Development of Internal Quality Assurance System in Regional Undergraduate Colleges
A Case Study of Xi'an Mingde Institute of Technology

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Abstract. Regional undergraduate colleges are important to China's higher education, and the caliber of talent development they offer has an impact on how quickly the country's high-quality higher education system grows. Institutions of higher education must implement an internal quality assurance system to guarantee and continuously enhance the standard of talent development programs. As one of the first batch of private colleges and universities in Shaanxi Province to successfully transform into independent colleges, Xi'an Mingde Institute of Technology advanced the quality-oriented strategy in the new stage of transformation and development, and established an internal quality assurance system based on studying and analyzing external evaluation requirements and internal quality objectives. The system has four subsystems: the quality objective system, the quality execution system, the quality monitoring, and evaluation system, and the quality analysis and improvement system. It is centered on the growth of talent in all aspects and processes and emphasizes the quality accountability of every employee. It realizes closed-loop quality management and aids in promoting continuous quality improvement by enhancing the quality assurance institutions and employees at the university and college levels, formulating quality standards, and putting in place a quality feedback-support-improvement system.

Keywords: Regional undergraduate institutions · Internal quality assurance system · Continuous quality improvement

1 Introduction

To standardize talent development and guarantee the caliber of talent development in colleges and universities, China has devised a "five-sphere integrated" evaluation system. Colleges and universities must build and strengthen an internal quality assurance system while promoting external review to guarantee the caliber of talent training [1]. The competition from the student supply is also putting local Shaanxi undergraduate colleges and universities under pressure. The local undergraduate colleges and universities have internal needs that must be met in order for them to expand sustainably, including raising the standard of instruction and teaching and bolstering connotative development. The system in place for quality control at colleges and universities today

is imperfect, though. It ignores the oversight of the instructional process and places a strong emphasis on evaluating educational outcomes. The issues of inadequate monitoring of all aspects impacting the quality of education and instruction and the limited impact of quality assurance require additional investigation and improvement. Therefore, it is crucial for local undergraduate colleges and universities to investigate and develop an extensive, scientific, and reasonable internal quality assurance system to improve the self-evaluation mechanism, implement continuous quality improvement effectively, and ensure the quality of talent training.

2 Theoretical Foundation for Building an Internal Quality Assurance System in Colleges and Universities

2.1 Total Quality Management Theory

A thorough, sophisticated, and established quality management system is the Total Quality Management Theory (TQM). The word "TQM" refers to a management system used by an organization that prioritizes quality, is built on employee engagement, focuses on long-term success through customer satisfaction, and benefits both the organization's employees and the community at large. TQM theory applies to modern higher education. TQM analyzes and improves all the factors affecting the quality of higher education, and gradually establishes a scientific, rational, and effective teaching management and supervision system, to increase the quality of higher education significantly. This is done in accordance with the fundamental requirements of "three comprehensive theories and multi measures" (i.e., the entire process, the entire enterprise, the participation of all staff, and multiple management means in parallel).

2.2 "Three Major Concepts" of Quality Assurance

The essential concepts of "student-centered, output-oriented, and continual quality development" are outlined in the Washington Accord. The notion of "student-centered education" focuses on students' all-around development, respects their subjective position, and realizes a transition from a "teaching" to a "learning" focus, so that the outcomes of the teaching reform benefit all students. The educational orientation toward student learning outcomes emphasizes the quality of education's 'output,' i.e., what graduates are capable of achieving and what they can do when they graduate. An indication of maturity and responsibility is the phrase "continuous quality improvement," which calls for schools to have their quality assurance systems and to be able to improve them continuously. The foundation for achieving continuous improvement is quality monitoring and evaluation, with a feedback mechanism at its center. The school should promote quality improvement as a value pursuit and action consciousness, and it should provide a continuous quality improvement cycle mechanism for problem-solving - timely feedback - agile response - effective improvement.

