



DEVELOPMENT OF CAPACITY BUILDING MODEL ON TEACHERS' ASSESSMENT INFORMATION USE BASED ON COLLABORATIVE IMMERSION APPROACH

Kulratee Siridej Kamonwan
Phanchalaem • Sujiva Tangdhanakanond

Chulalongkorn University, Thailand

Abstract

The purpose of this research were 1) to study the current situation and teachers' needs in the use of assessment information, 2) to develop the capacity building model on teachers' assessment information use based on collaborative immersion approach, and 3) to investigate the effectiveness of the implementation of the capacity building model on teachers' assessment information use based on collaborative immersion approach. Samples for the study of the current situation and teachers' needs in the use of assessment information consisted of 250 elementary school teachers. Samples for experimental design were 17 elementary and secondary school teachers. Data were analysed by using content analysis and descriptive statistics. It was found that 1) the information that exists in most schools was information on teaching, whereas academic information on the physical or behavioural flaws of students and life skill were rarely exist and rarely used. Moreover, teachers needed to develop knowledge on the analysis of data obtained from assessment information. 2) The developed model was based on collaboration, networking and sustainable development principles. It consisted of three operational stages, (1) getting ready (2) data driven decision making, and (3) follow-up and evaluation. 3) After the model implementation, teachers had more knowledge and skill in assessment information use as well as more positive attitude toward assessment information use. Teachers perceived that overall, the model had its utility, feasibility, accuracy and appropriateness at a high level.

Keywords: assessment information use; collaborative immersion approach; evaluation capacity building

Correspondence concerning this paper should be addressed to:

• Ph.D., Chulalongkorn University. Address: Phayathai Road, Pathumwan, Bangkok 10330; Thailand. E-mail: Kulratee.P@student.chula.ac.th

Introduction

Teacher becomes a person who plays an important role in learning development for student. So, teacher must understand their student in all condition as base for properly planning the learning program which conforms to their requirement. Therefore, management of the learning program by considering educational information as driving force is necessary because the information from student will support teacher to understand and improve student with clear direction. However, according to the past research, the significant obstacle that affect to the using educational information in the school was lack of using skill (Ignored by teacher and could not be applied seriously) (Greenberg, & Walsh, 2012; Marsh et al., 2005). For example, the study of Hamilton et al. (2009) revealed that teacher accumulated a lot of educational information but lack of good management and meaningful utilization in planning and making decision for learning improvement of student. Therefore, applying information to adjust the study program effectively is basic skill of teacher (Hosp, 2010). With this reason, the focusing of teacher's decision by using information to improve their teaching skill and learning of the student must be considered and studied.

Collaborative immersion approach is Evaluation Capacity Building (ECB) presented by Huffman, Thomas and Lawrenze (2008). This idea focuses on requirement to expand the method of evaluation capacity building to be more than the personal career development or training. The goal of this idea is to build ability in collaboration, operation, and utilizing evaluation result by each person focusing on evaluation process until the evaluation can be merged into daily working of organization eventually (Thomas & Huffman, 2008). Regarding educational system, collaboration is necessary. Not only to decrease individual working, but also to support each teacher to improve their own career. For example, the research of Huffman (2003) that had studied about the investigation result of collaboration in making decision based on information in a school. This project had been leading by a team consisting of teacher, school administrator, members of school council and parents that will cooperate to collect and analyze the information in order to improve the study program. The result of collaborative investigation is not only affects in positive to teacher, but also support teacher to improve study program continuously.

The development of capacity building model to use educational information effectively for teacher is necessary for the research publishing (Dunn, Airola, Wen-Juo, & Garrison, 2013). This research is focusing on the model development that will enhance teacher about information usage skill by using the idea of collaborative immersion approach. This idea emphasizes using information from education evaluation such as information of classroom level, school level, education service area level and international level. Due to the information playing an important role in educational system, the school will be able to know the study result of students and be the guide line for teacher to improve their teaching conforming to requirement of student (Bernhardt, 2004). In this research, the educational information is called “assessment information”. If teacher considers about use assessment information correctly and utilize it for improving teaching behavior in class properly, learning of students will be developed in the correct way.

Research Objectives

The purpose of this research were 1) to study the current situation and teachers’ needs in the use of assessment information, 2) to develop the capacity building model on teachers’ assessment information use based on collaborative immersion approach and, 3) to investigate the effectiveness of the implementation of the capacity building model on teachers’ assessment information use based on collaborative immersion approach.

