STUDENT SELF-ASSESSMENT: A POWERFUL TOOL OF ASSESSMENT FOR LEARNING

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Abstract - The successful of improving educational standard quality could be occurred if teachers can operate effectively in the classroom. As we have recognized that assessment has played an important role of the educational quality. Formative assessment or assessment for learning seems to be the most important factor in driving better learning, and could be able to equal learning opportunities to the students, students can understand clearly of their purposes, now where are they, where is to next, and how to reach the target. This research is aimed at studying the impact of student self-assessment in assessment for learning procedure. The research findings will be suggested that how student self-assessment affected on successful learning, and the advantages of self – assessment for teacher, students, parents, and for the school principal.

Keywords - Assessment for Learning, Self-Assessment, Primary students, Formative Assessment

I. INTRODUCTION

In raising students' achievement, educational system need to emphasize teaching and learning processes more than prioritizing education standards and goals or external testing. Education planning including school inspections should focus on classrooms (we implied as "the black box" of educational system) such as teachers, rules, testing and standards, etc., including related situations such as emphasis on how students learn. Burdens should not be placed solely on teachers. From related studied mentioned that assessment during learning was found to have an effect size of 0.32 on learning achievements. [1] [2]
Formative assessment or Assessment for Learning (AFL) seems to be the most important factor in driving better learning.[3] Formative assessment could enable equal learning opportunities to the students, it has enabled more learning achievement especially the low achievement students, and enabling them to understand clearly of what they do wrong or what they must do. [4]
Formative assessment or AFL also has been found that to have effect on students' attitude, helped students work better in providing and accepting recommendations from teachers or friends, students had many opportunities in reflecting and assessing students' understanding. [5]
Furthermore self-efficacy was found to be positively correlated with the environments of assessment for learning and perception regarding assessment environment with significance in line with the social understanding theory. High-efficiency students are usually confronted with difficulty, search for moderately challenging learning situations and recognize failure as a learning opportunity. All of this is consistent with environments in assessment for learning. [6] Based on a review of related research, assessment during learning was found to have a high mean effect size. In the area of techniques used in assessment during learning, provision of feedback data using guidance was found to have the highest mean effect size. This research is aimed at studying the impact of student self-assessment in assessment for learning procedure.

II. LITERATURE

A. Education in Thailand

A country with educated people would be a peaceful society since they know how to communicate with each other thoughtfully and they look for the country's benefit rather than for small group interests. Same as many scholars say that investing in high quality education is among the most powerful measures to reduce poverty and inequality and to promote long-term economic growth.
The current education system in Thailand is the product of many influences which have shaped and tempered it over the centuries. The first educational system was quite similar to that of the monastic and cathedral schools of medieval Europe in that it had a religious approach and was centered in the Buddhist temples. During the Second World War, Thailand was affected by both the invader and supporters of the Allies. The country has changed socially, politically, and economically after the War. These phenomenon affected educational system dramatically. [7]

B. Student assessment in Thailand

Thailand's extensive national standardized testing regime as well as assessments at classroom, school and local level. It identifies policy issues impeding the effective use of assessment to improve student outcomes and fairness. It recommends Thailand build on its existing national assessment infrastructure to add rigour to its test development process and broaden its assessment mix, and build capacity to support

assessment procedures efficiency at all levels of the education system.

C. The current assessment framework of Thailand

The 2008 Basic Education Core Curriculum outlines the framework principles behind the current student assessment system in Thailand, building on the broad expectations for student assessment laid out in the 1999. The 2008 curriculum identifies objectives of student assessment were helping learners to know how to learn and measuring students' achievements. It points to four main levels of student assessment: classrooms, where teachers are to regularly and continuously measure and evaluate learners' performance schools, where annual or semester-based assessment seeks to determine whether the learners reach learning goals, and to identify any gaps to be addressed, the local level, which monitors student learning through instruments including standard examination papers and data obtained from schools the national level, where assessment of students in Grades 3, 6, 9 and 12 (P3, P6, M3 and M6) provides data to compare educational quality "at different levels". The uses of findings from national tests are meant to be information for supporting planning to raise quality of education. [8]

