

## CHAPTER 2

### Review of Related Literature

The objective of this research is to construct and develop an internal quality assurance evaluation model for special education school that is appropriate and feasible for real application. The researcher synthesizes the secondary data on the principles, theories, and related literature and divides the topics into the followings.

1. Concepts on educational quality assurance.
2. The internal quality assurance in the school at basic educational level.
3. Indicator and evaluation criteria.
4. Model of Evaluation
5. Development of the Model
6. Related literature
7. Research Conceptual Framework

#### 2.1 Concepts on Educational Quality Assurance

##### 2.1.1 Definitions and importance of quality assurance

The educational quality assurance means the implementation of identification of the standards on the educational standard quality and the auditing/checking process or evaluation whether it is responding to or consistent with educational quality standards or not (Murgatroyd Stephen and Morgan Colin in Pruet Siribanpitak and Suchart Kitpitak, 2002: 2; cited from Murgatroyd Stephen and Morgan Colin, 1994).

Khemthong Sirisanglert (1997: 33) defined the educational quality assurance that it comes from combining two concepts together which are the concept on quality assurance and the concept on educational quality. In summary, the definition or meaning of the educational quality assurance implies the certifying of a quality

assurance of the administration process of the school that there is the implementation plan and there is the implementation of the activities systematically that the production of the school has quality according to the educational standards and according to the needs of the service users all the time.

Office of the National Primary Education Commission, Educational Supervisor Unit, Department of General Education (2000: 14) defines similarly that the educational quality assurance means the implementation in the educational management process in order to create confidence and guarantee to the parents, communities, and society that the school can arrange education efficiently. The learners who are the production of the school have desirable qualities according to expectation and acceptance of the parents, communities, and society.

Department of Curriculum and Instruction Development (2001: 9) defines that the educational quality assurance is an important mechanism necessary to promote and drive the functioning process of organizations in all levels of educational field and related relevant personnel that the system responds to the system's requirements. It emphasizes the shared common identified direction so the system works to achieve the targets of the educational reform efficiently.

Kanya Purotagnont (2001: 11) stated about educational quality assurance that it is the process to construct confidence and the certification to the learners, parents, communities, and society that the schools can arrange the education efficiently. The learners who finish education will have the quality based on the educational standards and accepted by society.

The Office for National Education Standards and Quality Assessment (Public Organization, 2004: 37) defines the educational quality assurance as the development of educational quality according to the objectives, principles, and the guidelines for educational arrangement according to the identification in the National Education Act that emphasizes the learning to develop learners to have desirable qualifications which are be good people, have capabilities. And the learners are also happy persons. The instruction arrangement is arranged in a student-centered method and has the

management including the functioning that emphasizes the quality, transparent working, with monitoring mechanisms, and in PDCA Cycle System.

From such definitions above, it can be concluded that the educational quality assurance is the process of internal management or administration in the school to develop educational quality and the quality of the learners continuously that the system creates confidence for the service users of the school. The implementation of the school has quality and the learners have desirable qualification according to the identified educational standards and accepted by the society.

### **2.1.2 Background of Educational Quality Assurance**

Quality Assurance is the academic term which is used in educational field. It was borrowed from the business and industrial field and then was imported to use for the quality administration and management of the educational organization. Dale (Office of the National Primary Education Commission, 2002: 13) explained about the development of quality administration and management in industry which is divided into two types. These are the types that focus on “Detection” which are checking the quality inspection and quality control. These two activities emphasize the development of accuracy of the tools. The effectiveness here is for the techniques which are used for detecting the flaws or mistakes that happen. The weakness of the quality administration and management is that it needs an action or implementation after errors occur (Retrospective and Reaction). The quality administration and management (the second type) is something that just appeared within the last two decade. It emphasizes on the prevention before errors occur (Preventive and Proactive). This type is subdivided into two types which are Total Quality Management or TQM ( Office of the National Primary Education Commission, 2002: 13) , which is defined as the total quality management or activities of total implementation which are systematic and well-planned in advance. There is necessity to create confidence at certain levels to certify that the goods or service will have quality based on the set identification (Ministry of Education, 2002: 5-6). After the principles of quality assurance have been used in the context of education, the parents, communities, and society feel confidence to the implementation of the schools that develop the students. This confidence results in the

production of education that has quality according to the expectation of parents, communities, and society (Ministry of Education, 2002: 13).

From the definitions above it can be concluded that the background of educational quality assurance has the source from the industrial field by bringing the quality control system and the total quality management system of the organization to be adopted for the quality administration and management of educational organization to create confidence in the implementation of the school that need to develop students to have quality.

### **2.1.3 Main Principles for Educational Quality Assurance**

The education quality assurance needs to have principles and guidelines for quality assurance. There are some people who have proposed the principles for educational quality assurance as the followings.

Ministry of Education ( Office of the National Primary Education Commission, 2002: 14) identified the main principles for the education quality assurance into three items which are the followings.

1. The decentralization of the state in identifying the policy for administration, academic affairs, budget, personnel, and resources to the provinces and schools in all levels and all types.
2. The state's supports for the parents, community leaders, and local administration organizations (OBT) to take parts in responsibilities in the educational management.
3. The schools' agreement to have the burden and responsibility for the students and parents, to identify standards, and to take the responsible persons for educational management.

Department of Curriculum and Instruction Development ( 2001: 3-4) has the concept on the principle of educational quality assurance as the followings.

1. To create satisfaction in the educational quality.

2. To build participation in the educational implementation of all parties both the giver and receiver of service.
3. To set up academic cooperation of organization and local personnel.
4. To begin implementation that emphasizes the quality of implementation at all levels in all steps.
5. To apply implementation that can be checked.
6. To set up the reporting to the public and relevant people.

**2.1.4 Office of the National Primary Education Commission** (2002: 15) states about principles and some important conditions for good educational quality assurance which are the followings.

1. Decentralization. The school will develop the quality efficiently and effectively when the school is independent or has sufficient freedom to think and make decision within its own administration academic and budget expenditures. This is consistent with the intention of National Education Act in 1999 that demands decentralization of administration and educational management to the school and the locals the most.
2. Participation. This is done by opening opportunities for stakeholders and the rest of educational management of the school to take part in participation in thinking, making the plan together, implementing the plan together, evaluating the results, and taking responsibility together on the educational management of the school.
3. Empowerment. This is accomplished by creating knowledge, skill and confidence for the stakeholders and to create opportunities for participation efficiently and effectively.
4. Accountability. This is assigned to create awareness on responsibility on the mission and duty. Education is not a responsibility of a person or a party but it is the responsibility of everyone who is stakeholder in the educational management of the school. Therefore, the system needs to create within everyone awareness on their own responsibility to the

education, such as the responsibility of the parents and teachers. In addition, the implementation process and the result of the school's management can be monitored all the time by the society and people.

5. Continuous Quality Improvement. There is a set of internal and external checks in the context of quality assurance. The important objective is to get feedback data to be used for planning and to use for improving the quality continuously, not for looking for mistakes or judging to give reward or punishment.

The Office for National Education Standards and Quality Assessment (Public Organization) (2003: 10) stated about the principles of education quality assurance as the followings.

1. The quality assurance system is not something to be used for judging right or wrong or other methods of checking but it is a tool to be used along with the decentralization of educational management.
2. The educational standards must be consistent with the intention of National Education Act that emphasizes the learning process to be various and held in the learner-center principle.
3. The quality assurance has three main missions which will be divided according to the personnel's roles and duties clearly.
  - 3.1 Identification of the standards or the criteria of the quality assurance system which is the duty of the central institution.
  - 3.2 Internal assessment is the duties or responsibilities of the school in developing the internal evaluating system to attract communities and stakeholders to participate.
  - 3.3 External evaluation is allowing independent organizations in form of public organization to be responsible for external evaluation. In case those independent organizations are allowed to do this job, it is because they need freedom or independence from the

government sector and can do the evaluation in both the state schools and private schools.

3.4 Application of the evaluation results for making improvement is the responsibility of the educational administration units. From above explanation, it can be concluded that the principles of implementation of quality assurance hold the principle of decentralization in identifying policy or administration and participation of the relevant people. The school and related organizations in educational management must implement the system systematically and emphasizing on the quality in implementation at all levels and in all steps in order to create confidence and satisfaction toward the quality of education in the implementation.

### **2.1.5 The Guideline for Implementation of Educational Quality Assurance**

Ministry of Education arranges the educational quality assurance system to develop the education to have excellent standards. The implementation process, which is important mechanism for educational quality assurance, is composed of three implementation procedures ( Office of the National Primary Education Commission, 2001: 3). These are the followings.

1. Control the education quality through the process or implementation guideline that brings the education to a higher quality. It is composed of identifying the standards on production, factors, and the processes including implementation of making the plan for developing the educational quality of the school into the blueprint which are School Charter or the development plan on the educational quality and the short-term plan which is the annual implementation plan that can develop the school to reach the standards.
2. Checking and interfering on the educational quality is the process or implementation guideline for implementation of improving educational quality. It is composed of evaluation of the implementation according to

the set development plan of the educational quality of the school and of production of the reports from the school to the people and related organizations. In addition, there is supervision and assistance from the parent organization and other relevant organizations. Besides, it also seeks measurement to improve the quality of the schools that are still not reaching the standard criteria of the relevant organization.

3. Evaluation on the educational quality is the process or the implementation guideline for checking the educational quality based on the identified standards. This includes reviews of educational quality of the school, evaluation to prepare for the educational standards of the school, evaluation to the development of educational quality as the whole picture, or evaluation of educational quality.

From above explanation it can be concluded that the guidelines for implementation of the educational quality assurance can be seen as the system and the step for developing continuous educational quality by the school and relevant organizations which include parents, communities, and stakeholders who take part or participate in improving developing the quality and efficiency of the school. The guideline covers three steps which are the educational quality control, monitoring, interference on the educational quality, and evaluation on the educational quality.

It is clear that the model for the educational quality assurance system has borrowed the basic concepts from industrial field. Academics have applied and developed it to use in accordance with appropriateness of the context in the education fields to reach its various models. All models similarly share the same objectives in developing the educational quality that they attempt to reach higher standards based on the development cycle of quality called PDCA which is the main engine for development in majority of schools.

## **2.2 The Internal Quality Assurance System of the School in Basic Education Level**

The educational quality assurance system according to National Education Act in 1999 Section 47 is composed of the internal quality assurance system and the external



quality assurance system that aim to focus on studying certain internal quality assurance system which has the following details.

1. Definition of internal quality assurance system. The internal quality assurance means the system for evaluation and monitoring to check the quality and the educational standard of the schools from insider by the personnel of the schools or the parent organization that are responsible for supervising the schools (National Education Act in 1999, Section 4). Khemthong Sirisanglert (1998: 43) summarized that the educational quality assurance system means the administration system of the school that leads the school to achieve the identified quality standard all the time that the receivers of service have confidence in the quality of the school. Office of National Educational Commission (2000: 34) proposed the educational quality assurance system that the school implements now has the concept of promoting and proposing guidelines for the development of educational quality into three steps which are quality control, quality monitoring, and quality evaluation.
2. Principles and the process for internal quality assurance system of the school must develop internal quality assurance system as part of the administration and implementation process by considering the principles and the processes of the followings (Office of the National Education Commission, 2000: 68).

