

# Creating a Quality Evaluation System for Foreign Language Talents in Application-oriented Universities Based on the Integration of Big-data and Artificial Intelligence

Li Wenping, Guan Hui

*Department of Foreign Languages, Qingdao City University, Shandong, China*

**Abstract:** The emergence of AI language intelligence model, ChatGPT, has brought new opportunities and challenges to the intelligent education in the field of foreign languages at the end of 2022. Therefore, the full-process quality evaluation of foreign language talents is particularly critical. This study aims to construct a scientifically rational quality evaluation system for application-oriented undergraduate institutions from a full-process perspective based on digital intelligence integration. The construction of this evaluation system uses the process management theory of Total Quality Management (TQM) and is based on a full-process perspective from enrollment to employment, covering the entire talent cultivation process in application-oriented undergraduate institutions.

**Keywords:** Digital Intelligence Integration; Foreign Language Talents; Full Process; Quality Evaluation System

## 1. Introduction

In China's Educational Modernization 2035, it is explicitly stated that modern technology should be utilized to accelerate the reform of talent cultivation models. The Overall Plan for Deepening Educational Evaluation Reform in the New Era released in October 2020, proposes to promote the digitalization and intelligent development of higher education institutions under the impetus of modern information technologies such as big data, artificial intelligence, 5G construction, and cloud computing. Modern information technology has become a key driver for the reform of higher education's talent cultivation evaluation. It is evident that the responsibility of the foreign language program is to train internationally competitive talents who can meet the demands of China's economic

opening-up and engage in international affairs and competition. Therefore, the full-process quality evaluation of foreign language talents is particularly crucial.

## 2. Research Status

The evaluation of education abroad first emerged in the late 19th century, underwent the transition from outcome-focused evaluation to process-focused evaluation, and gradually shifted from objective and scientific factual evaluation to the sustainability of evaluation method selection. These evaluations show the applied characteristics of the cultivation of undergraduate talents. The emergence of the large-scale AI language intelligence model ChatGPT at the end of 2022 has brought new opportunities and challenges to the intelligent education of foreign language programs. The term "digital literacy" has also appeared as a key word in foreign language teaching research, indicating that in today's digital society, the connection between language and technology is even closer. High-level foreign language professionals must also possess digital literacy, and foreign language education must make it one of its goals.

In China, theoretical research on the quality evaluation system of higher education started in 2000. As higher education continues to develop, numerous scholars have proposed corresponding quality evaluation systems from different perspectives. The research on higher education quality evaluation focuses mainly on three aspects: the determination of the index system for higher educational quality evaluation, qualitative analysis of higher educational quality evaluation, and the impact of new technologies on higher

educational quality evaluation.

### 3. Quality System of Full-Process Cultivation

This study is based on the theory of the Plan-Do-Check-Act (PDCA) cycle of Total Quality Management (TQM). The goal is to construct a quality evaluation system for application-oriented undergraduate institutions from a full-process perspective based on digital intelligence integration. The system is developed with the idea of “comprehensive planning, execution and evaluation from multiple dimensions, internal and external inspections, and feedback and adjustments”, ultimately forming a quality evaluation system that integrates digital intelligence for the full process of talent cultivation in application-oriented undergraduate institutions from enrollment to employment.

The construction of the teaching quality evaluation system is based on the undergraduate teaching quality guarantee system using big data as the core and talent cultivation as the focus. It is aimed at improving the quality of talent cultivation. According to the school’s educational positioning and talent cultivation objectives, teaching quality standards are formulated. This is achieved through the teaching quality organizational structure. Based on teaching status data and teaching process data, comprehensive teaching quality improvement, monitoring, and evaluation are conducted. It forms a closed-loop system that integrates deployment and implementation, monitoring and collection, evaluation and feedback, and improvement and enhancement, i.e., the “four-in-one” internal guarantee system for teaching quality. The construction includes five sub-systems and two databases.

#### 3.1 Five sub-Systems

- (1) The teaching quality organization system consists of decision-making bodies and implementation bodies. The decision-making bodies include the Party Committee Standing Committee, the President’s Office Council, and the Undergraduate Teaching Work Committee. The implementation bodies include the teaching implementation body, quality monitoring body, quality evaluation body, publicity and education body, and teaching guarantee body.
- (2) The teaching quality goal system consists of

all teaching quality standards, involving teaching planning, teaching methods, teaching development, teaching process, teaching quality, teaching conditions, teaching staff, teaching services, and teaching management.

- (3) The teaching quality improvement system is established to comprehensively enhance teaching quality and promote evaluation and rectification in a systematic and standardized manner.
- (4) The teaching quality monitoring system is established for real-time monitoring of teaching development, teaching process, and teaching management at various levels in a scientific and standardized manner.
- (5) The teaching quality evaluation system is established to improve the quality of talent cultivation based on the school’s educational positioning and talent cultivation goals, focusing on teaching conditions, teaching process, and teaching effectiveness.

#### 3.2 Two Databases

- (1) The teaching status database is built based on the status data of various majors, providing the basis for reporting to the national data platform for higher education quality monitoring, teaching quality reports, and teaching quality improvement.
- (2) The process data for teaching development, teaching operation, and teaching management are monitored in real time and compiled into the teaching process database, primarily used for teaching quality evaluation and management work.

