The Information Technology for Thai Qualifications Framework for Higher Education

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Abstract

Presently, the information technology plays an extremely vital role in the development of educational systems. The office of the Higher Education Commission, which is in charge of regulating Thai higher education, has placed a number of strategies and policies to enhance Thai higher education standards and qualities. Thai Qualifications Framework for Higher Education (TQF: HEd) is one of the policies developed in order to enable all Thai higher education institutions to meet the same standards. The Academic Support and Registration Office of Phuket Rajabhat University is the university's central unit responsible for overseeing all curricula as well as instructional activities to align with Thai Qualifications Framework for Higher Education. Utilizing information technology in managing Thai Qualifications Framework for Higher Education not only aims at data storing purposes but also attempts to result in better knowledge management of curricula and instructional activities.

Keywords: Thai Qualifications Framework (TQF), Thai Qualifications Framework for Higher Education (TQF:HEd) , Information System (IS), Knowledge Management (KM)

1. Introduction

The formation of ASEAN Economic Community (AEC) has been developed from the Association of Southeast Asian Nations (ASEAN) which was made up of Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Burma (Myanmar), Cambodia, Laos, and Vietnam. By 2015, ASEAN members will perform in accordance with the principles of open market-driven economy (THAI-AEC 2013). Consequently, the occurrence of regional competition in several different economic sections may be inevitable. The educational system, especially higher education, may be one of the areas which may encounter this incoming regional competition. The quality of higher education may be used to be a key performance index to point out whether the quality of graduates in each educational institution in each country can meet the standards set by the open labor markets or not. Higher educational system in Thailand is in charged by the Office of Higher Education Commission (2013). Thai Qualifications Framework for Higher Education (TQF:HEd) was designed by the Office of Higher Education Commission in order to encourage the implementation of the educational guidelines expressed in the National Education Act and to ensure accordance in higher education qualifications standards in Thailand. Information technology may be considered as a strategic tool which could bring more competitive advantages and work efficiencies to educational institutions. Moreover, it could be employed as a key performance index to indicate that the organizations are the leading ones in the market with reliable information. Likewise, Phuket Rajabhat University's Thai Qualification Framework Information System was designed and developed in order to meet all educational standards and to serve required information for the purpose of educational quality assurance.

2. Thai Qualifications Framework for Higher Education (TQF:HEd)

Thai Qualifications Framework for Higher Education (TQF:HEd) is a framework designed to describe the nation's educational qualifications for higher education. It consists of levels of qualifications, close linkage from an entry level to higher levels, classification of areas of study, domains of learning, learning outcomes of domains of learning at each of the levels which an increase in the scale or complexity of the learning is expected, consistency between the amount or volume of learning expected for qualifications at each level and time spent, curriculum description in each level, the opportunity for transferring field experience into learning outcomes which may promote lifelong learning, as well as all systems and mechanisms which may enhance consistency of work efficiency with National Qualifications Framework for Higher Education to ensure that all higher education institutions can develop qualified graduates with respect to learning outcomes standards (ARCHITECTURE-KMITL 2010).

1.1. Principles of developing National Qualifications Framework for Higher Education (2013)

1. National Qualifications Framework for Higher Education is used as a tool to encourage the implementation of higher education standards and quality assurance policies stated in the National Education Act.

2. The framework emphasizes on learning outcomes which are minimum requirements for completion at each level to ensure the quality of graduates.

3. The framework combines all relevant rules and declarations regarding curriculum, teaching and learning activities and integrates them as a single connected outline.

4. The framework may be employed as an efficient communication tool for developing understanding and confidence in expected qualifications of graduates for relevant individuals such as students, parents, entrepreneurs, communities, society and other institutions both domestic and foreign countries.

5. The framework was designed to ensure that all award titles for higher education qualifications in Thailand are acknowledged, and to clarify the equivalence of academic awards with those granted by higher education institutions in other parts of the world. By following the expected learning outcome standards specified in the framework, Thai higher education institutions are allowed to handle a variety of curricula and teaching methods with confidence in quality of graduates, success of graduates in career advancements, and employers satisfaction.

6. The framework may promote lifelong learning.

1.2. The purpose of the Thai Qualifications Framework (Thaiall 2012).

1. To be employed as a tool of quality assurance for minimum requirements of graduates in each area of study or each level of qualification.