2.1 The important principle for the internal quality assurance of the school has three aspects which are the followings. First, the objective of internal education is that the schools participate together to develop or improve the quality to reach educational standards rather than to finding faults or smearing persons' pride; the real target is to develop quality to the learners.

Second, in order to implement the plan to achieve the target according to previous item (number 1), the schools need to set educational quality assurance as part of the administration process and design it as the duty of all personnel in the schools. It is not the process that is separated from the normal implementation of the

school especially since the school must make development plan and implementation plan that have clear targets. The school must set plans to monitor or check, evaluate, and develop or improve continuously. The system must be transparent and people must have awareness in developing the quality of work. Third, educational quality assurance is the duty of personnel in every school. They are administrators, teachers, instructors, and other personnel in school. In the implementation the school must allow the relevant people such as students, communities, an Educational Service Area Offices, or parent organization to supervise as part of identifying the target, plans, monitoring system, or evaluation methods to improve through thinking, doing, and moving the school to have quality so students can get education with quality in response to the needs of parents, society and country.

2.2 The process for internal quality assurance is accomplished according to the concept of quality assurance which has three steps as the followings. (1) Quality control is the identifying the standards of the school to develop the school to reach standards, (2) quality check is checking and monitoring the implementation of the school which is consistent with the identified standards, and (3) quality evaluation is evaluating the quality of the school by the school itself and parent organization in educational service area level and in the education ministry system.

2.3 The process of internal quality assurance is proceeding according to the concept of administration principle which is a completed cyclical called PDCA which has four steps: (1) planning together, (2) doing together, (3) checking, and (4) action.

### 3. The important qualification of internal quality assurance.

Somwang Phithyanuwat (2002: 24) stated that good internal quality assurance must have the following qualifications.

3.1 It is a system that has input factor, process, and expected result which has the system for developing quality and monitoring the quality and self-evaluation system.

3.2 It is the system that the school has developed with participation of communities and gets supports from parent organization although in the form of control and order from the parent organization.

3.3 Internal quality assurance system must be integrated with the normal administration. It means there must be integration linkage with the learning reform, instruction, development of personnel, and school-based management.

3.4 Internal quality assurance is something that everyone in the school and communities must follow since it has the leadership and determination for developing quality of the administrator to create continuity.

3.5 Working and performing all tasks or mission in the complete PDAC Cycle. The personal level and organization level make the implementation plan for evaluating then improving work regularly.

3.6 The work of everyone in the school, administration, instructional management, and learning aim to create benefits that will come to the learners later to be good, intelligent, and happy persons with belief in life-long learning.

3.7 The implementation of internal quality assurance in complete PDAC Cycle is done when it has reached the fiscal years that have the self-assessment to gather and make the annual report which then is reported to the parent organization, relevant organization, and the public to know.

3.8 Evaluation results will lead to improved administration, learning, and teaching methods. It is considered the duty of administrator to supervise the attempts to achieve the quality assurance continuously.

From the above definitions, it can be concluded that the internal quality assurance is the system that has the input factors, the process, and expected results that are integrated within the normal work or performance. It is emphasizing participation with the planning, implementing, evaluating, and revising the work regularly.

### **2.2.1 The Process for Internal Quality Assurance in the Schools**

The development of internal quality assurance system is also known in special education schools as a part of their administration process and normal work. These schools must consider the conditions which set them to achieve the implementation of the work and guide the administrators to be aware to take part in promoting, supporting, and participating in the development attempts. Besides, the administrators must organize all elements to build the teamwork. All personnel in the school must get preparation to foresee the values, to gain knowledge, and to reach understanding on the internal quality assurance and the continuous implementation of all relevant parties both from inside and outside (external). There must be supervision and monitoring of the implementation of internal quality assurance systematically. It is necessary to have the committee board to certify the internal quality as the responsible persons to oversee the coordinating work, supervising, giving assistance, and supporting that all parties work together and make linkage as a team. The main administrator of the school implements with the assigned personnel in form of committee boards of the working team to assemble the process of internal quality assurance according to the concept of administration principle in complete cycle process of PDCA, which is composed of four steps as the followings.

**1. Planning is the preparation** in advance to set the implementation efficiently to reach success. The planning will identify the target, guideline for implementation for responsible personnel, and duration and resources to be used for working to achieve the desired targets. The educational quality assurance of the special education schools in particular needs participation from all relevant people inside the organization to make the planning to develop educational quality. In order to improve efficiency of the implementation, the schools should prepare the implementation plan which includes the development plan on educational quality of the school, the annual

implementation plan, and the instructional management plan according to curriculum and consistent with the targets of the schools.

**2. Doing is the implementation** according to the plan that the schools have prepared. The personnel will implement according to the settled plan. During the implementation, the administrators should promote and support their all personnel to work happily. It means that there should be arrangement of facilities to facilitate the resources sufficiently that the implementation can run effectively with proper monitoring and supervision at both individual and division levels, division/work line that seek to stimulate and promote better implementation according to the plan. The supervision is given during the implementation. The administrators must supervise and monitor whether the implementation follows the target or set plan or not, or if there is any problem. If it is not following the plan or having any problem there will be supervision to settle for improvement or revision. The administrator should give supervision to move the personnel to perform the implementation efficiently on instructional management and self-assessment as well as the other skills. The administrator must supervise or invite trainers who have knowledge and skill on each aspect to supervise or send the personnel for the training.

**3. Checking is over the implementation according to the plan.** The checking or implementation should be done form time to time to consider if the implementation is in the direction that leads to the success according to the target or the standards and indicators identified in the development plan and the implementation or not. The inquiries are around the probability of weak point, strength, or things needing improvement in order to achieve the targets, standards, and indicators identified the most. At the end of the semester or fiscal education year, there must be evaluation to summarize the total result to make judgment or consideration on making improvement of implementation further.

**4. Action** is bringing the evaluation results to analyze, criticize and interpret to understand the whole picture and then presenting the evaluation result to relevant people. These are committee board of the schools, administrators, teachers, and personnel. The evaluation results will be used for improving and developing the

implementation and used for future planning including making it as part of information technology database and make decision for other topics.

**2.2.2 The process of internal quality assurance according to the concept of educational quality assurance has three steps that can be summarized as what follows**

1. Quality control means the process for supervision and monitoring of educational quality assurance of special education schools through which the committee board will be one element who implements the quality control.

2. Quality check means the process to trace the evidence and check or monitor the quality control system and the self-assessment report to improve the educational quality of special education schools that they can follow the educational standards. The committee board will implement the quality check.

3. Quality evaluation means the process for judging the educational quality of the special education schools whether they implement the plan according to the criteria and the identified standards or not. The committee board will also do the quality evaluation.

**2.2.3 The relationship between internal quality assurance and external quality assurance**

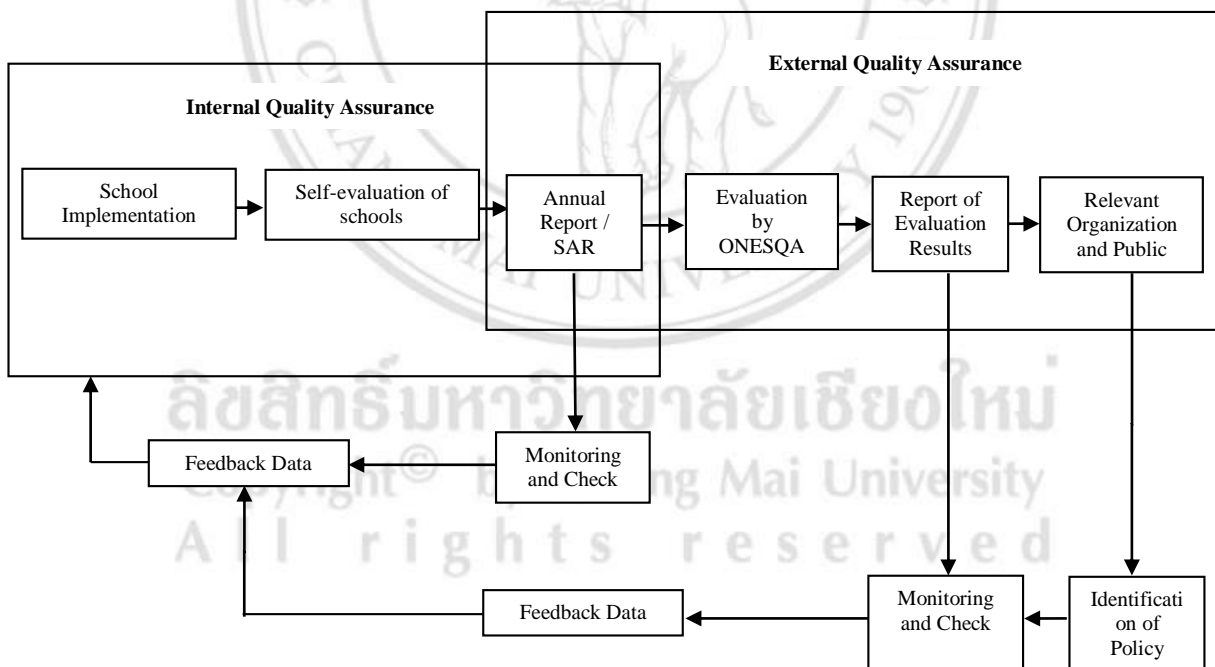
The Office for National Education Standards and Quality Assessment (Public Organization) ( 2007: 18-19) summarizes the relationship between internal quality assurance and external quality assurance as the followings.

**The internal** quality assurance is the development of quality, evaluation, monitoring to check the educational standard quality of the inside by the personnel of the school or by higher education institute. The result of internal check is having the quality development system that monitors the quality and evaluates the quality of the work systematically with clear mechanisms including the development of database on several aspects. The external quality assurance is the evaluation of educational management quality, monitoring, and checking the quality of educational standard of the schools. The external quality is assurance is done by those outside the organization

or external evaluators to aim for the quality development and standard of higher education institute to have higher quality.

**The internal quality assurance** emphasizes the evaluating of standards of **Input Factor and Process**. It is emphasizing on the evaluation of the “**causes**”. The external quality assurance, however, will emphasize on evaluating the “**results or consequence**” which are evaluating the Output and Outcome of the quality and educational standards on various aspects. Therefore, the internal quality assurance will directly influence the external quality evaluation.

**The external quality evaluation** will use the indicators according to the standards in evaluating the results of school implementation including from visits to the schools. The evaluation must consider the philosophy, the missions, and the characteristics of the instruction in each of the schools. The schools must also prepare the annual report, materials, and data on many aspects in response to the external evaluation.



**Diagram 2.1:** Relationship between Internal Quality Assurance and External Quality Evaluation

**The diagram** shows the procedures when the schools have prepared the implementation to the internal quality assurance and prepared the annual report that has the character of annual self-assessment. Such report will be presented to ONESQA to prepare for the external quality evaluation. The external quality evaluation is the evaluation that has continuity from the internal quality evaluation in the schools. Therefore, it is considered that the organization that confirmed the results of internal evaluation prepared by the schools.