### 4. Implementation Path

#### 4.1 Emphasizing Diverse Interaction Among Evaluation Entities

To reflect the professionalism of professional degrees, the evaluation entities should be diverse. External entities include governments, education authorities, social organizations, and employers, usually conducting evaluations from a macro perspective such as policies, systems, and public opinion supervision. Internal entities mainly include professional degree academic committees, business management departments, internal and external mentors, and professional degree master’s students, conducting evaluations and feedback at relatively micro levels such as the formulation and implementation of training programs, the

effectiveness of course design, mentor training, and output of learning outcomes.

#### **4.2 Constructing Refined and Scientific Evaluation Indicators**

Evaluation indicators should cover the entire process from enrollment to training and output. The first-level indicators include the quality of students, faculty, teaching quality, talent output, degree program construction, social reputation, and the individual abilities of undergraduate foreign language graduates. The second-level indicators extend to subject relevance, the number of teachers' practical achievements, the quality of professional course teaching, the quality of practical teaching, the number of professional qualification certificates, employer satisfaction, the innovativeness of published papers, and career development. The third-level indicators further refine the second-level indicators. In addition, opinions should be solicited from different entities participating in the evaluation through various forms such as questionnaires, interviews, and consultations. Based on comprehensive analysis, different weights should be scientifically assigned to different indicators.

#### **4.3 Real-time and Continuous Evaluation Monitoring**

The evaluation methods should adhere to the unity of scientificity and feasibility. The evaluation should not only assess qualifications from a horizontal perspective but also assess benefits from a growth perspective, combining horizontal evaluation with performance assessment. Evaluation should involve in-depth mining of big data, fully leveraging the role of expert evaluation, and achieving effective integration of quantitative and qualitative evaluation. Most importantly, the evaluation should abandon the traditional result-oriented model and adhere to dynamic periodic monitoring, relying on long-term data tracking to continuously stimulate the development potential of the evaluation objects.

#### **4.4 Handling timely feedback on evaluation information**

An effective evaluation process is dynamic and cyclical. The evaluation of the whole process education quality of foreign language talents cannot be achieved overnight. It is a long term task and should emphasize and highlight its

diagnostic function. After receiving evaluation information on education quality from various channels, schools, tutors, and individual students should respond to the information promptly and make positive improvements, forming a virtuous circle of "evaluation - improvement - enhancement" to continuously improve the quality of undergraduate foreign language talent cultivation in applied universities and achieve the goal of promoting construction and reform through evaluation.

#### **5. Significance of System Construction**

This research project incorporates data intelligence integration into the research on the quality evaluation of talent cultivation throughout the process of applied undergraduate foreign language education in universities. Based on the characteristics of applied undergraduate students and starting from the needs of the job market, tailored indicators for the quality evaluation of applied undergraduate foreign language talent are set from enrollment to employment.

This study applies the theory of Total Quality Management (TQM) in process management, taking a holistic perspective from enrollment to employment. By using data intelligence integration methods and combining qualitative and quantitative approaches, internal feedback and external monitoring, it constructs an evaluation indicator system that covers the entire process of talent cultivation in applied undergraduate universities. This system integrates evaluation entities, evaluation criteria, evaluation indicators, evaluation methods, and feedback of evaluation information, creating an internal-external combined quality evaluation system.

The application of big data and artificial intelligence technology in the system of quality evaluation throughout the talent cultivation process can further integrate current teaching resources, clarify teaching objectives, reflect the development of higher education based on big data information, scientifically conduct educational analysis, promote comprehensive development of individualized learning for students, optimize the allocation of educational resources, lay a solid foundation for various decisions in universities, contribute to promoting equitable development of national education, and cultivate digitally proficient

foreign language professionals in the era of artificial intelligence.

### 6. Conclusion

Establishing a contextually relevant and scientifically standardized system for evaluating the quality of classroom teaching throughout the talent cultivation process, under the background of “data intelligence integration”, is of great significance to improve the internal quality assurance system of universities. Universities should make full use of “data intelligence integration” technologies and data resources, establish sound educational and teaching management systems, improve mechanisms for monitoring and improving teaching quality, integrate evaluation results organically, provide feedback to teaching faculty to promote their professional development.

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### References

- [1] Li Juan, Sun Xue, Wang Shouqing. Constructing an External Quality Assessment System for Professional Master's Education: A Qualification Certification-oriented Approach [J]. Heilongjiang Higher Education Research, 2010 (11): 57-59.
- [2] Zhao Guanghuai, Zhou Jianwei. Research on the Construction of External Evaluation System of Teaching Quality in Local Colleges and Universities [J]. Journal of Linyi University, 2023, 45(06): 147-155+184. DOI: 10.13950/j.cnki.jlu.2023.06.015
- [3] Jin Haiyan. Research on the Talent Cultivation Mechanism of Innovative and Entrepreneurship in Foreign Language Major under the Big Data Background [J]. Journal of Hubei Open Vocational College, 2023, 36(17): 21-22+25.