A Survey Satisfaction of the Graduate users Due to Thai Qualifications Framework for Higher Education of Master of Arts (Teaching Science) in Academics Years 2014-2017, Rangsit University,Thailand

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Abstract

The purpose of this research was to survey the satisfaction of the graduate users to Thai Qualifications Framework for Higher Education (TQF) of Master of Arts (Teaching Science) in academics year 2014-2017, Rangsit University, Thailand. The thirty-three graduate users were the target sample group. The data was collected by the five rating scale questionnaires. The Index of Item Objective Congruence (IOC) of content validity of the questionnaires was 0.63 to 1.00 from 5 instructors responsible and 3 full-time lecturers of the program. The questionnaires included six Thai Qualifications Framework for Higher Education (TQF): 1) Ethics and Moral 2) Knowledge and Academic ability 3) Cognitive Skills 4) Interpersonal Skills and Responsibility 5) Numerical analysis, Communication and Information Technology Skills and 6) Research Skills, and they were verified by five curriculum instructors. The results of this research found that the mean and standard deviation of the overall of satisfaction of the graduate users in TQF of Master of Arts (Teaching Science) in academics year's 2014-2017 was high level ($\bar{x}$ = 4.63, SD = 0.12). The satisfaction was divided into 6 parts, which were Ethics and Moral ($\bar{x}$ =4.81 , SD = 0.16), Interpersonal Skills and Responsibility ($\bar{x}$ =4.70, SD = 0.05),Numerical analysis, Communication and Information Technology Skills ($\bar{x}$ = 4.65, SD = 0.05), Cognitive Skills ($\bar{x}$ =4.59 , SD = 0.15), Knowledge and Academic ability ($\bar{x}$ =4.56 , SD = 0.03) and Research Skills ($\bar{x}$ =4.54 , SD = 0.43), respectively.

Keywords: *Satisfaction, Graduate users, TQF, Master of Arts (Teaching Science), Rangsit University*
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1. Introduction

The National Education Act BE. 2542 and the National Education Act (No.2) BE. 2545 were assigned to set the Quality Assurance in Education for the education quality and the education standards improvement of all education level. Therefore, the Office of the Higher Education Commission (OHEC) had the Announcement of the Higher Education Commission on Guidelines for Compliance with the National Higher Education Qualifications Framework 2009 (Royal Thai Government Gazette, 2009). The National Qualifications Framework for Higher Education (TQF: HEd) is a framework that shows the country's higher education qualifications, which consists of educational degree, connectivity between educational degree, the standard of learning in each educational degree, learning content corresponding to the time constraint in the required course, and providing the course transfer channel. This strategy can promote lifelong learning, as well as systems and mechanisms which ensure the effectiveness of the National Higher Education Qualifications Framework for Higher Education institutions that can produce graduates to achieve quality standards based on learning outcomes. According to the Announcement of the Higher Education Commission on Guidelines for Compliance with the National Higher Education Qualifications Framework, the learning outcomes of the students graduating with Thai Qualifications Framework for Higher Education (TQF) are determined in 5 areas as follows; 1) Ethics and Moral, 2) Knowledge, 3) Cognitive Skills, 4) Interpersonal Skills and responsibility, and 5) Information Technology and Numerical analysis and Communication Skills. In addition to the standard higher education qualifications framework, the learning outcome in each education level, starting from level 1 to level 6, have also been determined in the national standard. The education levels determining in the national standard consists of level 1 Diploma (3 years), level 2 Bachelor degree, level 3 Graduate Diploma, level 4 master degree, level 5 Higher Graduate Diploma and level 6 doctoral degree.

Master of Arts (Teaching Science) was a new curriculum in the academic year 2013 formed by cooperation between the faculty of Education (now to Suryadhep Teachers College) and the faculty of