Conceptual framework

A key element of using assessment information consists of the development team of master teacher in the use of assessment information, collecting assessment information, data analysis, and data driven decision making. The research is aimed at developing a model to build capacity in the use of assessment information with the idea of evaluation capacity building because the effective development should be gradual and relied on principle of collaboration of all stakeholders. This development must support all stakeholders to understand clearly, confidently and ready to implement in work continuously until becoming a routine. The researchers used this idea to develop the model by studying the current situation and teachers’ needs in the

use of assessment information together with using Collaborative Immersion Approach. This approach focuses on the collaboration of teachers in the team, creating a network of learning, and continuous improvement. Results of the model development are considered in terms of knowledge, skills, and attitudes towards the use of assessment information.

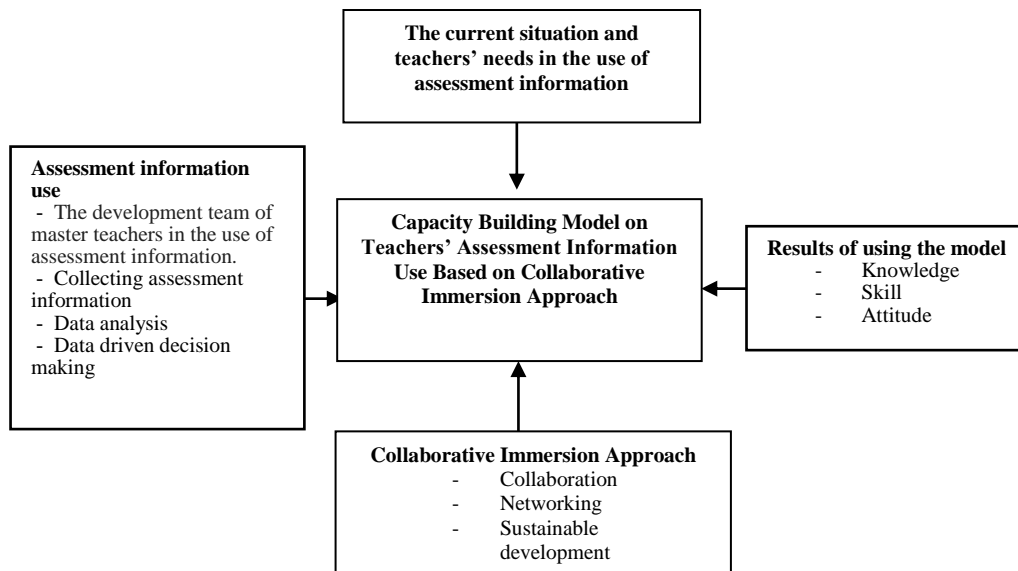


Figure 1. Conceptual framework

Method

1. Study the current situation and teachers' needs in the use of assessment information

This step is based on a sequential mixed method design. It is divided into two stages: *Stage 1*: Developing the Research Instrumentation - qualitative data was collected from evidence documents and interview with teachers about existing assessment information in schools, and *stage 2*: Conducting the Survey

Research - the objective was to study the current situation and teachers' needs in the use of assessment information.

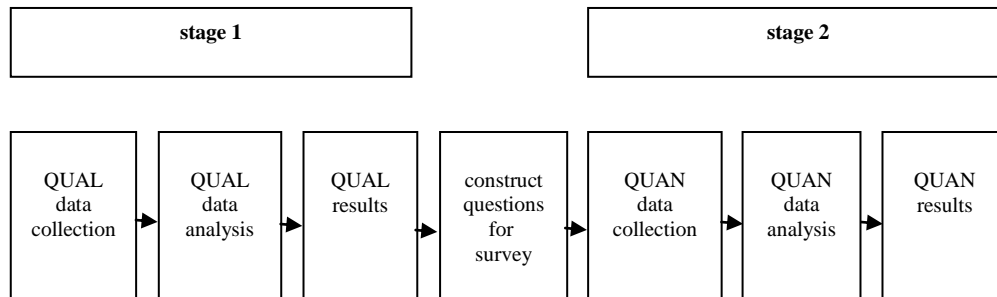


Figure 2. The exploratory design-instrument development model (Creswell & Plano Clark, 2007)

Participants

Stage 1: The interview samples consisted of 6 teachers in two purposively selected schools (one small school and one large school).

Stage 2: The samples consisted of 250 teachers (190 females and 60 males) from every regions of Thailand in which 152 had graduated bachelor degrees and 98 had graduated master degrees. Up to 167 teachers had less than 20 years of working experience, while 83 teachers had over 20 years of working experience.

Instruments

Stage 1: The instrument was an informal interview format.

