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The Relationship Between External Quality Assessment and the Progress of Sixth Grade Student's Learning Outcome of Basic Education in Thailand

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Abstract: This research has three main objectives which are; to study the external quality assessment; to group educational institutions classified by the result of external quality assessment; to compare the change of Ordinary National Educational Testing scores between the school groups which have different the third-round external quality assessment score for basic education in Mathematics, Science, Social Studies, English and Thai language subjects. Research data was a secondary data including the third round of external quality assessment results and the Ordinary National Educational Testing scores (O-NET) from 2011-2015. The research data was analyzed using descriptive statistics, latent profile analysis: LPA and mixed-model ANOVA. The findings were the assessment results: the educational institutions quality assessment result was higher than 80%, except for the learning achievement indicator that had the least value. The educational institutions were classified into four groups; urgent support needed group (4.90%), internal quality assurance emphasizing group (11.00%), quality group (71.30%) and identity emphasizing group (12.70%). The educational institutions in quality group had the level of O-NET scores development better than other groups.

Key words: Educational standard, quality assurance, student's outcome, national achievement, school classification, assessment

INTRODUCTION

Educational quality and management assessment is important to human resource development in each country. As it brings up the essential issues for establishing guidelines of educational management, reviewing educational institution's operations and revising direction and strategy of learning management in order to achieve learner's goals. It could be a significant force in the international competitive era where advantage is based on the quality of citizens. As a result, assessment systems are developed worldwide for quality assurance of education and academic institutions and to assure the process and quality of the learner in line with evaluating the progress of learning and skill development (Adamson ,2010; Basheka *et al*., 2013; Szymenderski *et al*., 2015; Shabbir *et al*., 2015). For Thailand in each educational level, it has driven the quality assessment of academic institutions and student's learning achievement at national level. This was declared as a law to make it clear in practice. There are two organizations directly responsible for conducting educational assessment. First, the Office for National Education Standards and Quality Assessment (ONESQA). Its purpose is to inspect the external quality assessment of educational institutions. The result of assessment will reveal the strength and weakness points of that institution and give suggestions and recommendations for future development. In the previous rounds of external quality assessment, there were many diversity among the assessment results. Therefore, it was difficult to specify the quality of educational institutions and implement policies to amend the assessment system for the next round. For example, educational institutions might have the same total score of assessment such as 75 points which meant the level of quality in educational management was equal. However, it did not mean that they had the same strength or need the same supports. This is probably because the assessment result of each indicators was different. The strength and weakness are essential to identify the educational institution's uniqueness and are related to policy setting in many aspects that suit for that educational institution's needs.

Second, the National Institute of Educational Testing Service (NIETS). Its purpose is to organize the systems and methods of testing for measuring learners and educational personnel. The result of testing will be used for enhancing the learner's quality across 40,000 academic institutions in the country. The test focused on

the content essentials, along with the use of logical thinking skills. In each year, more than 200,000 students who study in the 6th, the 9th and the 12th Grade are tested and evaluated. NIEST revealed previous testing to public and found that learning ability in every subject was continuously at an unsatisfied level. The educational management quality has been widely criticized as a result, the stakeholder in all sectors have intended to develop academic institution and personnel.

Unfortunately, the O-NET score has not changed much; even though, the two organizations have collaborated and performed following their missions for more than 15 years. The organizations are lacking of linkage between the academic institution's development and the student's learning outcome in overall and in each subject. The link between these two factors will help the stakeholders know exactly about the effectiveness of academic institution's development guidelines that is in coherence with student's learning outcome. Therefore, the use of comprehensive information on the quality and standards of educational institutions at all levels nationwide must be considered together with the quality of students to maximize the benefits of educational assessment and to enhance public confidence in the education management of the nation.

Educational institutions quality assurance in Thailand: The Office for National Education Standards and Quality Assessment (Public Organization), ONESQA has been established in accordance with the National Education Act 1999. ONESQA is a public organization that aims to develop criteria, establish methods of external quality assessment and conduct the assessment of educational management. Its purpose is to inspect the educational quality of academic institutions regarding the specific goals, principles and guidelines of educational management at each educational level and type. It is stipulated that all educational institutions shall receive external quality evaluation at least once every 5 years and that, the results of the evaluation shall be submitted to the relevant agencies and made available to the general public. During the years of 2011-2015, ONESQA had already conducted the Third-Round external quality assessment. This assessment aimed at enhancing the educational standards and measuring outputs, outcomes and impacts rather than processes. The differences among educational institutions had also been taken into consideration. The purpose was to enhance the relevant agencie's confidence in both the external and internal areas of the academic institution, regarding student's quality. The educational institution assessment is to inspect the progress of student outcome in the final year of each grade (Office for National Education Standards and Quality Assessment, 2013). The indicators for the present (third-round) external quality assessment are divided into 3 groups: basic indicators is the indicator to assess the fundamental items that every institution needs to have and use. These indicators can clearly indicate outcomes and impacts of an institution's operations and are connected to the internal quality assurance. Identity Indicators is the indicator to assess an educational institution's products based on its philosophy, goals, missions and the objectives of the establishment. This type of indicator includes assessing the institution's achievement based on its strengths and focus, reflecting the institution's identity as approved by the institution board. Social responsibility indicators is the indicator to assess an institution's operations focusing on cooperation with others in solving social problems as well as making recommendations for improvement or protecting society from threats in compliance with national policies.