1. Assessment at the classroom, school and local level

Even though Thailand has used standards-based curriculum, but schools need to determine their own criteria in each school. Teachers are responsible for identifying, designing and employing assessment techniques in their classrooms, and using these for both formative and summative purposes. They do so with assistance from their schools, their local ESA, the central commissions and other agencies such as the Institute for the Promotion of Teaching Science and Technology (IPST). Reforms stemming from the 1999 NEA have emphasized implementing assessments that gauge student progress and achievement in a variety of ways, such as portfolio-based assessment. However, the 2008 curriculum gives teachers only scant concrete guidance on how to assess students in ways that contribute to them achieving the curriculum's goals, but principals and teachers may not receive the effectiveness training and supporting to enabling efficiency classroom assessment. [9]

2. Assessment at the national level

Thailand operates a large-scale national level assessment system. Created in 2005, the National Institute of Educational Testing Service (NIETS) is responsible for managing testing systems and methods, developing tools to measure and assess educational standards, and assessing educational management and national education tests. NIETS also supports on assessment issue to local and regional educational institutions, agencies, and educators. NIETS assessments are administered to primary Grade 6 (P6) students, as well as to secondary school students in Grades 9 (M3) and 12 (M6) (NIETS, 2013). They applied to the whole student cohort, not only samples in Thailand. [9]

3. Uses of student assessment in Thailand

Thailand has done great use of its assessment data, the data are used to inform decisions about student retention and promotion, and grouping of students for instructional purposes, to compare individual schools against district or national performance, or against the performance of other schools, to monitor schools' progress from year to year, to make judgments about teachers' effectiveness, and to be information for improving the curriculum. [8] [9]

Assessment data from NIETS can be serves an evaluation purpose, such as the ONESQA uses to determine whether school meets minimum quality standards in every five years, but ONESQA informed the team that by far the most common reason why schools fail to meet the quality threshold is their low standardized test scores. If these schools cannot improve O-NET score, though, they must go through a full reassessment. O-NET scores are also used as part of career advancement by using the result of teacher evaluation. [8] [9]

At the national level, the data could be used in the policy process. NIETS data are also used in third-party research, such as that of the Quality Learning Foundation and the World Bank to enable independent checks on national performance and support deeper analysis of trends in learning outcomes. [8] [9]

O-NET tests results have been criticism from school in recent years. The release of national level scores, coupled with comments made by students and other stakeholders on the Internet and on social media, has led to doubts with regard to the meaningfulness of some O-NET results. This issue in addition to the concerns of some parents with whom The OECD's review team spoke. [8] [9]

D. Changing on Assessment

Black and William have recommended that assessment should begin with the student, "the ultimate user" which is geared to improve students' learning. Formative information should be focused on the task, not the student, and student should understand the take advantage from feedback. However, students must learn to do self-assessment, so that they can understand the main purposes of their learning and thereby grasp what they need to do to achieve. The effectively feedback from teachers should give opportunity for students to express their understanding, to improve and guidance on how to

improve. They conclude with policy prescriptions, starting with the need to change from a focus on standardized tests to what are still the "black box" of actual student learning and to changing classroom practices, particularly formative assessment. [9] Assessment for Learning (AFL) is a process used by teachers and students as part of instruction that provides feedback with clear learning targets to adjust ongoing teaching and learning to improve students' achievement of core content. [10]

E. Assessment for Learning

1) Value of Assessment for Learning

Since 1967, Scriven has clarified the distinction between summative and formative evaluation, and in 1971, Bloom, Hastings, and Madaus extended the differentiation to various forms of assessment, summative assessment has referred to tests administered after learning. Meanwhile, formative assessment has referred to the assessments conducted during learning to promote student success. , not merely judge or grade. [8] [9] Traditionally, formative assessment has been thought as the procedures during learning to provide evidence of students' mastery of standards for teachers to enhance student learning. Formative assessment has been interested because summative standardized testing doesn't happen frequently enough to affect instructional decisions. These assessments tend not to provide evidence of each student's mastery of individual standards. The test scores from summative evaluation seems not helpful in guiding learning at the classroom level. So annual standardized tests have lacked connectivity to instruction. The assumption, fundamentally unproven, is that such tests produce real improvements in student learning better than do other educational methods. [1] [2] [4]

2) Strategies of assessment for learning

For classroom, formative assessment practices to both motivate students and increase student achievement, students need to know the learning target, know where they are at in regards to the learning target, and know what they can do to reach target and close the gap. In Classroom Assessment for Student Learning, Stiggins lists 7 strategies of assessment for learning as follows: provide a clear and understandable vision of the learning targets, use examples and models of strong and weak work, offer regular descriptive feedback, teach students to self-assess and set goals, design lessons to focus on one aspect of quality at a time, teach students focused revision, engage students in self-reflection, and let them keep track of and share their learning. [11]

F. Student self – assessment

Student self-assessment permits students to participate within the assessment and analysis method, which is a crucial a part of the self-reflection section of self-regulation inside the cyclic model of self-regulated. [12]

1) What is Student Self-assessment?

