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Measurement and Evaluation of Learning Outcomes  
under Thai Qualifications Framework for Higher Education (TQF: HEEd)  
of Thailand National Sports University Lecturers

Yanee Sangsriin<sup>1</sup>

Email: ysangsriin@hotmail.com

Vandee Sangprateeptong<sup>2</sup>

Email: svandee6@gmail.com

Somkid Promjouy<sup>3</sup>

Email: drsomkid@hotmail.com

Chanita Kraipetch<sup>4</sup>

Email: chanita.krai@hotmail.com

<sup>1,2,3,4</sup>Graduate Student of Education, Sukhothai Thammathirat Open University

**Abstract**

The purposes of this study were to 1) study the procedures of the measurement and evaluation of learning outcomes, 2) explore the conditions of measurement and evaluation of learning outcomes, and 3) investigate the self-development needs of the measurement and evaluation of learning outcomes under Thai Qualifications Framework for Higher Education (TQF: HEEd) among Thailand National Sports University (TNSU) lecturers. This study was document synthesis and quantity research. The data were collected from 189 TNSU lecturers. Mean, Standard Deviation, Priority Need Index Modified, and T-test were employed to analyze the data. The results showed that 1) procedures of the measurement and evaluation of learning outcomes under TQF: HEEd consisted of 5 stages. Stage 1 was planning, comprising determining 3 areas of the measurement and evaluation of learning outcomes, including (1) the objectives, (2) the elements, and (3) the methods and instruments to be in agreement with the measured learning outcomes. Stage 2 was designing and developing the instrument, comprising (1) designing an instrument, and (2) validating the instrument. Stage 3 was performing data collecting. Stage 4 was summarizing the results of the measurement and evaluation. Stage 5 was reporting and applying the results to the learning development process. 2) TNSU lecturers applied the measurement and evaluation of learning outcomes under TQF: HEEd in use in high level including (1) determining the objectives of the measurement and evaluation of learning outcomes, (2) determining the elements of the



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measurement and evaluation of learning outcomes, (3) data collecting, and reporting and applying the results to the learning development process. 3) TNSU lecturers had a self-development need of the measurement and evaluation of learning outcomes under TQF: HEEd. The highest need was for designing the instrument, followed by validating the instrument, determining the methods and instruments to be in agreement with the measured learning outcomes ( $PNI_{Modified} = 0.46$ ) respectively.

**Keywords:** Measurement and Evaluation of Learning Outcomes, Thai Qualifications Framework for Higher Education (TQF: HEEd), Needs

### Introduction

Education in Higher Education has been disrupted in many aspects. Education quality and quality assurance are emphasized. Education transformation under National Education Act B.E. 2542 edited version B.E. 2545 edited version B.E. 2553 played crucial role in education development. Curriculum development and instruction transformation are paid attention. Higher Education Commission provided TQF: HEEd to be instruments to take the Education policies about Higher Education standard from the National Education Act into actions. The regulations under TQF: HEEd which are needed for learners development in 5 domains: Ethics and Moral, Knowledge, Cognitive Skills, Interpersonal Skills and Responsibility, and Numerical Analysis, Communication and Information Technology Skills (Office of the Higher Education Commission, 2009, p. 1).

The reflection of education management under TQF: HEEd is the result of measurement and evaluation of learning outcomes it is one of the learning processes and it is the direct responsibility of teachers. Education management must measure and evaluate all learners learning performance to assess the learning and the effectiveness of instruction, and the effectiveness and quality of measurement and evaluation. Quality is a part of teacher profession. Profession development in aspects of measurement and evaluation must be serious and must understand the principles, procedures and the evaluation instruments creation. Moreover, measurement and evaluation results must be used as information to develop students and instruction. In present, there are two problems for teacher development: development aspect and practice aspect. Development aspect consists of 1) lack of effective development system, 2) is not served their needs, 3) do not provide to all, 4) is not practical, 5) is not practical monitoring and evaluation. Practice aspect consists



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of 1) workload, 2) low efficiency and effectiveness, 3) low motivation, and 4) work changing (Khak Moonded, 2012, p. 3).