## 2.3 Indicators and Evaluation Criteria

### 2.3.1 Definitions of indicators

ตัวบ่งชี้ in English will be “Indicator.” The Oxford Dictionary explains that indicator is something to tell or point out to something which is quite/relatively precisely (Chuachan Chongsatayoo and Sawang Pinmanee, 1990: 1). In Thai language there are several terms to call indicator such as index (ดัชนี ตัวชี้วัด), indicator (ตัวชี้วัด), Pointer (เครื่องบ่งชี้), or Indicator-Index (ดัชนีตัวบ่งชี้). The selection of each word is depended on the consensus of organization or the organization that collects the data. For example, National Statistical Office prefers to use the term of “เครื่องชี้ภาวะ” to indicate the social condition. Office of Health Policy and Planning uses the term of “เครื่องชี้วัด” and “ตัวชี้วัด” and Sports Authority of Thailand uses the term ตัวบ่งชี้ for studying the indicator for development of sports in Thailand. The Center for Cooperation and Implementation of Educational Information Technology System created an indicator by using the word “Index or ดัชนี ” and created the indicator frame for planning and developing the education. Office of the National Primary Education uses the term “ตัวชี้วัด” or indicator. This research will use the term indicator or “ตัวบ่งชี้” because it is a neutral definition that is consistent with the context of the study and it is widely used for evaluating the educational implementation.

#### Definition of indicator

Some authors and researchers have studied and defined the meanings of indicator as the followings.



Chuachan Chongsatayoo and Sawang Pinmanee (1990:1) defined indicator as an information technology which derives from the data processing through the use of the statistics measurement and calculation to use for identifying policy, planning, administrating, monitoring the result of implementation, and prioritizing the steps for development.

In addition, Chuachan Chongsatayoo and Sawang Pinmanee (1996) also stated about the qualification or character of indicator that it must be composed of at least two important qualifications which are the followings.

1. It must identify the amount or calculation in numbers and it is not using verbal explanation or statement only in interpreting the meaning of the number of values of each indicator. It must be used for comparison with certain criteria or set norms. Otherwise, the identification cannot tell if the numbers or values are high or low, for instance in case of describing the ratio of population who are illiterate. The description cannot indicate the present condition or levels of illiteracy, or how serious is the situation if there is no comparison to the set criteria.
2. The value of indicator tells its meaning in two types.
  - (1) Definition of meaning indicates the condition of time which is the indicator which tells only certain period of time depending on the variable or the data collected in certain period of time. It may have the value of three months or around the educational fiscal year or five years depending on the period of time used for data gathering, and then it explains the interpretation of the values; for example the ratio of student at Prathom Suksa 6 student per total number of students in 1995.
  - (2) Definitions can indicate the real situation through the use of the condition of venues or places. The value of indicator will tell the meaning only in certain areas or only in certain parts of the system that need to be monitored. The example for this kind of indicator is the indicator on educational quality of certain countries, certain

provinces or regions, and the educational or certain educational levels.

Sirichai Kanchanawasee (2002: 82) defined indicator as components, variables, or observable values which can tell the status or reflect the character or qualification of resources, implementation, or result of implementation.

From the definition above, it can be concluded that indicator is information technology or component that can tell about the qualification of certain things that need to be studied such as the condition or the results of implementation of organization or organization in certain periods of time in terms of quantitative and qualitative achievement.

### **2.3.2 Constructing and Developing the Educational Indicators**

Chuachan Chongsatatyoo and Sawang Pinmanee (1990) stated about the methods to construct and develop educational indicators in three methods which can be summarized as what follows.

1. Creating indicators for the benefit of use (or the pragmatic definition of an indicator) which has two types: (1) Representative Indicator or selecting some variables which are available or existing to be used to make representative indicators and (2) Composite Indicator or selecting some variables to mix or integrate together and then setting indicators which are composite indicator. The construction of this indicator is not popular because of its weakness, which is selecting the variables from assumptions or hypotheses that often rely on judgment of individuals who can have biases.
2. Constructing indicators by using the theory identification (the theoretical definition of an indicator) is arranging a group of variables that has relationship with the conditions to be expressed by holding or basing on the reasonable principles on theories or existing concepts in the plan. Then the indicator makers implement to prioritize the variable based on the criteria in order to synthesize the variables into indicators through

mixing or integrating of some variables together with mathematical methods. Certain variables are selected according to their importance and relationship to one another, and each of the variables has weight values.

3. Constructing indicators by using empirical data (the empirical definition of an indicator) which is similar to method number 2 with a difference that the earlier method uses theoretical definition which identifies the grades from prioritizing the variables in advance but this method utilizes empirical data or the identification of weight that is derived after the analysis of a set of data through the techniques in constructing indicators known as Factor Analysis. This is done after the data is set into portion/ratio or in an interval scale, or set into the widely used Likert scale to measure when the data is set in an Ordinal Scale.

#### **2.3.4 Qualifications of Good Indicators**

Sirichai Kanchanawasee (2002: 84-86) proposed the important qualifications for good indicators as the followings.

1. Validity. Good indicators will be in accordance with the desirable qualification to be measured correctly and accurately which are (a) validity to the issue or with relevance (Relevance) that can set linkage directly with the qualification to be measure, such as GPA which is used as indicator to students' learning achievement, (b) with representative of the qualification that aim to measure representatively (Representative) or with perspective that covers important factors for qualification to be measured. For example, the quality of the persons in public relations can be indicated by using the qualification of "providing information," the speed in response to the need, the characteristics of the persons in speaking and providing services, etc.

2. Reliability. Good indicators must indicate the qualification that the indicators aim to measure constantly and reliably or can indicate constantly and repeatedly when the measurement at different periods of time or can indicate constantly when the measurement is repeated. This quality indicates that the indicators (a) have objectivity since the decision on the value of indicator should be based on the existing condition or qualification of the thing more than relying on the feeling of individuals.

For example, the ratio of completing education according to the period of curriculum is indicator to measure more objectively than the perception of effectiveness/efficiency of the curriculum, (b) have minimum error since the values must come from reliable data source. For example the score of achievement from the test is the reliable indicator or have minimum error or lower than the possible error of achievement from answering based on reaction or informal observation.

3. Neutrality. Good indicator must indicate reality with neutrality or without biases, no tendency to take one side over the other, no unfairness by emphasizing certain characters of success or failure, or no unjust deliberation.

4. Sensitivity. Good indicators must be sensitive to the qualification that they attempt to measure. Good indicators can show variations or differences among various units of analysis clearly. There must be measurement unit which is accurate and sufficient. For example the implementation level should not be a narrow variation of “yes” or “no” or “zero or one.” But there should be the level of practice that indicates differences of quality widely and clearly. For example, the choices are given from level 0 (minimum) to 10 (maximum).

3. Practicality. good indicators must be convenient or practical to be used which is ( a) easy data collection ( Availability) and can be used to measured conveniently and collect data from checking, counting, measuring or observing easily, (b) easy interpretation (Interpretability) that should give the value of measurement that has the maximum/highest and lowest points that the range is easy to understand and can construct the criteria for quality judgment.

## **2.4 Model for Evaluation**

### **2.4.1 Definitions for Model for Evaluation**

The study on the model for evaluation shows that the model for evaluation means the mimic of the real one that is used as the model for implementing the evaluation. It shows relationship between data or symbol and the principle of system. Many academics and educators state about the model for evaluation as the followings.

Somkid Promjui (2002, 39) stated that the model for evaluation has many types can be classified into three groups as the followings.

- 1) Objective–Based Model is the model that aims to see the results that come out of the implementation whether it achieves the identified objective or not. For example, the model of evaluation of Tyler Cronbach and Kirk Patrick.
- 2) Judgmental Evaluation Model is the model that aims to get information technology for identifying and judging the value of the project such as the evaluation model of Scriven and Provas.
- 3) Decision–Oriented Evaluation Model is the model that aims to get information and data to help in making decision on the alternative correctly such as the model for evaluation of Stufflebeam and Alkin.

#### **2.4.2 The Model for Evaluation**

The study on the secondary data on evaluation shows that there are some important models for evaluation as widely known and some people apply the model for evaluation to use widely as the followings (Anan Kaewtatip et al., 2009).

1. The model for Evaluation of Cronbach
2. The model of Evaluation of Scriven
3. The model of Evaluation of Stake
4. The model of Evaluation of Alkin
5. The model of Evaluation of Tyler
6. The model of Evaluation of Hammond
7. The model of Evaluation of Provas
8. The model of Evaluation of Stufflebeam
9. The model of Evaluation of Taba

##### **1. The evaluation model of Cronbach**

Lee J. Cronbach developed the model for evaluation to solve the weakness from the model of evaluation of Ralph W. Tyler. The emphasis of Cronbach model is on

the evaluation to create information for making decision on improving subjects or improving students or administration system based on its main objectives.

According to Cronbach, evaluation has brought the meaning that “it is the gathering of data and using of such data for making decision on the educational project”. The project, according to Cronbach opinion, can be any activities such as launching instructional activities, giving advice to majority of people to follow, or attempting on educational experiments. Cronbach had opinion that evaluation is related to many activities and following certain principles that can cover that or the whole certain activities in certain situation. Therefore, it is believed that testing the learning achievement will not necessarily be sufficient for evaluation.

In addition, Cronbach offered an opinion that the word educational project has covered some areas that also covers all educational activities. This can be the instructional media, learning activity, or experience that be arranged in the school for the students. The evaluation will be about making decision on many things at the same time. It needs to rely on data from many sources for evaluating the instructional project. The evaluation should test the set objective and the side effects of the project by gathering the data of the learners. The data should be kept holistically more than just a collection on certain results of evaluation based on set objectives only. Identification of certain objectives specifically will create interest among the learners and teachers on the identified learning behavior only, and they will ignore the learning or teaching of other topics related to one another. Evaluators must attempt to measure the results that appear on other aspects as well. In addition, the evaluation is composed of several steps and various other techniques. In the evaluation the objectives are as the followings.

1. Course Improvement is to judge which one of the media, learning equipment, or teaching methods that are the most satisfying and which parts of implementation that require improvement.
2. Decision about individuals is done especially on learners. This is seeking for the learner’s needs to be utilized in making plan for teaching, selecting or arranging the groups, and showing data or the progress and the weakness of the learners on the topics of teaching.

3. Administrative regulation, for example, happens to judge whether the educational system of the school is good or not or whether each of the teachers has quality or efficiency or not.

Steps for evaluating the project on instruction are shown below.

1. Evaluators describe the project as wide as possible although the contents for the lecture on the project are just shown as the most important parts on the surface.
2. The evaluation should be done in all aspects not only on the results that come up after the set objectives such as attitude, interests, occupation selection, the general progress on logical ability, and preference to study other subjects.
3. Analysis of the scores should analyze the score of each of the items. This set of scores will be more important than simply the total score in order to improve the instruction immediately at any given time.
4. There is no need to test the sample groups with the same set of tests; however, there should be the test in form of several sets of tests with the sample groups in different sizes. This sampling procedure should give better results than testing the big group with same sets of tests.
5. The interview and the written tests are sometimes necessary for evaluating the project but they should not be used with groups in big size because of likely waste in expenses.
6. In the evaluation evaluators should not use comparison between groups that study the different contents or subjects because the results are hard to interpret.

