

A Study on the Reform of the CLIL Model in Bilingual Education at Higher Vocational Colleges: An Investigation of Six Colleges in Zhejiang Province



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Abstract: This paper conducts a survey analysis of the current state of bilingual education in higher vocational colleges in China, aiming to investigate the implementation of bilingual teaching in Zhejiang Province within the context of the Belt and Road Initiative and the cultivation of high-tech talent. The study uses data from six colleges in Zhejiang Province, analyzing 438 valid questionnaires to assess the current status of bilingual education. The findings reveal that 79.22% of students believe that bilingual education is necessary; however, issues such as a heavy learning burden (61.64%) and a need for improved satisfaction levels (only 46.12% expressed high satisfaction) are prevalent. In response to these findings, the paper proposes reform pathways based on the CLIL (Content and Language Integrated Learning) framework, suggesting feasible strategies for bilingual curriculum reform in higher vocational colleges through content-driven and language-embedded approaches.

Keywords: CLIL model in bilingual education, higher vocational colleges, survey analysis

1. Introduction

In recent years, with the deepening of the Belt and Road Initiative and the accelerated trends of economic globalization and digitalization, China has raised its requirements for cultivating high-tech talent with international competitiveness. The “Vocational Education Law of the People’s Republic of China” explicitly encourages international exchange and cooperation in vocational education and supports the introduction of high-quality foreign resources. Compared to traditional programs, Sino-foreign cooperative education projects exhibit a higher level of internationalization and have become an important avenue for higher vocational colleges to train high-end international talent (Ying & Wenjing, 2026). However, at this stage, the classroom teaching of bilingual courses in higher vocational colleges is still in its initial phases, facing challenges such as students’ average foreign-language proficiency, low interest in learning, insufficient suitable teaching materials, and inadequate foundational knowledge in their fields (Xiangyu, 2023).

Content and Language Integrated Learning (CLIL) is an educational approach that simultaneously teaches non-language subjects and foreign languages, aiming to enhance both subject knowledge and language proficiency (Canz et al.,

2021). This instructional framework employs foreign languages to deliver subject content and is primarily applied in both primary and higher education contexts (Zhao et al., 2020). The present study aims to investigate and analyze the current status of bilingual courses in Sino-foreign cooperative education programs at six colleges in Zhejiang Province, based on the CLIL teaching model, with the goal of exploring reform pathways for bilingual education suitable for higher vocational students.

2. Survey on Bilingual Education in Higher Vocational Colleges in Zhejiang Province

To accurately diagnose the core issues currently facing bilingual courses in higher vocational education, this study conducted a questionnaire survey among students enrolled in Sino-foreign cooperative education programs at six colleges in Zhejiang Province. A total of 511 questionnaires were distributed online, yielding 438 valid responses. The survey covered students in the first to third years of study across 11 major fields, including finance and commerce, electronic information, and equipment manufacturing. This section provides a basic descriptive analysis of the survey results.

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2.1 Basic description

Among the 438 valid questionnaires, 196 were male (44.75%), and 242 were female (55.25%). The distribution across academic years was as follows: 154 first-year students (35.16%); 239 sophomores (54.57%); and 45 juniors (10.27%). Notably, 347 respondents, or 79.22%, believed that bilingual education should be offered in higher vocational colleges, while 20.78% felt that such programs were unnecessary. The primary reasons for this perspective included, first, a misalignment between students' English proficiency and the teaching objectives, and second, a mismatch between instruction's effectiveness and students' perceived learning outcomes.

2.2 The mismatch between students' English proficiency and bilingual education

According to the standards of the College English Test (CET) in China, the current distribution of English proficiency levels among the sample students is as follows: only 20 students have passed the CET-6 exam, accounting for 4.57%; 56 students have passed the CET-4 but not the CET-6, representing 12.79%; the remaining students have not achieved either the CET-4 or CET-6 level, totaling 82.65%. Among these, 188 students (42.92%) have passed the English A-level exam and are currently preparing for the CET-4; 28 students (6.39%) have only passed the A-level exam and have no further preparation plans; and a significant 146 students (33.33%) have not passed the A-level exam, which is the minimum requirement for graduation from vocational colleges. These data indicate that over 80% of the students are at a level below CET-4, and nearly one-third have not met the minimum English standard required for graduation.

