

Problems and Strategies of Bilingual Teaching for Analog Electronic Technology

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Abstract. Bilingual teaching is one of the prime topics in college education reform. On the basis of stating the objective and meaning of bilingual teaching for *Analog Electronic Technology* course in electronics information major, the existing problems are analyzed minutely and corresponding improvement measures are put forward. The paper is of great guiding significance for carrying out bilingual teaching in Analog Electronic Technology and subsequent specialized courses and fostering compound talents competent both in professional knowledge and foreign language proficiency.

Introduction

With the deeper development of globalization, English as the most widely used language is applied to every field from politics, economy, science and technology to culture and military and it is also a carrier for most frontier research achievements^[1]. Many domestic enterprises have sailed in international track. Workforce has an ever-increasing demand for global talents with bilingual capacity. Therefore, it is one of the vital objectives for colleges and universities to cultivate interdisciplinary talents with international competitiveness.

The issuing of [2001]4 document from Ministry of Education of China proposed that undergraduate education should create conditions to employ English as well as other foreign languages in teaching communal and professional courses, especially in high-tech fields such as biotechnology and information technology and finance or law major. Ever since the document was promulgated, bilingual teaching was put into action in a variety of disciplines in colleges and universities across the country. However, given that scientific English instability of Chinese students and limited English expression ability of teachers, bilingual teaching in professional basic courses faces great challenges.

Based on illustrating the necessity of bilingual teaching in Analog Electronic Technology course, this paper elaborates the problems of the course and proposes relevant solutions.

The necessity of bilingual teaching in Analog Electronic Technology

Analog Electronic Technology is one of the significant professional basic courses of electronic and information major with the focuses on practicality and engineering. In this course, basic theory, elementary knowledge and fundamental technique of electronics are erected and operating principles and analysis design methods of general electronic components and circuits are presented systematically.

Since electronic and information major, one of the frontier in high-tech fields, has a rapid renewal speed, students need a sound professional English ability to acquire and master professional knowledge in line with the world. Thus, bilingual teaching not only helps teachers and students understand the curriculum, obtain the latest professional information but also enables students to meet the demands for internationalization of education. It is necessary to carry out the research on bilingual teaching in Analog Electronic Technology. Using English textbook, coupled with teaching in English adds difficulties for teachers. Lacking competence in English, students

have disturbance of understanding in accessing to knowledge. It becomes imperative to probe into teaching method and means of bilingual teaching in Analog Electronic Technology course. That teaching is the chief purpose should be understood clearly and bilingual is a means to improve English ability and obtain advanced knowledge from abroad.

Problems in bilingual teaching

Misunderstanding about teaching concept. The objective of bilingual teaching is to complete professional education as well as improve students' English ability that students can understand professional English materials and students can exchange ideas with each other in both oral and written ways. Thus, bilingual teaching should focus on teaching professional knowledge instead of foreign languages. Some teachers misunderstand the objective of bilingual teaching. They have noticed the bilingual teaching form but ignored its connotation.

Quality of students. Receptivity of students should be given the first priority, as it has a direct impact on effect and quality of bilingual teaching^[2]. English teaching has been enforced for many years in China. However, owing to its test-oriented instruction and lack of speaking and listening, general English proficiency of students is at a middle level, which constrains the development of the bilingual teaching. Students need a transition period to accept bilingual mode instead of the native one. In addition, it has difficulty in studying Analog Electronic Technology itself. For those students with weak English ability, a mass of obscure words become a hindrance for reading and comprehending, which adds more difficulty. Students have barrier in the content teacher taught in the class. And after class, owing to their limited English ability level, they are hard to review the text consciously. In addition, teachers couldn't balance the differences between the students under the condition of large lecture classes. Thus, bilingual teaching may reduce students' initiatives, make them lose interest in learning, even create an inimical emotion. This could be an obstacle of their major study instead of an incentive.

Quality of faculty. Bilingual teacher has a dual responsibility: imparting expertise and improving students' English ability. Therefore, bilingual teachers should possess solid expertise, deeply understand the content of Analog Electronic Technology and have a good English expression. That's a high requirement for teachers' English ability. At present, college teachers hold a master's degree or doctor's degree with skilled techniques and a reliable English foundation. They are good at vocabulary and reading, but weak in speaking and listening, which makes it difficult to express professional concepts and principles. Thus, it is crucial for colleges to enhance professional English of teachers and construct a high quality teaching staff.

Instruction resources. Instruction resources embrace textbook, courseware, teaching environment, infrastructure and other factors.

How to single out an appropriate bilingual textbook will influence teaching quality and learning effect. Original English textbook make it accessible for teachers and students to primitive scientific English. Considering that only a few original English Analog Electronic Technology textbooks are of high quality and it is hard to find a compatible one conforming to postgraduate entrance examination^[3]. How to optimize and rearrange the teaching content of original textbook in accordance with national syllabus is in crying need.