Self-regulation of Zimmerman's model [13] begins with a student's analyze the task and purposes (i.e., 'where am I going?), student self-assessment conjointly provides students access to further sources of feedback. So that feedback is important to be additional to learning process than teacher generated feedback given traditional student. [12] [14]

Student self-assessment can offer students a bigger sense of possession during this method and encourage them to raised perceive the standards describing quality work [15] Later on, throughout the performance section, students apply self-control and self-observation (i.e., 'how am I going?) In the final self-reflection section, students self-evaluate their work (i.e., 'where to next?) [13] [16]

Student self-assessment is a central component of current conceptions of formative and classroom assessment. Self-assessment has been focused on its efficacy in supporting both achievement and self-regulated learning. [17]

Brown and Harris defined self-assessment in the K-16 context as a "descriptive and evaluative act carried out by the student concerning his or her own work and academic abilities". [18]

Andrade mentioned that self-assessment is feedback, and that the purpose of feedback is to inform adjustments to processes and products that deepen learning and enhance performance; hence the purpose of self-assessment is to generate feedback that promotes learning and improvements in performance. [19]

2) How to self-assess?

Andrade proposed the taxonomy which adapted from Panadero is depicted in Table 1, which focuses on the what (competence, process, or product), the why (formative or summative), and the how (methods, including whether or not they include standards, e.g., criteria) of self-assessment. [19][20]

	Competence	Processes		Products	
		Standards		Standards	
		Yes	No	Yes	No
Formative	Task-specific self-efficacy ratings	Judgments of progress toward specific targets	• Traffic lights • Comprehension checks • Self-monitoring; metacognition • Reflective journal writing	• Rubric- or checklist-referenced self-assessment • Self-testing	Open-ended critique of one's own work or understanding
Summative	Post-task judgments of ability based on performance		Post-task judgments of effectiveness of procedures	• Self-grading	• Self-grading

Table 1 A taxonomy of self-assessment

Panadero and his colleagues have also done research on standards-referenced self-assessment, using rubrics or lists of assessment criteria that are presented in the form of questions.

The list provides standards for the task. The script for a written summary that Panadero et al used as follow:

- Does my summary transmit the main idea from the text? Is it at the beginning of my summary?
- Are the important ideas also in my summary?
- Have I selected the main ideas from the text to make them explicit in my summary?
- Have I thought about my purpose for the summary? What is my goal? [21] [22] [23] [25] [26]

From review, student self-assessment is the act of monitoring student's processes and products in order to make adjustments that deepen learning and enhance performance. Student self-assessment is most beneficial, in terms of both academic achievement and self-regulated learning, when it is used formatively and supported by training. [14]

III. RESEARCH METHODOLOGY

The samples of this study were 6 teachers and 6 classrooms (3 primary classes and 3 secondary classes) in area of Songkhla Province, Thailand.

The procedure of this study was 6 Teachers from each classroom were using student self-assessment as a tool of assessment for learning in every hour throughout 12 weeks of the experimental, and observed the behavior of students and their parents and noted all phenomenon in classroom, it was a qualitative research. Researcher set the scope for conducting the research, the details in research procedure as follows; step 1 setting common goals, step 2 setting specific objectives, step 3 collecting data, step 4 describing and interpreting phenomena, and step 5classifying or analyzing for differences and similarities.

IV. RESEARCH RESULTS

From the analysis of content and events from the trial results, as follow;

1. Student self-assessment is the most powerful tool of AFL as perceived by primary and secondary teachers such as it can help student know how they can continue their self-development, increasing greater participation with students because teachers know whether students understand or not, they need help or not because sometimes teachers cannot check students one by one. Importantly, from having students be self-assessors, allowing themselves to have more systematic knowledge management and analytical capabilities.
2. Student self-assessment can make communication with parents more clearly, parents can quickly know what kind of learning problems their children have faced, what issues should be fixed?, and what should be supported?. The feedback of students will be able to indicate the quality of teaching and learning, and also the quality of teaching and learning.
3. Student self-assessment be able to explore the understanding of the lessons of students more thoroughly, the way students give feedback is similar to the form of communication between teachers and students in a one-on-one teaching atmosphere. But the difference is need to solve the problem from feedback later.