Group of indicators and total points as shown in Table 1 (Office for National Education Standards and quality assessment, 2013).

The total weight of 12 indicators as shown in Table 1 were 100 points. After completing assessment, the total point will be presented in the format of overall 12 indicators and classified into to five level of quality; excellent (90.00-100 points), good (75.00-89.99), fair (60.00-74.99), improvement required (50.00-59.99), urgent improvement required (0.49.99) (The Office for National Education Standards and Quality Assessment, 2013). The assessment results will be reported to educational institutions and their parent organization.

National learning assessment in Thailand: According to the National Education Act, the National Institute of Educational Testing Service (NIETS) was established as a public organization, similar to ONESQA. Its objective is to manage and administrate education to conduct research studies to continually offer services on educational testing and measurement and to be a center working cooperatively on educational testing at national and international levels. NIETS has conducted Ordinary National Education test (O-NET) to test the knowledge and thinking ability of Grade 6, 9 and 12 students according to the Basic Education Core Curriculum B.E for 51 learning standards covering 5 subject areas which were Thai language Mathematics, Science, Social Studies, religion and culture and English. In the following year, three more subject were given to Grade 6 students, namely health study, physical education arts occupations and technology; it, finally were 8 subjects as required in

Table 1: The group of indicators and indicator of the third-round external quality assessment for basic education

Group of indicators	Indicators
Basic indicators (80 point)	Good physical and mental health (IND1); this indicator consists of two sub-indicators students have healthy weight and height are physically competent and are capable of taking safety precautions; students have aesthetics
	Morals, ethics and good attitude (IND2); this indicator consists of three sub-indicators; good children; good students good citizens
	Enthusiasm for continuing learning (IND3); this indicator consists of two sub-indicators students acquire new knowledge through reading and ICT usage and students learn from hands-on experience with others inside and outside the school
	Development of thinking skills (IND4); this indicator consists of two sub-indicators; students have thinking skills and students are capable of adjusting themselves into society
	Student's learning achievement (IND5); this indicator consists of eight sub-indicators; Thai language Mathematics, Science, Social Studies, religion and culture health and physical education Arts Occupations and technology Foreign languages
	Effectiveness of student-centered classroom management (IND6); this indicator consists of two sub-indicators effectiveness of the institution's operations and teacher's instructional management processes
	Effectiveness of administration and development to achieve of the educational institution (IND7)
	Development of internal quality assurance by educational institution and its parent organizations (IND8)
Identity indicators (10 point)	Results of the educational institution's development its philosophy, goals/vision, missions and objectives (IND9)
	Results of the educational institution's development based on its focus and strengths reflecting its identity (IND10)
Social responsibility indicators (10 point)	Results of the educational institution's operations of special projects to promote the institution's roles (IND11)
	Results of educational institution's improvement and maintaining of standards leading to excellence corresponding to direction of the national education reform (IND12)

the core curriculum. The test has been systematically developed in order to assure that the test results of any national educational examinations are accurate, reliable and trustworthy for five international standards (testing personnel standards, test development standards, test administration standards, test printing, checking and evaluating standards, test report and test result standards). Moreover, the test and examination shall be empirical information in terms of validity, reliability, objectivity and fairness. Stakeholders are involved in test creating and developing; starting from setting indicators for learning standards, test specification and item form. The sample of answer sheet, test blueprint, test specification and item form are shown on NIEST website in order to equally help students and teachers for readiness. In each year, NIEST provides national education testing for approximately 3 million examinees in 12,750 test centers, 17,587 test venues, used 118,651 rooms and 6,415 test items. The 2 million of those examinees were students who were studying in school at basic educational level.

Conceptual framework: From the research topic that aims to study the similarities and differences of educational institution's quality in regards to external quality assessment framework including whether the difference of educational institutions has an effect on the quality of learning outcomes of the students or not and how, the researcher set the framework for research as follows.

