

# Evaluation of General Science Program of Bansomdejchaopraya Rajabhat University, Thailand

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## Abstract

The objective of this work was to evaluate of General Science Program of Bansomdejchaopraya Rajabhat University and provide guidelines for the development and production of graduates by the National General Science Program, where it launched good moral qualities, efficiency and key competencies of Thai citizens as citizens of the world. The research using by CIPP Model. The sample consists of administrators of 30 people selected by purposive sampling, 235 instructors selected by Krejcie and Morgan's sampling selection, and 265 graduates who completed the course in the academic year 2017 with total 246 samples. The instruments consist of a questionnaire and group discussion's form of a qualification framework for higher education. The analysis deployed percentage, average, standard deviation, and content analysis. The result revealed that the context is in the moderate level which should develop sources of learning resources, training courses database system in compliance with conditions communities, local knowledge, potential of technology, personnel management, and period of study. The input that is in the moderate level should be developed in the aspects of technology media budget, advanced equipment, and instructors. The process that is in the high level of professional experiences participation should be developed the action measurement and the evaluation continues alongside the course. The product that is in a moderate level should be developed the graduates with knowledge, morality. The effect that is in the moderate level should be solved the risk by shortening the time of preparation. The ability of graduates to link knowledge into real practice and meaningful benefits.

**Keywords:** Thai Qualifications Framework, Higher Education, Evaluation

## Introduction

The excursion and communication are currently growing faster and more convenient. In educational contexts, there are greater mobility of students, teachers and staff in exchanging and learning between domestic and international higher educational institutes. Moreover, the needs of those who would like to work and study abroad to develop their own potential are increased. Therefore, it is necessary to develop educational management system to serve such the aforementioned change. The improvement of educational system to endorse long-life education and elevate the standards and qualities of educational management among institutes to increase the convenience in students' mobility and credit transfer. Since the meeting among the Ministries of Education in European countries at Bologna, Italy in 1999 until having the agreement of Bologna Process, the European countries has adjusted their educational systems by focusing more on graduates' learning outcomes in each field and expanded these procedures to other countries around the world. In Thailand, there was the promulgation of National Education Act in 1999 and its amended (2<sup>nd</sup> issue) in 2002. This

influence the educational reform in all levels by emphasizing the revision of curriculum and the change of teaching methodology to develop students' thinking skill, problem-solving skill, and recognition of Thai culture. Regarding this impact, Rajabhat and Rajamangala Technology institutes are promoted to universities to be community colleges and provide more freedom to private higher educational institutes. These shifts affect the variety of higher educational institutes and the expansion of opportunities for people throughout the country. However, it also leads to the problem of how the institutes ensure the society whether the degree which graduates will be obtained meets the standards and qualities as stipulated in the policy of the Office of Higher Education Commission (OHEC) where it is a sector to control and support the business of higher educational institutes, and hence it proceeded the project to develop the Thai Qualifications Framework for Higher Education (TQF: Hed) to be used as an instrument to apply the policies in this National Act about national educational standards in the aspects of higher educational standards into practice concretely and obviously. The qualification framework of higher education emphasizes the goals of educational management of students' learning outcomes, which is the quality assurance of graduates who obtain a degree and conveys the confidence to society, community and higher educational institutes both in domestic and international countries to understand and assure that all graduates having been developed meet the certain standard and are able to compare with other domestic and international institutes.

Thai Qualifications Framework for Higher Education (TQF: Hed) is the framework displaying the educational qualification framework of the country, consisting of levels of qualification, field classification, continuing connections from one qualification to higher qualification, standards of learning outcomes of each qualification which is increased more according to the level and characteristic of each curriculum of each qualification, learning quantity which is consistent with timing, opportunity to transfer learning outcomes from experiences which support long-life learning, including the systems and procedures to ensure the effectiveness of proceeding through qualifications framework for higher education for higher educational institutes whether they can produce qualifying graduates successfully according to the standards of learning outcomes, which need the quality evaluation that covers all aspects to examine the strengths and weaknesses to be improved and developed. Also, it is needed to study the results of following the guidelines of national qualifications framework for higher education (NQF) throughout the world about what directions the institutes are proceeding (Committee of Quality Assurance in Higher Education, Subcommittee of Quality Assurance Development in Higher Education, Education in Higher Education Level, 2015)