2. To allow each area of study to possess its self-control of graduates' production. All graduates completing degrees from the same areas of study from each institution are needed to possess the same minimum requirements which were specified in those areas.

3. To achieve the goal of deregulations in educational operations for the institutions which are highly capable and well prepared for educational handling.
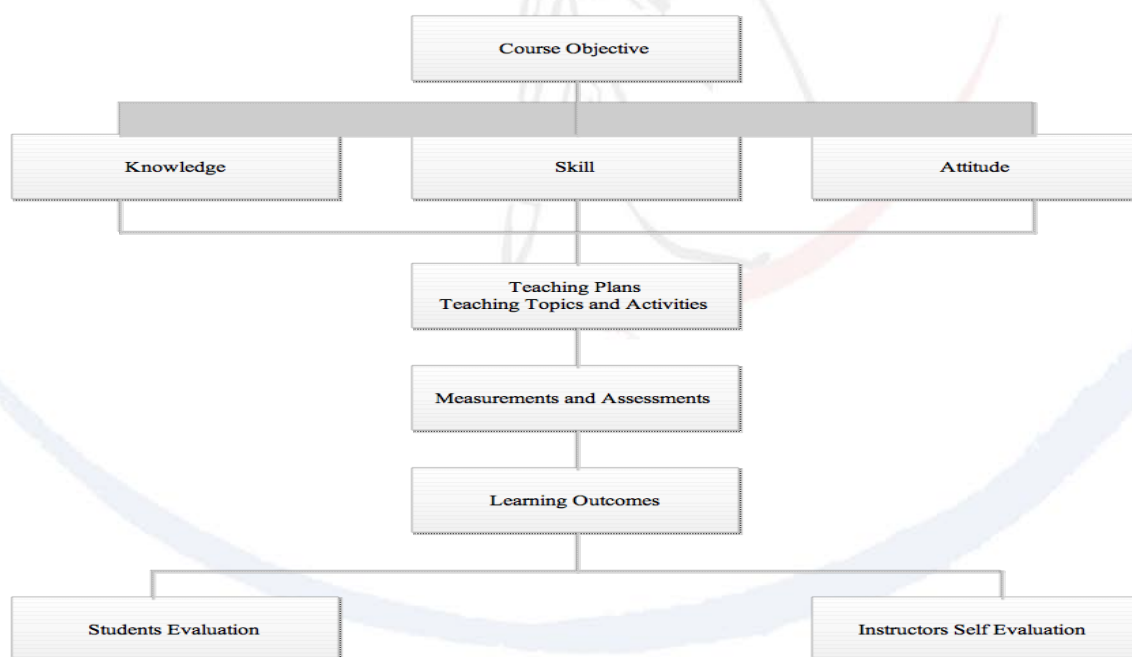

Figure 1 Teaching and Learning Structure (ARCHITECTURE-KMITL 2010).

Figure 2 An Overview of Thai Qualifications Framework Including Two Principal Portions - Curriculum and Teaching Types.

Figure 2 illustrates an overview of Thai Qualifications Framework including two principal portions which are curriculum and teaching types. Firstly, curriculum is mainly comprised of TQF2 or Programme Specification which is an overview of curriculum development enabling graduates to achieve learning outcomes and TQF7 or Programme Report which is an annual report generated by programme coordinators or persons responsible for programme management. Secondly, teaching types may be classified into two main parts which are class teaching and field experience. Class teaching portion is composed of TQF3 or Course Specification which is the information concerning the management of each course in accordance with programme specification and TQF5 or Course Report which is a report generated by each course instructor at the end of each semester regarding an overview of all teaching activities and their results in accordance with teaching plans. Field experience portion is comprised of TQF4 or Field Experience Specification which is the information involving the handling of internship undertaking or co-operative education and TQF6 or Field Experience Report which is a report providing the results of internship or co-operative education whether it can meet requirements set in field experience specification or not (2010).

