

Research on the Implementing Approaches of Courses Internationalization in Agriculture-related Universities

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Abstract—Courses internationalization is to infiltrate the frontier and international content of the teaching process in a diversified form and cultivate students' international communication ability and vision, so that they can not only participate in international exchanges and cooperation, but also pay attention to common topics related to human survival, and respect differences. This paper mainly studies the implementation of courses internationalization. By reviewing the related research progress and practical application at home and abroad, it finds out the existing problems in the process of courses internationalization in agriculture-related universities, and puts forward different mechanisms and implementing approaches of courses internationalization.

Keywords—Courses internationalization; Agriculture-related universities; Development constraints; Different mechanisms of courses internationalization development; Implementing approaches

I. INTRODUCTION

The courses internationalization is the most important element in the internationalization of higher education. In order to develop international education, agricultural universities must redevelop and innovate their curricula. Today's globalized world also means the blurring and shrinking of national boundaries. The scope of students' future work is global. International courses must pay attention to the international understanding of specific things, and any subject related to economic, social, cultural, political and agricultural affairs must allow students to explore in the context of the global architecture. According to NAFSA (the Association of International Educators), internationalization of university curricula includes adding international curricula, such as regional or international electives and compulsory courses taught in foreign languages; higher education institutions can also develop more international relevant major and minor courses for students; and more importantly, they can add more transnational, cross-cultural, international comparison and other elements to the existing university curricula [1].

II. AN ANALYSIS OF THE RESTRICTING FACTORS OF THE COURSES INTERNATIONALIZATION DEVELOPMENT IN AGRICULTURE-RELATED UNIVERSITIES

A. The Opening of Foreign Language or Bilingual Courses has not yet Formed a Certain Scale

The degree of curriculum openness is low. As the carrier of students' acquisition of knowledge, curriculum is the easiest

way to inject multicultural and international perspectives. It is the most effective way to internationalize higher education and the most critical element of internationalization of higher education. Curriculum is the link between teachers and students, and the platform for students to acquire knowledge. The internationalization degree of curriculum directly affects the internationalization degree of students. The ultimate goal of internationalization of higher education is to realize the internationalization of human beings, and the goal of talent cultivation is ultimately achieved through the goal of curriculum [2].

At present, many China's universities learn from the well-known international universities to set up courses, introduce or select foreign high-quality textbooks in a planned way, implement all foreign language teaching or bilingual teaching of "Chinese + Foreign Languages", and add international contents to the teaching links, so as to cultivate students' internationalization awareness. Setting up foreign language or bilingual teaching courses is an important reflection of the gradual internationalization of university curriculum, and also an inevitable requirement for the further development of foreign students' education in China. The teachers of internationalization courses in China's universities are mainly local teachers, but many of them have overseas experience. The proportion of courses taught by foreign teachers is not high [3]. Nowadays however, the proportion of all foreign language teaching or bilingual teaching courses in agriculture-related universities is still very low. Some agriculture-related disciplines offer specialized English courses for senior students. Their major teachers teach horticulture, animal husbandry, aquatic products and other agriculture-related professional knowledge in English or bilingual languages (Chinese-English). There are two main reasons for this situation: one is the shortage of teachers. Teachers who are both proficient in agricultural professional knowledge and have high foreign language proficiency are in sore need. Taking Tianjin Agricultural University as an example, only 13.1% of full-time teachers have overseas learning or working experience; the other is the low level of foreign language of students. Most students who have passed CET-4 or CET-6 in their freshmen or sophomores will not learn English systematically. And all the junior and senior university students have no English lessons according to their curricula. In that case, they will no longer accept systematic English learning. Except for some students who have the plan of taking the postgraduate entrance examination, they will

continue to study English independently or take part in extracurricular English tutorial classes. Most junior and senior university students will not consciously and systematically learn English. In addition, the learning of agricultural specialized English is more difficult than the general language knowledge learning, and it is also more difficult to arouse students' interest in learning.