The result of external quality assessment was from the third-round assessment for basic education institutions from ONESQA. The data was recorded in the format of the average score in each group of indicators between 2011 and 2015 with the total weight of 100 points. This was used to classify the group of educational institutions

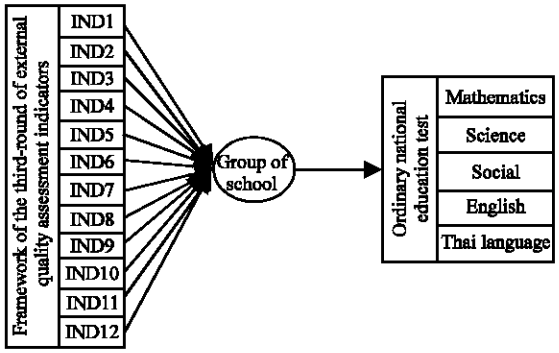

Fig. 1: Conceptual framework

whereas the test results were from O-NET scores that distinguished the scores into 5 subject areas which were Mathematics, Sciences, Social Studies, English and Thai language. Each subject had a total score of 100 points. The O-NET scores and external quality assessment must be in the same year. The researcher set the scope of this research only for O-NET test results of Grade 6 students because the proportion of students in this level was higher than the other levels. Also, there was a report showing an initial assessment of the condition and trends of the previous O-NET scores that were trending up and down in a narrow range which made it difficult to see the changes. The research used the results from educational institution's quality grouping which was a categorical data as an independent variable and the O-NET scores of five subject areas which was a data at the interval scale as a dependent variable as shown in Fig. 1.

Objectives and hypothesis: This research is a survey research that attempts to link and explain the relationship between the national assessment results from the data that has been collected yearly for 5 years. There are three

main objectives to study the third-round external quality assessment results to classify schools by using the third round external quality assessment results and to compare the changes of national test scores in Mathematics, Sciences, Social Studies, religious and cultures, English and Thai language, between school groups. The researcher extrapolated that among the differences in school quality in Thailand, the results of the grouping should be clearly seen. And due to the differences, it was likely to affect the differentiation of the O-NET scores, especially in sciences, Mathematics and English.

MATERIALS AND METHODS

Research data: This research was a secondary data using the third-round external quality assessment results for basic education between 2011 and 2015. The initial sample group was selected by random sampling 8,950 from 32,342 school which was 27.673%. After that, stratify random sampling was applied using; school size (small size: <300 students, medium size: 301-1,000 students, large size: 1,001-2, 000 students and extra-large: >2,001 students), parent organization (Office of the Basic Education Commission: OBEC, Office of the Private Education Commission: OPEC, Department of Local Administration: DLA) and Location (inside or outside the city). Then, only the school that operates Grade 6 education were selected and analyzed for comparing the O-NET scores by subject between the school groups that had different quality. The total selected sample group was 5,224 schools which was 17.592% of the school that operates Grade 6 education.

Data analysis: The data of this research was large and gathered from two sources. After receiving data from both sources, the researcher matched the external quality assessment results with O-NET scores of 5 subjects separated year considering from school code which each school has got one (same name but different location would be different code). Later, screening data completeness in order to prepare for data analysis according to research framework. The researcher divided data for analysis in accordance with main research objectives. The procedures were as follow.

Check the completeness of the third-round external quality assessment results from selected schools. Each variable was distinguished into groups of indicators. The twelve indicators were analyzed using descriptive statistics. It consisted of the calculation in mean ($\bar{X}$), Standard Deviation (S), percentage (%) and Coefficient of Variation (CV). The results shall be the answer for the first objective of this research. Proceed the Latent Profile Analysis (LPA) from the indicators from the third-round external quality assessment. Due to the Mplus Version 7.4 being used to analyze data from the third-round external quality assessment results which was an interval scale, therefore, there were three groups of criteria that were used for classifying the group of educational institutions, considered by the statistics of model goodness of fit test. The first group of criteria were AIC (Akaike Information Criteria), BIC (Bayesian Information Criteria) and ABIC (Adjusted Bayesian Information Criteria) which were used to measure of the relative quality of statistical models for a given set of data. If the statistics value are less than or nearly zero, it means the models are coherent with the empirical data set (Schwarz, 1978; Akaike, 1973; Sclove, 1987). Statistics Entropy (Ek); if the value closer to 1, it indicates that the group has been accurately classified (Nylund *et al*., 2007; Ching and Nunes, 2017) and the results from Lo-Mendell-Rubin test for k-1 classes that compare k Model to k-1 Model, searching for the differentiation and coherence (Lo *et al*., 2001). The group's name were addressed and translated before presenting the results. Given this, the second objective of this research shall be answered.

Mixed-Model ANOVA was used to study the changes of national test score in Math, Science, Social Studies, English and Thai language between the groups of school. O-NET scores was a within-subjects data and grouping result was between-subjects data. Error variance was checked whether it is compound symmetry or not using Mauchly's test of sphericity and examined whether error variance is equal across groups using Box' M (Berkman and Reise, 2012). Then, post-hoc comparison by Scheefe' was applied.