3. Literature Reviews
In order to be well-prepared for the upcoming AEC in the year 2015, the Office of the Higher Education Commission (OHEC) has pointed out that a number of Thai universities, which possess a large number of new customized programs for particular needs of the market, may encounter a serious quality issues. Consequently, Thai Qualifications Framework (TQF) has been developed for all Thai legitimate higher education institutions to adopt.
In order to meet the standards which have been set up by OHEC, every university is required to generate a number of reports for quality evaluation by an independent committee. Course Specification Form (CSF) is one of the required reports which is

required to be filled in by all course instructors in each semester for all taught courses. This may lead to a routine responsibility to all course instructors. Some Thai higher education institutions, as a result, have developed their own online information systems to serve their course instructors for completing online forms utilizing the capabilities of the information technology.

Kasetsart University (KU) is one of Thai Higher Education Institutions which has developed online course specification form (CSF) for Thai Qualifications Framework (TQF) (Pattanakul et al. 2010). Their system allows pre-filling common course information by directly linking some information from their curriculum. Besides, repetitive information can be reused and automatically filled in. Moreover, text typing can be reduced by enhancing users with check boxes functionalities. Furthermore, dependent information from earlier sections in the form can be related to subsequent sections. From all of these functionalities, it may be summarized that KU online CSF system contributes their course instructors and administrative staffs to minimize significant form completing time.

Another eminent evidence of Thai Qualifications Framwork information systems is Chulalongkorn University Curriculum Administration System (CU-CAS) (Chulalongkorn-University 2013). With its web-based platform, the system allows all Chulalongkorn curriculum-related forms to be completed online. It also links all existing databases from Chulalongkorn's Office of the Registrar, Office of Academic Affairs and Office of Human Resource Management. Besides, with Chulalongkorn University Outcome-Based Curriculum (CU-OBC), all system's sub modules are fully integrated. Moreover, course evaluation functions for course instructors and students are also included in the system. Furthermore, academic course reports can be generated every semester for further review.

It may be stated that a number of higher education institutions in Thailand such as Khon Kaen University (-

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2013), Bangkok University (Accademic-Affairs-Office-Bangkok-University 2013), Chiang Mai University (-

                                                                    2013) and Mahidol University (2013) have already developed their own web-based information systems with the main purpose of facilitating the process as well as decreasing time spent to complete the forms. On the other hand, manual forms completion can still be found in some higher education institutions due to their insufficient readiness in developing the systems, lack of realization in the necessity of implementing systems and inadequate support from their management team.

4. PKRU TQF-HEd Information System

The purposes of the development of Phuket Rajabhat University's Thai Qualifications Framework for Higher Education (PKRU TQF:HEd) Information System are listed as follows:

1) To ensure the integrity and consistency of the TQF:HEd's data storing in all curricula and programmes.
2) To ensure the correctness of TQF:HEd's data access from all levels of users including course instructors, students and academic executives.
3) To enhance the university's quality assurance from both internal and external assessment in order to guarantee that all teaching and learning activities can meet the standard expectations stated in the TQF:HEd.