B. Lack of Systematic Management System

Firstly, many agriculture-related universities sometimes organize teachers to attend lectures and participate in language and cross-cultural courses training, but they are relatively scattered, and there is no long-term planning and corresponding management system. Secondly, although teachers are encouraged to discuss with their counterparts at home and abroad, communication is scattered, fragmented and lack of long-term cooperation and exchange mechanism. Teachers at home and abroad should exchange frequently on key issues in curriculum construction, adjust and update curriculum in time. Teachers' overseas visits to study and attending academic conferences at home and abroad are good opportunities to absorb advanced experience and improve their teaching and scientific research. Teachers' foreign-related further education and participation in international conferences should also be institutionalized so as to benefit more teachers. Thirdly, it is of great significance for teachers and students to understand international agricultural trends, grasp academic frontiers and enhance practical ability by inviting foreign experts to give lectures, especially well-known foreign scholars in the field of agriculture or workers engaged in agricultural practice for many years. The implementation of these measures cannot be separated from the guarantee and cooperation of the relevant systems of agricultural universities. Schools, on the one hand, can ensure that teachers have clear objectives, requirements and responsibilities for internationalization of curricula by formulating various international standards. On the other hand, they should incorporate the guiding ideology of internationalization into the recruitment, training, assessment and promotion of teachers, strengthen international publicity and guide teachers to consciously promote the internationalization of curricula. In addition, schools should provide necessary financial support and incentives to support teachers to study abroad, participate in international conferences and carry out international courses reform.

III. STUDY ON DIFFERENT MECHANISMS OF COURSES INTERNATIONALIZATION DEVELOPMENT IN AGRICULTURE-RELATED UNIVERSITIES

A. Collaboration of Various Administrative Departments

When agriculture-related universities develop the courses internationalization, active leadership and stable financial investment are required. In the process of internationalization development, administrators and teachers should be widely involved in the construction of the internationalization of curriculum. The internationalization level of teachers should be kept improving. Under the leadership of the personnel department, the International Exchange Office and the colleges cooperate to complete the following tasks: 1) Formulate measures for the introduction and management of

overseas talents and recruit teachers with overseas learning or working experience. 2) Improve the flexible introduction and management methods, actively promote the short-term work and exchange of well-known overseas experts and scholars, and improve the internationalization of specially appointed professors, part-time professors and visiting professors, so as to build a broader platform of the international academic exchange for teachers in schools. 3) Continue to promote overseas visiting and learning programs, and appoint more teachers to study and visit well-known overseas universities to carry out cooperative research and exchanges. 4) Implement the plan to enhance teachers' international ability, through providing key support to teachers who have already studied abroad, creating conditions for academic exchanges and cooperation with well-known overseas universities, establishing stable academic partnerships, and promoting the further development of international academic exchanges.

B. Adjustment of Curriculum

According to the Carnegie Foundation for the Promotion of Teaching, 77% of four-year universities in the United States in 1989 had at least one course with international content in the general education curriculum. The University of California, Berkeley, for example, offers about 600 international courses and more than 80 foreign language courses every year. To adjust the curriculum settings, more courses with international contents should be offered in the curriculum of agriculture-related specialties. 1) Use international cases and reading materials in class, encourage students to carry out international research, even study abroad, and recruit more foreign teachers to introduce diverse research interests and perspectives. 2) Set up a globalized curriculum with a brand-new concept of education and pay attention to the construction of specific curriculum system and objectives under the international background. 3) Reform the curriculum system design: add international content to the curriculum; carry out comparative and cross-cultural research; carry out research on the situation of agriculture in different regions of the world; hire visiting scholars to open courses and so on. 4) Teachers engaged in internationalized teaching should be given more opportunities for foreign-related training and further study, and teachers should be arranged to visit overseas in order to make the curriculum content and teaching methods more internationally competitive. At the same time, a certain proportion of overseas scholars should be hired every year to offer courses or lectures for students or guide experiments or papers.

More foreign language, other countries' history, geography and agricultural courses should be offered. More importantly, a curriculum system with an international perspective should be constructed. Firstly, set up specialized international agricultural courses, which require specialized subjects such as agronomy, animal husbandry, aquatic products, horticulture and so on be taught in the international framework, so as to make students aware of the interconnection of all countries in agriculture and the common and universal problems in world agriculture. Secondly, international contents should be added to the existing agriculture-related professional courses. These contents pay close attention to the latest trends of international agricultural disciplines, such as agriculture, animal husbandry,

aquatic products, horticulture, and so on, so as to keep students informed of the latest research results. Add the history of world agriculture, world agricultural science, technology and culture to the core courses of agriculture-related specialty or the optional courses of the whole school, and increase internationalization content in the teaching of agriculture-related specialty. Thirdly, new courses focusing on international themes should be offered such as international agricultural trade, international agricultural development and so on. Fourth, regional or national research courses, such as European Agricultural Research, allow students to use 6-8 weeks to study the characteristics of agricultural development in EU countries, if conditions permit, they can go to France or other countries for field visits; Fifth, establish an international exchange curriculum network, through exchange courses to supplement the curriculum not set up in the school teaching plan, while enabling students to experience different cultural backgrounds.