2.3 "Six Elements" of Internal Quality Assurance System

In the keynote report "Quality Awareness, Quality Revolution, Quality China – Trilogy of Higher Education Development" issued at the founding meeting of the Chinese Network Internal Quality Assurance Agencies (CIQA), Wu Yan, former Director of the Department of Higher Education Director, Ministry of Education, and now Vice Minister of Education, noted that the presence of the following six fundamental components—operational quality standards, specialized institutions, professionals, regular monitoring and evaluation, timely feedback, and continuous improvement—determines whether a university's internal quality assurance system is complete. In a nutshell, you must create a spiral loop."

3 Internal Quality Assurance System Structure and Framework

Xi'an Mingde Institute of Technology is one of the first batch of universities in Shaanxi to be effectively reformed. Based on the next stage of transformation and development, its positioning relies on the establishment of a private applied university. Establishing quality goals that can satisfy government, local economic, and social development standards for the caliber of talent training and students' needs for educational services is at the heart of internal quality assurance. The objectives must also be organically divided into all pertinent internal organizational bodies and functional divisions at all levels of the institution, and their specific quality and supervisory responsibilities must be made explicit. Controlling the talent development process maintains the quality of teaching and learning while also continuously improving the quality of talent development [2].

   The quality objective system, quality execution system, quality monitoring, and evaluation system, and quality analysis and improvement system are the four subsystems that make up the internal quality assurance system at the Xi'an Mingde Institute of Technology. A quality PDCA[1] (Plan-Do-Check-Act) cycle is formed by the four subsystems. Each subsystem comprises a set of quality execution projects, each corresponding to a quality control point for establishing quality supervision. (See Fig. 1).

3.1 Quality Assurance Organization

A command body with decision-making authority, a management and supervisory body, and a working body make up the university's quality assurance program. The quality assurance working committee, overseen by the secretary of the institute's CPC Party committee and the Principal, is the command body that makes decisions. It unifies and directs the development, revision, and implementation of the school's quality assurance system; it coordinates the working bodies to ensure that the quality assurance system is built and implemented; and it makes decisions regarding the policies and actions that relate to continuous quality improvement. The quality management and assessment office, which is in charge of the administration and management of the quality assurance system and directing and overseeing the quality assurance activity of the working bodies,

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[1] PDCA stands for Plan-Do-Check-Act – a four-stage problem-solving model that enables organizations to continually improve processes, products, or services.
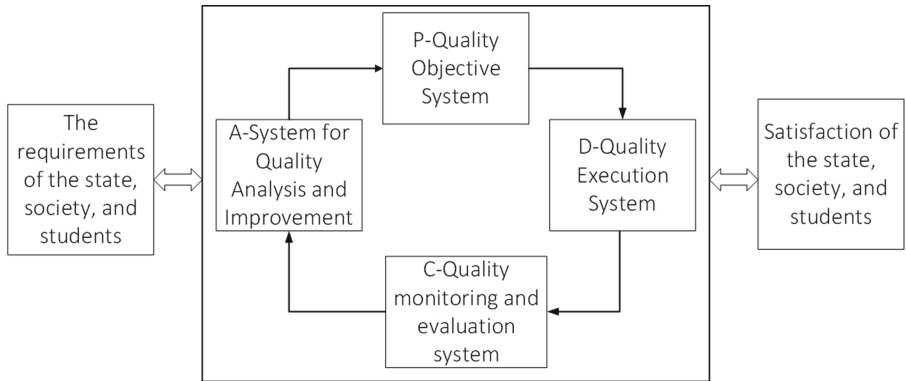
Diagram of the university-level quality assurance system framework

Fig. 1. University-level Quality Assurance System Framework

serves as the management and supervision body for quality assurance. The functional departments, teaching units, and grassroots teaching organizations of the institution serve as quality assurance working bodies. The implementation and monitoring responsibilities for each department are defined, laying the foundation for the execution of quality assurance activities.