There are plenty of research studies agreeing that no studies revealed that NQF can have helped develop the educational system in a better way since there was the application of NQF to the institutes in many countries (Allais 2014, Coles, Keevy, Bateman and Keating 2014); particularly in developing and poor countries to bringing the protocols of NQF to maximize the ability of competition between their higher educational institutes and the world. From the studies of impacts on NQF in 16 countries worldwide, Allais pointed out that NQF, practically, did not match with the objectives proposed, instead, it created problems. Regarding this, allais questioned to the situations occurring in the developing and poor countries when applying NQF to real practice interestingly as follows: 1) The only success that the qualification framework brought for us was papers that recorded a lot of qualifications, which have never been used or read, although in many countries there were representatives of industrial business as important stakeholders of developing the qualification framework, 2) No evidence proves that the qualification framework could be able to be used to improve the competency of educational institutes better, and there is no evidence pointing out that the contrallation by states through quality assurance processes

brought out the improvement in the aspects of both quality and quantity to be better. In some countries, such as South Africa, NQF brought the educational quality down. This tragedy of NQF was not occurred because of the limited resources of educational institutes, but because the limited resources were used to respond the evaluation system uselessly, instead of applying to support the strengths of education, and 3) The claims of the qualification framework were to emphasize the learning outcome and help circulate the labours and support the relationships between labour market and education, but it has never occurred. On the other hand, the studies showed that the aforementioned relationships were found weaker under the process of NQF. This was because the labour market and the conditions of economy was changed at all times. However, the higher educational institutes under the qualification framework had been forced to have one standard, inflexible, and hence, it was difficult to respond the outer changes (Allais, 2014).

These problems, interestingly, have also taken place in Thailand, and it has been well-recognized among the OHEC executives, but those educational technocrats chose to keep the unqualified instrument and full of problems, just because of maintaining their power over the educational institutes. In Europe, many countries where the NQF has been forced to be used supported the academic and vocational association to play a role in developing conceptual qualification framework which is consistent with their own field or vocation. This opens areas of academic diversity and supports the roles of academic institutes, which is not controlled its academic quality by the state. In the U.S., the NQF was not approved to be used by the academic and vocational association, since it was the important academic community in elevating and developing academic quality in different fields. In Thai circumstances, the directions of education are in opposite because not only are the academic difference and diversity destroyed, but it was replaced with narrowing conceptual framework of a few educators. Besides, the state has never supported the roles of academic and vocational association in developing the quality of higher education institutes (Lungaramsree, 2015).

Evaluation is an instrument to indicate the quality of work according to NQF which needs measurement and evaluation to realize the pros and cons or mistakes resulting from causes, factors and other components. The evaluation of curriculum is, therefore, a mirror to reflect the procedures of curriculum development whether it is achieved according to the goal, there is any success or failure, or there is any obstacle or problem to be considered to improve the curriculum. The evaluation of curriculum is the significant work needing the experts or those who are knowledgeable in curriculum development and evaluation, including system and continuing practice by using various concepts of evaluation. For example, Tylor (2000) claimed that evaluation needs goals of curriculum as criteria, and goals should be designed on what behaviors students should possess. The evaluation of curriculum is the consideration of the advancement of students whether they possess the behavior as it has been proposed. He also recommended three relevant components of educational management. Hammond (2000) proposed the three-dimension structure of evaluation which is composed of Dimension 1: Learning and Teaching, such as classroom management and timetable, content, teaching methodology, equipment, and expense; Dimension 2: Institute, such as, students, teachers, administrators, family, experts, and community; Dimension 3: Behavior, such as knowledge, memorization, attitude, and skill. All the dimensions must be correlated. The evaluation patterns of Stake (2000) is the pattern that sticks at criteria by stating that when there is an evaluation, it needs outside criteria by considering whether what to evaluate values the criteria settled or not. Ones who settle criteria or consider values of curriculum is experts of the field. Stake named this evaluation pattern "The Stake Congruence Contingency" by proposing the components of curriculum. His perspective is different from the others in terms of environmental learning and teaching management of teachers and students.

Stufflebeam et al (1977) proposed the 4-procedure concept of evaluation for decision-making, i.e. planning decisions, structuring decisions, implementation decisions, and recycling decisions, which the objective to investigate the achievement of a project, called decision of success, which is the evaluation leading to steps of decision-making, as follows:

CIPP Model is a pattern of curriculum evaluation which was developed from the concept of Stufflebeam who proposed the patterns of educational project evaluation to the Phi Delta Kappa National Study Committee on Evaluation of the U.S., known as CIPP Model. The key principles of this curriculum evaluation are to evaluate the conditions of a curriculum in four aspects as follows:

- 1) Context, such as society, culture, environment, need of people in a community, concept, and philosophy of educational management, leads to the stipulation of the proper goals of curriculum.
- 2) Input, such as factors relevant to applying curriculum to practice, the preparation of teachers, administrators, building, budget, media stuff, equipment, etc.
- 3) Process, such as process to apply curriculum into practice, which covers process of administration and curriculum services, process of teachers' teaching, process of students' learning, etc.
- 4) Product means the results from applying curriculum into practice, students and teaching, working in school, by comparing the products with the goals of curriculum or social anticipation. This step informs to what extent the curriculum achieves the goals.