RESULTS AND DISCUSSION

The results of the third-round external quality assessment (2011-2015) revealed that the average percentage of each sub-indicator was between 47.20 (IND5) and 96.80 (IND10). The majority of high percentage was the sub-indicator in the Identity indicators group which were the results of the educational institution's development based on its focus and strengths reflecting its identity (IND10) and the results of the educational institution's development its philosophy, goals/vision, missions and objectives (IND9). The low percentage was the sub-indicators in basic indicators group which were student learning achievement (IND5), effectiveness of student-centered classroom management (IND6) and development of thinking skill

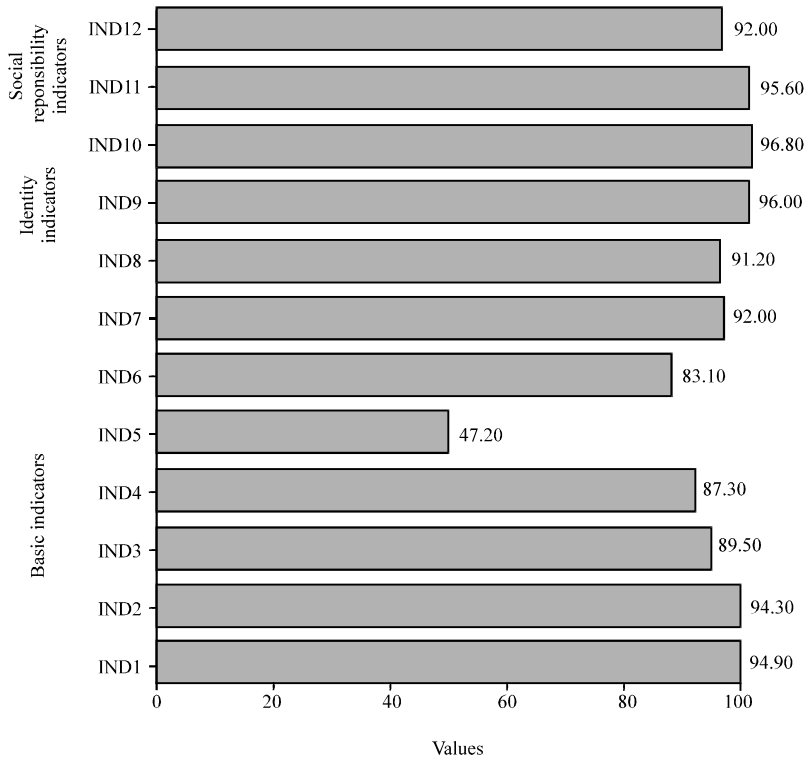

Fig. 2: The average percentage of each indicator from external quality assessment results

Table 2: The analysis to identify the number of school group that had different the third-round external quality assessment results

No. of classes	E_k	AIC	BIC	ABIC	LL	Lo-mendell-rubin test	p-values
2	1.000	145194.969	145457.648	145340.068	-72560.485	32875.7800	0.321
3	0.820	140094.813	140449.783	140290.892	-69997.407	5086.2300	0.000
4	0.998	131797.431	132244.694	132044.491	-65835.716	7927.4160	0.000
5	1.000	119970.746	120510.301	120268.786	-59909.373	653.8310	0.002
6	0.889	116579.742	117211.589	116928.763	-58200.871	19443.0970	0.230

(IND4) as shown in Fig. 2. The researcher noted that, although the assessment results of most indicators were quite high, the correlation coefficients of the overall assessment were low to very low. Particularly, the indicators that related to learning achievement, thinking skill and teacher's instructional management processes (Appendix). The results of and identifying the characteristics of in accordance with the third-round external quality assessment criteria.

The results showed that there were 4 Groups that were the most appropriate for this research. The important statistics value were Entropy (Ek) = 0.998, AIC = 136011.832, BIC = 136460.336 and ABIC = 136260.132. Besides, statistically significant level of 0.01 was found, when comparing between 3 and 4 Groups (Lo-Mendell-Rubin test for k-1 classes = 7927.416, p = 0.000). The educational institutions grouping analysis as shown in Table 2. Considering, the results of grouping into 4 groups found that the twelve indicators could perform correctly for every group.

Owning to the weight of each indicator was different from zero and statistically significant at the 0.01 level. Trend of assessment results of indicator was the same direction. Specifically, Indicator 1-5, however, it started to see the difference between groups more clearly from the Indicator 6 onward. The specific characteristics that made the difference were as follows.