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Science to accommodate the students of the Promotion of Science and Mathematics Talented Teachers (PSMT) Phase III, according to the cabinet resolution concerning the Ministry of Education, the Office of the Higher Education Commission (OHEC), and the Institute for the Promotion of Teaching Science and Technology (IPST). The scholarship students of PSMT were appointed to be a government teacher by the Office of the Basic Education Commission (OBEC) when they had graduated from Rangsit University and passed the required English language proficiency. Master of Arts (Teaching Science) assigned TQF at level 4, according to TQF: HEd in 5 areas as follows; 1) Ethics and Moral, 2) Knowledge, 3) Cognitive Skills, 4) Interpersonal Skills and responsibility, and 5) Information Technology and Numerical analysis and Communication Skills. Because Master of Arts (Teaching Science) had the main objective to produce science teacher to be leadership in learning management reformation, the graduate students from this curriculum had to have research skill to construct the education innovation by using the research methodology. Therefore, the new curriculum added the sixth area, which is Research skills. The Announcement of the Higher Education Commission on Guidelines for Compliance with the National Higher Education Qualifications Framework 2009 assigned the academy to prepare a report of the curriculum implementation (Programme Report). One of the reports must show the results of the satisfaction of the graduate users because the graduate users' feedback can generate evidence on the quality of students graduates, their capabilities and performance in the curriculum (Butler, 2003., Singh & Choo, 2012).Further, it can provide information on proficiencies and qualities they considered very important and useful for revising the curriculum. The level of satisfaction as a form of graduate users' feedback on graduates is as important as their assessment of the usefulness of the proficiencies needed in the workplace. The issue of the satisfaction survey of the graduate users' feedbacks of graduates is crucial for teacher education institutions. It can be used as a measure of how well a teacher education institution prepared their graduates and can also indicate the quality and relevance of the teacher education curriculum. Research shows the characteristics of a program of study have great impact on the relevance of the program in the world of work (Støren, L.A. & Aamodt, P.O., 2010). Moreover, the level of satisfaction as a form of graduate users' feedback can also provide information on the relevance and responsiveness of pre-service teacher's preparation and an overall impact of its teacher education curriculum (Anania et al., 2015).

At present, there are 4 Cohorts students graduated from the Master of Arts (Teaching Science). According to the above, the researcher was interested in the survey the satisfaction of the graduate users due to TQF of Master of Arts (Teaching Science) in academics year 2014-2017, Rangsit University, which, according to the criteria of the Office of the Higher Education Commission (OHEC) had set the curriculum development every five years. Master of Arts (Teaching Science) should be curriculum development in academics year 2020. Therefore, the results of this study will be used to improve, develop and manage this curriculum.

2. Objectives

To survey the satisfaction of the graduate users to Thai Qualifications Framework for Higher Education (TQF) of Master of Arts (Teaching Science) in academics year 2014-2017, Rangsit University, Thailand.

3. Materials and Methods

Populations and samples: The 62 graduate users who were the school director or academic affairs deputy director or head of the science department were population in this research. The researcher was to collect the data from the graduate users in school which students graduate had enrolled in teacher service before March-April each of the year. So the 33 graduate users' feedbacks which were the school director or academic affairs deputy director or head of the science department were samples group in this research.

Research Design: This survey research had steps follow that: 1) study about Master of Arts (Teaching Science) program, TQF and the satisfaction survey of the user graduate's articles, 2) developed the users' graduate survey satisfaction questionnaires and finding the efficiency by using the Index of Item Objective Congruence (IOC) of content validity from 5 instructors responsible and 3 full-time lecturers of

the program which the Index of Item Objective Congruence (IOC) of content validity were 0.62 to 1.00, 3) send the survey satisfaction questionnaires to the users' graduate samples group, and 4) collected and analyzed the data from the graduate users' feedbacks.

Research instruments: The survey satisfaction of the graduate users due to TQF Master of Arts (Teaching Science) in academics year's 2014-2017 employed the five rating scale questionnaires. The level of satisfaction were 1 = minimal, 2 = less, 3 = moderate, 4 = very, and 5 = the most. This questionnaire consisted of six Thai Qualifications Framework for Higher Education (TQF): 1) Ethics and Moral, 2) Knowledge and Academic ability, 3) Cognitive Skills, 4) Interpersonal Skills and Responsibility, 5) Numerical analysis and Communication and Information Technology Skills, and 6) Research Skills. All of six areas consisted of 26 subareas. Firstly, the Ethics and Moral can be divided into 5 subareas: Have morality, ethics, sacrifice and honesty, Discipline, punctuality and responsibility for oneself and society, Listen to the others opinions, Comply with various rules and regulations of the organization and society, Comply with the code of ethics of teaching profession. Secondly, the Knowledge and Academic ability can be divided into 5 subareas: Knowledge and understanding in the theory, principles, methods in the field of teacher profession, Knowledge and understanding of the culture related to the teaching profession, Ability to analyze problems, understand and apply knowledge, skills and use the appropriate tools for problem solving, Ability to continuously monitor academic progress and suitably apply knowledge to real situation, Understanding the change and the impact of new technology for appropriate application. Thirdly, the Cognitive Skills can be separated to 5 subareas: Critical thinking and systematic thinking, Search, interpret and evaluate information used for creative solving problems, Collect, study, analyze, synthesize and summarize issues of needs, Apply knowledge and skills to appropriate professional solutions, Integrate the educational knowledge with related science. Fourthly, the Interpersonal Skills and Responsibility can be separated to 4 subareas: Ability to work in team, listening to other opinions, Responsibility to manage goals, Credibility from the director and colleagues. Fifthly, the Numerical analysis, Communication and Information Technology Skills can be divided into 4 subareas: Synthesis and analysis based on reasonable argumentation, Ability of numerical analysis, Ability of using Thai language for communication, Ability of using the information technology. Sixthly, the Research Skills were separated to 3 subareas: Select and read the educational research with the understanding, Analysis and synthesis references accurately, Designing research suitably. In addition to the six criteria, an open-ended question was provided so that the graduate students can have some feedback to develop and operate the characteristic of the graduate and provide the user with feedback on graduate development and operating characteristics of the graduates.