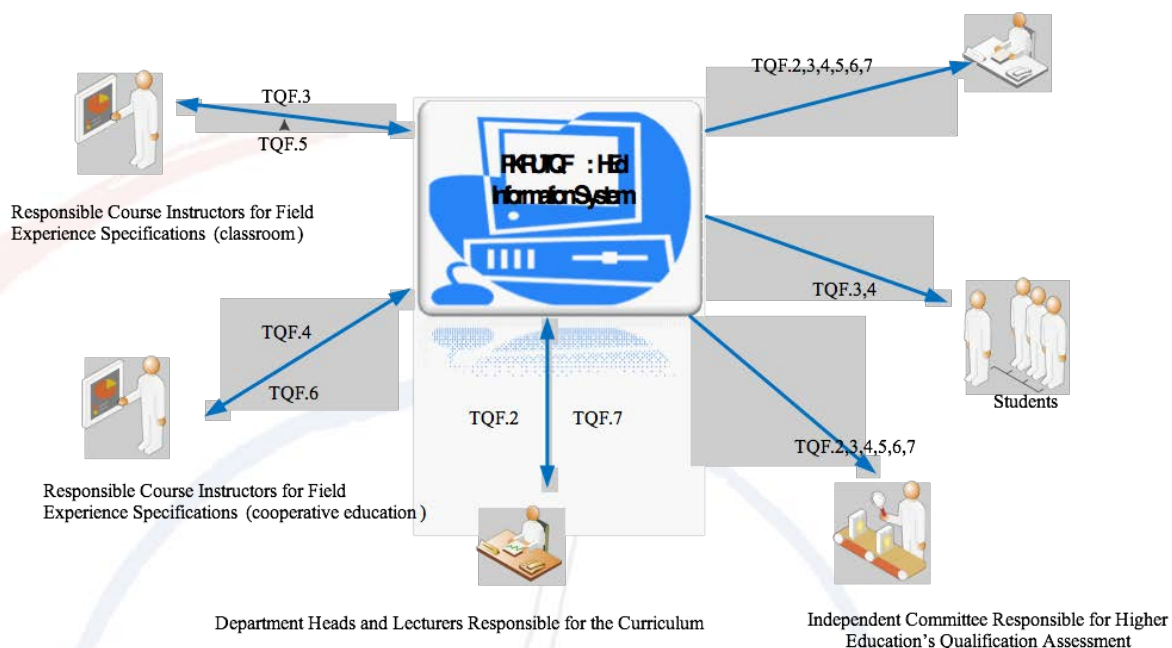## 1.1.   System Architecture

Figure 3 Thai Qualifications Framework for Higher Education Information System Infrastructure.

Phuket Rajabhat University's Thai Qualifications Framework for Higher Education (PKRU TQF:HEd) Information System as shown in Figure 3 is an on-line information system which was designed and developed for the purposes mentioned earlier. The operations of the system are involved by a variety of users including course instructors, students, university's academic executives in each management level, as well as internal and external educational quality assurance sections.