Class 1: There was 439 schools (4.90%) in the group. The overall assessment result was the lowest in every indicator, especially, Indicator 8, 6 and 10 (<80%). As a result, this group was named as "urgent support needed group" and from the observing that most likely were small school size (58.80%). Their parent organizations are OPEC and OBEC (6.50 and 4.70%, respectively) and located inside and outside the city (5.60 and 4.50%, respectively).

Class 2: There was 986 schools (11.00%) in the group. Indicator 8 was outstanding but low percentage in Indicator 10. As the result, this group was named as

Table 3: Coefficient of indicators of the third-round external quality assessment in each group

	Class 1		Class 2		Class 3		Class 4	
Indicators	Coefficient	SE	Coefficient	SE	Coefficient	SE	Coefficient	SE
IND1	9.217**	0.030	9.434**	0.015	9.533**	0.004	9.384**	0.014
IND2	9.244**	0.023	9.405**	0.012	9.454**	0.004	9.367**	0.011
IND3	8.637**	0.028	8.895**	0.018	8.998**	0.006	8.846**	0.015
IND4	8.388**	0.030	8.613**	0.019	8.797**	0.007	8.578**	0.017
IND5	9.110**	0.200	9.348**	0.111	9.548**	0.041	9.019**	0.107
IND6	7.538**	0.051	8.134**	0.025	8.458**	0.010	7.967**	0.022
IND7	4.097**	0.026	4.531**	0.013	4.700**	0.004	4.346**	0.014
IND8	3.480**	0.015	4.757**	0.006	4.797**	0.002	3.545**	0.007
IND9	4.307**	0.025	4.391**	0.016	4.898**	0.004	4.835**	0.012
IND10	3.970**	0.008	3.990**	0.003	5.000**	0.000	5.000**	0.000
IND11	4.398**	0.026	4.572**	0.016	4.847**	0.004	4.746**	0.013
IND12	4.058**	0.030	4.425**	0.017	4.711**	0.006	4.356**	0.018

Count, 439; 986; 6,384; 1,141; proportions, 0.04905; 0.11017; 0.71330; 0.12749; Average LC Prob, 0.999; 0.999; 0.999; 0.998 Remark: **statistically significant of 0.01 level; 2), SE: Standard Error

"quality assurance group" and from the observing that most likely were small school size have (51.10%). Their parent organizations are OPEC, OBEC and DLA (11.20, 10.60 and 10.30%, respectively) and located inside and outside the city (10.40 and 11.40%, respectively).

Class 3: There was 6,384 schools (71.30%) in the group. The overall assessment result was the highest in every indicator. In the total amount, Indicator 10, 9 and 11 got highest score. As a result, this group was named as "quality group" and from the observation that were most likely extra-large and large school size (87.70 and 82.50%, respectively), their parent organizations are DLA (77.70%) and located inside and outside the city (70.70 and 71.60%, respectively).

Class 4: There was 1,141 schools (12.70%) in the group. The overall assessment result was outstanding in Indicator 10, 9 and 11 but low mark in Indicator 8 and 6. As the result, this group was named as "Identity group" and from the observing that most likely were small and medium school size (14.80 and 13.00%, respectively). Their parent organizations are OPEC and OBEC (14.60 and 12.80%, respectively) and located inside and outside the city (13.30 and 12.40%, respectively). The weight of 12 Indicators in each group as shown in Table 3 and Fig. 3.

The comparison of change in the national test in Mathematics, Science, Social Studies, English and Thai language subject between the groups that got different third-round external quality assessment results.

The change of O-NET score in Thai language subject; the trend line of development was similar to the consonant "U" (U shape). In the overall picture, the highest score was in 2011 and lowest score was in 2014 (as shown in Fig. 4a). The comparison between school groups found that the test of within-subject effect was statistically significant level of 0.01 (F = 28.172 and

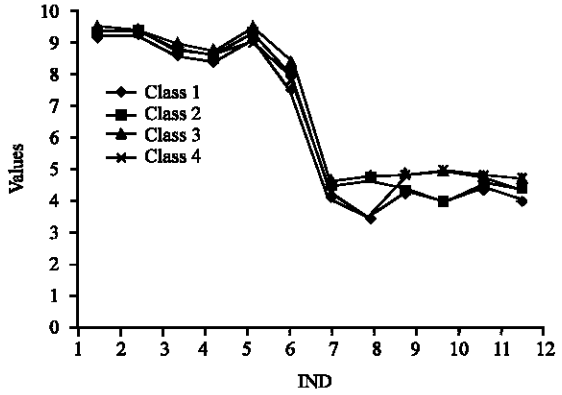

Fig. 3: Weight of indicators of the third-round external quality assessment in each group

p = 0.000) which showed that there was at least one group that their score had changed differently from other groups. In addition, when considering the Post Hoc comparison, it was found that the quality group (C3) got a higher level of change than other groups whereas, the rest were at the same level and not statistically significant.