The model of evaluation of Cronbach has used the concept of evaluation as a strategy of decision making which has the following details.

## 1. Objectives of evaluation

1.1 To improve the curriculum in the subjects is making judgment to check what type of the instructional media that works well or in a status of needing improvement.

1.2 To make decision whether the administration system is sufficiently satisfactory or not. Satisfactory level means each of the teachers has enough quality or efficiency.

2. The evaluation methods according to the concept of Cronbach can be divided into four steps as the followings.

### 2.1 Process Studies

Process study has objectives to studying things that had happened in the project in order to improve the project. This is considered as the evaluation for the progress while the project is running. According to Cronbach, the evaluation for improving the curriculum or the course of subject for instruction should be done by experts. Although the improvement of curriculum should be improve at the national level, in the schools the teachers should be responsible for evaluating the project.

In sum, the evaluation of the process is evaluating on the instructional methods to improve the instruction. It is the check for what happened during the instruction whether there anything important occurred or not. For example, how the teachers actually implement the instruction of teaching, or how the learners join activities during the instruction.

### 2.2 Attitude Measurement

Attitude measurement can be done in several ways. For instance, interviews and questionnaire are useful but evaluators should not trust the results from these data collection methods too much. They must check the ratio of respondents who express certain opinions in each item whether the weight is enough or not. And the most important thing is that attitude can change easily and the respondents can also have biases if the respondents can have certain benefits from such biases. Questions on opinion connected directly to the contents will bring more reliable result, and the result



of the questionnaire can be looked in average in general instead of checking the details of each individual.

In sum, the attitude measurement is the evaluation of belief on the things that the learners have learnt. The attitude measurement can be done through interviews, questionnaire, or other appropriate methods.

### 2.3 Proficiency Measurement

Proficiency measurement should be done by the standard tests or test forms that are different for each of the students groups. This will be good coverage because evaluators would get the data that is necessarily more diversified, time-saving, and less costly. Testing the sample group should be used by picking samples from the population and the test item should be the representative of the contents in each subject. The essay-type tests should measure certain abilities over the small portions of population. It should be observed that Cronbach gave importance to the examination and results for each item more than total score before applying these results to improve the instruction immediately. Therefore, the evaluation of Cronbach is the evaluation on the progress of the instruction and evaluation on the summary of learning achievement, and it is believed that the evaluation is not only the tests before the end of project.

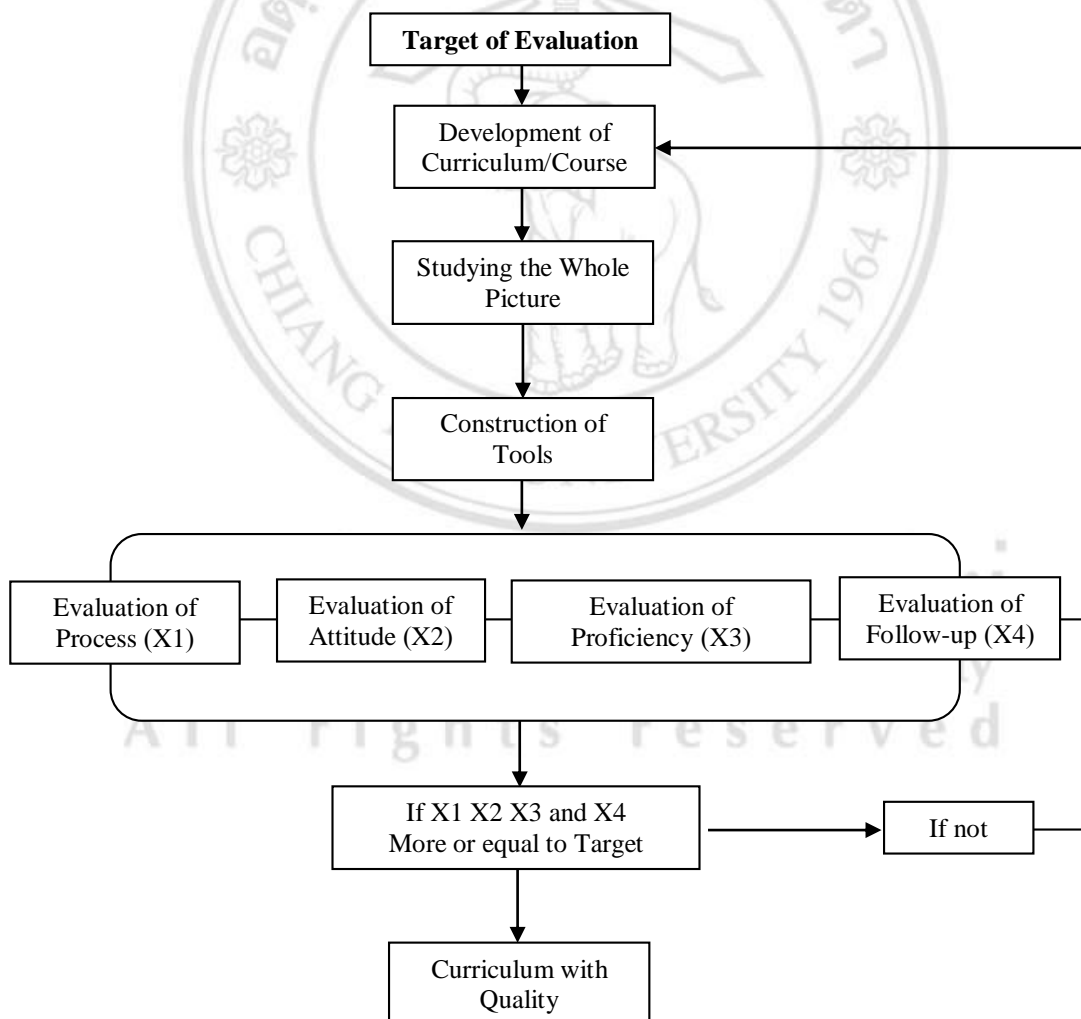
In sum, the proficiency measurement is the evaluation of student ability by using standard exams. The test of the learners can be divided into group-based examination that is administered differently for different groups. Thus it is covering what the learners have learned. Besides, the measurement of ability can be done through other methods such as assigning the learners to perform some of the tasks.

### 2.4 Follow-up Studies

Although Cronbach disagreed with the Comparative Evaluation method, he thought to follow up the results of education evaluators should study the comparison of the sample groups from the study in certain subjects or the sample groups in the project with the sample groups that share similar demographic variables and then study the comparison to check the results of the different groups. In the professional progress on long-term educational progress, the outcome from this kind of study will not affect directly the improvement of the curriculum or any course because

it does not point to the outcome to support that the curriculum or course should be improved on what aspect. But it is useful on making the new curriculum because the original curriculum or instructional methods can be used or can limit the scope of the courses.

In sum, the monitoring of quality evaluation of curriculum through studying the results of the curriculum from the learners who had completed the course for certain time will be valuable when there is the comparison with the production of curriculum that have been implemented and the outcome of the other curriculum. The results of the study from the monitoring are very useful for applying the curriculum to use as the base for making plan with the old or improved curriculum.



**Figure 2.2** The Model of Evaluation of Cronbach

## 2. Model of Evaluation of Scriven

Michael Scriven brought the concept of Cronbach to reconstruct the model of evaluation with the aim of evaluation through consideration of the evaluation that will answer the questions about the characters related to educational components such as instructional process, personnel, or the methods of project such as whether these projects are efficient or not. Evaluators inquiry whether these projects are really implemented to the worth of the investment or not through with data gathering on the evaluation criteria and the decision making process. Scriven gave concept on the model of evaluation that should have several models depending on things that need to be evaluated or characters for them and the selection of the model that is appropriate. He presented several interesting models as the followings.

1. Formative versus Summative Evaluation
2. Intrinsic versus Pay-off Evaluation
3. Comparative versus Non-Comparative Evaluation
4. Value and Cost
5. The evaluation that is not attached to the objective
6. The evaluation on the value of evaluation

Scriven proposed that evaluation can be done in six methods as the followings.

1. Intrinsic Evaluation is done by using the criteria inside to judge the values such as contents, objectives, process, scoring methods, and teachers' attitude and evaluation after the completion of the implementation ( pay-off evaluation) . It is the evaluation on the values of the implementation including the impact to the service receivers from the project implementation. For example, the results from the scores or the impacts on the influence of the attitude regarding the learning arrangement include the evaluation of the values of implementation that attract interests among the service receivers on the results of projects. It is considered judging the values of the project by using the external criteria.

2. Evaluation that shows interests to the main objectives which are considered if the evaluation can answer questions regarding educational components such as instructional process, personnel of project, the process for evaluation composed of data gathering, identification of criteria, and the process of judgment.
3. Evaluation that judges the high and low values as the main scores. This method gives importance on the evaluation on the expenses with the results that appear. Scriven was an evaluator who gave importance on evaluating the expenses that the project had disbursed. He believed that evaluation would lack completeness if evaluators did not consider the values they achieved by comparing the expenses for the implementation of the projects. The things that need to be judged are considered into three things.

3.1 Usefulness. Evaluators should consider if the things that they invest is really useful. They ask whether the investment is really worthy the results.

3.2 The moral support or morality. This is important form of the implementation of the project. Evaluators should consider how much the results of roject influence the levels of moral support given by the participants of the projects.

3.3 The expenses. This is very important aspect but the evaluators do not pay attention seriously here because it is usually complicated part in the evaluation.

4. Evaluation for Comparative is comparison that gets the ratio of the data which is the fact connected to the expected data. Scriven was different from Cronbach on the use of comparison groups in evaluation. Scriven was the evaluator who perceived the comparison groups as more advantageous than not using the comparison groups. Using the comparison group will be shorter (without any long-term study) and more economical (time and costs) than the use the multiple sample groups. In addition,

Scriven believed that studying micro (micro-studies) through the comparison method will be more useful than studying through the cross- studies of total population. The former method can be done easier and more numerous.

5. Evaluation with the free target is the evaluation method that uses the techniques to discover the results from the project whether the result is consistent with the project's objectives or not. Sometimes evaluators may discover the results as traversing beyond the stated objectives. Sometimes finding this fact is very important. The important characters of evaluation with free target are given as the followings.

5.1 Evaluator aims to avoid worries about the objectives project.

5.2 The identified objectives will not make the important points for evaluation in narrow area.

5.3 The evaluation aims to judge the outcome more than the expected results.

5.4 Evaluators are related with supervisors of the work or the personnel who implement the work in limited group.

5.5 Evaluation increases the interests in the by-product or side-effects of the project.

6. Investigative evaluation is checking while the project in undergoing to find causes and consequences of certain aspects of the projects.