In the context of the college entrance examination, where the maximum score for English is 150, only 21 students achieved scores above 135, representing 4.79%. Similarly, only 21 students scored between 120 and 135, while 135 students scored below 90, which traditionally indicates failure to meet the passing criterion, accounting for 35.16%. Overall, this suggests that students generally enter higher vocational education with weak foundational English skills.

The students began their English education relatively late. The vast majority (328 students, or 74.89%) started learning English between the ages of 7 and 12 (during primary school), while only 15 students (3.42%) received early exposure to English

before the age of 3. Additionally, only 77 students (17.58%) began learning English during the kindergarten stage (ages 3 to 7), 12 students (2.74%) started in middle school, and 6 students (1.37%) encountered English only in high school. This indicates that more than three-quarters of the students missed the "critical period" for language acquisition, resulting in significantly insufficient early language input.

The distribution of time students invests in English study each week is uneven and generally low: 79 students (18.08%) study for more than 20 hours per week; 49 students (11.19%) study for 15 to 20 hours; 83 students (18.95%) study for 10 to 15 hours; 107 students (24.43%) study for 5 to 10 hours; and a substantial 120 students (27.40%) study for less than 5 hours per week. Nearly one-third of students dedicate insufficient time—less than 5 hours weekly—to English study, indicating a severe lack of after-school language practice that is inadequate to meet the demands of intensive bilingual coursework.

Consequently, implementing bilingual education for students in higher vocational colleges increases the difficulty of subject content on top of existing language challenges, resulting in students lacking a solid foundation in English while simultaneously attempting to learn specialized knowledge. This situation ultimately leads to a disconnect between students' English proficiency and the objectives of bilingual course instruction. The specific circumstances are illustrated in Table 1.

Table1 Overview of Students' English Learning Conditions

Contents	N	Percent
Current level of English	438	
Pass the CET-6	20	4.57%
Pass the CET 4 but not the CET-6	56	12.79%
Pass the English level A test, and prepare for the CET-4	188	42.92%
Pass the English level A test, and that's it	28	6.39%
Fail the English level A test	146	33.33%
English score in college entrance examination (gaokao)	438	
Above 135	21	4.79%
Between 120-135	21	4.79%
Between 105-120	103	23.52%
Between 90-105	158	36.07%
Below 90	135	30.82%
How old were you when you began to learn English	438	
Before the age of 3	15	3.42%
3-7 years old (kindergarten)	77	17.58%
7-12 years old (primary school)	328	74.89%
13-15 years old (junior high)	12	2.74%
16-18 years old (high school)	6	1.37%
How much time do you usually spend on English study	438	
Above 20 hours per week	79	18.08%
Between 15-20 hours per week	49	11.19%
Between 10-15 hours per week	83	18.95%
Between 5-10 hours per week	107	24.43%
Below 5 hours per week	120	27.40%

2.3 Teaching effectiveness and student evaluations

Despite most students recognizing the necessity of bilingual education, the survey results indicate a significant discrepancy between actual teaching effectiveness and students' perceived benefits. This contradiction is illustrated across four dimensions: benefits of the bilingual program, satisfaction with the bilingual program, the program's main purposes, and the learning burden.

