TOWARD A COMPREHENSIVE QUALITY ASSURANCE FRAMEWORK FOR CONTINUING EDUCATION IN UNIVERSITIES

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Abstract: From the global popularity of lifelong learning, people are looking for opportunities to improve their competence that triggers a booming market demand for continuing education. Developing a new strategy for this new challenge becomes the critical mission for universities to pursue the excellence in continuing education. To implement quality assurance mechanisms into administrative and operating systems, many universities were seeking international accreditations, for example, ISO 9000 family, and were implementing an organization-wide quality management system. However, in recent years, most universities started to consider the appropriateness of quality management system and shift to educational quality assurance systems, such as IWA 2:2003, ISO 10015, or Taiwan Training Quality System (TTQS), that guarantee a quality of education. In this research, we conducted an analysis of related literature to track and compare different quality assurance frameworks. Based on the analysis, practices and experiences in the selected case were considered to modify and improve original models.

1 INTRODUCTION

In 2002, Taiwan became the 144th member of World Trade Organization (WTO). Participation in the global trade collaboration inevitably forces Taiwan to face unprecedented challenges. Therefore, the government must adjust relevant trade policies to integrate local and global markets. In the signed General Agreement on Trade in Service (GATS), Taiwan was committed to widening the service market progressively, including higher education services. The critical items of education services in the agreement include:

- Allowance for foreigners to establish senior high schools, vocational senior high schools, and higher schools or educational institutions.
- Regarding distance learning, foreign schools can provide cross-border educational services to post-secondary students in Taiwan.
- Foreigners can establish short-term cram schools according to Taiwan's "Supplementary and Continuing Education Law."

- Foreigners can establish study-abroad service companies according to Taiwan's "Company Law."

These commitments are the beginning of Taiwan's education industry to move toward the global market. Under these changes, we can expect market-oriented strategies to lead higher education in Taiwan to a new horizon and force it to ward off threats and fight for upcoming challenges and opportunities.

Gumport (2000) stated that two distinct perspectives on the nature of higher education exist: treating higher education as an industry or as a social institute. In fact, under the influences of global knowledge economy, market forces have gradually dominated the resources allocation in higher education institutions. Modern universities are facing the equilibrium problem between academic principles and market demands, as these two values cause structural conflicts between academic dignity and business survival. Although numerous universities still have the problem of incompatibility between the two perspectives, Gumport (2000) observed that the integration of the two values was inevitable.

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In brief, these developments facilitate the growth of the continuing education industry, which serves mainly the demands of a lifelong learning market. Therefore, numerous universities are aggressively directing themselves to the balance between academic programs and market-driven continuing education, and adapting themselves to the new era (Chen, 2002). To integrate the two perspectives, some universities have begun developing a comprehensive model that forms the basis for the positioning and administration of schooling.

As universities are paying much more attention on the internal and market effectiveness under the global trend of marketization in education (Dai, 2000), the educational quality management system has become an important mechanism for universities to reach for excellence (Cheng, 2005).

While many advanced countries have built their own evaluation mechanisms for higher education, more than ten universities in Taiwan are attempting to improve their educational qualities by introducing international accreditations, for example, ISO9000 family, to perform self-evaluation and continuous improvement. However, the quality accreditation structure of ISO 9001:2000 cannot fully conform to the specific demands of the higher education institutes. An adjustment is necessary for the applicability of these standards to be a quality assurance framework that continually improves educational qualities.

2 THE CONTINUING EDUCATION IN UNIVERSITIES

From the global popularity of lifelong learning, higher education institutions have paid increasingly more attention to continuing education and have begun to promote continuing education units to a higher administrative level in a university. In this manner, the education provision model and scope can be strategically defined and executed. In the United States, the School of Continuing and Professional Studies at New York University (NYU) is one of the benchmarks in contemporary continuing education. For adult learners studying for career advancement or intellectual enhancement, courses and programs range widely in subjects and variety. Except for various non-degree courses, the continuing education program at NYU offers 14 masters programs, 26 undergraduate programs, various diploma programs, and professional certificates (NYU, 2010). Meanwhile, Columbia University established the Division of Special Programs under the School of General Studies in 1995. After realizing the trend in lifelong learning, Columbia University's Board of Trustees reorganized the department to The School of Continuing Education in 2002, and granted its authority to offer the Master degrees.