Multimedia teaching is a key role of motivating interest of students, improving the efficiency and optimizing the structure of class. It is an effective approach to utilize multimedia courseware reasonably to make class teaching more vivid since there are a lot of figures and equations in this course. However, bilingual teaching courseware aimed at Analog Electronic Technology cannot meet the requirements in terms of both quantity and quality. How to fabricate well formed bilingual courseware is of important significance to improve the quality of bilingual course.

Curriculum setting. A lot of colleges and universities have shown high enthusiasm in bilingual teaching. However, bilingual teaching in present becomes formalistic, people lacking enough cognition and overall plan of bilingual curriculum^[4]. Curriculum setting pays more attention on

teachers' ability on the course, but ignores the need of professional training and adaptability of students. Lack of organized curriculum system's guidance leads to an adverse consequence which couldn't achieve the objectives of bilingual course and may dampen the enthusiasm of teachers and students. How to reorganize the overall framework, teaching syllabus and program reasonably is one of the effective ways of bilingual teaching.

Strategies to promote bilingual teaching

In view of conclusion of the existing problems above, the practice and popularity of bilingual teaching is a systematical process, which needs not only the theory supporting but also relevant policies and mechanism of government and colleges. Thus, several strategies are put forward against the existing problems.

Improvement of teaching condition. Colleges and universities need increase input in bilingual teaching vigorously from both ideology and organization aspects. Firstly, expenditure support and material guarantee should be ensured, including textbook introduction, staff training, infrastructure construction, etc. The teaching methods and means needs to be reformed and multimedia teaching needs accelerated. Colleges and universities can fabricate their high quality multimedia courseware. Secondly, a good bilingual environment needs to be created. On the one hand, situations for English communication need establishing, such as chances for students to communicate with foreign teachers or various kinds of English activities. On the other hand, teachers are supposed to let students participate in class teaching actively and encourage them to express their thought and answer questions in English.

Construction of bilingual teachers. Construction of bilingual teachers should be enhanced to cultivate a number of compound teachers with solid professional knowledge and English capacity. Specific means are as follows. The first thing is to train professional teachers. Some foreign countries have established relative perfect systems after many years of exploration. China can draw lessons from them. Training professional teachers who own a better English foundation and academic exchanges with foreign colleges and universities via various ways are both effective measures. The second is to absorb graduates returned from abroad. Recently, under the concept of internationalization, more and more personnel went to developed countries to get a further education. They can turn into main force of bilingual teaching on account of their solid professional and language knowledge. The third is to engage foreign professional teachers. Considering that foreign teachers don't have a good master of Chinese, they can cooperate with native professional teachers to enhance the effect and quality of bilingual teaching.

Modification of bilingual teaching testing system. The traditional testing system should be modified to conform to the bilingual teaching. Traditional testing system adopts closed-book or open-book exam. These two ways focus on the result of examination instead of learning procedure, which reduces the goal to promote learning through test. In the bilingual teaching testing, professional basic knowledge, English application ability and comprehensive assessment of inquiry learning and autonomous learning should be attached more importance and proportion of English application ability and innovation capability should be given more emphasis. Testing method should contain multiple types, such as closed-book exam, essay writing and presentation in English in order to give students a comprehensive evaluation.

Establishment of impeccable teaching evaluation system. It is an important guarantee to establish an effective teaching evaluation system for development of bilingual teaching and improvement of teaching quality^[5]. Teachers could regulate the teaching project and method with pertinence according to the objective and impartial evaluation results. Meanwhile, colleges and universities can get the implementation of bilingual teaching timely and make management mode and curriculum system more perfect. Based on actual influence factor in domestic bilingual education, assessment indicators should incorporate teacher quality, student quality, teaching content, teaching method and means teaching effect, etc^[6]. Not only should teachers and students

participate in the assessment system, but also teaching administrative department, experts and peers should participate in order to make the assessment result more objective and impartial.

Summary

Bilingual education is an inevitable trend of educational development and reform and a new challenge faced by colleges and universities in the new era. During the course, we must realize that bilingual teaching shouldn't have impact on learning in mother language and professional knowledge. At the meantime, the relationship between bilingual teaching and English teaching should be handled correctly.

Bilingual teaching in China is still at a state of exploration and practice. Problems and reform measures of bilingual teaching in this paper are experience and conclusion from years of education job. Under the permission of teachers and teaching conditions, multimedia bilingual teaching is worth experimenting. Scientific method, coupled with joint efforts from teachers and students makes it possible to find a suitable teaching model in order to enhance teaching quality and contribute to fostering high-level talents adapting to international competition demand.

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