B. Benefits of Student self-assessment

1) Benefits for teachers

1. Student self-assessment can do easier to follow up the learning management and student learning.
2. Student self-assessment can get real-time feedback from students because it is a periodic assessment.
3. Student self-assessment can get effective evidence that is empirical in terms of teaching and learning, which can be used to communicate understanding between teachers, students and parents about the condition of teaching and learning.
4. Student self-assessment is a stimulant for teaching and learning atmosphere, and increasing classroom challenges.
5. Student self-assessment can help teachers to check the effective teaching on their own.
6. Student self-assessment also helps teachers to develop learners more directly, by develop from 1 to 2, from 2 to 3, not form hypothesis development that develops from 2 to 7, because the teacher believes in the way that the teacher thinks.
7. Teachers can classify students according to their level of understanding based on student feedback faster and more accurately.
8. Student self-assessment results provides feedback that reflects the achievement of the students on a daily basis.

2) Benefit to parents

1. Parents can play a role and participate in the teaching and learning of children along with the school.
2. Parents are able to see their children's education problems clearly throughout the term.
3. Parents can see the changing of children behavior because students can create systematic knowledge, distinguish more information, and students can think more positively.
4. Parents are happy that students have more self-directed, as well as see the development of

ideas that are linked to reasoning by showing behavior.

3) Benefit to administrators

1. Administrators can use the results as information to analyze the quality of teaching and learning.
2. Administrators can see problems in the classroom which is considered to be able to further extend the quality of teaching and learning of the school
3. Administrators can see some empirical data, not just numerical data alone.

4) Benefit to students

1. Students are able to analyze themselves and raise awareness of how they understand or do not understand the subject, and then how to solve. Each person will have different solutions depending on their ability and interested.
2. It increases thinking skills for students to have higher level of thinking and can be used in daily life.
3. Students' work that teachers provide feedback to students, it helps to know their weaknesses. The teacher suggests guidelines for students to enable students to think.
4. Students know their level of learning and can analyze what level they are in, which allows students to review themselves and think more about what to do in some areas that are not understood, or have a way to improve themselves.

V. DISCUSSION

From the findings of the field research process, it was found that assessment for learning in the classroom has two important components: knowing when to insert or teach more lessons and how to teach students in the next step (Learning Disposition), to close the shortcomings.

Assessment for learning will be able to help learners shape (Scaffolding) teaching process that is in accordance with the needs of each student.

Each level or context of the classroom may have different guidelines for using assessment techniques to improve learning. For example, in a group of learners who are good learners, it might be suitable self-feedback more than a group of lower achievement students. Therefore, teachers should consider the selection of techniques or tools for AFL to develop learning that is appropriate for each classroom context.

From this study, it is found that the AFL still have weaknesses in terms of validity and reliability, therefore, further research should be paid attention to increase the validity and reliability of assessment, and there should be a study of the actual condition of the Thai context if there is a level of practice that is consistent with the concepts of AFL, what issues should be developed and promoted?, to develop the unit that is considered as the most important part of the education system, "classroom", to be most effective, lastly there should have a qualitative and quantitative study to monitor and assess the persistence of learning outcomes when being managed under the concept of AFL.

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REFERENCES

[1] Black, P. & William, D. Inside the Black Box "Raising Standards through Classroom Assessment". King's College London School of Education. BERA short Final Draft. November 2001.

[2] William, D. et al. Teachers developing assessment for learning: impact on student achievement. Assessment in Education: Principle, Policy and Practice. Assessment in Education. 11(1), 49-65. 2004 March.

[3] Hattie, J. Visible Learning: A Synthesis of over 800 Meta-analyses relating to Achievement. Abingdon: Routledge.

[4] Black, P., & Wiliam, D., Inside the black box: raising standards through classroom assessment. Phi Delta Kappan, v80 n2 p139-44 Oct 1998. Retrieved 19 September 2015 fromhttp://weaeducation.typepad.co.uk/files/blackbox-1.pdf , 1998.

[5] Bradley, A. and others (2016). Determining if active learning through a formative assessment process translates to better performance in summative assessment, Studies in Higher Education, 41(9), 1595-1611. 2009.

[6] Alkharusi, H. A multilevel linear model of teachers' assessment practices and students' perceptions of the classroom assessment environment. Procedia Social and Behavioral Sciences. 5, 5-11. 2010.