Stage 2: The instrument used for the survey research was a questionnaire on the current situation of teachers' assessment information use and teachers' needs in assessment information use consisting of checklist and five-rating scale items. The reliability of the current situation was 0.956 and reliability of needs was 0.955.

Data analysis

Stage 1: Data was analysed through content analysis.

Stage 2: Data analysis was conducted through descriptive statistics: i.e., frequency, percentage, and mean point. The arrangement of requirement is from high to low by calculating Modified Priority Need Index.

2. The development of capacity building model on teachers' assessment information use based on collaborative immersion approach

There are 4 steps: 1) Planning, 2) Designing model, 3) Developing model and manual, and 4) Checking the quality of model and manual.

1. Planning

Researcher studied the document and research that conformed to usage of educational information, evaluation capacity building, and collaborative immersion approach. After that, analysing and synthesizing for setting draft of the designed model and manual.

2. Designing model

Researcher specified structure and detail about building capacity in using assessment information with Collaborative immersion approach by emphasize content of knowledge, activity, and tools to design in detail for each step following the specified structure.

3. Developing model and manual

Researcher developed the manual about how to use the model for using assessment information comfortably. The teachers participating in this project had been trained to be responsible for the use of assessment information in view point of important contents and technique.

4. Checking the quality of model and manual

In order to receive guideline for improvement in view point of utility, feasibility, accuracy, and appropriateness. Researcher had presented the proposal model and manual to 7 persons of supervisor of thesis and specialist that can be divided into 4 groups as follow - education evaluation specialists by 3 persons, education specialist by 1 person, educational supervisor by 1 person and teacher by 2 persons. The tool in this step is questionnaire for checking the appropriateness of model.

Participants

4 persons of educator who has knowledge and expertise in the theory or practice of assessment, evaluation, curriculum and instruction.

1 person of supervisor.

2 person of master teachers or leader teacher who has experience more than 10 years in teaching.

Instruments

The instrument was the test of appropriateness of the model for the specialist group. It is a measure of the five levels of assessment appropriate model comprises three parts (1) Comments of specialist on the appropriateness of the structure of the format, (2) Comments of specialist on the appropriateness of key attributes for each element, (3) Comments of specialist on the appropriateness of the model about utility, feasibility, accuracy and appropriateness.

Data analysis

Data analysis was conducted through descriptive statistics: i.e., frequency, percentage, and mean point. The analysis was presented in table format and sorted the data from the comments and suggestions by using content analysis.

3. Investigate the result of capacity building model on teachers' assessment information use based on collaborative immersion approach

This stage is to present capacity building model on teachers' assessment information use based on collaborative immersion approach to experiment and check the effectiveness of model consisting of 3 steps as follows,

1. Getting ready

To evaluate understanding, skill, and attitude of using assessment information for teacher before joining the project in order to understand and recommend the way to participants. This phase took 2 weeks.

2. Data driven decision making

The process and details in building capacity of using assessment information with Collaborative immersion approach consist of (1) Explain the knowledge of assessment information, (2) Collect and divide the type of assessment in class, (3) Specify the problem of education, (4) Analyse information, (5) Consider the cause of problems, and (6) Plan the way to solve the problem. This phase took 4 weeks.

3. Follow-up and evaluation

This step is to follow-up and evaluate teacher after joining the project and conclude the result. This took 2 weeks and Total weeks were 8 weeks.

Participants

Researcher used the model to apply with 17 teachers from primary and

secondary schools that interested in this project. 2-3 persons were allocated to each group by considering from evaluated result of teachers' knowledge, skill, and attitude in using assessment information before joining the project. Also mixing the skill level of teacher in each group in order to discuss and share their experiences in the same way.

Instruments

Assessment information use manual.

Knowledge, skill and attitude test on teachers' assessment information use before and after using Experimental model by knowledge test with multiple choice parallel testing in 10 article, skill test by open-ended question for short answer question 3 articles before and after examination using model and attitude test by estimation questionnaire for 5 rating scale 10 articles before and after experiment.

Field record format.

Interview participant during and after join the project format.

Test of quality of the model by estimating 5 rating scale covered topic accuracy, benefit, appropriateness, and possibility.

Data analysis

Analysed the knowledge, skill, and attitude for using assessment information by comparing the Average point before and after experiment.

Analysed interview result of participant during and after joining the project by content analysis.

Analysed quality of evaluating result of capacity building model in assessment information for teacher by descriptive statistics: i.e., frequency, percentage, mean, and standard deviation.