The change of O-NET score in Social studies subject; the trend line of development was similar to line graph with fluctuate values. The highest score was in 2011 and lowest score was in 2013 (as shown in Fig. 4b). The comparison between school groups found that the test of within-subject effect was statistically significant level of 0.01 (F = 24.790 and p = 0.000) which showed that there was at least one group which has a score drastically different from other groups. In addition, the Post Hoc comparison found that the quality group (C3) got a higher level of change than other groups whereas, the rest were at the same level and not statistically significant. The change of O-NET score in English subject; the trend line of development was similar to the consonant "U" (U shape). In the overall picture, the highest score was in 2015 and lowest score was in 2013 (as shown in

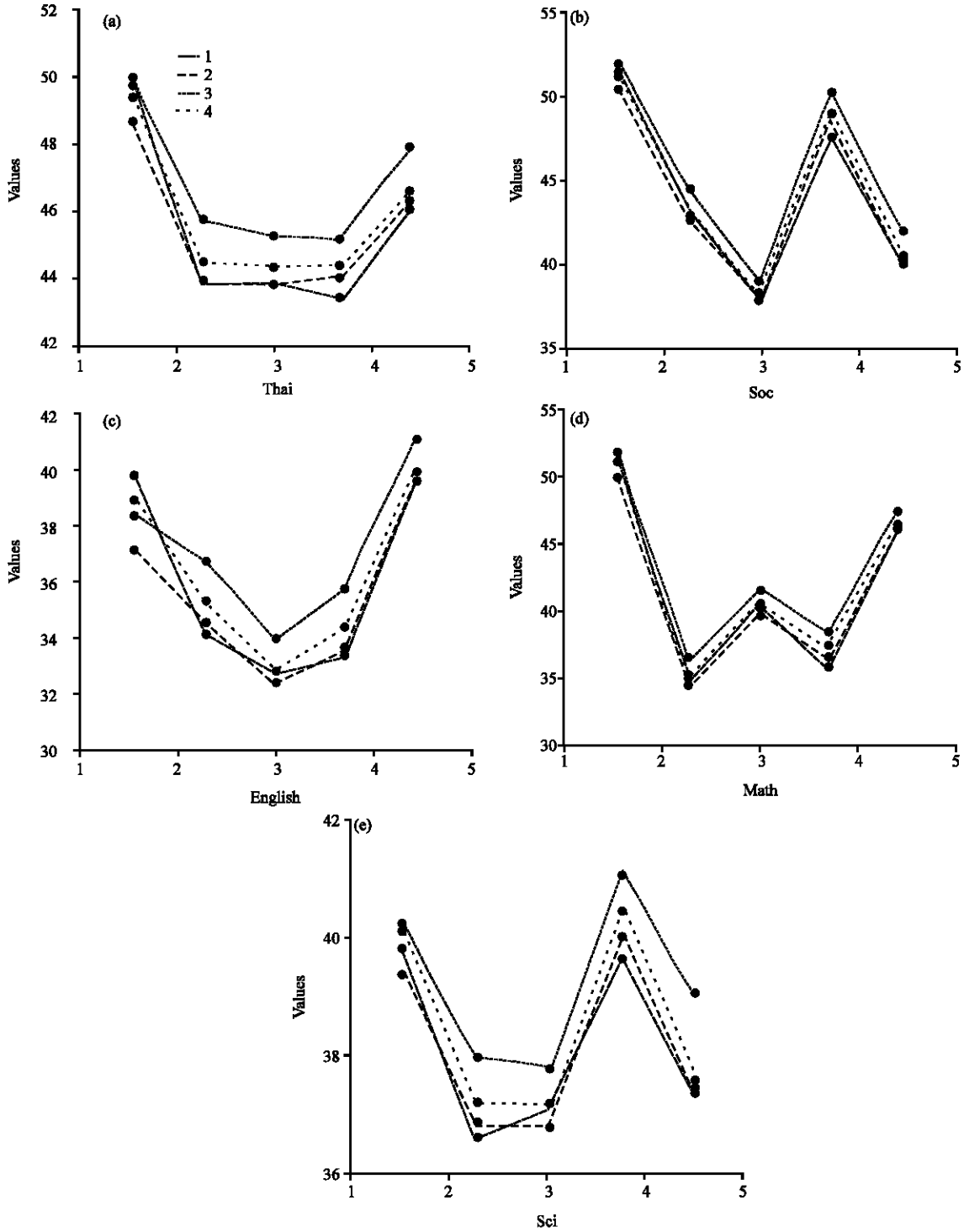

Fig. 4: The change of O-NET score of school that got different quality assessment results: a) Thai language; b) Social Studies; c) English; d) Mathematics and e) Science