Moreover, it is found that the teachers lack of knowledge and understanding of measurement and evaluation instrument creation (Parin Konpetch, 2008, p. 1; Wattana Rotjareanchai, 2011, p. 113; Kittipong Luenam, 2018, p. 24; Ramet Langkratok, 2018, p. 7). Memory is evaluated mostly and various types of measurement and evaluation are not employed. Furthermore, the instruments are not standardized and low quality (Pankaew Kaewchanlah, 2013, p. 99). The involved people lack of quality instrument creation (Kiritikan Sirisurawut, 2016, p. 17). Measurement and evaluation are not authentic: use traditional way, use only test items as main instrument. The instruments are not standard and not serve the indication and do not use the information to develop the learners (Pairin Konpetch, 2008, p. 1), lack of confident of procedures to measure and evaluate in the authentic learning (Office of the Education Council, 2008, p. 45), not continuous measurement and evaluation. The adaptation of measurement and evaluation is not served the learning content, students' interest (Jirabhorn Meesanga, Issara Rungthaweechai, 2019, pp. 97-98; Leelawadee Jeerasemanon, 2012, p. 63). The teachers are not confident about the measurement and evaluation. The knowledge of measurement and evaluation are limited. Instrument development rate is low, the bias of scoring, unqualified teachers, only test is employed. Most Higher Education lecturers lack of correct knowledge about measurement and evaluation under TQF: HEd in terms of instruments and instrument testing, and measurement procedures. Most importantly only Knowledge and Cognitive domains under TQF: HEd are measured and evaluated. Ethics and Moral, Interpersonal Skills and Responsibility, and Numerical Analysis, Communication and Information Technology Skills are not measured and evaluated. That is not served TQF: HEd graduate requirements (Songsri Chamnankit, 2016, p. 2).

The measurement and evaluation are separated which is not agree with the learners learning behaviors which need to be tested. The methods are not obvious (Sunthra Tohbua, 2018, p. 95). Measurement and evaluation behaviors of TNSU lecturers under TQF: HEd are in moderate level (Yanee Sangsriin, 2015, pp. 78-81). Maliwan Pooniad (2011, p. 319) suggested that instrument and evaluation development should be trained. Test bank must be developed. It is helpful for less experience teachers and they should be trained to develop their measurement and evaluation skill, attitude and expertise.

From above information and problems, the measurement and evaluation under TQF: HEd are crucial for higher education lecturers. Therefore, the researcher studies measurement



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and evaluation under TQF: HEd, procedures, condition, and self-developments needs of TNSU lecturers.

### Research Objectives

1. To study the procedures of the measurement and evaluation of learning outcomes
2. To explore the conditions of measurement and evaluation of learning outcomes
3. To investigate the self-development needs of the measurement and evaluation of learning outcomes under Thai Qualifications Framework for Higher Education (TQF: HEd) among Thailand National Sports University lecturers

### Research Scope

1. Population was 189 Thailand National Sports University Lecturers with teaching experience not more than 3 years and who taught in 2017-2020.
2. Variables
  - 2.1 procedures of the measurement and evaluation of learning outcomes under Thai Qualifications Framework for Higher Education (TQF: HEd)
  - 2.2 condition of the measurement and evaluation of learning outcomes under Thai Qualifications Framework for Higher Education (TQF: HEd) of TNSU lecturers
  - 2.3 measurement and evaluation of learning outcomes self-development needs under Thai Qualifications Framework for Higher Education (TQF: HEd) of Thailand National Sports University lecturers
3. The data were collected during June 2018- April 2020.

### Research Methodology

#### 1. Research Methods

This descriptive research synthesized the documents of the measurement and evaluation of learning outcomes under TQF: HEd to obtain the procedures of the measurement and evaluation of learning outcomes under TQF: HEd. Moreover, it explored the conditions of the measurement and evaluation of learning outcomes under TQF: HEd.

2. Research Procedures comprised 1) synthesizing the measurement and evaluation of learning outcomes under TQF: HEd, 2) designing and developing a conditions questionnaire of the measurement and evaluation of learning outcomes under TQF: HEd. The Index of item Objective Congruence (IOC) was between .80-1.00., Internal Consistency was .86, analyzed by



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Cronbach's Alpha Coefficient. The needs questionnaire for self-development in the measurement and evaluation of learning outcomes under TQF: HEd, IOC was between .80-1.00, and the internal consistency was .89, and 3) exploring the conditions and investigating the self-development needs of measurement and evaluation of learning outcomes under TQF: HEd among TNSU lecturers.

3. Data Collection included 1) sending invitation letters to qualified experts to test the instruments, and 2) mailing the invitation letters to the experts and contact TNSU lecturers to inform the research information, procedures via Line App during 25-30 May, 2020.

4. Data Analysis consisted of 1) procedures of the measurement and evaluation of learning outcomes under TQF: HEd, analyzed by content synthesis, 2) Lecturers information, analyzed by frequency and percentile, and 3) Conditions of the measurement and evaluation of learning outcomes under TQF: HEd, analyzed by Mean and Interquartile Range (IQR), and 4) self-development needs of the measurement and evaluation of learning outcomes under TQF: HEd, analyzed by basic statistics; Mean, Standard Deviation of priority need and expected performance, the mean difference, analyzed by the T-test; arrange priority need from a highest to a lowest, analyzed by Modified Priority Need Index (Suwimol Wongwanich, 2007, pp. 123-124).