### **3. Model of Evaluation of Stake**

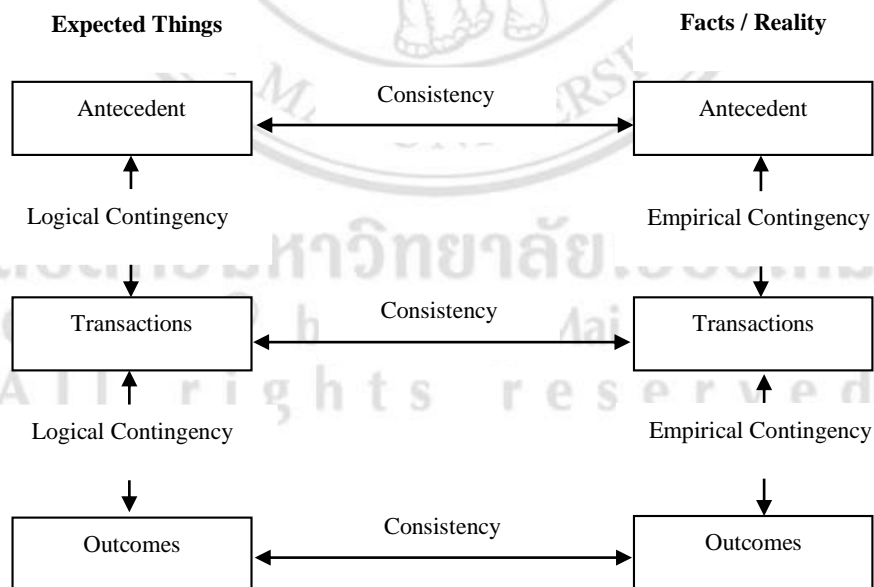
Robert E. Stake developed the model for evaluation that emphasized on decision-making (judgment model). He used the concepts of Scriven and Cronbach to apply more concretely in order to see the clear picture and convenience for measuring and evaluating.

The concept of this model of Stake divided the evaluation of project into two parts which are evaluation on the description of the project and evaluation on the decision-making of the project.

1. Evaluation on description of project can be divided into two parts which are below.

1.1 Judgment of the relationship of three expected things which are Antecedence, Transactions, and Outcomes. The consideration of relationship during this time will be judged on Logical Contingency of the three factors. Besides, in this step there is no data from the real project implementation. It means that the judgment is done before the implementation of project, and when the project is already implemented then evaluators find the data that really happens regarding the three factors to see relationship by basing on the fact or Empirical Contingency.

1.2 Evaluation is done through consideration of consistency between expected things or things intended to happen before there is no data on the things that really happen when the data of the three factors is judged with Logical Contingency.



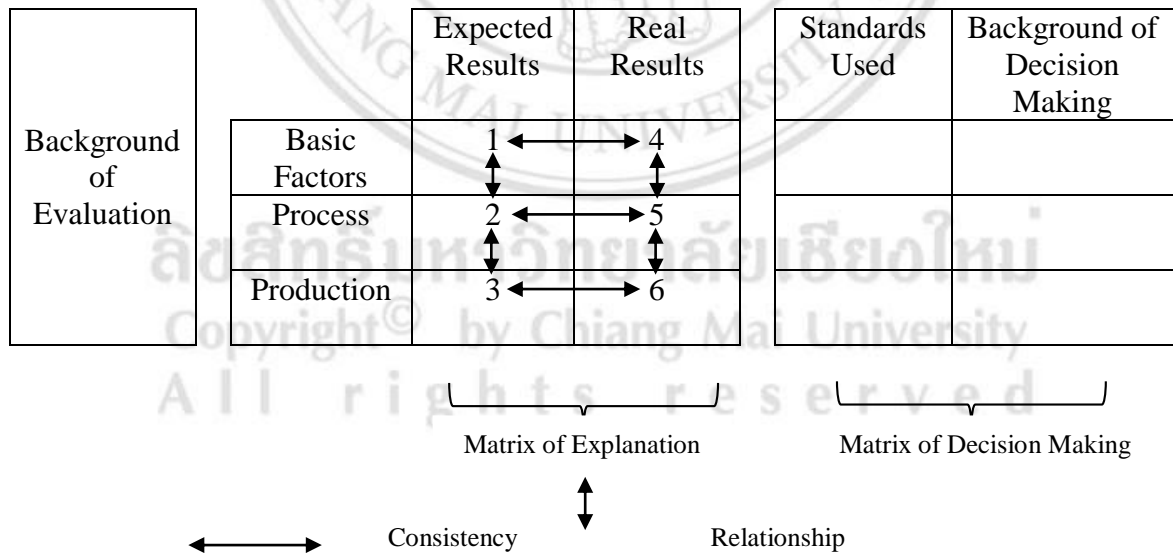
**Figure 2.3** Model of Evaluation of Stake

2. Evaluation on decision making on the project is on the evaluation about making decisions in the project as a part that can be done after the evaluation on decision making of the project or judging the values. From the consistency or differences found in the evaluation on the description of the project and also in making decision of each of the factor it is necessary to have the standard criteria to make comparison. Stake proposed the criteria which can be used in two types of comparison.

2.1 Criteria of Standard of Excellence is the identified criteria found by use of theories, principles, or the results of research or other references or documents that have the data to support. This criterion is called the Absolute Standard.

2.2 The standard criteria that is used from other projects with similar characters and brought to use at the criteria for comparing qualities. This criterion is called the Relative Standard.

The results of comparison are supposedly consistent with the expected results and the standard criteria. Then evaluators bring these results to decision-making process on factors in the project. The evaluation on the decision-making of the project can be written in the following Figure.



**Figure 2.4** Model for Evaluation on Decision Making of the Project of Stake

Things to consider before using the Stake Model are shown below.

1. The evaluation aims to study on the description or judgment on the value of the projects or aim to study the two things.
2. Evaluation emphasizes on either one of the three components. It can be only one component or more components.
3. The evaluation shows representation of consistency between expected things and reality.
4. Evaluation is about only one project or several projects.
5. The evaluation has a goal to improve the project or use the basic data for making decision to select or choose the existing project.
6. The criteria that is used for making decision must be constructed before the evaluation and must be accepted by all parties both from evaluators and the persons being evaluated as well as all relevant parties to avoid conflicts and refusal of evaluation results later.

#### **4. Model of Evaluation of Alkin**

Marvin C. Alkin offered a concept on the evaluation of project that the evaluation is for making decision and giving definition of evaluation as the process to identify the boundary of things that are about making decision, selecting data, appropriating information, and gathering and analyzing data. It will lead to preparation of the summary of report for the authority to make decision on considering appropriate alternative on the implementation of the projects. The components for application of the project are five components or evaluation of projects.

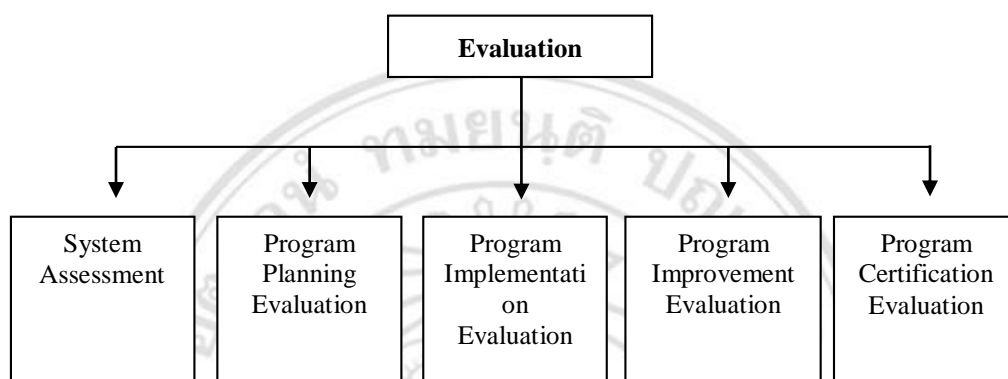
1. System Assessment is the assessment on the system related to the project starting from the identification of the problem, the selection of the options for solving problems, and the making of decision on the alternative to solve problem. The application for the identification of the areas, objectives, purposes and the process to



implement the project for the evaluating each of the system may use several techniques.

2. Program Planning Evaluation is evaluating before implementation of the project to check if the identified project has appropriate planning or to select appropriate project. Its implementation can be done by gathering data related to consideration to make plan for the project whether it can achieve the project achieve the expected objectives or not. This consideration may rely on evaluation criteria both form inside and outside.
3. Program Implementation Evaluation is evaluation while the project is implemented in order to bring the results of evaluation to be used as guideline for authority to make decision from the data and information from the project implementation. The evaluation seeks the best form of the project should it is implemented further. Also sought are the possibilities for improvement, correction, continuation, or termination. Sometimes the project should be stopped before it causes further damage or it could be implemented further without any correction at all. This evaluation will also evaluate what had really happened according to the identification in the project. It will evaluate further that the results or outcomes are valuable or useful for project's continuation.
4. Program Improvement Evaluation is the data gathering to bring to use for decision making or improving the project that is undergoing implementation and when the project should end. The evaluation may check if the project that has been evaluated as success or failure in each aspect. Included in evaluation is the project's impact towards other projects in order to be able to improve the overall project.
5. Program Certification Evaluation is needed sometimes when the results of project evaluation may be used for relevant people with

the project to accept that the project is reasonable and appropriate to implement to pursue outcome according to the target. Therefore, the evaluation is necessary to seek for information or technical data to be used as a reference to confirm that the project has feasibility and useful to be accepted by relevant people.