Fig. 4c). The comparison between school groups found that the test of within-subject effect was statistically significant level of 0.01 (F = 12.678 and p = 0.000) which showed that there was at least one group which has a score drastically different from other groups. In addition, the Post Hoc comparison found that the quality group

Table 4: The comparison of change of O-NET score between the groups that got different external quality assessment results

Subjects	Source	Type III SS	df	MS	F-values	p-values	Post Hoc
Thai language	Intercept	25670000	1	25670000	192600	0.000	C3>C4, C1, C2
	Class	11266.667	3	3755.556	28.172	0.000	
	Error	695858.45	5220	133.306			
Social studies, religious and cultures	Intercept	24080000	1	24080000	133300	0.000	C3>C2, C4, C1
	Class	13431.279	3	4477.093	24.79	0.000	
	Error	942717.043	5220	180.597			
English	Intercept	15970000	1	15970000	48220	0.000	C3>C1, C2
	Class	12593.946	3	4197.982	12.678	0.000	
	Error	1728494.892	5220	331.129			
Mathematics	Intercept	21400000	1	21400000	73290	0.000	C3>C1, C2
	Class	14078.385	3	4692.795	16.075	0.000	
	Error	1523878.51	5220	291.931			
Science	Intercept	17840000	1	17840000	97540	0.000	C3>C4, C1, C2
	Class	12195.162	3	4065.054	22.228	0.000	
	Error	954633.074	5220	182.88			

(C3) got a higher level of change than urgent support needed (C1) group and quality assurance (C2) group whereas the Identity group did not find the difference in change from other groups. The change of O-NET score in Mathematics subject; the trend line of development was similar to the consonant "W" (W shape). In the overall picture, the highest score was in 2011 and lowest score was in 2012 (as shown in Fig. 4d). The comparison between school groups found that the test of within-subject effect was statistically significant level of 0.01 (F = 16.075 and p = 0.000) which showed that there was at least one group that their score had changed differently from other groups. In addition, the Post Hoc comparison found that the quality group (C3) got a higher level of change than urgent support needed (C1) and quality assurance (C2) group whereas, the Identity group did not find the difference in change from other groups.

The change of O-NET score in science subject; the trend line of development was similar to line graph with fluctuate values. The highest score was in 2014 and lowest score was in 2013 (as shown in Fig. 4e). The comparison between school groups found that the test of within-subject effect was statistically significant level of 0.01 (F = 22.228 and p = 0.000) which showed that there was at least one group that their score had changed differently from other groups. In addition, when considered at the Post Hoc comparison found that the quality group (C3) got a higher level of change than other groups whereas, the rest were at the same level and not statistically significant. The details as shown in Table 4.

CONCLUSION

The findings of this research clearly showed that continuously inspecting the educational institution's quality assurance concept perform has obvious effects on learner's development. The students who study in institution that has good results overall in the third-round external quality assessment tend to be qualified-students. Therefore, external quality assessment is a crucial mechanism of education quality assurance. In particular, in Thailand, there is an inequality in learner's learning due to the contextual differences of educational institutions, in line with the many studies that have studied the factors that affect inequality of educational management and learner achievement (Edmark *et al*., 2014; Alderman and King, 1998; Halpern-Manners, 2016. Nevertheless, the number of educational institutions in Thailand give the difficulty to the institution's educational quality development. However, the number of schools classified as quality schools group are higher than the other groups. It is thought that how these schools have learned and designed their own development strategies in order to get into quality system have produced students that are outperforming others and what the differences between school's strategies, along with the actual circumstance and factors that support the successful development of institution. In the researcher's opinion, educational institutions need to learn and understand their own obstacles in order to be able to apply the assessment results with regards to their resources, identities and the achievement of implementing the nation's social advancement measures for the benefits of institutions. This would be the sustainability of educational institution development and would be more powerful than the assessment scores.

The researcher notes about the external quality assessment results from the 12 indicators, even beyond the research objectives, it was found that although the evaluation average rate of the results of twelve indicators was greater than 80%, the correlation coefficient of each indicator was at the bottom (32 pairs <0.199 = 48.485%, 22 pairs were between 0.20 and 0.30 = 33.333% and the rest 18.182% were at the middle level). Besides, the overall

score of the relationship between indicators was at low level, especially in basic indicators and identity indicators (r_{xy} = 0.187). It is, therefore, possible that the institution's quality has a fragmented viewpoint in spite of evaluating the same thing. This issue deserves further study to develop the quality assessment system in the future.

RECOMMENDATIONS

ONESQA should accelerate the understanding and confidence in order to create accepting and implementing external quality assessment results to guide the quality improvement direction for institutions and learners. Although, the quality assurance system for education has been introduced in Thailand for some time now, the attitudes towards the acceptance of the evaluation of educational personnel are still changing slowly. The educational institutions and teachers have considered the external quality assessment a burden because they have to prepare acquired information and evidence to verify the process and results of the institution operation, covering assessment indicators. Moreover, the benefits of assessment are not clearly seen immediately. Therefore, the results of this research will provide empirical evidence to affirm the linkage of educational institution development in order to create a quality system as well as benefit the students eventually.