The Scope of the study: The graduate users in this study were the school director or academic affairs deputy director or head of the science department which the scholarship students of PSMT were appointed to be government teacher when they had graduated from Rangsit University and passed the required English language proficiency. The period which the researcher collected the data was as follows table 1

Table 1 the period were collected the data.

graduation Year	graduates Number (persons)	the period of data collection	The number of enrolled teacher service (persons)	The number of the sample group (persons)
2014	32	March-April, 2015	15	15
2015	11	March-April, 2016	7	7
2016	12	March-April, 2017	6	6
2017	7	March-April, 2018	5	5
Total	62		33	33

Data collection and Data Analysis: 1) The graduate users' feedback were 6.06% academic affairs deputy director and 93.94 % head of science department, were 54.54% male and 45.46% female were 36.36% interval 30-40 years old 48.48% interval 41-50 years old and 15.16% interval 51-60 years old. 2)

The data from the satisfaction survey of the graduate users' questionnaire were analyzed by the means and the standard deviation.

4. Results and Discussion

1. The means of the satisfaction of the users due to TQF Master of Arts (Teaching Science) in academics year's 2014-2017 were as follows : 1) Ethics and Moral($\bar{x}$ = 4.81, SD = 0.16), 2) Knowledge and Academic ability ($\bar{x}$ = 4.56, SD = 0.03), 3) Cognitive Skills ($\bar{x}$ = 4.59, SD = 0.15), 4) Interpersonal Skills and Responsibility ($\bar{x}$ = 4.70, SD = 0.05), 5) Numerical analysis and Communication and Information Technology Skills ($\bar{x}$ = 4.65, SD = 0.05), 6) Research Skills ($\bar{x}$ = 4.54, SD = 0.43), and the overall $\bar{x}$ = 4.63 , SD = 0.12, as shown in Table 2 and 3.

Table 2 the means of the satisfaction of the employers due to TQF Master of Arts (Teaching Science) in academics year's 2014-2017.

Features/capabilities.	The academic year 2014	The academic year 2015	The academic year 2016	The academic year 2017	mean	Ranking
1) Ethics and Moral	4.82 (0.36)	4.78 (0.45)	4.80 (0.51)	4.84 (0.36)	4.81 (0.16)	1
2) Knowledge and Academic ability	4.46 (0.37)	4.43 (0.43)	4.66 (0.44)	4.68 (0.43)	4.56 (0.03)	5
3) Cognitive Skills	4.30 (0.37)	4.47 (0.45)	4.80 (0.37)	4.80 (0.44)	4.59 (0.15)	4
4) Interpersonal Skills and Responsibility	4.52 (0.41)	4.82 (0.51)	4.73 (0.42)	4.72 (0.42)	4.70 (0.05)	2
5) Numerical analysis, Communication and Information Technology Skills	4.40 (0.45)	4.73 (0.47)	4.71 (0.38)	4.74 (0.37)	4.65 (0.05)	3
6) Research Skills.	4.26 (0.35)	4.53 (0.41)	4.71 (0.41)	4.67 (0.43)	4.54 (0.43)	6
Over all	**4.47** (0.20)	**4.62** (0.17)	**4.72** (0.05)	**4.73** (0.07)	**4.63** (0.12)	

Table 3 the detail of the means of the satisfaction of the employers due to TQF Master of Arts (Teaching Science) in academics year's 2014-2017.

