

# Examination of the Effect of Improving the Quality of International Students' Education

Yang Bai \*

Shandong University of Technology, China

\* Corresponding author Email: b198716y@hotmail.com

---

**Abstract:** The status quo of international students' education and the assessment system of education quality improvement are discussed in One Example University, and the evaluation indexes of international students' education quality are constructed from the aspects of cultivation program, teaching service, teaching achievement, learning resources, etc., to provide a reference for the improvement of international students' teaching quality in universities.

**Keywords:** International Student Education; Hierarchical Analysis Method; Fuzzy Comprehensive Evaluation Method.

---

## 1. Introduction

With the rapid development of China's science and technology and economy, especially the promotion of the national "One Belt, One Road" construction, more and more international students choose to study in China, based on which the scale of international students in One Example University is also expanding. However, due to the great differences in cultural backgrounds, the cultivation of international students faces many new challenges. Based on the characteristics of the University's education model and the international student group, this paper researches the assessment of the quality of international students' education in One Example University and searches for the key influencing factors to improve the quality of international students' education. It constructs a model of the assessment of the quality of international students' education from the four dimensions of cultivation program, teaching service, teaching achievement, and teaching resources, using the combination of the hierarchical analysis (AHP) method and the fuzzy comprehensive evaluation method to provide theoretical support for the work of cultivation of international students. International students' talent cultivation work to provide theoretical support and basis. The key influencing factors affecting the quality of postgraduate education are obtained through the study, which provides a scientific and effective reference for cultivating international students' talents in the University and important guidance for improving and enhancing the management of international students' cultivation.

## 2. Literature Review

Wang and Gao (2022) initially proposed five factors of education service quality and used neural networks to model and analyze them. The five factors of the education service quality evaluation model were examined individually, and the problems existing in the education service quality of international students in China were analyzed. The empirical study shows that the overall satisfaction of international students in China with the quality of education services in Guangxi is low, and all the indicators of education level are low [1]. Wenxin Du (2019) explored how to strengthen the education management of international students in China,

understand the problems, and put forward targeted countermeasures [2]. Canjing Ma and Yinqiu Ma (2019) analyzed the quality of education services in Guangxi by analyzing the enrollment policy for international students formulated and promulgated by the Shanghai Municipal Education Commission. They clarified the characteristics of the formalization of "ordinary classroom learning" and the classification of education management for international students. Combined with analyzing the characteristics of the international student education management system in Japanese primary and secondary schools, they put forward some suggestions for improvement [3]. Wei Jianhua (2019) investigated the satisfaction of Zhejiang universities with a sample of 463 international students and came up with the constraints that may hinder the development of international education in Zhejiang province [4]. Kim Ihn Jou (2017) investigated and analyzed the international student satisfaction, understanding, and necessity of "Career Start" courses, focusing on professional courses for international students to improve the education of Chinese students [5]. Songzhu Xia (2014) looked at four aspects of the curriculum system: faculty, cultivating scientific research ability, and creativity in graduate study, and introduced the PBL teaching model into student teaching [6]. Ludmila N. Larina (2015) explored the acute problems of international student education. The main principles of the Total Quality Management System (TQM) are implemented in the planning and organization of education and other processes important for education. Development of new forms and methods of educational activities, new links between different issues, and understanding of effective management of all processes [7]. Chiharu Kuroda's (2014) study explored the current situation of English-medium master's degree programs for international students (EMIMDPs-ISs) in Chinese higher education. It first examines the relevant policies and practices of the Chinese government and explores the rationale for enhancing EMIMDPs-ISs in current Chinese higher education. Then, the results of a case study of eight EMIMDPs-ISs in Chinese higher education at four leading comprehensive universities in China are presented [8]. Hong, Hyo Jeong, Hyun et al.'s (2013) study aims to provide practical implications for the development of the ISD model by applying it to the development of a learning strategy program for international students to adapt to university life

and based on the study's results, it was suggested that there is a need to develop and operate a systematic program for international students to adapt to university life in the future, and secondly, to continually consult with the students involved in the program [9].

### **3. Analysis Methods**

#### **3.1. Fuzzy Comprehensive Evaluation Method**

The fuzzy comprehensive evaluation method, FCEM) is a comprehensive evaluation method based on fuzzy mathematics, according to the fuzzy mathematics of the degree of affiliation theory of qualitative evaluation into quantitative evaluation, that is, the use of fuzzy mathematics on the constraints of various factors to make a general evaluation of things or objects. The fuzzy comprehensive evaluation method is characterized by clear and systematic results, which can better solve fuzzy and difficult-to-quantify problems and is suitable for solving various non-deterministic problems. Generally speaking, teaching quality using fuzzy mathematical methods for comprehensive evaluation will be closer to the actual situation.

#### **3.2. AHP**

Thomas L. Saaty proposed the analytical hierarchy process (AHP) in the 1970s, which is based on the hierarchization of the research object (divided into the target layer, the criterion layer, and the program layer) and then constructs the decision matrix and calculates the importance weight value of the program layer in relation to the target layer through the method of data normalization. The importance weights of the programmatic layer about the target layer are calculated by data normalization.