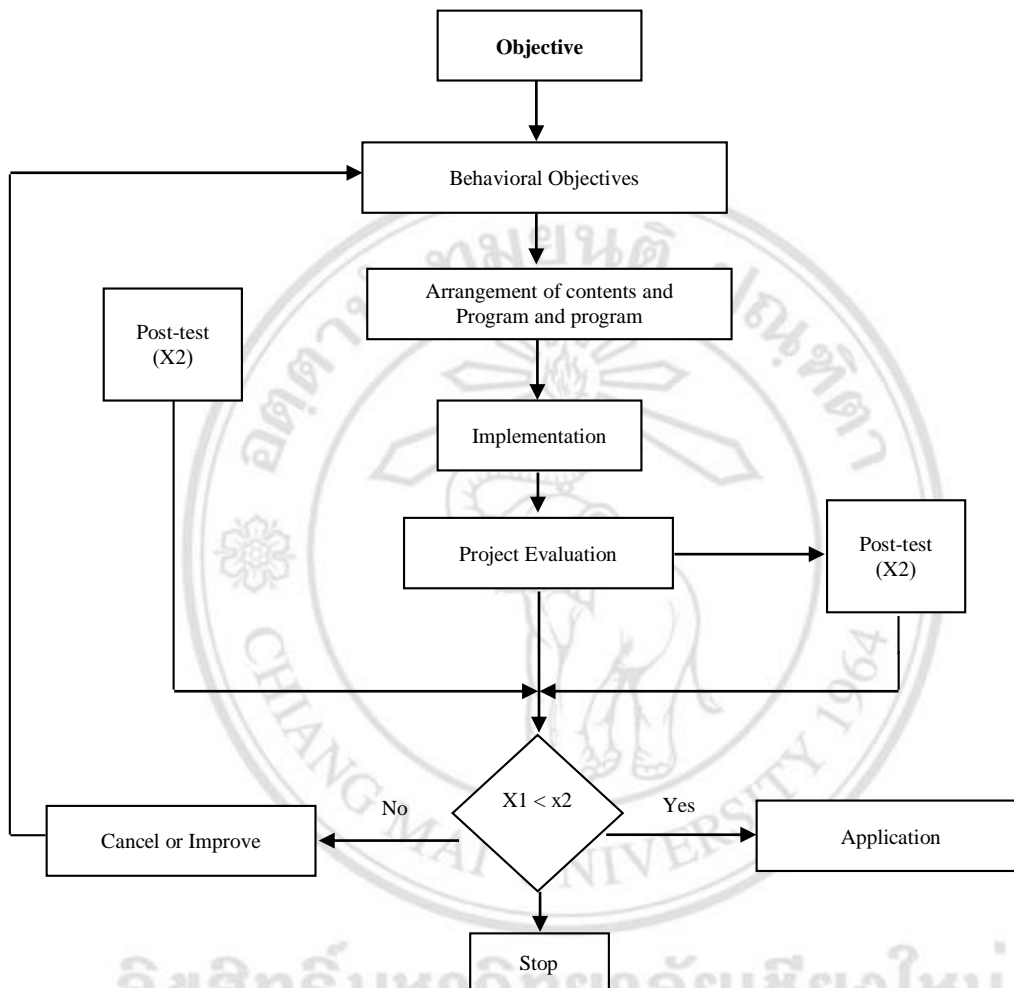
**Figure 2.5** Model of Evaluation of Alkin

### **5. Model of Evaluation of Tyler**

The Evaluation Model of Tyler emphasized the evaluation/importance the objectives or goals (goal attainment or objective model). The model is based on the evaluation for the outcome or product of project. If the products of project follow the objective, it can be evaluated that the project has achieved the set objectives. Tyler Model is appropriate for instructional project, training, or the project that has objective to measure learning achievement or goal (Summative Evaluation). This kind of project has the following steps.

1. Seek for real objective of project to evaluate.
2. Bring the objective to break into behavioral objectives.
3. Arrange the program of evaluation project that is consistent with the behavioral objectives.
4. Make the pre-test quiz before the start of project with reliable tools.
5. Implement according to the identified project.
6. After the completion of project make the post-test quiz.

7. Evaluate the efficiency of project by comparing the scores from the pre-test and post-test results.
8. Bring the results of evaluation to analyze and apply.



**Figure 2.6** Model of Evaluation of Tyler

### 6. Model of Evaluation of Hammond

Robert L. Hammond has a concept on evaluating the curriculum by using main objective or goal attainment similar to that model of Tyler. However, Hammond proposed the concept differently for Tyler by identifying that the evaluation should evaluate the components in form of the interaction of dimensions, which are educational environment consisting of three dimensions. Each dimension is composed of several

variables. The success of a curriculum relies on the interaction among the variability of the dimensions.

Hammond expressed opinion that evaluating the project is necessary to be done with Systematic Evaluation to get reliable basic data sufficient for decision making on the continuation or termination of the project instead of using beliefs, guess, or hunch. And the evaluation is an important process of the curriculum development.

The important part of the evaluation method of Hammond is its emphases on the readiness at the school and local levels that can implement the self-evaluation suggestion to apply the principle of Tyler to identify the objectives. In evaluation evaluators must be able to identify dimensions, components, and knowledge on the interaction among variables that influence the total learning behavioral and use data gathering techniques and data analysis to tell the causes in terms of the interaction.

Hammond was interested not only to know the likely level of achievement of objective but also to study the cause of success of certain educational innovation while some are not. In order to help evaluators to identify the components that influence the success of failure of educational activities, Hammond presented three dimension dices to be used for explaining the educational program and the arrangement of the system on the evaluation variables. Hammond called this three dimensional dice as “Structure for Evaluation”. The three dimensional dice for evaluation are Instruction Dimensions, Institution Dimensions, and Behavioral Dimensions. The details are given below.

#### 1. Instruction Dimensions

1.1 The arrangement of class and time table is the arrangement by teachers and students to see each other and to implement the instructional activities management. The arrangement in this part must consider time and space which are determined as the followings.

Time means identification of the instructional hours that have to be considered given the nature of learners and type of subjects (what course before or after

in the time table). Space means the character of some groups of students and characters of getting promotion. This can be arranged at class level chronologically based on the intelligence level, learning groups, or integrated groups.

Contents of subjects mean the substances that will be used for arranging the instructional management. They are composed of the structure of knowledge, the conceptualization, and the method to seek for knowledge according to the character or the uniqueness of teachers of the course, the arrangement of contents, the proper order to the learners' maturity levels, and the classroom arrangement at each level.

1.2 Method means the learning principles, the design of instructional activities, and the interaction between teachers and students, or students and students. The learning principle should consider four things which are allowing participation of learners in doing activities, giving feedback data immediately, allowing learners to get experience of success, and increasing incrementally the contents of learning.

1.3 Facilities mean venues, equipment, tools, and equipment in operation room, supply and other things that influence the maximum use of curriculum and other instructions.

1.4 The budget or expenses mean the money that is used for facilitating the instructional arrangement, maintenance/fixing, teachers' salary, or anything for the personnel who make the use of curriculum successfully.

2. Institution Dimensions is composed of six variables that should be considered on evaluating the curriculum.

2.1 Students have components that are considered important for evaluating the curriculum: age, sex, class levels, interests, learning achievement, physical and psychological health, family background, social economy background, and creativity to build innovation.

2.2 Teachers have components that need to be considered for evaluating the curriculum which are the followings.

1. Personal data composed of age, sex, nationality, religion, health, and personality.
2. Educational data which is composed of major subject, minor subjects, education level at different levels, the highest educational degree, instructional experience, and other experience.
3. Data on environment like salary, membership in professional clubs, social economic status, free time activities, habit or love in reading.
4. Data on participation on the learning such as additional training on the use of curriculum for one to three years.

2.3 Administrator has components that are considered for evaluating the curriculum which are age, sex, highest educational degree, experience, salary, personality, additional training on the use of curriculum for one to three years, and satisfaction toward implementation on academic aspect.

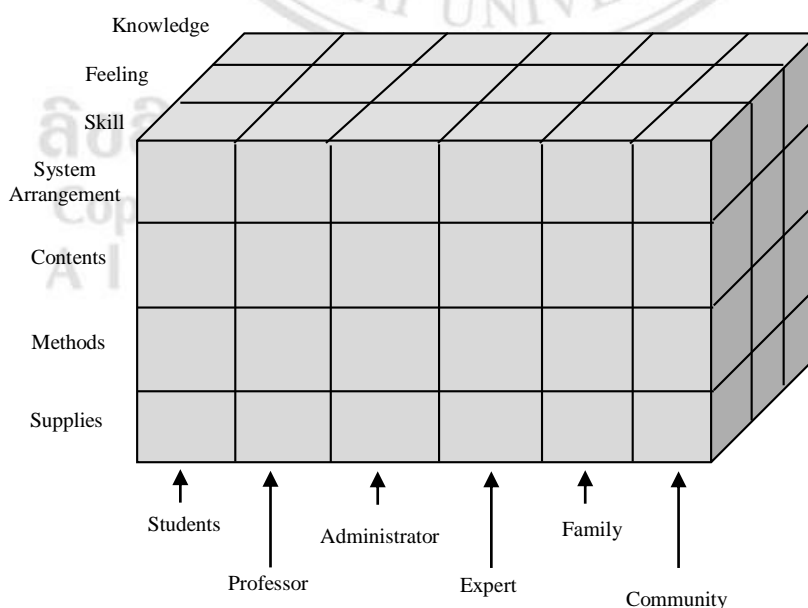
2.4 Experts have components to be considered in evaluating curriculum which are age, sex, specialty skills, type of consultation or advisory, type of personality, and satisfaction toward implementation.

2.5 Family has components that need to be considered for evaluating the curriculum which are maternal status, family size, income, residential areas, educations, membership in associations, transferring (of job stations), number of children in school, and number of relatives who are working in the same school.

2.6 Community has components that need to be considered in evaluating which are community condition, number of population, scattering of population ages, beliefs (values, traditions, or religions), the economic status, the condition to provide health care service, and access to technological innovation.

3. Behavioral Dimensions has three aspects which are Cognitive Domain, Affective Domain and Psychomotor Domain. Cognitive Domain means the learning to the academic contents and academic learning. Affective domain means the training to make people good and have the behavioral guideline or code of conduct, have interest and values. Psychomotor domain means the learning emphasized on working and the use of muscle skill and implementation.

The structure for evaluation proposed by Hammond is the variable tools for evaluators for analysis on success and failure of educational activities. On certain activities, it aims to achieve the objectives of those activities. If the whole 90 cells (see Figure below) is in the area of evaluation there will be many questions for evaluation purposes. However, most of the time the questions for evaluation from many cells are not related to the topics to be evaluated, and most of the time there is no cell that is consistent with the evaluation situation.

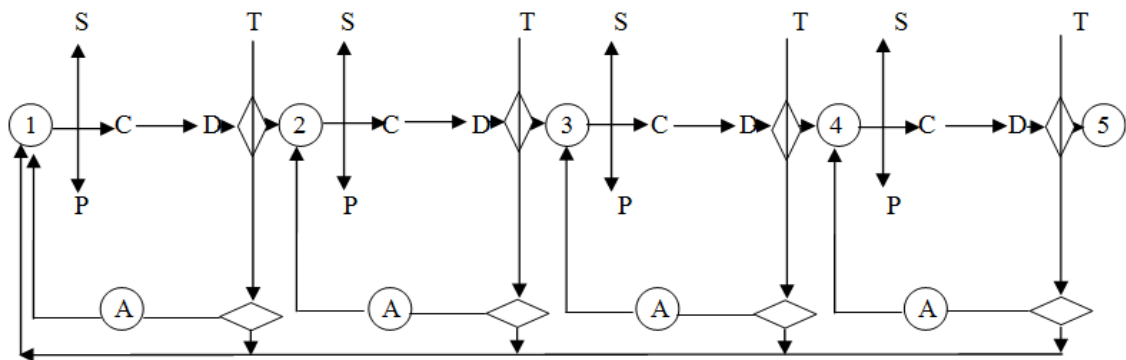


**Figure 2.7** Model for Evaluation of Hammond

## 7. The Model of Evaluation of Provas

Malcolm M. Provas developed the model for evaluation to use for evaluating the project that is widely known as Discrepancy Model. The objective of evaluation was to seek for information to be used for decision making of the project if it should be improved, continued, or cancelled. The steps for evaluation according to the model of Provas are divided into five steps according to the things that need evaluation.

