

A Ferryman Between Two Languages: Practice, Insights and Reflections on Bilingual Teaching of "Fine Organic Synthesis"

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Introduction

The "Odyssey" of Bilingual Teaching—From Confusion to Enlightenment

It is said that the ingenuity of modern education lies in its ability to wrap the bitter and troublesome aspects of teaching in the sugar-coated words of "reform" and "innovation", making people accept them willingly [1,2]. My years of teaching the bilingual course "Fine Organic Synthesis" at Yangtze University have been like a long "Odyssey" of knowledge. From the "language rapids" during my visit to Griffith University in Australia to the "cultural disorientation" when compiling the lecture notes after returning home, and then to the "Tower of Babel" predicament in the classroom, I finally caught a glimpse of the "Promised Land" in the growth of my undergraduates. The starting point of this journey was when the university sent me to Griffith University in Australia as a visiting scholar for half a year. Goethe's words, "A person who knows only one language knows no language at all," became the most accurate footnote to this experience.

The Prelude: Language Pilgrimage in Australia—Understanding "Language Empathy" Through Personal Experience

When I first arrived in Australia, I carried the "ancient copper coins" of my CET-6 vocabulary, thinking that I could freely engage in academic discussions in the country. However, upon landing, I realized that the fast-paced speech of my colleagues, mixed with obscure professional terms and vivid colloquial expressions, was like a hailstorm that shattered my "standard English" learned from books. This embarrassing situation reminded me of my students. When I taught them professional knowledge in English, they were probably as confused as I was when listening to the Australians [3,4]. So, I gritted my teeth and put my middle-aged mind and tongue back into the language mill for meticulous grinding. This process was like asking a person who is used to eating with chopsticks to suddenly switch to a Western knife and fork, not only having to handle them skillfully without making a fool of oneself but also cutting the meat precisely and putting it in the mouth. When I could finally stumble through an argument in English about the optimal conditions for an organic synthesis reaction with my colleagues, I suddenly understood Bacon's

words, "Reading makes a full man; conference a ready man." This "pilgrimage" not only broke down the language barrier for me but also helped me understand the key to "language empathy" in bilingual teaching, laying an important foundation for my later advice to colleagues [5].

Teaching Material Compilation: From "Western Steak" to "Local Borscht"—Seeking Balance in Localization

After returning home, I was eager to apply the "internationalization" gains to my teaching practice. However, the first challenge was the selection of teaching materials. Using foreign original textbooks could ensure the authenticity of knowledge, but our students are like "Chinese stomachs" and it was uncertain whether they could digest this unaltered Western steak. This situation was like the Trojan Horse, with excellent content but incompatible with the "holes in our teaching walls". The knowledge system and writing style of those original books were like the iron bed of the Greek mythological bandit Procrustes, where students with a solid foundation would be "sawed off" their redundant understanding, while those with a weak foundation would be forcibly "stretched" to fit the content. In short, no one could lie down comfortably to absorb the knowledge. I had to take on the roles of "tailor", "butcher", and "cultural alchemist". Following the painstaking efforts of Saint Jerome in translating the Bible, I dissected three or four thick English original books into pieces, selected the most core "meat" parts, and added classic cases and exercises from domestic teaching as "seasonings", slowly simmering them to try to make a pot of "borscht" suitable for all ages. This task of compiling lecture notes was as complicated as a Chinese classical literature teacher marking the tones and punctuation of Shakespeare's plays, requiring the preservation of the professional connotations of the original text while making it clear and understandable for students. When I handed this "hybrid" and seemingly "unclassifiable" lecture notes to the students, I secretly thought of Voltaire's words, "Idealism is not about pursuing perfection, but seeking balance among imperfections." Later student feedback surveys confirmed the value of this balance. Over 80% of the students believed that this lecture note "reduced the mental burden of professional English and highlighted the key points of the course". Therefore, when it comes to the selection and

compilation of teaching materials, I often advise my colleagues not to be "middlemen" or "porters" of Western knowledge, but to be "winemakers" of localized knowledge. There is no need to blindly believe in the "authority" of original textbooks. Instead, they should combine students' knowledge base, thinking habits, and teaching goals, and deeply integrate international classic theories with local teaching cases and exercises, so that the teaching materials can not only catch up with the "antenna" of international frontiers but also be firmly rooted in the "local soil" of teaching [6-10]. Only in this way can we truly help students cross the "understanding threshold" of professional English.

Classroom Practice: Breaking the "Tower of Babel"—Building a "Language Scaffold" for Effective Interaction

When standing on the podium to teach, I am like a magician of language, more like a dealer shaking two dice cups at the same time. One cup contains professional Chinese characters such as "磺化", "硝化", and "酰化", while the other contains the letter dice of "Sulfonation", "Nitration", and "Acylation". I demonstrate and explain with all my might, hoping that students can see that the "points" rolled out of these two dice cups on the "gambling table" of fine organic synthesis are actually the same "nine cards", pointing to the same professional concept. However, the actual teaching effect is often not satisfactory. I throw out carefully designed questions in English, full of expectations to trigger a Socratic-style intense debate, but often the classroom is in a state of "all is quiet, only the sound of bells and chimes can be heard", like a Zen scene. After careful observation, I found that students were busy with a more fundamental "intracranial work". They first translated the academic "feast" I had carefully prepared into Chinese word by word in their minds, slowly chewed and understood it. If they had any ideas to answer, they had to translate the Chinese viewpoints they had thought of back into English. This back-and-forth process is like the scene in the Bible where water was used to fill the wine at the wedding in Cana. Although it met the requirement of "interaction in English" in form, the "taste" of knowledge exchange was greatly reduced.