### **4. Status of International Student Education in One Example University**

#### **4.1. Level of Schooling**

Since 1997, The University has been recruiting and training international students. In 2006, the School of International Education was established, co-located with the Office of International Cooperation and Exchanges; in 2018, the School of International Education was independently set up as a management unit for international students, with four sections and offices, including Comprehensive Office, Student Work Office, Teaching Work Office and Enrollment Office, which are responsible for the enrollment, education, training and management services of international students. In 2011, the school became the first batch of Shandong Provincial Government Scholarships for Foreign Students, in 2014 it became the first batch of Chinese Government Scholarships for International Students. In 2019, it was approved for the first time for the Silk Road Chinese Government Scholarship Program. "In 2019, the number of international students reached 1,033, and the total number of international students ranked the highest among the universities in Shandong Province. It has established 49 undergraduate intercollegiate exchange programs. It has trained more than 5,500 international students from more than 30 countries, including the United States, Russia, Japan, and South Korea, in the past 10 years.

#### **4.2. Cultivation System**

In recent years, the work of studying in China has made great progress and development. The scale of cultivation of international students has been steadily expanding. The cultivation level and country structure have been increasingly improved and optimized, forming a complete cultivation system from bachelor's degree to master's degree to doctoral degree.

#### **4.3. Specialization**

Taking advantage of the characteristics of academic disciplines, the University has created several Chinese-medium and English-medium majors with distinctive features to meet international training requirements. At present, there are two Chinese-medium undergraduate majors in Chinese Language and Literature (Business Chinese Direction) and International Business (Business Management Direction), as well as four English-medium undergraduate majors in International Economics and Trade (International Logistics Direction), Mechanical Design and Manufacturing and Automation, Computer Science and Technology and Civil Engineering. In addition, there are 71 majors in 22 colleges for international undergraduates and 34 for international graduate students.

#### **4.4. Cultivation Platform**

The University has an HSK test center, BCT test center, CICTE Teacher Training Center, and a cultural experience base for international students. Intending to cultivate Chinese-foreign communication messengers who are knowledgeable about China and friendly to China, the University continuously strengthens the education and training of international students. It innovates the cultivation mode of international students.

### **5. Construction of International Student Education Indicator System of One Example University**

This study designs the evaluation index weighting system of the quality of international students' education in One Example University according to the hierarchical analysis method (AHP), with the following steps: expert research formulation of dimensional elements Firstly, based on the "Norms" and "Standards" and other documents and work practices, the study adopts the methods of literature analysis and expert interviews, etc., and organizes a collection of indexes of the general influencing factors related to the quality of international students' teaching in One University. The survey questionnaire was designed and distributed to the university staff and international students coming to China. Subsequently, after the experts reached a consensus, the group formed a hierarchy of evaluation factors for the quality of international students' education at One University, which contains 11 first-level elements and 29 second-level elements based on the four dimensions of cultivation programs, teaching services, teaching achievements and teaching resources.

### **6. Analysis of Quality Evaluation System Indicators**

By weighing the elements, it can be understood that when evaluating the quality of international student education at

One University, the evaluation zones are established according to the cultivation of international students, teaching service, teaching achievements, and teaching resources. Among them, international students' cultivation is located in the core area, which is the most important to guarantee the quality of international students' education at One University; the teaching service is located in the critical area, which is the key to ensuring the smooth implementation of international students' education and teaching activities of the University; teaching achievements are located in the critical area, which is the main parameter and judgment basis for measuring the teaching effect; and teaching resources are located in the necessary area, which provides the conditions required for the implementation of teaching.

## **6.1. Cultivation Dimension of International Students**

The University should organize, formulate, and plan its faculty, talent cultivation program, and teaching implementation according to the University's school orientation, internationalization strategy, service orientation, advantages, and characteristics. This study has set up two first- and seven second-level elements in this dimension.

### **6.1.1. Teacher Quality.**

Teacher quality is the core guarantee of teaching quality. Teachers directly guide and influence international students' learning experiences and outcomes. Highly qualified teachers can provide more efficient and effective teaching, which helps international students to have better learning experiences and achievements. Teacher literacy includes an understanding of and respect for different cultures and the ability to communicate across cultures. Only teachers with these qualities can better interact with international students, solve the problems they may encounter in their studies and lives, and help them better adapt to the new cultural environment. For this reason, we believe that this first-level element should contain three second-level elements: teaching beliefs, professionalism, and information literacy.

### **6.1.2. Teachers' Teaching Input.**

Teachers' teaching input directly affects the quality of teaching. Teachers who put more time, energy, and effort into teaching can provide more detailed and thoughtful teaching services to meet the learning needs of international students better. The level of their commitment also affects their teaching methods and strategies. Their teaching attitudes and professionalism can positively impact international students, stimulate their learning potential, and shape their academic character and personality.