[7] Cleesuntorn, A. "Thai Education and the 21st Century Skills: A Proposal for a New World of Work." Rajabhat Journal of Sciences, Humanities, & Social Sciences Vol. 16 (2): 131-141. July-December 2015.

[8] Office of the Education Council, Ministry of Education. Report on the results of the second decade of education reform driven (2009-2011). Bangkok: Prikwan Graphic, 2011.

[9] OECD/ UNESCO. Education in Thailand: An OECD-UNESCO Perspective, Reviews of National Policies for Education. OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264259119-en, 2016.

[10] Iowa Department of Education, Formative Assessment. [Online]. Available: https:// www. educateiowa. gov/ pk-/12student- assessment/formative-assessment# Connections [August 1, 2017]

[11] R. J. Stiggins. From Formative Assessment to Assessment for Learning: A Path to Success in Standards-Based Schools. The Phi Delta Kappan. 87 (4), 324-328, 2005.

[12] Harris, L. R., Brown, G. T. L., and Harnett, J. A. (2015). Analysis of New Zealand primary and secondary student peer- and self-assessment comments: applying Hattie and Timperley's feedback model. Assess. Educ. 22, 265–281. doi: 10.1080/0969594X.2014.976541)

[13] Zimmerman, B. J. Goal setting: A key proactive source of academic self-regulation. In D. H. Schunk & B. J. Zimmerman (Eds.), Motivation and self-regulated learning. Theory, research and applications (pp. 267-295). New York: Lawrence Erlbaum Associates, 2008.

[14] Hattie, J. Visible learning: A synthesis of meta-analyses in education. London: Routledge. 2009.

[15] Andrade, H. Students as the definitive source of formative assessment: Academic self-assessment and the self-regulation of learning. In H. L. Andrade & G. J. Cizek (Eds.), Handbook of Formative Assessment (pp. 90-105). New York: Routledge. 2010.
[16] Topping, K. Peers as a source of formative and summative assessment. In J. H. McMillan (Ed.), Sage Handbook of Research on Classroom Assessment (pp. 395- 412). Los Angeles: SAGE. 2013.
[17] Brown, G., Andrade, H., and Chen, F. Accuracy in student self-assessment: directions and cautions for research. Assess. Educ. 22, 444–457. doi: 10.1080/0969594X.2014.996523, 2015.
[18] Brown, G. T., and Harris, L. R. "Student self-assessment," in Sage Handbook of Research on Classroom Assessment, ed J. H. McMillan (Los Angeles, CA: Sage), 367–393. doi: 10.4135/9781452218649. n21, 2013.
[19] Andrade HL. A Critical Review of Research on Student Self-Assessment. Front. Educ. 4:87. doi: 10.3389/feduc. 2019.00087, 2019.
[20] Panadero, E., Brown, G. L., and Strijbos, J.-W. The future of student self-assessment: a review of known unknowns and potential directions. Educ. Psychol. Rev. 28, 803–830. doi: 10.1007/s10648-015-9350-2, 2016.
[21] Panadero, E., Alonso-Tapia, J., and Huertas, J. A. Rubrics and self-assessment scripts effects on self-regulation, learning and selfefficacy in secondary education. Learn. Individ. Differ. 22, 806–813. doi: 10.1016/j.lindif.2012.04.007, 2012.
[22] Panadero, E., and Alonso-Tapia, J. Self-assessment: theoretical and practical connotations. When it happens, how is it acquired and what to do to develop it in our students. Electron. J. Res. Educ. Psychol. 11, 551–576. doi: 10.14204/ejrep.30.12200, 2013.
[23] Panadero, E., Alonso-Tapia, J., and Huertas, J. A. Rubrics vs. self-assessment scripts: effects on first year university students' self-regulation and performance. J. Study Educ. Dev. 3, 149–183. doi: 10.1080/02103702.2014.881655, 2014.
[24] Panadero, E., and Romero, M. To rubric or not to rubric? The effects of self-assessment on self-regulation, performance and self-efficacy. Assess. Educ. 21, 133–148. doi: 10.1080/0969594X.2013.877872, 2014.
[25] Kollar, I., Fischer, F., and Hesse, F. Collaboration scripts: a conceptual analysis. Educ. Psychol. Rev. 18, 159–185. doi: 10.1007/s10648-006-9007-2, 2006.

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