In Asia, the development of continuing education in Hong Kong has gone through different phases, which are the continuing education phase, professional education phase, diploma education phase, and lifelong learning phase. By consecutive integration and expansion, continuing education in Hong Kong has formed a new model of international continuing education that is well conformed to a knowledge-based economic society (Yang, 2007). Under the influence of educational systems and the openness of education regulations in the U.K., the promotion of continuing education at the University of Hong Kong is very active and aggressive. The Department of Extra Mural Studies (DEMS) was established in 1956, and was renamed the School of Professional and Continuing Education (HKUSPACE) in 1992. The school is the largest institution for continuing education in Hong Kong and has 12 teaching centers with an enrollment of over 100 thousands students per year. Except for HKUSPACE, the School of Continuing Education in Hong Kong Baptist University was established in 1975. More than 5,000 students are enrolled in undergraduate or postgraduate programs, while approximately 40,000 students study part-time programs annually. Since 1985, the school has even provided various degree programs collaboratively with different overseas educational institutions.

In Taiwan, the Ministry of Education (MOE) announced related statements for higher education to provide continuing education in 1989, and regulations for establishing night school in 1991. The most important event for the government to promote lifelong learning was to design a set of regulations for continuing education in higher education, which were derived from Item 2 of Article 26 in the "University Act." The regulations proclaim in writing that "Continuing education, according to the educational vision of universities, is meant to provide the educational activities that help the public to gain intellectual skills and social civilization." Conversely, the regulations also specify that "Continuing education in universities is categorized into degree and non-degree programs; the courses belonging to the former must conform to the University Act; continuing education can be given outside the school or in the form of distance learning, or cross-border leaning." These regulations

and laws clearly delineate the business scopes and operation models of continuing education, and form the jural basis for universities to participate in supplementing the mechanism of a lifelong learning society.

The business scope of continuing education in universities is profoundly influenced by the aforementioned regulations and acts. However, the primary trigger for universities to integrate degree and non-degree programs was the amendment of the University Act in 1994, which officially trimmed the units and business of night school in higher education. This policy indirectly contributed to a new business model for continuing education in universities to transform from professional-oriented programs to the hybrid of education and professional programs.

This study proposes an integration model derived from the practices of continuing education in Taiwan's universities (see Fig. 1). There are two core concepts in the new framework. The first is the integration of resources from degree and non-degree programs. From considerations of the process, the systems and real operations of degree and non-degree education are interwoven and complement each other. The second concept in the framework emphasizes the process to establish a continual learning chain. By effectively allocating and managing resources, higher education institutions are more affordable to improve continually the quality of education. To form a lifelong learning cycle, universities have transformed their business models into market-driven educational institutions.
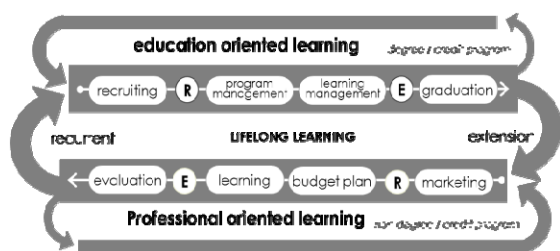

Figure 1: Integrated strategy for educational and professional oriented programs.

The new business scopes and strategies in universities generate the need to modify quality management systems. In this paper, we explore a new quality assurance framework for higher education in the face of above mentioned developments.

3 RESEARCH METHODS AND BACKGROUND OF CASE

This research was conducted twofold: by literature review and case study. Using literature review, different considerations in quality assurance frameworks were incorporated into the proposed framework and comparisons among models were tracked and presented. This analysis paved the way for further modifications of TTQS model after introducing practical experience into the conceptual framework.

The second method used in this research was a case study. The selected case, School of Continuing Education in Chinese Culture University (CCU-SCE), was one of benchmark universities in continuing education and lifelong learning field in Taiwan. The main programs in CCU-SCE include degree and non-degree programs. In 2006, Taiwan's Council of Labor Affairs (CLA) launched a pilot project that introduced TTQS to educational institutions that executed programs under governmental sponsorship. CCU-SCE was selected to join the project and rebuild its educational quality assurance framework. CCU-SCE was the first university granted a TTQS certificate, and at the same time, won the first National HRD (Human Resources Development) InnoPrize, which is the highest honour in Taiwan's HRD field.