In addressing students' perceptions of benefits through multiple-choice questions, a general consensus emerged that bilingual courses offer a range of advantages. Specifically, 254 students (58%) reported an increase in learning interest; 320 students (73%) believed these courses enhance foreign language proficiency; 285 students (65%) felt they help in mastering subject knowledge; 224 students (51%) noted an expansion of international perspectives; and 22 students (5%) perceived no benefits at all. On the surface, most students acknowledge the positive impact of bilingual courses. However, it is noteworthy that more than 40% of students do not believe that the courses broadened their international outlook, and nearly 40% do not

feel that their interest was stimulated. Furthermore, 35% of students indicated that they did not successfully master subject knowledge. While "Improved the level of foreign language" received the highest endorsement (73%), this also suggests that students primarily view bilingual courses as language-focused rather than as integrative courses that balance both language and professional content.

Regarding their satisfaction with the quality of current bilingual courses, student responses were as follows: 202 students (46.12%) were very satisfied; 190 students (43.38%) were basically satisfied; 21 students (4.79%) were dissatisfied; and 25 students (5.71%) were unable to provide an evaluation. Although the combined percentage of "very satisfied" and "generally satisfied" is nearly 90%, fewer than half of the respondents expressed high satisfaction. This implies that over half of students do not experience high satisfaction, with nearly 5% explicitly indicating dissatisfaction. The seemingly high satisfaction rates may stem from students compromising due to low expectations rather than a genuine affirmation of teaching quality.

When asked about the primary purposes of

bilingual education, the students’ responses revealed the following priorities: 328 students (74.88%) emphasized the improve professional knowledge and ability; 324 students (73.97%) highlighted the improve foreign language knowledge and ability; 293 students (66.89%) focused on expanding international vision and awareness; 245 students (55.94%) aimed to learn advanced educational concepts; and 13 students (2.97%) found it meaningless. It is noteworthy that professional knowledge and foreign language competence were assigned nearly equal importance (74.88% vs. 73.97%). This aligns with the dual focus of the Content and Language Integrated Learning (CLIL) model, which emphasizes both content and language.

In response to whether bilingual courses increase learning burdens, 270 students (61.64%) felt that these courses added to their workload, while 168 students (38.36%) did not perceive any additional burden. This indicates that over 60% of students clearly feel the impact of extra learning pressure. This finding correlates with the earlier observation of weak English foundations, as 82.65% of students have not reached the CET-4 level. When students’ language capabilities are insufficient to meet course demands, bilingual learning can become a cognitive burden rather than facilitating professional understanding.

Therefore, the findings from the survey suggest

a threefold “discrepancy” between the effectiveness of bilingual education and students’ perceived gains:

First, the discrepancy between perceived gains and satisfaction. While 73% of students believe they have improved their foreign language skills, only 46.12% express high levels of satisfaction. This suggests that although students recognize progress in language, their overall evaluation of course quality is low, likely due to insufficient gains in professional content.

Second, a discrepancy between expected objectives and actual reality. Students expect an equal emphasis on professional knowledge and foreign language skills (both approximately 74%); however, current teaching either focuses predominantly on language training (becoming a language course) or uses exclusively English instruction while neglecting students’ ability to comprehend.

Third, discrepancy between the learning burden and learning outcomes. With 61.64% of students feeling an increased burden, yet less than half expressing high satisfaction, it is evident that high burdens do not lead to corresponding levels of satisfaction or perceived gains, suggesting inefficiencies in the current teaching model. Further details are presented in Table 2.

Table 2 Effectiveness of Bilingual Education for Students

Contents	N	Percent
Benefits of the bilingual program	438	
Increased interest in learning	254	58%
Improved the level of foreign language	320	73%
Master the subject knowledge	285	65%
Broaden the international horizon	224	51%
No benefits	22	5%
Satisfaction with the bilingual program	438	
Very satisfied	202	46.12%
Basically satisfied	190	43.38%
Not satisfied	21	4.79%
Can not be evaluated	25	5.71%
Mean purposes of the bilingual program	438	
Improve professional knowledge and ability	328	74.88%
Improve foreign language knowledge and ability	324	73.97%
Expand international vision and awareness	293	66.89%
Learn advanced foreign education concepts	245	55.94%
Meaningless	13	2.97%
Bilingual education increases the learning burden	438	
YES	270	61.64%
NO	168	38.36%

3. Reform Paths based on the CLIL Model

This section proposes systematic improvement strategies for bilingual education, guided by the 4Cs framework of Content and Language Integrated Learning (CLIL)—Content, Communication, Cognition, and Culture (Hemmi & Banegas, 2021). The strategies are discussed across four dimensions: teaching objectives, content selection, instructional methods, and assessment.