Features/capabilities.	The average satisfaction.			
	The academic year 2014	The academic year 2015	The academic year 2016	The academic year 2017
1) Ethics and Moral				
1.1 Morality, ethics, sacrifice and honesty	4.90 (0.55)	4.91 (0.55)	4.99 (0.55)	4.99 (0.37)
1.2 Discipline, punctuality and responsibility for oneself and society.	4.80 (0.45)	4.91 (0.45)	4.67 (0.45)	4.60 (0.37)
1.3 Listening to other opinions	4.90 (0.18)	4.55 (0.55)	4.67 (0.45)	4.80 (0.37)
1.4 Comply with various rules and regulations of the organization and society	4.80 (0.45)	4.91 (0.45)	499 (0.45)	4.99 (0.37)
1.5 Comply with the code of ethics of the teaching profession	4.70 (0.18)	4.64 (0.28)	4.67 (0.55)	4.80 (0.37)
2) Knowledge and Academic ability				
2.1 Knowledge and understanding in the theory, principles, methods in the field of the teacher profession	4.90 (055)	4.45 (0.18)	4.83 (0.45)	4.80 (0.45)
2.2 Knowledge and understanding of the culture	4.80	4.36	4.50	4.60

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	related to the teaching profession	(0.45)	(0.45)	(0.55)	(0.18)
2.3	Ability to analyze problems, understand and apply knowledge, skills and use the appropriate tools for solving a problem	4.00 (0.22)	4.45 (0.55)	4.33 (0.45)	4.40 (0.45)
2.4	Ability to continuously monitor academic progress in the profession and apply and develop the knowledge	4.30 (0.45)	4.36 (0.55)	4.83 (0.22)	4.80 (0.55)
2.5	Understanding the changing and the impact of new technology for the appropriate application	4.30 (0.18)	4.55 (0.45)	4.83 (0.55)	4.80 (0.45)
3) Cognitive Skills					
3.1	Critical thinking and systematic thinking.	4.40 (0.55)	4.27 (0.55)	4.50 (0.22)	4.40 (0.55)
3.2	Search, interpret and evaluate information used for creatively solving problems	4.40 (0.45)	4.55 (0.45)	4.50 (0.45)	4.60 (0.45)
3.3	Collect, study, analyze, synthesize and summarize issues for needs	4.30 (0.22)	4.45 (0.45)	5.00 (0.18)	5.00 (0.22)
3.4	Apply knowledge and skills to appropriate professional solutions	4.10 (0.45)	4.64 (0.28)	5.00 (0.45)	5.00 (0.55)
3.5	Integrate the educational knowledge with related science	4.30 (0.18)	4.45 (0.55)	5.00 (0.55)	5.00 (0.45)
4) Interpersonal Skills and Responsibility					
4.1	Ability to work in a team	4.50 (0.45)	5.00 (0.55)	4.67 (0.45)	4.60 (023)
4.2	Listen to others' opinion	4.70 (0.22)	4.82 (0.55)	4.83 (0.45)	4.80 (0.55)
4.3	Responsibility to manage goals.	4.30 (0.55)	5.00 (0.45)	4.50 (0.17)	4.60 (0.45)
4.4	Credibility from the director and colleagues	4.80 (0.45)	4.82 (0.55)	4.83 (0.43)	4.80 (0.22)
5) Numerical analysis, Communication and Information Technology Skills					
5.1	Synthesis and analysis capabilities by using the main reasons	4.30 (0.55)	4.73 (0.45)	4.50 (0.45)	4.40 (0.23)
5.2	The ability of numerical analysis.	4.20 (0.55)	4.64 (0.28)	4.67 (0.45)	4.80 (0.55)
5.3	The ability to use the Thai language for communication	4.60 (0.55)	4.73 (0.55)	4.67 (0.17)	4.80 (0.45)
5.4	The ability to use the information technology.	4.40 (0.22)	4.73 (0.55)	4.99 (0435)	4.99 (0.22)
6) Research Skills.					
6.1	Select and read the educational research with the understanding	4.50 (0.45)	4.36 (0.17)	4.50 (0.23)	4.40 (0.55)
6.2	Analysis and synthesis for accurate reference	4.00 (0.45)	4.55 (0.43)	4.99 (0.55)	4.99 (0.45)
6.3	Suitable research design	4.00 (0.17)	4.27 (0.44)	4.33 (0.45)	4.20 (0.55)
	Overall	**4.47** (0.20)	**4.62** (0.17)	**4.72** (0.05)	**4.73** (0.07)

* The levels of satisfaction

    1.00-1.80 means Very Dissatisfied

    1.81-2.60 means Dissatisfied

    2.61-3.40 means Neither satisfied

    3.41-4.20 means Satisfied

    4.21-5.00 means Very satisfied

2. Graduate users had suggestions for developing and operating concerned the graduate from Master of Arts (Teaching Science) in various examples; technics in laboratory science, using scientific tools skills, writing recording data skills, knowledge about scientific research, work presentation, leadership for developing research, using multiple teaching styles and technology.