The advantages of the CIPP Model are

- 1) having a service sector to provide information for administrators and decision makers;
- 2) convenient to provide feedback;
- 3) evaluating all steps of a curriculum;
- 4) receiving the overall result of evaluation of a curriculum (Chuerattanapong, 1996).

Bansomdejchaopraya Rajabhat University as one of higher educational institutes has the ultimate goal to develop and produce graduates to society under the educational qualification framework in higher education. Up until now, the university has driven the system and procedures to verify the quality of curricula, educational administration, and graduates. However, there is no the evaluation of Thai Qualifications Framework for Higher Education (TQF). The researcher realized its importance of proposing policies and directions of developing higher educational institutes based on cooperative educational management which provided the advantages and disadvantages or mistakes resulting from causes, factors and other components. The evaluation of curriculum is, therefore, a mirror to reflect the procedures of curriculum development whether it is achieved according to the goal, there is any success or failure, or there is any obstacle or problem to be considered to improve the curriculum. The evaluation of curriculum is the significant work needing the experts or those who are knowledgeable in curriculum development and evaluation, including system and continuing practice by using various concepts of evaluation. Consequently, the researcher was interested in evaluating Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University by deploying the CIPP Model which is the whole-system evaluation in order to recognize the key components in overall and in detail which can be used as the guidelines for producing graduates who excel at intellectuality and are capable of living their life in the world society more happily and sustainably.

### **Research Question**

How is the result of evaluation according to Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University?

### **Research Objectives**

- 1) To evaluate Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University.

2) To propose guidelines for curriculum development and graduate production system according to Thai Qualifications Framework for Higher Education (TQF) to possess good citizens, morality, quality, competence and performance for being Thai and world citizens.

### **Research Methodology**

To evaluate Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University, CIPPI Model was deployed throughout the procedure. The samples of this research included 30 administrators with purposive sampling, 235 lecturers with the Krejcie and Morgan's (1970) selection techniques, 375 graduates of the curriculum in 2016 with the Krejcie and Morgan's (1970) selection techniques, and 20 stakeholders with purposive sampling, in total 660 participants. The research instruments were interview, questionnaire, and group discussion about Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University. The procedures were as follows:

Step 1: Study the documents about curriculum and related research about the evaluation of curriculum, curriculum, and construction of interview to set out the definition of variables and behavioral indicators;

Step 2: Construct the points of questionnaire, interview and group discussion with behavioral indicators in each variable, and questions that are congruent with all points of study;

Step 3: Have the points of interview validated by the three experts in the areas of curriculum, teaching, and curricular research and development in terms of content validity by using Index of Item Objective Congruence (IOC). Regarding this, the quality of instruments in terms of content validity were between 0.66-1.00;

Step 4: Have the revised instruments tried out with the other group which is not the sampling group;

Step 5: Revise again, have it typed for the real protocol and use it with the sampling group.

### **Research Findings**

All the data were analyzed, and the research findings revealed according to each point of study as follows:

The results of analyzing fundamental data of administrators, lecturers, graduates, and stakeholders about genders found that there were 469 females (71.06 percent), 176 males (26.67 percent), and 15 participants did not mention (2.27 percent). In the aspect of positions, it found that most of them were lecturers (98.64 percent) and administrators (1.36). In the aspect of years of experience in the position, it found that most of them were 1-5 years in the position (47.42 percent), 6-10 years for 42.12 percent, 11-15 years for 9.70 percent, and least of them were 16 years in the position (0.76 percent). In the aspect of workplace, most of them worked for the university (80.91 percent), schools (18.18 percent), and other (0.91 percent).

The result of analyzing data on the evaluation of Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University in the aspect of context in overall was in the moderate level.

The result of analyzing data on the evaluation of Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University in the aspect of input in overall was in the moderate level.

The result of analyzing data on the evaluation of Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University in the aspect of process in overall was in the high level.

The results of discussion group on the evaluation of Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University were found as follows:

1) In the aspect of input factor, it found that the necessity of having Thai Qualifications Framework for Higher Education (TQF) had its goal to produce graduates in all levels- Bachelor's degree, Master's degree, and Doctoral degree-to have qualifications as it is stipulated, which the higher educational institutes could use it as guidelines for planning, revising, changing, and developing educational management, no matter whether curriculum development, adjustment of teaching methodology, learning processes, media, technology, innovation, or even process of measurement and evaluation to connect each level of qualifications in higher education level systematically so that individuals could have opportunity in increasing knowledge continually and diversely according to the philosophy of long-life education. The framework was pellucid and transparent being able to compare its qualification standards in different levels with other countries, creating qualifying cultures in higher educational institutes, and being devices in internal quality assurance in all higher educational institutes and using as referential framework for evaluators of external quality assurance about quality of graduates and classroom management which was considered the effective framework of communication in fostering understanding and confidence for stakeholders, such as students, parents, entrepreneurs, community, society and institutes domestically and internationally about meaning of qualification, morality, virtues, knowledge, ability, skill, and competency in work, including other characteristics that were anticipated to occur with graduates for their own sake and the sake of comparing qualification standards between higher educational institutes.