First, in order to implement Content and Language Integrated Learning (CLIL) effectively for students with weak English foundations, it is essential to adopt a systematic instructional design that incorporates tiered support and culturally sensitive interventions. This approach aims to transform the dual-focus model of CLIL—simultaneously emphasizing mastery of subject content knowledge and development of target-language proficiency—into accessible learning pathways (Coyle et al., 2010). A key aspect of this transformation involves the meticulous design of language scaffolding. Effective CLIL instruction does not require students to achieve complete language proficiency before engaging with content; rather, it lowers linguistic barriers through multimodal resources to enhance content comprehensibility (Pinho, 2021).

Second, there is a need for adaptive adjustments in content selection and cognitive difficulty tailored to the needs of higher vocational college students. For students who possess limited language skills and moderate foundational knowledge in their fields, it is advisable to avoid overly abstract or terminology-heavy subject matter at the outset. Instead, educators should select themes that are closely related to everyday experiences and contextually rich (Mhurchú, 2021). Additionally, the teacher's role must shift from that of a knowledge transmitter to a learning facilitator. Teachers should be equipped to diagnose language barriers, dynamically adjust the pace of instruction, and design differentiated tasks (Morton, 2017).

Third, establishing a regular feedback mechanism for the curriculum is essential. This can be achieved by periodically collecting student feedback through anonymous surveys, focus group interviews, or learning journals regarding course content, task difficulty, teacher support, and personal learning outcomes. Such student-centered, iterative optimization is fundamental to ensuring that CLIL courses are both effective and well-received.

Fourth, it is important to create a safe and

inclusive psychological environment in the classroom. Even with language scaffolding, if the classroom atmosphere is tense, the tolerance for errors is low, or teacher feedback is unconstructive, students may still experience anxiety and helplessness. Teachers should employ differentiated task designs, such as providing simplified materials for students with weaker foundations and offering extended challenges for advanced learners, to ensure that every student can experience success on an individual level.

4. Conclusion

This study examined the current status of bilingual education in six colleges in Zhejiang Province through a questionnaire survey, focusing on the specific needs and challenges faced by higher vocational students. The findings indicate a significant “mismatch” between the existing bilingual teaching model and the actual proficiency levels of students: while students acknowledge the importance of bilingual education, they experience a considerable cognitive load due to insufficient English proficiency (with over 80% scoring below the CET-4 level) and a lack of effective instructional support.

In response to these challenges, this paper proposes a reform framework grounded in the Content and Language Integrated Learning (CLIL) model. By reconstructing teaching objectives to emphasize both content and language, redesigning instructional materials with appropriate “scaffolding” to reduce language barriers, and implementing differentiated assessment strategies, the CLIL model provides a viable solution to the current issues. It is recommended that future teaching reforms transition from “language-centric” instruction to “content-driven” learning, thereby effectively enhancing the quality of bilingual education in higher vocational colleges.

Conflict of Interest

The authors declare that they have no conflicts of interest in this work.

Acknowledgement

This Research was supported by The First Batch of Teaching Reform Projects in Zhejiang's Higher Vocational Education during the 14th Five-Year Plan Period [Grant Number jg20230146].

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How to Cite: Huang, W., & Yu, J. (2026). A Study on the Reform of the CLIL Model in Bilingual Education at Higher Vocational Colleges: An Investigation of Six Colleges in Zhejiang Province. *Contemporary Education and Teaching Research, 07*(05), 133-138. <https://doi.org/10.61360/BoniCETR262020050501>