3.2 Quality Objective System

The quality objective system includes three major parts: top-level design, investment of running resources, and quality standards, specifically including positioning and the concept of school-running, talent training objectives, structures and settings of majors, human resource management, fund management, capital construction management, experiment, practical training, books, network information resources and management, teaching construction quality standards, and primary teaching sessions' quality standards.

The quality objective system is the decisive factor that affects the quality of talent training at the school. It defines the operation direction, guarantees the resources investment, and formulates quality standards. The principal and vice principal in charge are the individuals in charge of each project under the quality objective system, and the relevant functional department is the accountable unit. The quality assurance working committee and academic board of the institute ensure that the quality control points pertaining to each implementation project are implemented in compliance with the quality control requirements.

3.3 Quality Execution System

The quality of talent development is determined by the cultivation process, which is, in turn, determined by the process parts and their interrelationships. Regulating the above-mentioned point will regulate the process' quality, and ensuring the cultivation process' quality will ensure the training of talents' quality. A promise for the caliber of talent

development in one link does not imply a guarantee for talent development in all links. We can only ensure the consistency and continuity of the quality of talent development if we can guarantee the quality of the process.

The quality execution system focuses on the entire process of talent training, including key elements like enrollment plan and advertising, training program administration, curriculum and textbook planning and management, research and social services, government-industry-university-research collaboration, teaching reform and research, daily teaching operation management, teaching records management, ideological and political education, development of academic style and second classroom, and career service and management. The vice principal in charge is accountable for each component of the quality implementation system, and each teaching unit and accompanying functional department are the accountable units. The academic affairs office, the quality management and assessment office, and the academic committee all check that each implementation item's quality control points are being implemented in line with the standards for quality control.

3.4 Quality Monitoring and Evaluation System

The quality monitoring and evaluation system includes two parts: quality monitoring and quality evaluation. The quality monitoring part mainly includes the teaching inspection at the beginning, middle and end of the semesters, the quality inspection of the textbook selection, the quality monitoring of classroom teaching, the quality monitoring of practical teaching, the unqualified control, qualification examination for graduation and degree award, and the special inspection of teaching. The Vice Principle for Teaching and Learning is in charge of implementation, and the academic affairs office and the student affairs department are responsible units. The academic committee, sub-committees, and the quality management and evaluation office will monitor the implementation of the quality control points relating to each implementation item in line with the quality control standards.

The quality evaluation mainly includes school evaluation, major evaluation, curriculum evaluation, classroom teaching quality evaluation, and students' satisfaction of teaching and learning. The principal is in charge of execution, while the quality management and assessment office is the accountable department. The university's quality assurance working committee evaluates the implementation of the quality control points related to each project in accordance with the standards for quality control.

The major objective of quality control, which focuses on essential components of teaching activities, is quality monitoring and evaluation. We gather and compile important data on the teaching effectiveness of each component and link in the teaching process based on the rules and regulations governing teaching management, the quality standards of each important teaching link, regular and routine teaching inspections, quality assessments, and special teaching inspections and assessments. In addition, we monitor the teaching dynamics in a timely manner, grasps the school's overall teaching condition, analyze change patterns, make quality improvement proposals, and execute the improvement effects after inspection and acceptance.

3.5 Quality Analysis and Improvement System

The quality analysis and improvement system is the last part of PDCA and the beginning of the next quality cycle. This system covers the analysis of quality and employer satisfaction from the entrance (enrollment) to exit (employment). It mainly includes the analysis of candidates' quality, the analysis of current student learning and development, the analysis of annual basic status data, the analysis of undergraduate teaching quality, the analysis of employment quality, the tracking analysis of graduate training quality, and the analysis of employer satisfaction. The vice principal in charge is responsible for each item of the quality analysis and improvement system, and the responsible unit is the associated functional department and each teaching unit. The quality assurance working committee of the institution inspects the implementation of the quality control points related to each project to ensure that they are in conformity with the quality control requirements.