## Research Results

The study showed that

1. Procedures of the measurement and evaluation of learning outcomes under TQF: HEd consisted of 5 stages. Stage 1 was planning, comprising determining 3 areas of the measurement and evaluation of learning outcomes, including (1) the objectives, (2) the elements, and (3) the methods and instruments to be in agreement with the measured learning outcomes. Stage 2 was designing and developing the instrument, comprising (1) designing an instrument, and (2) validating the instrument. Stage 3 was performing data collecting. Stage 4 was summarizing the results of the measurement and evaluation. Stage 5 was reporting and applying the results to the learning development process.

2. Conditions of the measurement and evaluation of learning outcomes under TQF: HEd of TNSU Lecturers indicated that 65.4% of the lecturers were in specialized fields, and 60.70% were not trained in the measurement and evaluation under TQF: HEd. They were in the conditions below,



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2.1 Planning for the measurement and evaluation of learning outcomes, TNSU lecturers determined the objectives of the measurement and evaluation planning in a high level, determined the elements of learning outcomes in a very high level, and determined the method and measurement and evaluation instruments to be in agree with learning outcomes in a moderate level.

2.2 Designing and developing the instrument, TNSU lecturers designed and validated the instruments in a moderate level.

2.3 Performing data collecting, TNSU lecturers performed about data collecting in a high level.

2.4 Summarizing the results of the measurement and evaluation, the TNSU lecturers performed it in a moderate level.

2.5 Reporting and applying the results to the learning development process, TNSU lecturers applied in high level.

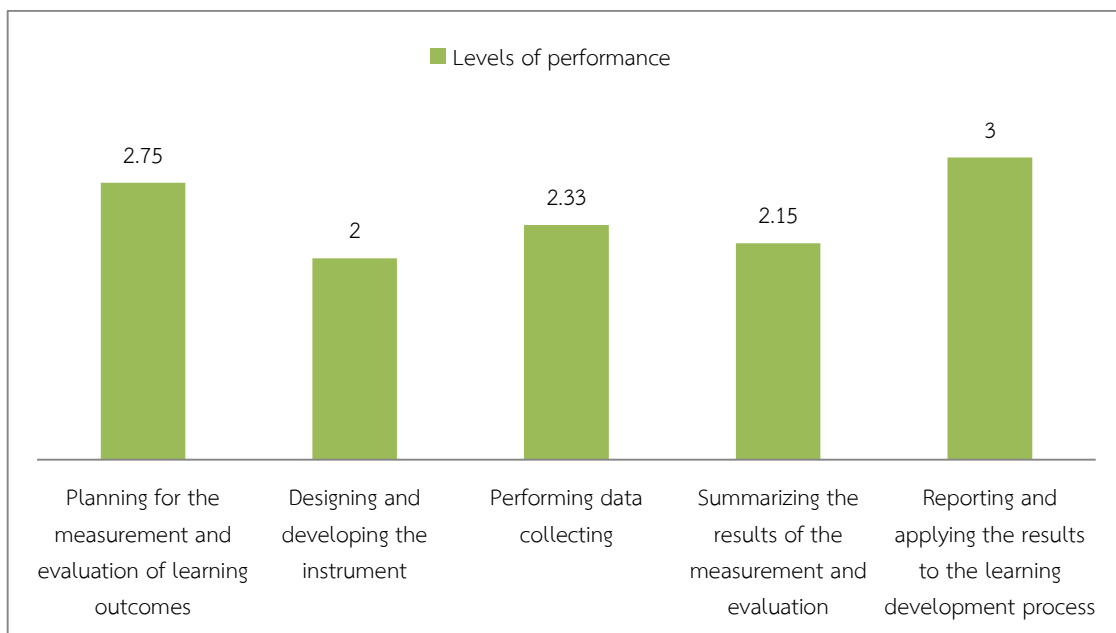


Figure 1: below reviews the conditions of the measurement and evaluation of learning outcomes under TQF: HEd.

