

Research and Reform of Bilingual Teaching Model: A Case Study of Food Safety Course

Guifang Chang¹, Yanxia Xing¹, Yingying Tian¹, Xiaojun Chi¹, Kexue Yu¹,
Fengli Yue¹, He Zhu^{1, 2, a, *}

¹Department of Food Science and Engineering Shandong Agricultural and Engineering University, Jinan 250100, China

²Department of Food Science and Engineering Central South University of Forestry and Technology, Changsha 410000, China

^a251763119@qq.com

*Corresponding author

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Abstract: This paper summarizes the theory and practice of bilingual teaching in university courses in recent years, combined with the experience accumulated in the bilingual teaching of Food Safety. This paper discusses on the problems existing in bilingual teaching at present. Some proposals were raised by investigating and analyzing the teaching effect. They include combining interactive classroom, reverse classroom and improving teachers' comprehensive quality in order to the bilingual teaching reform of "Food Safety Science".

1. Research background of bilingual teaching of Food Safety

1.1 Research background of bilingual teaching

Bilingual teaching (Bilingual Teaching) refers to the use of two languages in teaching, that is, the use of foreign languages (mainly English) and mother tongue in the use of teaching materials, teaching courses, examinations and other teaching links at the same time to carry out some or all of the teaching activities.

Since the promulgation of the Ministry of Education on Further Strengthening Undergraduate Teaching in Colleges and Universities No.1 in 2005, bilingual teaching has been carried out in some colleges and universities. Bilingual teaching has made some achievements in teaching and research in different subject areas, which has improved the quality of undergraduate education in our country.

In recent years, bilingual teaching adopts representative original teaching materials from abroad and a teaching method in foreign languages especially in non-linguistic courses. In the world, bilingual teaching is mainly divided into three models: immersion type, retentive type and transitional type.

Immersion type uses non-mother tongue in whole teaching. Retention type uses the second language in some subjects and use the mother tongue in the remaining subjects. Transitional type uses the second language teaching and other tongue in all the courses of the lower grade students.

At present, bilingual teaching mainly refers to the second mode of bilingual teaching in our country. English is used most of the second language in the retention mode. It is mainly used fluent English to explain knowledge in the course application. Chinese is used in the key and complex difficulties that are explained in English. This will not affect students' systematic reception of knowledges.

1.2 The necessity and current situation of bilingual teaching

1.2.1 The necessity of bilingual teaching

“Language teaching based on Curriculum content” (Content-based language instruction) has been advocated in the University of Ottawa Canada. It is teaching Introduction to Psychology in English and French (second language). Teaching practice shows that the scores of students in the experimental class far better than those in the monolingual class and the improvement of French is comparable to that of students majoring in French. According to the statistics over the years, the students in the relying language class (bilingual teaching class) have significantly improved in their subject level and language proficiency, and the level of subject knowledge and language use are much higher than those of ordinary single language students¹. Similar findings have been obtained in the second language teaching model based on the discipline in the University of Michigan². The dual improvement of bilingual teaching on students' learning ability and language learning ability often appears in the research of teaching mode in Singapore³, Australia ⁴ and other countries.

In the era of knowledge-based economy, science and technology updates rapidly. Without immediate tracking and mastery of newly published works, it will be impossible to correctly infuse a course into contemporary college students. Even if the original English textbooks are tracked, revised or taught directly in the original English textbooks, it is an important guarantee to improve students' professional learning and language learning. At the same time, the newly published English textbooks have a high timeliness, which can avoid the knowledge disjunction in the teaching process.

1.2.2 Problems in bilingual teaching in colleges and universities in China

1) There are great differences in students' English foundation. Pure English teaching is easy to cause tired of learning in students with poor foundation. From a worldwide perspective, there are four types of students in bilingual teaching: (1) students from bilingual families; (2) students from migrant families; (3) students from bilingual countries in the official language; (4) students from countries dominated by their mother tongue. (5) College students in China belong to the fourth category in our countries. They have not received bilingual teaching in primary and secondary schools. It is difficult to enter the University for Bilingual teaching.

2) Content is greater than method, and students' autonomous learning ability is poor. In the process of bilingual teaching, the teacher is the subject of teaching. After students passively accept knowledge and form inertia, they can master international synchronized professional knowledge, but their ability to quickly adjust their knowledge structure has not been improved. Students have not developed a "how to learn" method in bilingual teaching environment. Especially in the key and difficult problems, teaching in English blindly, most students cannot understand and master because of their poor professional knowledge and English proficiency. Over time, students are prone to be tired of learning, and the teaching effect is poor. This phenomenon continues to occur, and bilingual teaching will be flashy and unrealistic.

3) Bilingual teaching is very difficult. Fixed teaching performance affects teachers' enthusiasm. The application of bilingual teaching mode puts forward higher requirements for teachers' classroom teaching ability. The school solidifies the teaching performance model and it reduces the enthusiasm of teachers' bilingual teaching.

4) Textbooks are expensive and students bear a heavy burden. Although some international organizations donate foreign books to developing countries, they are limited in variety and single in variety. The cost of purchasing foreign textbooks is high, which is not conducive to the popularization of bilingual teaching.