1.2.   Database System

The conceptual schema of the database of Phuket Rajabhat University's Thai Qualifications Framework for Higher Education (PKRU TQF:HEd) Information System is shown in Figure 4. This information system's database requires to access the course information in registration database to find out all courses which are required to develop TQF3, TQF4, TQF5 and TQF6 in each semester. The conceptual schema of the registration database is also shown in Figure 5.
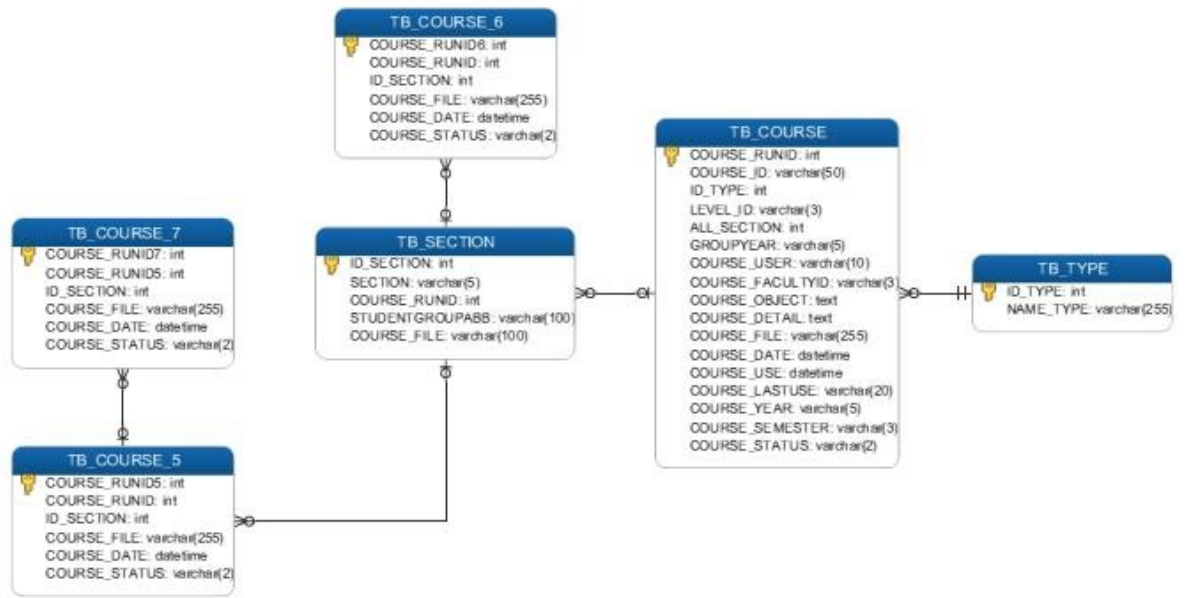
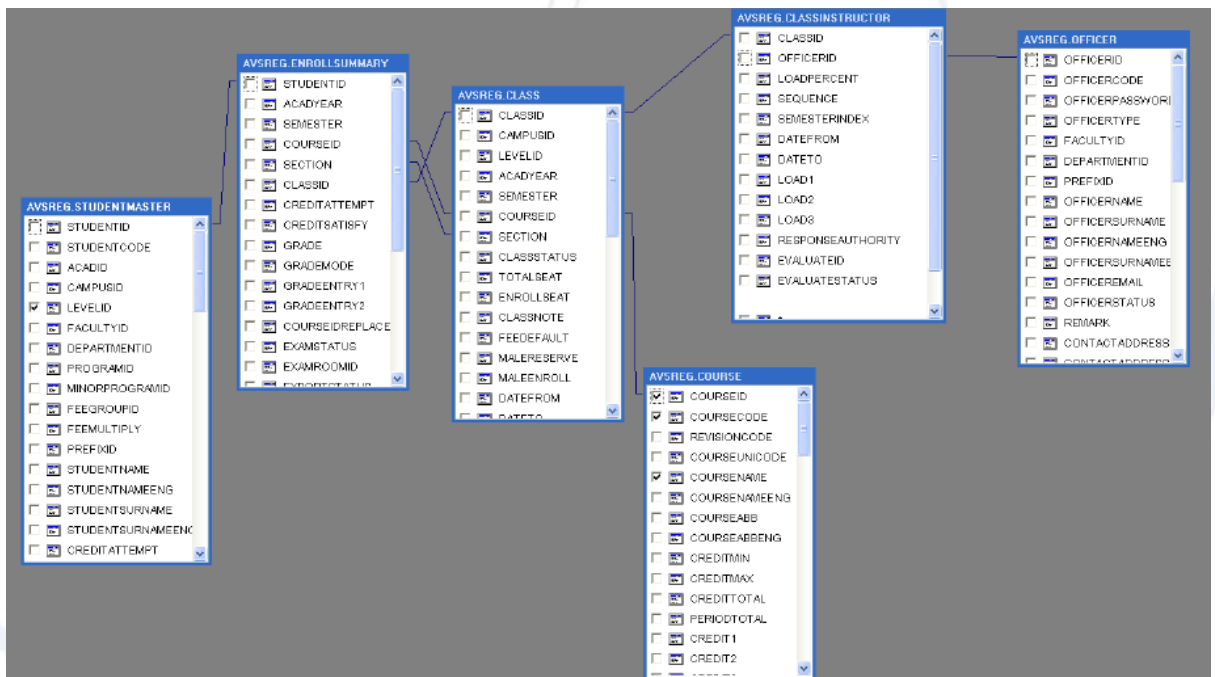**Figure 4** Conceptual Schema of PKRU TQF-HEd Information System

Figure 5 Conceptual Schema of Registration Database

1.3. User Interface

Figure6.User Interface of PKRU TQF-HEd Information System
(partial)

1.4. Outcomes

Utilizing information technology in supporting educational operations is one of the key performance indexes which may be employed to point out that the educational system is reasonably qualified. The development of Phuket Rajabhat University's Thai Qualifications Framework for Higher Education (PKRU TQF:HEd) Information System not only enables all relevant users including course instructors, students, academic executives, as well as quality assurance sections to make use of the information from the system but also leads to the application of knowledge management system (KMT 2013) for Thai Qualifications Framework for Higher Education which helps convert each course instructor's tacit knowledge into explicit knowledge. This may encourage sharing of the information of teaching processes among course instructors in the same or different courses.

2. Conclusion

The development of Phuket Rajabhat University's Thai Qualifications Framework for Higher Education (PKRU TQF:HEd) Information System primarily aims at assisting all involved users including course instructors, students, academic executives, as well as internal and external quality assurance sections to utilize and access the information regarding courses, class teaching, internship and co-operative education which resides in the same qualifications framework in the system. In addition, it may result in the integrity and consistency of all relevant information of Thai qualifications framework for higher education. Furthermore, thinking processes, programme development methods and teaching procedures from all course instructors which are tacit may be transformed to explicit knowledge for the purposes of systematic knowledge storing and sharing among all relevant users.

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