1. Program Definition
2. Program Installation
3. Program Process
4. (Program Product)
5. (Cost Benefit)



- T = Terminate (Cancel or stop the implementation)
- S = Standards (Standard Criteria for Evaluation);
- P = Performance (Implementation);
- C = Comparison (comparing results of implementation with standards);
- D = Discrepancy (differences between implementation results and standards criteria)
- M = Modify (Improvement or Revision);
- D= Decision-making (Decision making)

**Figure 2.8** Model of Evaluation by Provas



The assumptions or the details are as the followings.

1. The project is necessary to be evaluated.
2. Any change to the project must get support from administration.
3. Evaluators can analyze and gather necessary data for improving the project in any situation.
4. Administrators of project understand and support the evaluation.
5. The problem-solving action during the implementation is necessary for improving the project.
6. The project implementation personnel are ready to participate in the implementation and ready for changes in the process.

### 8. Model of Evaluation of Stufflebeam

CIPP Model as proposed by Daniel L. Stufflebeam from Ohio State University USA is the model that gains attention from evaluators a lot at present. The word CIPP is abbreviation for “Context Input Process and Product”. The model for evaluation by CIPP model has objectives to gather data or information to be used for making decision for appropriate alternative. The evaluation aims to evaluate four things: the context to develop the objective of the project, the input factors to decide the project, the process to evaluate the steps of implementation according to the project, and the products or outcomes to evaluate the achievement according to the project’s plan.

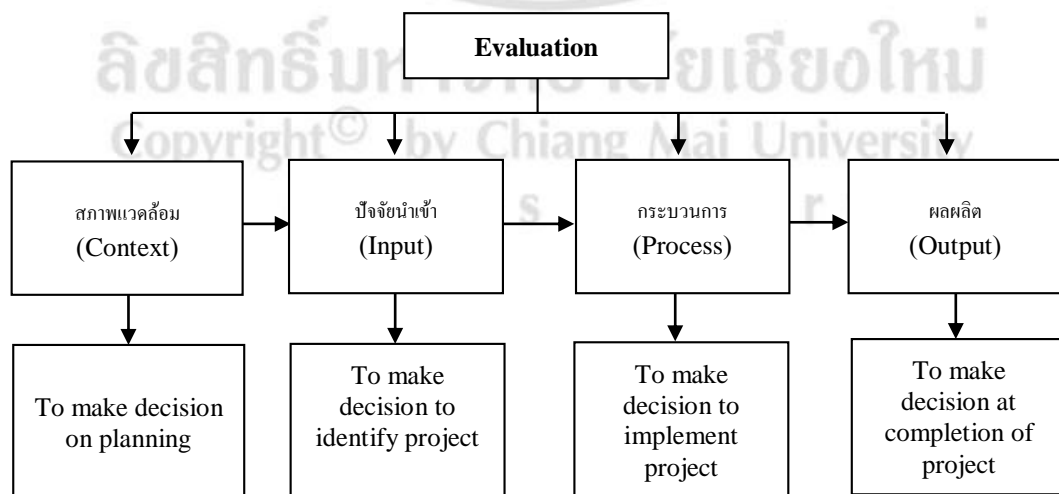
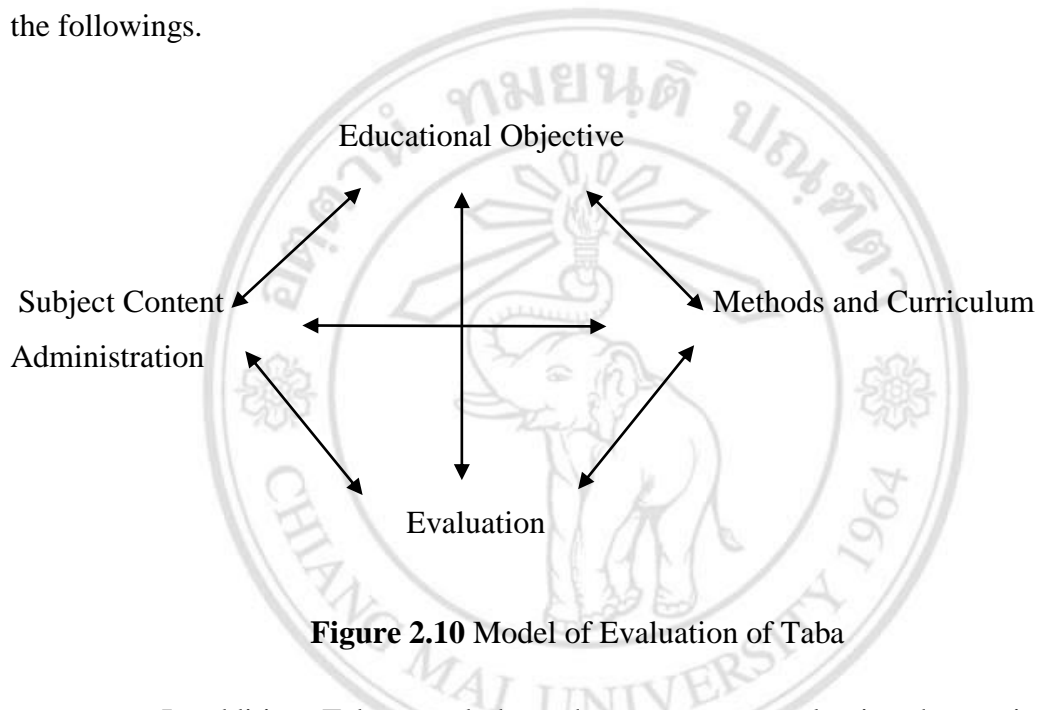


Figure 2.9 Model of Evaluation of Stufflebeam

## 9. Model of Evaluation of Taba

Taba is an American who developed what that becomes one of the most famous curricula. He presented the model for developing curriculum which is called “a Conceptual Framework for Curriculum Design”. He explained the evaluation that it is the consideration or judgment for developing the curriculum if it is consistent with the educational goal or objectives. This method is the same Tyler model but it adds evaluation on the contents of the course as well. The component can be separated into the followings.



**Figure 2.10** Model of Evaluation of Taba

In addition, Taba stated about the concept on evaluating the curriculum by proposing that the evaluation should have the followings characters.

1. Consistent with objectives and consistent with philosophies of curriculum.
2. Covering deeply the objectives of the curriculum.
3. Analyzing/diagnostics deep enough values into implementation and knowledge levels.
4. The tools used for evaluation must have validity in order to get accurate information.
5. Have unity for making decision for evaluation continuously.

From the study of the models of evaluation above, it can be summarized that the model for evaluation is the task that has unique characteristics in each case that there

is no ready-made model that can be used for evaluating every situation. Therefore, evaluators must select to apply a model with its adjustment appropriately according to the objectives of evaluation for each model and time. Evaluators can select only one model or several model integrated well together in one evaluation. However, this is depending on the consideration or adjustment of evaluators who will make decision to select the evaluation model that can give the best answers to the objectives of evaluation.

## 2.5 Development of Model

### 2.5.1 Definition of model

Model can be defined in several ways. Generally it means the methods of implementation that is the original of something. For example, the model for the construction, the model for rural develop, etc.

**The word “รูปแบบ” or “Model”** is the word used for conveying many different meanings. Generally the model means the media or implementation method that is the patterned to imitate something else in lesser portion. For example, the model for construction, the model for rural development, the model for looking for votes for politicians/parliament members (Lamul Rodkwan, 2012).

Tosi & Carroll (1982) stated that the model is abstraction of reality or the mimics for certain situation. It can be a simple model up to a complicated one, and it can be in a physical model which is the model of object such as the stadium model and the “qualitative model” which is used to explain a phenomenon by using language or symbols such as the systematic situation-based model (Thivarack Serypab, 2005: 56).

In the educational dictionary edited by Carter V. Gooj (1973), the model is settled into four definitions.

1. Be the model of something to be the guideline for the construction or repetition.
2. Be a diagram or a three dimensional form/picture which is representing something, principle, or concepts.

3. Be the sample for mimics such as sample of pronunciation of foreign language so the learners can copy or imitate.
4. Be the set of factors or variables that have relationship to each other. They are combined together to be components and social symbols. It may be written in mathematical formula or described in language.

Getzels-Guba ( 1957) gave the important principle of the model as the followings.

1. The model must be the place to gather concepts and show relationship of the concepts. This way the model not only can answer the problem that is known earlier but it can also solve the problems which are coming as consequences.
2. In the structure of concept and such relationship it must implement and be placed in the model of organization. It means that the concept and relationship not only become the guideline to create understanding but also to monitor and check the system.
3. The model must hold certain principles and rely on the foundation of administration or the tasks or the work related to administration under such concepts and relationship.

Dictionary of Contemporary English of Longman (1997: 668) defines the word into five meanings but they can be summarized into three characters.

1. Model means thing that is the mimics or small thing of the real one. This meaning stands as the same meaning of a Thai word, for example, the mimic model of submarine when compared to an English equivalent.
2. Model means thing or person that will be used as a model or guideline for implementing something, such as the role model teachers, the model for drawing picture or arts, etc.
3. Model means lot of products such as the computer lot called “864 X”.

Good (1973: 112) gathered the definition of model into four definitions as the followings.

1. Be the model of something to be used as a guideline for construction or repetition.
2. Be the sample for copying such as the sample for pronunciation of foreign language for the learners to copy.
3. Be the diagram or three dimensional pictures as representative of something like the principles or concepts.
4. Be the set of factors or variables that have relationship to one another. The set gathers to be a combination of symbols in a social system. It can be written in mathematical formula or described into language-based symbolism.

Bardo and Hartman (1982: 70) stated about a model in social science that it is a concrete statement about a phenomenon that people are interested in to define characters or describe such qualification. Furthermore, the model is something that people develop to describe the characters on certain phenomena to be easy for understanding of the model. It is not just describing or explaining the phenomenon in details because a simple description would oversimplify the model into difficult thing to understand. It reduces the values of such model. In identifying a model to describe what details it should have, it is appropriate for maker of the model to show what components it should have. There is no definition or limitation on each phenomenon and objectives of creators of the model who want to explain how they want to explain that phenomenon.

Tosi and Carroll (1982: 163) stated that the model is the abstract of the real one or the mimicked picture of the true situation. It may start from a simple model up to a more complicated model. It can be a physical model which is the model for object such as the model of national library, the model of airplane like F-16 aircraft. The qualitative model, for example, is the one used to explain phenomena by using languages or symbols.

Boonchom Srisa-ard ( 2001: 24 ) defined the word model as the structure that represents the relationship between components or variables that researchers can

use the model to explain the relationship among components or variables in the natural phenomenon or in the system and to explain the step of components or activities in the system.

Atiporn Sriyamok (2002: 7) defined the word model as the structure that human beings have created to show relationship between basic principles and educational concepts in one concept or more. The evidence of reliable theory includes the empirical research about the structure of the model which can use the model to explain relationship of the steps of the components or activities within the system.

Boonsong Hanpanich (2003: 92) defined the word model as the structure of model or the mimicked reality which is created from reducing the time to consider which things to be studied to judge and things to be taken to study to use to replace the concept of phenomenon by explaining relationship of components or the models.