Later, I learned my lesson and compiled a "vocabulary secret manual" for the core concepts and high-frequency terms of the course and distributed it in advance, just like giving each "craftsman" who wants to climb the "bilingual knowledge tower" a unified "building terms manual". Sure enough, when I taught again, the "language resistance" in the classroom air was much smaller, and occasionally I could hear students using their still somewhat awkward English to debate the pros and cons of a certain synthetic reaction path. Only then did I truly understand the deep meaning of the Italian saying "A translator is a traitor". Instead of being "traitors" who lose the essence in language conversion, we should be "matchmakers" connecting bilingual knowledge. This made me realize the key advice for classroom interaction: teachers should not be obsessed with the "eloquent monologue" or blindly pursue the form of "all-English teaching", but should first build a "language scaffold" for students. Whether it is distributing a professional term comparison table in advance or interspersing "bilingual comparison cases" during teaching, or even allowing students to use "mixed Chinese and English" in the initial stage of expression, the core is to help students clear the "word barrier" and "expression barrier". Only when language is no longer an obstacle to knowledge exchange can students truly focus on professional content, and the natural occurrence of thought collisions and in-depth interactions in the classroom will follow [11-16].

Assessment System: Beyond the "Final Exam Mirror"—Combining Process and Summative Assessment

The final exam papers are like an honest and strict mirror, clearly reflecting the teaching effect. The 30% English questions are like a low wall set up. Students with strong learning ability and good bilingual foundation can leap over it. Those who are temporarily lagging behind have to take a detour, exposing their weaknesses. When grading the papers, I even developed a fox-like mentality from Aesop's fables. When I saw papers with clear and correct answers, I secretly congratulated myself, "This grape is indeed sweet." When I saw the answers were all over the place and even the technical terms were wrong, I couldn't help but console myself, "These grapes must not be ripe yet; they are still too sour." But when I later read the students' course feedback, one student wrote, "Now I can independently understand the abstracts of English literature related to organic synthesis. I feel like my knowledge world has expanded." Only then did I finally put my mind at ease, convinced that my teaching over the past few years was not in vain and that I had not only grown "sour grapes." This feeling of "the world getting bigger" is truly indescribable. It's like someone who has only been admiring flowers in their own courtyard suddenly being shown a path leading to the mountains and forests, and being told that there are even more extensive forests and more splendid scenery beyond. This is exactly what the old Spanish proverb means: "Those who live elsewhere have never truly lived." And our duty as teachers is to enable students to see the "scenery" beyond their own "knowledge courtyard"[16-19].

It's worth mentioning that my assessment method for teaching is not limited to a single final exam. The regular assignments in English serve as the "key to the door," helping students accumulate daily professional English application skills; the bilingual final exam is the "touchstone," comprehensively testing their knowledge and language proficiency [20-23]. And the anonymous course questionnaire is the "mirror of reflection" that illuminates the direction for teaching improvement. When the statistics showed that 70% of the students responded that this course had sparked their interest in organic synthesis, and 80% believed that the course had significantly enhanced their professional English skills, I knew that this was a much greater gain than just a high score.

Conclusion

Bilingual Teaching as "Educational Alchemy"—The Mission of a "Ferryman"

I would like to share with my colleagues that the effectiveness of bilingual teaching should not be judged solely by a final exam. It should be like Penelope's weaving, emphasizing the daily "weaving" and "unweaving." By combining "process assessment" and "summative assessment," and using various means such as regular assignments, class participation, English literature reading reports, and group discussion presentations, we can comprehensively measure the "invisible growth" of students in professional English application, international perspective expansion, and knowledge transfer ability. After all, the core of bilingual teaching is "ability enhancement," not "score competition."

Now, this bilingual course has come to a temporary end. Looking back on these years of teaching, my role as a bilingual teacher is like that of a ferryman, shuttling students back and forth between the shores of Chinese and English, old knowledge and new learning, and local knowledge and international perspectives. This reminds me of the wise words of the ancient Roman poet Horace: "A tamed mind can achieve true happiness." During the teaching process, some praise you for steering the "boat"

steadily and safely to the "other shore," while others complain that the "fare" (time and effort spent) is too expensive and they find it strenuous. But no matter what, once the "ferry" is set up, it must continue to operate. The Yangtze River flows ceaselessly, unchangingly eastward for thousands of years, and this ferrying of language and knowledge will likely continue in this way day after day. Just as Goethe wrote at the end of "Faust," "Those who strive constantly can be saved." All we "ferryman" can do is to fulfill our duties well, making each ferry trip a little smoother and a little farther than the last. This journey of bilingual teaching is ultimately not a simple language conversion, but a profound "educational alchemy." It requires us to have Goethe's global perspective, to keep up with international frontiers, and also to have Montaigne's daily wisdom, to be rooted in local teaching. I have written down my experiences, thoughts, and suggestions over the years, not to establish any "teaching dogma," but merely as a fellow traveler leaving a "road sign" after the teaching journey. If it can help you avoid some detours and save a few steps on the road of bilingual teaching, I would be more than happy. After all, we are all ferrymen on the long river of language and knowledge. What we hope for is nothing more than to help students cross from this shore to the other, and to see the broader sea of civilization.

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