The primary advantage for selecting CCU-SCE as the research site was its extensive design for versatile courses and training. CCU-SCE was a typical and comprehensive institution for lifelong learning and professional education. The multi-faceted nature of CCU-SCE's businesses caused the integration of quality assurance frameworks to be significantly more difficult. Therefore, CCU-SCE was not only selected as a representative organization of higher education institutions in the continuing education, but also for its hybrid orientation in programs and schooling design.

During the project, the pilot team had to adjust continually and integrate existing quality assurance framework of ISO 9001 with TTQS. In this manner, the new quality assurance framework, which more effectively conformed to organizational operations, was necessarily generated.

The project could be divided into four phases: commencement and training, framework re-forming, rules and regulations adjustment, and system introduction and pre-usage training. Data were collected in every phase concerning the questions,

doubts or difficulties the project team confronted. After one year of observations, the deficiency of the original TTQS model emerged as a serious problem and caught the attention of this study.

As CCU-SCE is leading the way to extend current continuing education scope in universities, this study expects the experience in CCU-SCE in implementing TTQS and the thus the derived modified model could be a representative reference to other educational institutions.

4 A REVIEW OF HIGHER EDUCATION QUALITY ASSURANCE SYSTEMS

The challenges and impacts of a global knowledge economy accelerate higher education toward marketization. In the WTO, education is categorized at the fifth of 12 types of service industries, and the third industry in United Nations (UN) policies and regulations. The forms of education service include border-crossing courses, consumption abroad, commercial presence, and presence of natural persons. According to the Verbik & Lasanowski (2007)'s report of the patterns and trends of mobility of international students, there were nearly 2.7 million international students. Students in the United States, Britain, and Australia accounted for approximately 45 %, that is, 1.2 million. Nearly 550 thousand foreign students reside in the United States. This has resulted in an increase of 11 billion U.S. dollars in U.S.'s exchange annually. Meanwhile, revenues from international students have accounted for more than 7 billion U.S. dollars in the United Kingdom and approximately 5 billion U.S. dollars in Australia every year. The output value of higher education in these advanced countries is rising dramatically, that education service is gradually becoming a critical trade item (Verbik & Lasanowski, 2007).

Under the new paradigm that redefines the business model of higher education, every university must surely contend with the issues of resource integration, management efficiency, and educational performance. Therefore, higher education institutions pay increasingly more attention to the implementation of quality assurance systems, which focus both on internal and market effectiveness for governance and management. Quality assurance is becoming a core strategy to enhance the competence of higher education institutions and increase competitive advantages (Cheng, 2005). Following the global evolution of higher education, Taiwan's universities have implemented systematic evaluation mechanisms to ensure educational quality and continuous improvement in operations and management. ISO 9001:2000, ISO/IWA 2:2003 and TTQS are introduced and summarized in the following sections, and are used as the conceptual basis of our proposed framework.

4.1 ISO 9001:2000

ISO 9001 quality management family was released by the ISO Technical Committee (ISO/TC 176) in 1987, and was revised in 1994. The provisions and core schema of these versions serve mainly the operating processes of the manufacturing industry. However, in response to the growth of the global service industry, the revision of ISO 9001 and ISO 9001:2000 was deliberately generated to be used in the service industry (Huang, 2001). As such, a new set of more generalized specifications were formed by integrating ISO 9001, ISO 9002, and ISO 9003.

The main differences between ISO 9001:2000 and ISO 9001:1994 are shown in the dimensions of process-oriented, customer satisfaction, and in continuous improvement (Cheng & Guan, 2002). ISO 9001:2000 is a process-oriented quality assurance framework, which systematically focuses on the interrelationship between a sequence of processes (Input-Process-Output). Starting from the input of customer demands, through the operation of the system, and ending at the output of customer satisfaction, ISO 9001:2000 places emphasis on continuous improvement in the whole process. Referencing total quality management (TQM), this framework is primarily based on the following eight dimensions: customer focused organization, leadership, involvement of people, process approach, system approach to management, continuous improvement, factual approach to decision-making, and mutual beneficial supplier relationship.

In recent years, Taiwan's higher education system has aggressively introduced the ISO 9001 quality management system, including its processes for continuous improvement of systems and the assurance of conformity to both stakeholders and applicable regulatory requirements. Several universities, such as NCHU, NCTU, NSYSU, NCU, CYU, YZU, FJU, CCU, KNU, TCU, and NTTU, have been accredited. Earlier on, the certification of ISO 9001 was mainly based on the 1994 version. However, all certified universities have upgraded progressively to ISO 9001: 2000.