1.3 The significance and problems of bilingual teaching of Food Safety

Food safety course is a compulsory course for undergraduate students majoring in food quality and safety, food science and engineering. It mainly introduces the concept of food safety, factors affecting food safety and preventive methods.

2. Methods

2.1 Encouraging bilingual teachers to build bilingual teaching materials and supporting systems

In view of the problem of the high cost of English textbooks, we should strengthen the construction of curriculum groups, strengthen the integration of self-compiled Chinese textbooks, professional vocabulary bibliography, teaching website construction and other resources. The reform of textbooks and supporting system is conducive to reducing the difficulty of professional knowledge, helping students better understand the knowledge points in foreign textbooks, enriching the ways of self-study and preview courses for poor basic students, and providing good conditions for bilingual teaching. Ouyang Qiang et al.'s 5 bilingual teaching reform not only saves the cost of bilingual teaching materials, but also reduces the burden of students' textbooks, and achieves good teaching results through this way.

2.2 Encouraging bilingual teachers to use new management modes such as flipped classroom and combining them with bilingual teaching modes

At present, the flipped classroom is welcomed in many schools and has achieved good teaching results. This traditional way of "teachers teach in the classroom during the day and students do homework at night" is just the opposite of the classroom model, which is called "Flipped Classroom". Other scholars in China have translated it as "reversing the classroom". Teachers put their course explanations on the Internet beforehand, with students' advanced preview and more use of class time for discussion. Teachers do not occupy class time to lecture information, have more time to communicate with students in class, and increase students' understanding and mastery of key and difficult problems⁶. Li Zhongkai ET al.⁷⁻⁸ discussed the reform mode of combining flip classroom with bilingual teaching in the course of Fundamentals of Control Engineering. They believed that the new management mode such as "flip classroom" and the teaching mode of "bilingual teaching" could effectively promote students' professional English learning and realize the internationalization of the course. In the teaching practice of Stomatology course, Zheng Chao ET al.⁹. Found that the implementation of the new management mode such as "flip classroom" and "bilingual teaching" resulted in 30.77% excellent students' final grade (over 85 points) and 30.77% good ones. Questionnaires showed that students generally believed that it was necessary to carry out "stomatology". Questionnaire shows that students generally believe that it is necessary to carry out bilingual teaching of stomatology. They like this learning mode very much. They like to prepare before class and discuss in class mainly in English. It can be seen that the new teaching management mode, can effectively improve students' learning efficiency and enhance students' autonomous learning ability integrated bilingual teaching mode⁹.

2.3 Course Selection System in Bilingual Teaching Courses

There is a big gap in English proficiency among college students. Only a few students can meet the requirements of bilingual teaching. According to the different situations of students (CET test scores, etc.), students who meet the requirements can arrange to choose bilingual teaching independently. Zhao Xiao ET al.¹⁰ reformed the course selection system of bilingual teaching of Polymer Chemistry. The students' results show that the course selection mode is beneficial to improving the students' grades and balancing the students' ability to receive knowledge at different levels.

2.4 Improving bilingual teacher management

We will standardize the management of bilingual teachers, recognize the qualifications of bilingual teachers through experts inside and outside the school, and implement the "certification on duty" system, improve the curriculum subsidies for bilingual teachers, and provide supplementary rewards for teachers with excellent teaching results.

We will increase the frequency of lecture attendance and communication between teaching groups, make policy preference for teaching groups or courses that meet the requirements of bilingual

teaching, increase the construction of bilingual teaching curriculum groups, and form the teaching backbone and team of relevant teaching groups.

The practice results of Ouyang Qiang et al. 10 show that the number of bilingual teachers and qualified bilingual teachers has increased significantly, and a bilingual teacher pool has been formed

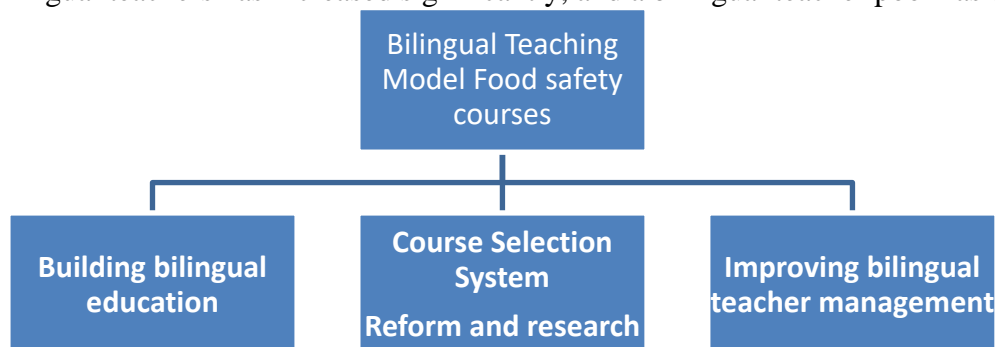


Figure 1. Composition of developing methods in bilingual language for food safety course

3. Conclusion

According to this review, we concluded that bilingual teaching is an important educational method to develop students to gain the comprehensive knowledges about the food safety courses, and we suggested that we could advance this class mainly through build bilingual education, course selection system reform, improving bilingual teachers' management. With this development of the reform in food safety courses, aid to improve total learning ability of Chinese students.

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