Findings

1. The current situation and teachers' needs in the use of assessment information

The current situation of teachers' assessment information use

There were 11 types of educational information in Thai schools: 1) students' background data, 2) physical or behavioural flaw data, 3) students' basic ability data, 4) students' family data, 5) students' learning proficiency data, 6) student's behaviour data, 7) life skill data, 8) students' academic

performance data, 9) school data, 10) teachers' teaching data and 11) parents and communities' school-awareness perception data.

Teachers' needs in the use of assessment information

a. Knowledge and skills in the use of assessment information

Data analysis (PNI=0.288) was needed by teachers the most in order to develop knowledge and skills in using assessment information according to the modified Priority Need Index, followed by interpretation of data analysis (PNI=0.277) and use of computer technology in the analysis and storage of data (PNI=0.262), respectively.

b. Using assessment information in teaching and improving learners

Data collection for planning teaching and improving students (PNI=0.255) was needed the most by teachers to use for teaching and improving learners according to the modified Priority Need Index, followed by collaboration with colleague in assessment information use (PNI=0.225), and application of assessment information in setting strategies for teaching and improving student learning (PNI=0.215).

2. Develop the capacity building model on teachers' assessment information use based on collaborative immersion approach

The study found that the developed model was based on collaboration, networking and sustainable development principles. There were 2 important elements, first, capacity in using assessment information (knowledge, skill, and attitude), and second, procedure to enhance capacity in using assessment information which has 3 steps consisting of 1) Getting ready, by providing guidelines for using the model, and evaluating the capacity to use information assessment of knowledge, skills and attitude before participating, 2) Data driven decision making, this step is creating awareness about the use of evaluative information. Collect and classify information in the assessment report. Determining the significant issues in education Information Analysis Evaluation Diagnosis of the problem and planning and practical approaches to solving problems, and 3) Follow-up and evaluation, teachers were tested about ability to use information assessment of knowledge, skills, and attitude after joining the project.

3. Result of capacity building in using assessment information

Result of capacity building in using assessment information by testing with 17 teachers. The result showed that teacher had average score in ability of using assessment information in knowledge, skill, and attitude higher than before joining the project, and the ability of using assessment information in overview was very high.

When considering in each part of using assessment information, knowledge increased by 9 person (52.94%), kept constant by 4 person (23.53%), and decreased by 1 person (5.88%). Skill increased by 14 person (82.35%), Attitude increased by 12 person (70.59%), kept constant by 1 person (5.88%), and decreased by 1 person (5.88%), as shown in Figure 3.

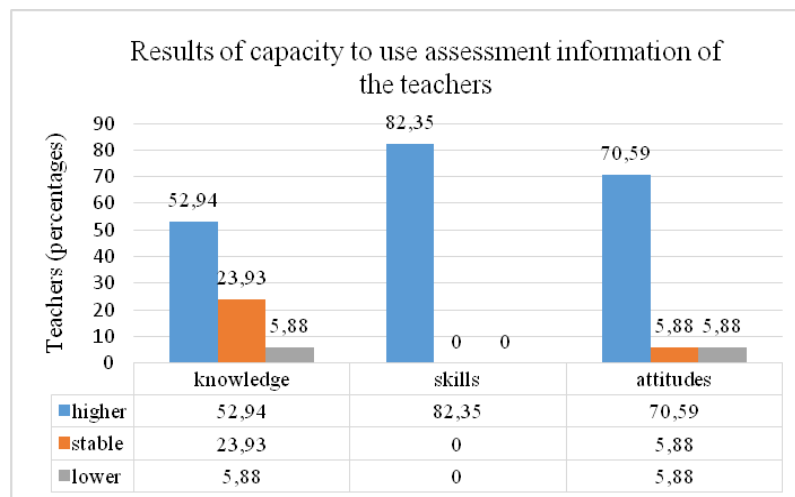


Figure 3. Results of capacity to use assessment information of the teachers as a whole

The study found that average value of feasibility in practicing was the most, followed by accuracy of the model, utility of the model, and appropriateness of the model respectively. The mean score and the standard deviation of the quality of the model were 4.218 (.354), 4.137 (.425), 4.126 (.394), and 4.088 (.414) respectively, as shown in Table 1.

Table 1. The mean and standard deviation of the quality of the model.

Factors	Mean	S.D.
utility	4.126	.394
feasibility	4.218	.354
accuracy	4.137	.425
appropriateness	4.088	.414
Total	4.142	.397

Referring to interview result of the teachers participating in this project, the strong points of this developed model were 1) “Procedure” which could enhance self-development of participant systematically, 2) “Actual practicing and becoming a part of operation”, 3) “Several ways of communication” which could make closed collaboration by using technology to increase convenience and reducing step in operation, and 4) “Teamwork” by collaboration of each teacher in using assessment information will generate several idea and contribution in each other to be successful in operation.