4.2 ISO/IWA 2:2003

The quality assurance framework of ISO 9001:1994 and its prior versions were mainly designed for the manufacturing industry; therefore, ISO revised its version to ISO 9001:2000 to response specific needs of the service industry that considered characteristics and terminology of the service industry. Furthermore, regarding the specialties and uniqueness of the education industry, the ISO committee held an experts workshop in Mexico to develop a new international standard, ISO/IWA 2:2003, for the appropriateness and applicability of ISO in the global education institutes. The workshop gathered standard Office (DGN), Latin American quality Agency (INLAC), Mexican joint quality groups, and convened global education quality experts, scholars, and professionals in the Technical Committee. The new agreements from this international workshop considered the characteristics, nature, practical needs, and changing environment of the education industry. After refocusing and customizing adjustments, ISO/IWA 2:2003 evolved into the new recognized educational quality assurance framework of the global education industry.

ISO/IWA 2:2003, derived from ISO 9001:2000, is a student-oriented quality assurance framework. Therefore, in actual applications in Taiwan's higher education, numerous universities that adopted ISO 9001 also integrated the specifications of ISO/IWA 2:2003 to improve educational quality management. By this hybrid strategy, the I-P-O model and the review mechanism were integrated for continuous improvement. For example, customer feedback is presented in statistics for quality management departments to ensure the continuous improvement of educational quality and performance.

The higher education institutions can systematically explore and organize crucial organizational knowledge and concepts by implementing ISO/IWA 2:2003. All knowledge and the core processes of knowledge extraction can be explored, clarified, categorized, organized, and consolidated by standardized documentation, and can become the institutions' essential information assets. Accumulated knowledge and experience will cause the quality of educational operation to be increasingly stable through continuous improvements. Currently, ISO 9001:2000 still dominates the quality management certification market in Taiwan's higher education. However, ISO/IWA 2:2003 are receiving increasingly more attention. Most ISO 9001 certified universities have strong intentions to integrate ISO/IWA 2:2003 for

improving the effectiveness of educational quality assurance systems.

4.3 ISO 10015 and TTQS

ISO 10015, a training quality management system, is derived from section 6.2.2 of ISO 9001:2000 and human capital management specifications. This comprehensive framework of human resource development in an organization is regarded as a critical reference model for members of WTO to guide their national human capital policies. In brief, the purposes of ISO 10015 are helping organizations achieve their goals, complete their missions, improve the quality of products and services, and enhance operational performance through personnel training. The focus on training in ISO 10015 is a perfect supplement to ISO 9001. Moreover, because of this focus, ISO 10015 is increasingly implemented as an independent quality management system to assure the performance of the development of human capital.

Based on the Plan-Do-Check-Action (PDCA) model proposed by the quality management literature, the process of ISO 10015 involves four steps: 1. the definition of training needs; 2. the planning and design of training; 3. Training; and 4. evaluation of the performance of the training. During this process, every step must be monitored and continuously improved.

Because of quality assurance requirements from training institutes, Taiwan's Council of Labor Affairs (CLA) initiated many projects to transplant international quality certification schema to Taiwan. To ensure quality and performance of training and to enhance competitiveness of labor, the CLA proposed the Taiwan Training Quality System (TTQS) framework, which emphasized compliance with managerial needs from industries. The Taiwan Training Quality System (TTQS) also aimed to assure quality improvement of training, and strengthen productivity and competitiveness of human capital. Generally, TTQS synthesized ISO 10015, the European vocational training policy, UK Investors in People program (IIP), Australian vocational training policies, and the characteristics of domestic industry, and then, incorporated them into a comprehensive framework. To maintain its practical effectiveness, the TTQS project invited internationally related authorities and experts to join the committee for the considerations of the industrial context.

The Taiwan Training Quality System (TTQS) consists of three main modules: the standard

measurement of training, strategy and policy of training, and organizational communication tools. Originating from ISO 10015, TTQS modifies the four-stage model of PDCA into a five-function model (Figure 2). The process of the framework involves five steps: P (planning), D (design), D (delivery), R (review), and O (outcome); therefore, it is called the PDDRO model. The framework is used to confirm training quality in enterprises that receive consultation services, and to ensure the liability and accuracy of the training processes. The framework entails 16 quality indicators and weight scales, and reviews of these indicators for continuous improvement of quality.
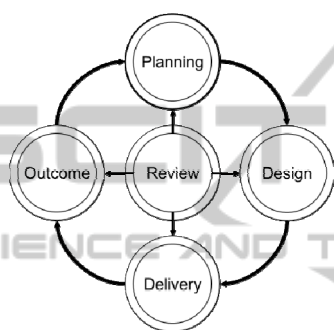

Figure 2: The five dimensions of PDDRO of TTQS.

