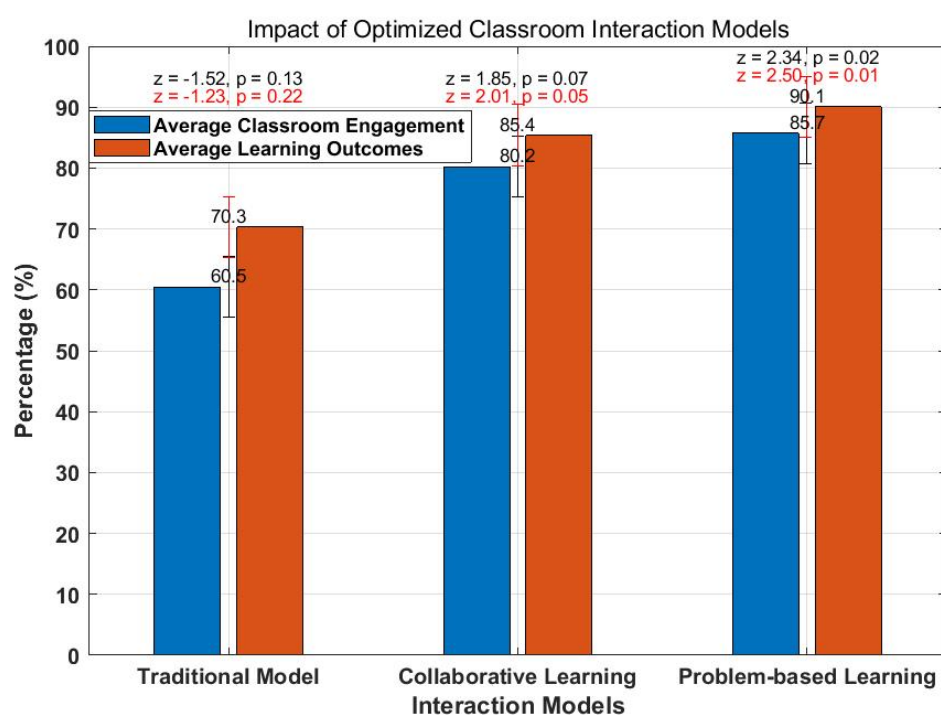


Figure 4: Impact of Optimized Classroom Interaction Models

As indicated by figure 4, within the context of optimized classroom interaction models, different interaction modes significantly affect the engagement and learning outcomes of non-English speaking students in EMI classrooms. A comparative data analysis of Group A (traditional model), Group B (collaborative learning), and Group C (problem-based learning) shows that Groups B and C had notably longer preparation times before class, at 20.5 minutes and 25.3 minutes respectively, compared to only 10.0 minutes for Group A. This suggests that optimized interaction models require students to engage in more extensive preparation before class to better participate in classroom interactions, highlighting that such optimized models place higher demands on pre-class preparation. From the perspective of average classroom engagement, Groups B and C show significantly higher engagement, at 80.2% and 85.7% respectively, compared to only 60.5% for Group A. This adequately demonstrates

that collaborative learning and problem-based learning, as optimized interaction models, can effectively enhance the engagement of non-English speaking students in EMI classrooms. The Z-values and P-values indicate significant statistical differences in engagement between Groups B and C compared to Group A, affirming the necessity of these differences. From the perspective of learning outcomes, Groups B and C also outperform Group A, with average scores of 85.4% and 90.1% respectively, compared to 70.3% for Group A, further proving that optimized classroom interaction models play a positive role in enhancing the learning outcomes of non-English speaking students in EMI classrooms. The Z-values and P-values also show significant differences in learning outcomes between Groups B and C compared to Group A, further verifying the effectiveness of the optimized interaction models.

4.3 Providing Personalized Learning Pathways

From the perspective of the learning characteristics of non-English speaking students, it is crucial for teachers to focus on enhancing student engagement in EMI classrooms, and providing personalized learning pathways is essential. For instance, in teaching environmental protection, to increase student engagement and enhance classroom teaching effectiveness, teachers can recommend simple articles and vocabulary lists to students with lower English proficiency levels to gradually increase their understanding of environmental protection. For students with higher English proficiency levels, teachers can provide more in-depth articles and discussion topics to challenge their thinking and language expression abilities. Under the framework of personalized learning pathways, students can learn at their own pace and according to their English proficiency level, which promotes improvements in their learning outcomes.

In the International Environmental Protection EMI course, teachers can enhance student engagement and learning outcomes by providing personalized learning pathways. Considering the learning characteristics and English proficiency differences of non-English speaking students, teachers design learning materials and tasks of varying difficulty and depth to meet individual student needs. Teachers pose the question: “What are the main challenges and opportunities for environmental protection in your country?” For students with lower English proficiency, teachers recommend simple articles and vocabulary lists to help them gradually understand environmental protection issues and ask them to write a short essay in simple English describing an environmental problem and possible solutions in their country, followed by organizing group discussions in class to share their findings and thoughts. For students with higher English proficiency, teachers provide more in-depth scholarly articles and discussion topics, asking them to write detailed reports analyzing their country’s role and policy recommendations in international environmental protection, and encouraging them through debates and group discussions to engage in critical thinking and interactive communication.