5. Discussion

All of the means of the satisfaction of the graduate users to Thai Qualifications Framework for Higher Education (TQF) of Master of Arts (Teaching Science) in academics year 2014-2017, Rangsit University, Thailand were high level. They were the result of the construction and development curriculum which based on the needs of users in the school. Beside of the curriculum that had the intensive course, it would have many workshop project or training program examples; moral and ethics program, English language program, STEM, action research, measurement and evaluation.

The results of this research found that the mean of Ethics and Moral ($\bar{x}$ = 4.82, SD = 0.36) was the highest, showing that the learning management model and learning activity in the Master of Arts (Teaching Science) program were effective for the use in the next group. Besides, the mean of Ethics and Moral ($\bar{x}$ = 4.82, SD = 0.36) that was the highest also supports the Announcement of the Higher Education Commission on Guidelines for Compliance with the National Higher Education Qualifications Framework 2009 which assigned the Ethics and Moral were the first of TQF. Most of the satisfaction survey of the graduate users shown that the means of Ethics and Moral were the highest. For example, Tatikul, (2016) studied in the title of "A study of Employers' Satisfaction of Education Graduates in Phranakhon Si Ayutthaya Rajabat University". She found that the employers of the graduate students were satisfied with the graduates regarding attributes or working performances in the highest was ethics and moral ($\bar{x}$ = 4.72), and Plubplueng et al., (2016) studied in the title of "Users' Satisfaction of Graduates of Rajamangala University of Technology Rattanakosin". They found that the quality of work of most graduates was high. The strengths of the graduates were morality and ethics ($\bar{x}$ = 4.11), and Prayoon Imsawasd (2017) studied in the title of "The Satisfaction of the Employers towards the Work of Educational Administration Postgraduates, Faculty of Education, Burapha University". He found that the highest of satisfaction of the employers was morality and ethics ($\bar{x}$ = 4.47) in master degree and the second of satisfaction of the employers was morality and ethics ($\bar{x}$ = 4.49) in the doctoral degree. However, the means of the Research Skills ($\bar{x}$ =4.54) were the last, and the employers suggested to improve or reinforce activities about research skills. This issue probably resulted from the scholarship student in the PSMT were Bachelor's degree in Science, which their experience in scientific research was different from educational research. Therefore, they needed more time to learn about educational research but the contracture program of Master of Arts (Teaching Science) forced in the 1st year student to learn academic subjects , the 2nd year to practice teaching and do research. It was necessary to have multi-activities to improve the student's research skills.

The study of the satisfaction of the graduate users is especially useful because the information gained from this study will help to direct and improve the course. The graduate students can be manufactured/developed learning standards as defined in the framework. As a result, the qualification standards of the graduates satisfied the quality of the graduate users and society. According to Kerwin A. L. (2014) "The curriculum is an essential document which details how learning and teaching are to be done. Since this document is a guide for learning, it must be properly planned, designed and developed, if it is to achieve success in its implementation stage." Moreover, according to Squires (2004) "The job of the curriculum is to provide teachers with a structure for instruction so that they can balance the often competing forces of standards, tests, textbooks, and programmed. The curriculum provides the structure for management of teaching and learning as well as staff development. Without a curriculum's structure, there is chaos."

6. Conclusion

The analysis of the findings brings forth many advantages, particularly for the review and development of the Master of Arts (Teaching Science) curriculum. It makes confident for administration to prepare teacher students based on the needs of the graduate users. However the results of "A Survey Satisfaction of Graduate users Due to Thai Qualifications Framework for Higher Education of Master of Arts (Teaching Science) in Academics Years 2014-2017, Rangsit University, Thailand" as the results of administration in the context of Master of Arts (Teaching Science), Rangsit University, Thailand for supporting the Science and Mathematics Talented Teachers. If educational administrator wanted to manage their teachers' program, they must be concern context and the social needs of the nation.

7. Acknowledgements

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