ONESQA should use the results of the first and second rounds to classify the educational institutions as the same as the educational grouping in this research. By finding schools that had cross-border development quickly and study their self-development mechanisms n order to duplicate the useful strategies for other institutions with similar contexts. Also searching for the school with low potential consistency throughout the previous assessment round until present for helping them. The appropriateness of the indicators used for external quality assessment which emphasize the linkage of quality in each educational institution's structure with quality of teacher teaching and learner's achievement, hould be reviewed. Although, the management of educational institutions quality development has various factors to be considered which could be measured by other indicators apart from learners, the educational quality guarantee is eventually the main objective of educational quality development. Therefore, the indicator used for assessment should take into account its relevance with learner's quality or that the learner's grading score should be used for weighing the results of the assessment on other indicators/aspects.

It should promote the use of educational institutions assessment results and in depth assessment of learner's quality results to obtain essential information in various perspectives. Particularly, the student quality assessment result which is the following of the progress of students at institutional level. The data is measured with national standard tools, consistency and rare for educational research (measuring learner's academic ability of the whole country with the same rule). It can be used to find answers related to the learner outcomes which would be very useful.

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APPENDIX

Appendix 1: correlation matrix and descriptive statistics of external quality assessment (n = 8.950)

Indicators	IND1	IND2	IND3	IND4	IND5	IND6	IND7	IND8	IND9	IND10	IND11	IND12	TB	TI	TS
Basic															
IND1 (10)	1.00000														
IND2 (10)	0.430**	1.00000													
IND3 (10)	0.370**	0.444**	1.000												
IND4 (10)	0.263**	0.286**	0.443**	1.00000											
IND5 (20)	0.045**	0.640**	0.123**	0.172**	1.00000										
IND6 (10)	0.238**	0.206**	0.299**	0.376**	0.263**	1.00000									
IND7 (5)	0.222**	0.178**	0.229**	0.244**	0.139**	0.405**	1.00000								
IND8 (5)	0.197**	0.148**	0.189**	0.207**	0.095**	0.294**	0.402**	1.00000							
Identity															
IND9 (5)	0.127**	0.097**	0.102**	0.145**	0.058**	0.216**	0.239**	0.147**	1.00000						
IND10 (5)	0.137**	0.095**	0.117**	0.148**	0.025*	0.196**	0.231**	0.175**	0.472**	1.00000					
Social responsibility															
IND11 (5)	0.106**	0.066**	0.115**	0.133**	0.01500	0.187**	0.241**	0.175**	0.238**	0.275**	1.00000				
IND12 (5)	0.167**	0.101**	0.159**	0.236**	0.227**	0.342**	0.387**	0.315**	0.267**	0.241**	0.243**	1.00000			
Total basic: TB (80)	0.320**	0.323**	0.430**	0.468**	0.869**	0.574**	0.408**	0.355**	0.172**	0.148**	0.133**	0.377**	1.00000		
Total identity: TI (10)	0.154**	0.112**	0.127**	0.171**	0.049**	0.241**	0.274**	0.187**	0.870**	0.845**	0.298**	0.297**	0.187**	1.00000	
Total social responsibility: TS (10)	0.177**	0.108**	0.176**	0.241**	0.170**	0.347**	0.408**	0.320**	0.320**	0.323**	0.724**	0.845**	0.341**	0.375**	1.000
Mean	9.48700	9.42700	8.95000	8.72900	9.43700	8.31400	4.60700	4.56700	4.80500	4.83800	4.78200	4.60200	63.51800	9.64300	9.384
SD	0.40400	0.34800	0.52000	0.56400	3.38100	0.84300	0.41200	0.51600	0.40700	0.37500	0.41600	0.53600	4.50200	0.67100	0.755
CV	0.04300	0.03700	0.05800	0.06500	0.35800	0.10100	0.08900	0.11300	0.08500	0.07800	0.08700	0.11600	0.07100	0.07000	0.080

Mauchly's test: Class1 (χ^2 = 2653.57, p = 0.000), Class 2 (χ^2 = 2803.84, p = 0.00), Class 3 (χ^2 = 2770.11, p = 0.000), Class 4 (χ^2 =3.782, p = 0.000); Box'M: Class1 (F = 5.863, p = 0.000), Class2 (F = 5.783, p = 0.000), Class 3 (F = 5.092, p = 0.000), Class4 (F = 4.226, p = 0.000); ** statistically significant of 0.01 level 2) the numbers in parentheses are the assessment score

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