However, those participating teacher had suggested the things that should be improved for this developed model as follows - 1) the provided activity should be related to local situation in various condition in order to clearly understand and to be implemented in actual, and 2) manual should be interesting, clear and easy to understand.

Conclusions

The current situation and teachers’ needs in the use of assessment information

There were 11 types of educational information in Thai schools. Classification of these information was useful to support person who involved in education to start studying the usage of information to collect and analyse for solving the education problem conforming to learning requirement of the students. The most information in school that were used in studying and improve students was information for teaching of teacher, learning of students and result of learning. These information conformed to the study of Bernhardt (2004) mentioned that these types of information is the most important in education system, on the other hand, defectiveness of students and basic living skill became the unused information maybe due to most of students were in normal condition whereas the defective students were less, as a result that

teacher rarely use it. Therefore, teacher still prefer to regard the score of examination only and using the other information at low level.

Teacher required development about (1) analysing data, and translating the meaning from analysis result, (2) knowledge in assessment information, and (3) knowledge in presentation analysis result for easier understanding. Moreover, teacher required to collect information for planning for teaching, improve learning of students, and collaboration with other teacher for using information which conform to study of Greenberg and Walsh (2012) that research for 10 years in school revealed the weakness of teacher was problem in analysing information and lack of application for teaching in class.

Develop the capacity building model on teachers' assessment information use based on collaborative immersion approach

The result of developing the capacity building model on teachers' assessment information use based on collaborative immersion approach found that it covered collaboration, networking and sustainable development principles by making teacher understanding, having skills and good attitude for using assessment information. King and Volkov (2005) had explained that target of building ability in assessment was sustain of ability in organization to design, implement, and manage the assessment project effectively. Be able to access, build, and using knowledge and skill in assessment including development of learning spirit in organization, improvement, and responsibility continuously. The main target was sustainable evaluation (Preskill & Boyle, 2008) containing 3 process, 1) preparation, by giving basic advice about how to use model, assessment ability in using assessment information of teacher in knowledge, skill, and attitude before joining the project, 2) doing activity by using information as the driving factor, by building understanding about using assessment information, collecting and classifying assessment information in study class, setting the important educational problem, analysing assessment information, investigating the roots of problem and planning to solve the problem, and 3) evaluation after joining the project, by evaluating ability in using assessment information in knowledge, skill, and attitude after joining the project.

Result of capacity building in using assessment information

The result showed that teacher had average score in ability of using

assessment information in knowledge, skill, and attitude higher than before joining the project and the ability of using assessment information in overview was very high. Hamilton et al. (2009) explained that using information for getting good benefits must be more than the number or statistical properties in order to give the meaningful or valuable information to teacher for improving teaching and learning of students. The model was different from the others because idea of collaborative immersion approach was continuously implemented in process. By focusing on improving teacher in using assessment information through collaboration in group and social network. So, several connections were provided to teacher. Moreover, this process enhance self-development for teacher systematically and actual practice with colleague. Wayman (2005) noted that the relationship between using assessment information and collaboration was related to each other because it was an opportunity for educators to share ideas about education between each other.

Recommendations

1. The result of teachers' assessment information use revealed that the important factor of assessment information use was supported by leaders. The leaders in region and school must play the important role for successful of teacher in development of using assessment information. They may begin to set up the master teacher for using assessment information in school and expand to other teacher in school by using collaboration in practical.

2. Regarding current situation of teachers' using assessment information revealed that teacher rarely used for improving teaching, or using assessment information incorrectly because of lack of understanding, research skill, and evaluation. Therefore, the school leaders may start from providing training about basic research and evaluation before proceeding to develop the use of assessment information for teacher.

3. Teacher development organization must consider environment of school whether it is suitable to apply this model for development of teacher or not. Because the successful of development does not depend on teacher only, but also depend on context of organization.

4. Due to limitation of time in research, researcher needed to fix the time in developing skill for using assessment information of teacher by only 2 month. However, for more clear of the development result, the process should

be conducted continuously around 1 year.

5. Result of using the model found that although using social network giving good result for communication, but some of the teacher said it was not suitable for elder teacher that have the optical problem. The next research may be an ideal model to study with elder teachers.

6. During experiment of using model in the first stage, researcher collect the data of teacher who had joined this project directly and sending by mail. It make a high cost during this processed. For solving this problem in the middle to final stage of experiment, researcher used the internet for communication to decrease the cost and the time for collecting data.

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