## **6.2. Teaching Service Dimension**

The teaching service dimension is responsible for the rational allocation and management of educational resources, including human, material, and financial resources. They should ensure that these resources can effectively support international students' learning and living needs and promote the quality of education. The management team is responsible for managing and supervising the teaching process to ensure the smooth implementation of teaching activities and the steady improvement of teaching quality. They should establish an effective monitoring mechanism to evaluate and follow up on teachers' teaching behavior and students' learning. They are responsible for organizing and managing the student service and support system to provide

international students with all-around support and services, including academic guidance, life assistance, cultural adaptation, and other aspects. Our University should continue to follow up on the organizational construction of the management department and coordinate the job division and authority coordination of international student education, management, and services across the University. Specifically, it should promote the construction of a management team, management system, and maintenance mechanism.

## **6.3. Dimension of Teaching Achievement**

Teaching outcomes are a direct reflection of assessing international students' academic level and learning outcomes. Students' academic performance and level can be objectively evaluated by examining their learning outcomes, including academic papers, projects, and examination results. It reflects whether students have achieved the teaching objectives and learning requirements. One of the main purposes for international students to participate in teaching activities is to acquire specific knowledge and skills, and by examining their learning outcomes, it can be assessed whether the teaching activities have achieved the expected goals. Teaching outcomes are also used as a marker for evaluating international students' personal academic development and professional competence. Students' learning outcomes reflect their academic growth and professional development while studying abroad, which is of great significance in evaluating individual students' academic level and professional competitiveness.

## **6.4. Dimension of Teaching Resources**

Good teaching resources can enhance teaching quality. For example, advanced experimental equipment and laboratory conditions can promote the cultivation of experimental skills of international students in science; abundant book resources and electronic resources can support the study and research of international students in academics. With sufficient teaching resources, teachers can improve their teaching work and improve the teaching effect. The richness of teaching resources can also provide diversified learning experiences. Different teaching resources can meet international students' different subject needs and learning preferences, enrich their learning experience, and stimulate their learning interests. Sufficient teaching resources can provide more academic research support for research-oriented international students. Having quality teaching resources will enhance the reputation and attractiveness of a school among international students. For this reason, we believe that this dimension should contain four first-level elements: resource content, teaching form, teaching environment, and online platform.

## **7. Conclusion and Suggestions**

The quality of international students' education is the core driving force of international students' education development. This study focuses on the international students' education at One University, utilizes the analytical methods commonly used in the field of decision-making, such as AHP and Fuzzy Comprehensive Evaluation, collects data from experts with the help of semi-structured interviews and questionnaires, and analyzes potential influencing factors raised in the research literature on the one hand, and analyzes potential influencing factors raised in the research literature on the other hand. On the one hand, we analyze the possible factors that influence the research literature. On the other

hand, we combine the wisdom of experts in a group effort, and after repeated revisions, we extract all kinds of views, transform them into quantitative ones, and form a hierarchical model of evaluation with a better structural relationship to provide a practical reference for the assessment of the quality of international students' education in Shandong University of Science and Technology, as well as to give the corresponding suggestions. Firstly, international student training is located in the core area, essential to guarantee the quality of international student education at One University. The key lies in improving teachers' quality and guaranteeing teaching investment. Secondly, the teaching service is located in the key area, which is the key partition to ensure the smooth implementation of international students' education and teaching activities, so it is necessary to pay attention to the construction of a management team, management system, and maintenance mechanism. After that, teaching results should be located in the key area, which is the direct reflection of assessing international students' academic level and learning results. Finally, the University should follow up the optimization of teaching resources located in the necessary areas to provide the conditions required for the implementation of teaching.

## Acknowledgments

This research is supported by “Study Abroad Education Research Project at Shandong University of Technology”.

## References

- [1] Zhisong W ,Shuhong G .Evaluation Model of Student Satisfaction in International Student Education Based on Neural Networks[J].Wireless Communications and Mobile Computing,2022, 2022.
- [2] Du W .How to Strengthen the Management of Foreign Students; Education in China under the New Situation[J].Frontiers in Educational Research,2019,2(12).
- [3] Ma C ,Ma Y .Analysis and Suggestions for Foreign Students' Education Management System Improvement in China: Based on a Case Study of Shanghai[J].Open Journal of Social Sciences,2019,7(6):116-127.
- [4] Jianhua W .A Study on the Development of International Students Education in Zhejiang Universities Based on the Student Satisfaction[J].International Journal of Information and Education Technology,2019,9(5):330-336.
- [5] Jou I K .Study on the Curriculum for Educational Improvement of Chinese International Students - Focusing on the Case Study of "Career Start" -[J].The Journal of Chinese Language, Literature and Translation,2017,41157-180.
- [6] Xia S .Research on the practice of foreign students education [J].BioTechnology: An Indian Journal,2014,10(16).
- [7] Larina N L .Practical Application of Total Quality Management System to Education of International Students [J].Procedia - Social and Behavioral Sciences, 2015, 2159-13.
- [8] Kuroda C .The New Sphere of International Student Education in Chinese Higher Education[J].Journal of Studies in International Education,2014,18(5):445-462.
- [9] Hong ,Jeong H ,Hyun , et al. A Case Study on the Development and Application of Learning Strategies for Adaptation to College Life of International Students Education Program[J]. Korean Journal of General Education, 2013,7 (6): 561-587.