In recent years, professional training has been held not only by vocational training centers, but also by other co-signed organizations and continuing education institutions in higher education. Higher education, especially, has become a main training partner of the government, which offers plans for upgrading corporate human resources. To evaluate the quality of training institutions and the resulting performances of professional training, Taiwan's CLA introduced TTQS model to training institutions as the quality assurance framework. Therefore, many universities, which joined the government projects, are required to obtain the TTQS accreditation.

5 A COMPREHENSIVE QUALITY ASSURANCE FRAMEWORK FOR CONTINUING EDUCATION

The Taiwan Training Quality System (TTQS) is developed for accessing the quality in trainings; therefore, it can be used to assist the management and continuous improvement of educational quality in higher education. However, in practical

operations of continuing education institutes, the business scope and processes are much broader. For example, the business scope extends to lifelong learning courses, and the business processes are influenced by market demands. Therefore, the planning, marketing and enrolments of students for both educational and professional courses have to be considered in quality assurance framework of higher education.

The phenomena can be analyzed by two dimensions: operation process and business focus, acquired from observations in the research field. According to the observations in CCU-SCE, the operation processes can be divided into business cycle and learning cycle. The former focuses on market-oriented businesses, which guides courses planning to fulfil market demands. After enrolments of students, the process flows into learning cycle, which focuses on the teaching and learning qualities. By continuingly inspecting learning activities, the in-learning and after-learning improvements can be assured.

The other dimension for discussing practical operations in higher education is the business focus. CCU-SCE is a typical case that demonstrates the transition in Taiwan's continuing education. The business covers from degree to non-degree programs, or educational to professional ones.
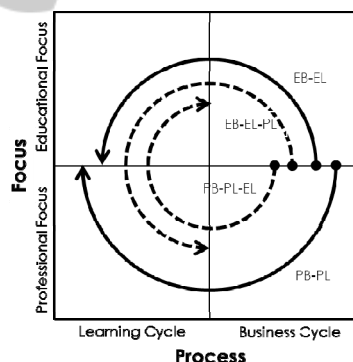

Figure 3: Business Scope and Types of Continuing Education of CCU-SCE.

By the two dimensions, the business types of continuing education in CCU-SCE were classified into four:

- PB-PL: From pre-training planning to learning quality management for professional programs.
- EB-EL: From pre-training planning to learning quality management for educational programs.
- PB-PL-EL: Same as PB-PL, plus guiding students enrolled in professional programs to attend educational courses.

- EB-EL-PL: Same as EB-EL, plus guiding students enrolled in educational programs to attend professional courses.

Since the original design for TTQS framework was used for assessing courses that were actually delivered, when CCU-SCE extended their programs to non-degree programs, many courses were planned but not delivered, due to unexpected demand changes on the market. The concerns for these planned-undelivered courses were omitted from the original TTQS. Consequently, when CCU-SCE executed CLA's TTQS pilot project, the project team could not find proper assessment rules covering all the programs and processes. To close the gap between existing models and the practical needs, the modified framework is proposed.

5.1 Learning Cycle and Business Cycle

In surveys of TTQS certificated universities in Taiwan, reports have insightfully shown that TTQS has focused mainly on the quality assurance of learning. Little attention has been paid on the processes of pre-training, such as planning, design, and marketing processes. Conversely, TTQS was designed and customized for HRD programs in organizations or governmental projects, of which all students were enrolled from authorities instead of the open market. Nevertheless, in the continuing education institutes of universities, business scope covers trainings not only from government sponsored projects and company delegated programs, but from degree programs, credited programs, and professional programs. Continuing education in universities unquestionably requires a new quality assurance framework that incorporates business developments, recruitment, market feedback, and quality control. As such, all processes in a business cycle and learning cycle can be assessed and improved by implementing quality assurance frameworks. Currently, TTQS certificated universities are diligently attempting to consolidate the whole operational processes into a comprehensive quality assurance framework.

The strong demand for modified quality assurance frameworks from CCU-SCE induced this study to propose a new model that balances sponsor-oriented and business-oriented programs. The proposed TTQS PDDRO model (see Fig. 4), named modified TTQS business and quality integration model, separated the quality management activities into two main cycles: business assurance and learning quality assurance.