3. Self-development needs of measurement and evaluation of learning outcomes under TQF: HEd among TNSU lecturers



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TNSU lecturers needed self-development in the measurement and evaluation under TQF: HEd. The needs of measurement and evaluation of learning outcomes were in a highest level ( $M = 4.6$ ,  $S.D = .12$ ). The performance was in a high level ( $M = 3.58$ ,  $S.D. = .19$ ). PNI modified showed that self-development of the measurement and evaluation of learning outcomes was at 0.32. For the procedures of the measurement and evaluation of learning outcomes under TQF: HEd, designing an instrument was priorly needed ( $PNI_{Modified} = 0.88$ ), followed by validating the instrument ( $PNI_{Modified} = 0.57$ ) and determining the methods and instruments of the measurement and evaluation of learning outcomes to be in agreement with the measured learning outcomes ( $PNI_{Modified} = 0.46$ ) as shown below:

Table 1: Self-development Needs of the Measurement and Evaluation of Learning Outcomes among TNSU Lecturers

Procedures of the Measurement and Evaluation of Learning Outcomes	Priority Needs		Level	Expected Performance		Level	PNI	Ranking
	M	S.D.		M	S.D.			
	1. Determine the objectives of the measurement and evaluation of learning outcomes	4.56	.17	highest	3.91	.25	high	0.17
2. Determine the elements of the measurement and evaluation of learning outcomes	4.63	.19	highest	3.44	.31	moderate	0.35	4
3. Determine the methods and instruments of the measurement and evaluation of learning outcomes to be in agreement with the measured learning outcomes	4.76	.11	highest	3.27	.29	moderate	0.46	3
4. Design the instrument	4.69	.07	highest	2.50	.15	low	0.88	1
5. Validate the instrument	4.54	.09	highest	2.89	.20	moderate	0.57	2
6. Perform the data collecting	4.53	.11	highest	3.92	.09	high	0.16	6
7. Summarize the results of the measurement and evaluation	4.59	.10	highest	4.02	.12	high	0.14	7
8. Report the evaluation of learning outcomes	4.52	.09	highest	4.29	.10	high	0.05	9
9. Apply the results to the learning development process	4.58	.15	highest	4.06	.23	high	0.13	8
<b>Mean</b>	<b>4.60</b>	<b>.12</b>		<b>3.58</b>	<b>.19</b>		<b>.32</b>	



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## Discussion

The measurement and evaluation of learning outcomes under TQF: HEd of TNSU lecturers revealed that the most lecturers were in specialized area professions. They were not trained in the measurement and evaluation under TQF: HEd especially the performance of determining the methods and instruments of the measurement and evaluation of learning outcomes to be in agreement with the measured learning outcomes, designing the instrument, and validating the instrument were all in a moderate level. Due to their degrees which were not in the field of education and they were not trained about the measurement and evaluation under TQF: HEd. Therefore, they lacked of the knowledge and understanding to put the measurement and evaluation under TQF: HEd into practice which is in agreement with the studies of Pairin Konpetch (2008, p. 1), Wattana Rojcharoenchai (2010), Kittipong Luenam (2018, p. 24), and Ramet Langkratok (2018, p. 7). They proposed that lecturers lacked of knowledge and understanding about effective instrument design. Pankaew Kaewchanlah (2013, p. 99) stated that most lecturers evaluated memory by using test items only. They did not employ various measurement and evaluation instruments. In addition, standard and quality instruments were not applied which is consistent with Leelawadee Jeerasemanont (2012, p. 63) proposing that lecturers were not confident about measurement and evaluation and their knowledge and understanding were limited. The lecturers were not specialized and lacked of knowledge to establish instrument, only test were employed to measure and evaluate. Kiratikan Sirisorawat (2016, p. 17) mentioned that lecturers lacked of knowledge and understanding about instrument creation. Office of Education Council (2008, p. 45) proposed that lecturers were not confident about authentic measurement and evaluation. Sunthorn Tohbia (2008, p. 95) stated that learning management and evaluation were separated and it was not in the same direction with authentic learning behaviors. The methods were not obvious shown and covered TQF: HEd.

The self-development needs in the measurement and evaluation under TQF: Hed among TNSU lecturers were 1) designing the instrument, 2) validating the instrument which agreed with Maliwan Pooniad (2011, p. 319) stating that organization should support less experience lecturers to develop their instrument and evaluation, and their test bank. The lecturers should be trained about measurement and evaluation for more knowledge, more understanding, positive attitude, and more expertise.



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## Recommendations

### 1. Suggestions for Application

1.1 Thailand National Sports University obtains the information related to lecturer development about the measurement and evaluation of learning outcomes under TQF: HED. This information will be employed as a basis information for lecturer development.

1.2 Other universities can adapt these procedures of the measurement and evaluation for learning outcomes under TQF: HED to investigate the conditions of the measurement and evaluation of learning outcomes for their lecturer development.

### 2. Recommendations for further study

The results of this study can be a basis information to further study about the patterns of the measurement and evaluation of learning outcomes under TQF: HED for lecturer development.

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