2) For the process factor, it found that learning and learning outcomes according to Thai Qualifications Framework for Higher Education (TQF) was the change of behaviors that students were developed by their own from the experiences they had had during their study. The qualifications framework for higher education stipulated the 5 aspects of learning outcomes that graduates were anticipated to possess, consisting of 1) Ethics and Moral, such as developing self-habit, behaving morally, virtually and responsibly both for oneself and other, capable of adjusting themselves among value conflict, committing morally for their private lives and societies, 2) Knowledge, such as ability to understand, thinking, presenting data, analyzing and classifying fact and opinion, principles, theories, as well as procedures and self-learning, 3) Cognitive Skills, such as ability to analyze situations and bring knowledge and understanding of concepts, principles, theories and other procedures in thinking, analyzing and solving problems when encountering new and unexpected situations, 4) Interpersonal Skills and Responsibility, such as ability to work in group, showing leadership, responsibility to oneself and society, ability in planning and taking responsibility in autonomous learning, and 5) Numerical Analysis, Communication and Information Technology Skills, such as ability to analyze numbers.

3) For the output factor, it found that from the process of evaluating learners in each aspect and indicator, it should have evaluated consistent with what the students could be used in their everyday life and careers. When comparing with the educational quality in higher education level, Thai education was still in the almost bottom rank both in the international rank and the neighboring-country rank. This showed that there were several factors of the Thai educational management. The five main criteria of evaluation revealed that students lacked knowledge and understanding. The morality and virtues which was the first among the learning outcomes was not occurred gracefully. Students were not much care their parents when they were ill and could not cook food by their own. Also, they could not apply what they had learned from the scout camping to their real life. They were not helpful when they saw adults carrying things. They had no etiquettes or good manners to their lecturers. The culture was dissolved gradually. The analytical skill was not linked to their real life. There was no benefit from using technology with sustainable learning. All of these were important,

and we wish that all students had to possess all of them to be good citizen of Thailand and the world sustainably.

4) For the impact factor, it found that constructing the national qualifications framework for higher education should be various both for universities and curricula/departments, provide guidelines for implication and implementation usefully and valuably, and evaluate the risks in all aspects. Graduates can apply knowledge gained in their real life, be instructed to be Thai citizens with morals, virtues, knowledge, skills, communication, technology, and spirit, create good citizen with knowledge and morality in proceeding their life based on the king's philosophy.

5) The results of proposing guidelines for developing curriculum and system in producing graduates according to the national qualifications framework for higher education to possess good citizens, morality, quality, competence and performance for being Thai and world citizens found that developing graduates to possess skills in the 21<sup>st</sup> century was constructing knowledge and skills in classroom to be able to connect with real practice valuably and meaningfully in terms of innovation, analytical thinking, synthesizing, learning autonomously, and being good citizens of society and the nation. By doing this, graduates must develop themselves to possess the desirable characteristics based on goodness which shows the Thai unique and internationalization, comprised of 1) adoring the land, nation, religion and kings, 2) adoring learning and developing oneself at all times, 3) showing gratefulness, mercy and forgiveness, 4) loving reading, 5) having spirit of retrieving news and information, 6) using technology usefully, 7) spending free time usefully, 8) having self-discipline, 9) being honest, 10) having responsibility, 11) having perseverance, 12) knowing developing innovation and new inventions, 13) respecting social rules, 14) having thrift, 15) maintaining national resources and environment, 16) maintaining Thai traditions, 17) learning to help the others, sharing, and having public mind, 18) being literate with the digital world, 19) working with honesty and determination, and 20) living life with sufficiency according to the King's philosophy.

## Recommendations

From the research findings, there are three points which the researcher recommends as follows:

1) The development of graduates according to Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University should focus on graduates loving reading, producing creative innovation, having spirit of retrieving news and information, and spending free time usefully.

2) The construction of Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University should be various both for universities and curricula/departments, provide guidelines for implication and implementation usefully and valuably, and evaluate the risks in all aspects. Graduates can apply knowledge gained in their real life, be instructed to be Thai citizens with morals, virtues, knowledge, skills, communication, technology, and spirit, create good citizen with knowledge and morality in proceeding their life based on the king's philosophy.

3) The evaluation of graduates according to Thai Qualifications Framework for Higher Education (TQF) of Bansomdejchaopraya Rajabhat University should emphasize the integration and connection of knowledge in classroom to real-life practice and career.

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