The business cycle stresses market orientation processes, including planning, design, and marketing, and forms a sub-framework of quality assurance to guide and review all processes in pre-training. Practically, if the result that derived from business cycle cannot fulfil market demands, continuous adjustments will be necessary. Therefore, the results of business cycle decide the initiation of learning cycle.
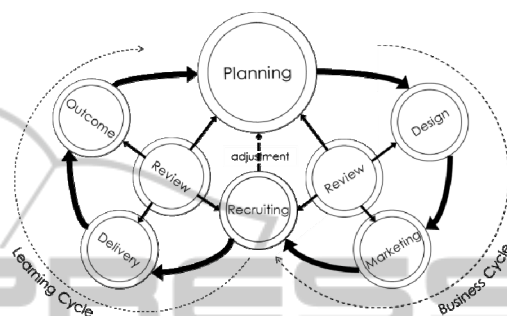

Figure 4: The Modified TTQS Model of integration of business and learning cycles.

The learning quality assurance cycle stressed the quality assurance process, which contained planning, delivery, and outcome. The three core steps were reviewed and improved according to the learning quality framework, which is the other sub-framework of the integrated quality assurance framework.

5.2 A Comprehensive Model of Quality Assurance

Apparently, the continuing education institutes in universities have extended their business scope by integrating educational and professional programs. Thus, they have become a cornerstone of a society based on the knowledge-economy.

Accordingly, CCU-SCE, the selected research case, synthesizes the educational and professional-oriented courses by convergence of planning, development, and evaluation processes. In response to new rules of operations, CCU-SCE aggressively explores a new quality assurance framework to ensure the integration of core processes, and implements the continuous improvement of educational quality.

By integrating two focuses and the two cycles, a comprehensive model of quality assurance framework was proposed (see Fig. 5). Both focuses of educational and professional programs were considered, and the pre-training business assurance process and learning quality assurance processes

were integrated into the new framework, assuring that extended market-driven programs are involved in the assessment process.
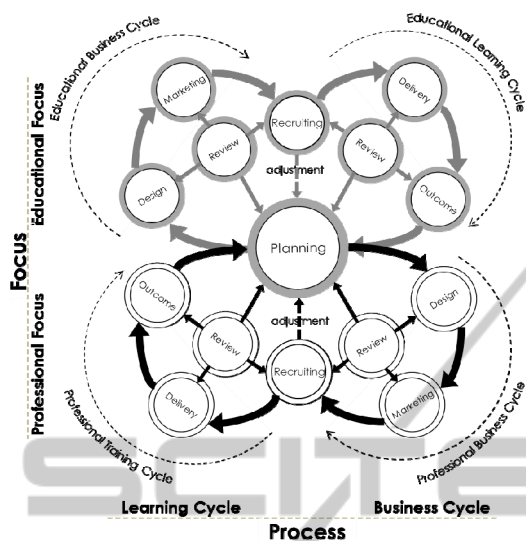

Figure 5: A Comprehensive Model of Quality Assurance Framework.

While the whole schooling cycle, including the pre-training and leaning cycles, are covered in the quality assurance framework, this comprehensive model diminished the gap between the existing TTQS framework and the practical needs.

6 CONCLUSIONS

Following the trend of education marketization, continuing education in universities is playing an active role when facing the radical growth in market and industry demands. For this reason, the management of continuing education increasingly emphasize both internal efficiency and market effectiveness by quality assurance mechanisms.

The implementation of a quality assurance framework in the educational field depends on every university's operating practices and resources. To accumulate a comprehensive and continuous quality assurance framework, two principles should be addressed.

First, developing the framework of one's own university is necessary. Regardless of the processes of ISO 10015, ISO/IWA 2:2003 or TTQS, that is, the PDCA (Plan-Do-Check-Action) or PDDRO (Planning-Design–Delivery-Review-Outcome) cycles, they cannot satisfyingly conform to demands of a university without modification. Therefore, this paper proposes the modified model for reference.

Second, quality assurance framework should cover both the pre-training business cycle and learning cycle. Furthermore, continuing education programs in universities should include education courses that are market-driven and training courses that are project-driven. The core dimensions, procedures, and quality checking indices of the different types of programs should be integrated into a unified training quality assurance framework. In this way, not only can the synergy in maintenance of quality systems be assured, but also the continuous improvement of quality for all training programs and processes.

ACKNOWLEDGEMENTS

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