Through these personalized learning pathways, students can study at their own pace and according to their English proficiency, maximizing their classroom participation. Students with lower English proficiency gradually improve their understanding and expression abilities; students with higher proficiency enhance their cognitive and language skills through in-depth research and discussion. By establishing a more active, interactive, and targeted learning environment through personalized pathways, teachers can facilitate comprehensive development of non-English speaking students in EMI classrooms.

5. Conclusion

To enhance the engagement of non-English speaking students in EMI classrooms, it is beneficial to innovate teaching methods, optimize classroom interaction models, and provide personalized learning

paths, creating a more active, interactive, and personalized learning environment that can further improve students' learning outcomes. However, this study also has limitations; future research could expand the sample size and extend the study period to more comprehensively explore the relationship between student engagement and learning outcomes in non-English speaking students in EMI classrooms.

Funding: The Horizontal Project of Shandong University of Technology: Research on the Development of English Translation Learning Software under a Blended Teaching Model (SKHX2024023)

References

- [1] Iryna, Myhovich. English Medium Instruction Methodology with Regard to International Education. *Osvita ta pedagogični nauki*, 2022, 17-26. doi: 10.12958/2227-2747-2022-2(180)-17-26.
- [2] Maria, del, Mar, Sánchez-Pérez. Teacher Training for English-Medium Instruction in Higher Education. 2020.
- [3] Liu Yuanman, Li Jingwen. The scaffolding role of English as a medium of instruction in teaching Chinese to non-native speakers [J]. *International Chinese Language Education Research*, 2023(2):65-7386.
- [4] Tian Chaofang, Qin Mi. Application of English as a medium of instruction in the initial stage of teaching Chinese as a foreign language [J]. *Journal of Hubei Open Vocational College*, 2023, 36(16):188-190.
- [5] Zhang Xiaohan, Zou Bin. Study on translation learning strategies for Chinese learners in an English-medium instructional environment [J]. *Chinese Journal of Applied Linguistics*, 2023, 46(3):424-437486.
- [6] Hu Zhuanglin. The long road to internationalization of higher education - Reading the interdisciplinary study of the all-English teaching model (EMI) in universities [J]. *Foreign Language Research*, 2015, 32(6):53-55.
- [7] Hu Zhuanglin. Strategic measures for the internationalization of education - Review of "Research on the EMI abilities of university teachers in China"[J]. *Shandong Foreign Language Teaching*, 2021, 42(1):132-135.
- [8] Lin Xiao. An analysis of implicit policies of English as a medium of instruction - Cases from Malaysia, Singapore, and Thailand [J]. *Language Strategy Studies*, 2016, 1(2):53-60.
- [9] Shen Qian. Survey and reflection on the integration of Central Plains culture into English teaching in vocational colleges of Henan - Case study of Zhengzhou Shuqing Medical College [J]. *Communication and Copyright*, 2023(7):122-124.
- [10] Chen Jie, Yu Yutian. Study on the current status of EMI English teaching for non-English major students - A case study of Central South University [J]. *Innovation and Entrepreneurship Education*, 2018, 9(4):104-108.
- [11] Zhou Ying. Exploring strategies for building a university English SPOC learning community based on the flipped classroom [J]. *Science Education Article Collects*, 2023(4):61-64.
- [12] Nguyen A. Unraveling EMI as a predictor of English proficiency in Vietnamese higher education: Exploring learners' backgrounds as a variable [J]. *Studies in Second Language Learning and Teaching*, 2023.
- [13] He Juanjuan. Exploration of the practical application of multimedia in English classroom activities [J]. *Inside and Outside the Classroom (High School Edition)*, 2024(14):81-83.
- [14] Calvo L C S, Cogo A, Kadri M S E, et al. "English gradually" and multilingual support in EMI: insights from lecturers in two Brazilian universities [J]. *Journal of English as a Lingua Franca*, 2022, 11(2):147-170.
- [15] Yang Xiaoxia. Exploration of effective teaching strategies for English based on the "ideal classroom"[J]. *Exam Weekly*, 2023(26):114-117.
- [16] Mao Yuanyuan, Gao Zhen, Qiao Panpan. Exploring university English teaching aimed at enhancing cross-cultural communication skills [J]. *English Square*, 2023(3):105-108.
- [17] Zheng Zhenjie. Research and exploration of middle school English school-based curriculum development based on the digital "Thinkjoy Classroom"[J]. *Teacher's Path*, 2023(20):40-41.
- [18] Cheng Fang, Ma Ying. Research on innovative paths for English teaching in vocational colleges under the online environment [J]. *Wen Cun Yue Kan*, 2024(2):67-69.

- [19] Kai K, Mikko V, Sirkka K K, et al. Long-term Cumulative Incidence of Clinically Diagnosed Retinopathy in the Finnish Diabetes Prevention Study [J]. The Journal of Clinical Endocrinology & Metabolism, 2024.
- [20] Zhao Shujun. Application of the multimodal teaching model in university English reading and writing classrooms [J]. Digital Users, 2024(48):239-240.