An essential component of ongoing quality improvement is the quality analysis and improvement. Research can assist in the investigation of information on teaching quality, student progress, internal and external evaluation, and so on. The analysis report and summary are first examined, after which they are fed back to the quality assurance decision-making and commanding bodies, relevant functional departments, and teaching units. In this way, the relevant departments are able to promptly revise, formulate, and improve relevant quality measures, establish an efficient system for ongoing quality improvement, and guarantee an improvement in the standard of talent training.

4 Operation and Improvement of Internal Quality Assurance System

4.1 Improving Quality Assurance Agencies and Personnel at the University and School Levels

To promote the standardized and orderly operation of the quality assurance system, the institute has established a quality assurance work committee to lead the implementation of its quality assurance system. The quality management and evaluation office is in charge of the quality assurance system's operation, monitoring the implementation of quality assurance work in all departments, detecting issues and pressing improvement, as well as revising and improving the quality assurance system. Each school establishes a school-level quality assurance organization led by the vice president of teaching, which implements the requirements of the institute's quality monitoring, establishes the quality assurance system framework, develops quality monitoring measures, and ensures the quality of the school's daily teaching operation and its specialty development while considering the different specialties. Based on this, the university established a group of full- and part-time teaching supervisors at the university and school levels, spanning 30 majors in five key disciplines. The functions of the teaching supervisors include course teaching quality evaluation, a specific inspection of teaching quality, and teaching quality research. Effectively separating "administration, school-running, and educational assessment" through routine information gathering, evaluation, feedback, supervision, and correction maintains the caliber of teaching and learning.

4.2 Improve the Quality Standards of Main Teaching and Learning Links

Quality standards, which are more detailed and measurable than quality objectives, are an essential component of the quality assurance system. Quality standards are the basis for quality monitoring and evaluation and are an important prerequisite to ensure the effectiveness of teaching quality. The fundamental prerequisites for specialized training and the instructional activities of the associated teaching links are quality standards. At the university level, there are quality requirements for specialization training that include the fundamental viewpoints on the revision of talent development programs, quality standards for specialization building, quality standards for curriculum creation, and standards for teaching teams. Major teaching connections have quality requirements, including standards for in-class instruction, experimental instruction, hands-on training, graduation thesis (design), examination, and evaluation, among other things. Each secondary college has developed quality criteria that are appropriate for the growth of teaching reform and specialization development.

4.3 Establishing Quality Feedback-Support-Improvement System to Improve the Closed Loop of Quality Management

Quality feedback and improvement is the final link in the quality management closed loop, and establishing a quality feedback and improvement system is critical to the continuous, closed, and cyclical functioning of quality assurance activity. The institute has implemented a quality feedback and improvement system and a continuous and diverse information feedback channel. It effectively implements "supervision of management, teaching, and learning" by providing frequent and irregular feedback on teaching management, course teaching, and academic style construction via daily quality feedback forms, teaching supervision briefings, and teaching feedback meetings. The academic affairs office, the center for teaching research and faculty development, and the quality management and assessment office work together to jointly organize training on teaching capacity enhancement and coaching on continuous teaching improvement to continuously improve teaching standards and quality.

5   Conclusion

The development and successful operation of Xi'an Mingde Institute of Technology's internal quality assurance system undoubtedly contributed significantly to strengthening the quality awareness of all staff, improving self-evaluation, fostering continuous improvement, supporting the connotation construction, and enhancing the caliber of talent training. It also served as a useful model for the creation and improvement of internal quality as a whole for other regional undergraduate universities and colleges. Internal quality assurance is undoubtedly a part of quality management tasks. The practice of adhering to the principles and rules of scientific management is a process of constant

improvement and perfection. The quality assurance system itself needs to be continuously upgraded and innovated to ensure its applicability, sufficiency, and effectiveness, given the changing external environment and internal talent training requirements.

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