Specific requirements are put forward for the curriculum system, including: every major should have international activities, such as overseas internship and learning or Chinese-foreign cooperative education experience; foreign languages as a compulsory professional course; providing distance education courses in foreign universities; advocating “double specialties” in liberal arts and sciences; taking international or regional agricultural research as a minor specialty or specialized or elective course according to various training objectives of different specialties. Adding the elective courses of international or regional agricultural research throughout the school; new courses on international agricultural issues should be constantly set up; current courses are internationalized through supplementary cases, projects, experiments, papers and supplementary reading materials; in order to solve the problem of hiring foreign teachers, foreign visiting students and teachers can be hired to offer appropriate courses; providing convenience for students to communicate online with teachers and students of foreign universities and opening up international contacts [4].

IV. CONNOTATION CONSTRUCTION AND IMPLEMENTING APPROACHES OF COURSES INTERNATIONALIZATION IN AGRICULTURE-RELATED UNIVERSITIES

A. *Connotation Construction of Courses Internationalization in Agriculture-related Universities*

As early as in the 1995 UNESCO report *Policy Paper for Changing and Developing in Higher Education*, internationalization has been regarded as one of the three core concepts of the development of modern higher education, and curriculum internationalization can be said to be the most core and important component of the internationalization of education. The Organization for World Economic Cooperation and Development has concluded nine types of internationalized courses, including courses with international disciplines, courses that can be extended and expanded through international comparison and reference, courses that train students to engage in international professions, courses of intercultural communication and foreign affairs skills in foreign language teaching, courses of research in one or several foreign regions, courses for international professional

qualifications, degree or double degree courses awarded across borders, courses taught by overseas teachers, and courses designed specifically for overseas students. It can be seen that the connotation of international courses is very rich, not limited to courses taught in foreign languages, courses offered for foreign students or courses oriented to international professions. Many traditional agricultural courses need to be reformed more and more from the perspective of internationalization [5].

The internationalization of courses in agriculture-related universities should pay more attention to comparative, cross-cultural and global perspectives, cross-disciplinary analysis and discussion of agricultural issues facing the international community, understanding the main trends and general laws of world agricultural development. Further strengthen regional research and constantly deepen learning from typical countries or regions. Through extensive communication and interaction with different countries and regions understand the relationship between universality and particularity, commonality and difference, as well as the relationship between wholeness and locality in international agricultural development. It is necessary to properly handle the balance between internationalization and localization. Internationalization is a two-way flow rather than a one-way input. In the process of learning foreign agricultural theory and practice, Chinese students majoring in agriculture must think about its adaptability and compatibility with the actual situation of China and combine it with the realistic background and characteristic tradition of Chinese agriculture.

B. *Improving the Professional English Ability and Level of Teachers in Agriculture-related Universities*

The internationalization of courses in agriculture-related universities has put forward higher requirements for teachers' foreign language competence. International courses require teachers to master a high level of foreign language skills. Foreign languages are the basic tools for teachers to teach, consult foreign language textbooks and materials, and participate in foreign exchanges and cooperation. At present, the foreign language proficiency of professional teachers in various disciplines in Chinese universities has been greatly improved. Especially, the introduction and employment of teachers with overseas learning or working background have strengthened the teaching staff who can teach and research in foreign languages. However, generally speaking, the foreign language level of teachers in agriculture-related universities is still relatively low, and there are not many teachers who can skillfully use foreign languages for professional teaching. Many teachers have strong reading and writing abilities in foreign languages, but their oral expression ability cannot meet the requirements of foreign language teaching, which is a bottleneck in promoting the internationalization of agriculture-related universities' curriculum. Therefore, it is an important task for agricultural universities to improve their overall teachers' professional English application ability and level in the process of courses internationalization.

V. CONCLUSION

Currently, the opening education of agriculture-related universities has reached unprecedented opportunities. Only a high-quality international curriculum system can train excellent international talents [6]. The construction of internationalization of courses in agriculture-related universities still needs to be further strengthened in depth. The research on the connotation and implementing approaches of internationalization of courses should keep pace with the times and be strengthened continuously. All agriculture-related universities should incorporate the construction of internationalization curriculum system into the strategic development plan of internationalization of schools, and give adequate attention and appropriate policy support.

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