Wutthipon Sakonkiat (2003: 15) defined the word model as bringing theories, principles, and concepts as well as research result related to the study to construct the model or structure in order to explain the implementation methods according to the steps systematically of the instructional management process to develop the skills and to use as the implementation guidelines. It can be shown in verbal explanation or diagrams.

In addition, Yaowadee Wiboonsri (1993) defined that model means the methods that a person transfers opinion, understanding, or imagination to someone else by using simple communication such as drawings, portraits, or mathematical formula by presenting issues accurately under the systematic principles.

Similarly, Sirichai Kanjanawasee (1999) defined model as the model maybe as just the mimicked reality, theories, or linkage of theories to the concrete realm of implementation.

Stoner and Wankel (1986) defined the model interestingly as model to create attitude about the set of phenomenon by using a Formal System and objectives to create clarity of definition on the relationship and related things.

Therefore, the model is not a description or explanation of phenomenon in details in every angles without much complication. The requirements for components are not limited. It is depended on each of phenomenon and objective of creators who can explain such phenomenon.

From definitions of the model, it can summarized that the model is the structure that shows relationship within a phenomenon. It is composed of principles, systems, and mechanisms. The administration and the implementation methods that construct the model produce it from analysis and development to transfer the knowledge from abstract to concrete for implementation or to use it as a guideline on certain implementation to get the desirable model.

### **2.5.2 Development of Model**

Once a model is implemented continuously without continuous updating, it may not respond to the set objectives and therefore it is necessary to develop the model into completion and more efficiency by developing it systematically (Sirichai Kanjanawasee, 1999).

Boonchom Srisa-ard (1992: 104-106 cited in Thivarack Serypab, 2005: 62) stated about the development model that can be done into steps as shown below.

1. In creating or making the model, the researcher creates a model according to assumption or hypothesis from the study of theories, concepts, and the known model on the same topic or other topics. And the results of the study or results of research, analysis of the condition, and the phenomenon will help identifying components or variables inside the model including the characters of relationship among the components or variables in the models. The order of the step of each of components in the model in its development must use logical principle as the foundation and the study which will be useful for developing the model. The researcher may think of the structure of the model first and then improve it by using information from the study of theories, concepts, models, related research findings, or the study of each of components or each available and then select the subcomponent or important variables to combine them to be structure of the model. The key of the steps rely on selecting the

components of the model to get the model that is appropriate and following the principles for developing the model.

2. Testing the validity of the model. After developing the model in the first step then the researcher tests the validity of the model because the developed model relies on theories concepts or models of others and research findings. Although it is already synthesized by experts but it is still only the model based on assumptions. It still needs to gather data in real situation or gets tested on trial use in real situation to test the appropriateness which is sometimes called testing the efficiency of the model.

Similarly, Derek Wannasian (2002: Abstract) stated that development of model means the process of constructing or developing the mimics which will be composed of the followings.

1. Studying the knowledge on the topics to be constructed or to be developed into a model.
2. Identifying the principles and components of the model that is going to be developed.
3. Drafting the model.
4. Bringing the drafted model to check the appropriateness or feasibility on trial use further.

Keeves (1988: 560) stated about the broad principles for constructing or developing the model as the followings.

1. The model should be composed of relationship with structure (or variables) more than just of some linear correlation. However, some linkages in straight line are also useful especially in the studies or research in the earlier period of the model development.
2. The model should be used as the guideline for predicting the outcome from the trial of the model that can be checked by overseeing or seeking for support from empirical data.



3. The model should identify or reveal the logical mechanism on the topics that are studied. Therefore, the model is also the tool for prediction. Besides, it can be used to explain a phenomenon.
4. Beside the qualification stated above, the model should be the tool to construct new conceptualization or to construct relationship of the variables in new form. It is the extension of knowledge on the topic that the researcher is studying.

Joyce and Weil (1986: 359-367) stated that the construction of model is classified into four parts as the followings.

Part 1 explains the relationship of things that is the source of the model or background and the important concept as the base of the model.

Part 2 shows the character of the model as explained by the model that presents the topic in details and emphasized in implementation. It can be divided into four issues.

Issue 1 or the step of the model is providing details of the model. This issue answers how many steps it would be by priority or the order of activities into steps in each of the model. The number can be different.

Issue 2 or the model of interaction is explaining the roles and relationship of components to each other. For each of the models the role will be different such as the role of the leader of the activities, the role of facilitators, and the role of counselor or advisor.

Issue 3 or the principle of debate is telling about the methods to express or response to action such as improving behavior by giving reward or developing creative thinking through creating the atmosphere with freedom.

Issue 4 or things to support is showing the condition or the thing that is necessary for using the model usefully such as the model for experiment in the operation room that requires the leaders who are trained well.

Part 3 implements the model to use and suggests observation to apply the model into use. For example, the observation will seek for using certain contents that are appropriate. Besides, the observation will give other suggestion to use with the model with the maximum useful in efficiency.

Par 4 reveals the outcome from the model directly and indirectly. The direct outcome arises from the activities that have been arranged chronologically within the model. The indirect outcome comes from the environment which is considered the impact that appears after the use of the model. It is something already expected to be latent with the outcome. This outcome can be used to consider selecting the model to apply.

Steiner ( cited in Keeves, 1988) stated about the step for developing the model that the model must be used to the highest benefit and must be the model that is composed of the important characters which are the followings.

1. Have structural correlation.
2. Predictable in term of the outcome.
3. Can expand the prediction broadly.
4. Can lead to the new concepts and the model must have clear components that will lead to development and application.

Boonsong Hanpanich (2003: 92-93) stated about the model development as the process of construction or development of the model by identifying the related concept systematically. The model can explain the phenomenon and brings to new discovery and can synthesize the steps for developing the model for many academics as the followings.

## 1. Study the related knowledge.

Development of the model has involved many academics who study the term of similar models or similar meaning. For example, these practitioners check the proposal of the models, the proposition of the program, and the analysis of the system such as the followings.

1.1 Propose to be the model to bring all components into clear relationship in leading to the organizational target which is composed of (1) target, (2) objective, (3) purpose, (4) implementation activities, (5) relationship with external and internal environment, and (6) strategy of each component.

1.2 The model that is developed to be the system means projects, activities, or the implementation about improving, enhancing knowledge, skills, attitude, and abilities which is composed of five components. These are (1) the factors that influence the system, (2) input factors, (3) subsystem or the process, (4) production and (5) feedback data.

1.3 Identifying the development program means the plan that needs development is composed of (1) the importance of concept and principle, (2) objectives, (3) guideline for development, and (4) mechanisms for implementation.

1.4 Synthesis or synthesizer is to be set into diagrams in making linkage of relationship of the research with the development and setting the concept that is consistent with the model development.

It can be summarized that the construction or development of the model relies on the characteristics of the model. The construction should classify the construction or development process into certain processes. But the important thing is that it should tell the interaction or the background and then explain with the model with presentations into topics. In bringing the model to use the researcher should use it

consistently with the contents and finally checking the results with usage of the model directly and indirectly to judge or consider selection of this model to use or develop further.

### **2.5.3 Evaluation of the Model**

Eisner (1976: 192-193) proposed the concept of checking and evaluating the model by using the experts on certain topics that require specialties more than variables use by the quantitative research. This belief on equal perception of the basic qualification of experts and presentation of the concept of evaluation encourage experts to propose the concept of evaluation as the followings.

1. The evaluation does not emphasize merely the goal-based or objective-based model. The response to the problems and needs of stakeholders are accomplished according to the evaluation model of responsible evaluation or decision making model/process (the decision making model). The evaluation by using experts will have deep analytical/criticism especially on the issue must be considered. It is not necessary to make linkage with the objective or the relevant people related to decision making all the time. But the experts can integrate the factors for consideration together based on the consideration of experts to come up with conclusion on quality, efficiency or appropriateness of the things to be evaluated.

2. The evaluation model that is specialized (Specialization) on some topics to evaluate. This model is developed from the model of art criticism which is deeply delicate and reliant on the highly skilled experts to be the judge/analyst because the measurement of value cannot be evaluated by any tools; it requires knowledge and ability of the evaluators only. This concept is used in the high educational level because the knowledge on certain field only the person who study that field will know and understand deeply. Therefore, in educational field this model is used widely in testing or evaluating something that needs specialized skills.

3. The model that is used by individuals or experts as the tools for evaluation. It is believed that the experts are objective and good in judgment. Therefore, the standards and judgment of criteria will rely on experience and skills of the experts. The test by using the evaluation model which is consistent with Joint Committee on

Standards for Educational Evaluation proposed the principle for evaluation as the norm for the activities on checking the model which will be divided into four sections (Madras, Scriven & Stufflebeam, 1983: 399-402).

Paragraph 1 or Feasibility Standards is evaluating the possibility of applying the model for real implementation.

Paragraph 2 or Utility Standards is the evaluation that responds to the needs of the users of the model.

Paragraph 3 or Propriety Standards is evaluating the model's appropriateness in terms of law, morality, and ethics.

Paragraph 4 or Accuracy Standards is evaluating the reliability and covering on the needs truly.

4. This is the model that allows flexibility in the working process of the experts as the experts keep their preferences and unique skills. It starts from identifying the issue for considering the indicators of the data that needs gathering, data processing, analyzing of data as well as the presenting the methods. The selection of experts will emphasize on professional status, experience, and credibility of profession.

It can be concluded that the test on the model on social science and behavioral science can be implemented by experts because certain topics need dedication more than evaluation by knowledge. And the perception of experts can help testing the model with principles of social science. The test of the model to check the appropriateness and feasibility of the model in real implementation can be done by experts. After the evaluation by experts with deep and critical analysis on the issues to be considered, it is not necessarily to be related with objectives or the relevant people for decision making but it can also integrate other factors to the consideration of experts to come up with conclusion on quality, efficiency, and propriety of thing to evaluate. There will be feasibility of the real implementation or empirical data. The check can be done in several methods such as the quantitative auditing method and the method for checking on qualification. The results of checking lead to rejection or acceptance of the

model and it will lead to the reconstruction of new model, improvement of the previous model, or creation of new theories.

#### **2.5.4 Good Qualification of the Model**

Poonsuk Hingkanont (1997: 53) stated about the good model that is just like something that is attracting people to study it. The model provokes the interest of people to understand it better and to have basic understanding before studying further. Therefore, a good model should be composed of structural relationship among variables more than emphasis on relationship between the whole set of variables. That will lead to the good prediction on the consequences, which can be checked by using empirical data. When the model is tested and it reveals its inconsistency with empirical data, the model will be cancelled and explained on the logical structural on the studied topics. This will lead to creation of new concepts, opinion, new relationship, or topics to study to see what topics and theoretical framework around the model.

Keeves (1988: 560) stated about the importance characteristics of the model that it should be composed of a structural relationship of the variables more than the linear relationship. Nevertheless, the linear relationship is still useful at the early period of the model development to use as the guideline for result prediction. The results of the use of the model can be checked through observation and support of empirical data, and the researcher needs to identify the logical mechanism of the topics that are studied. Therefore, beside the model's capacity to be the tool for prediction, it also is useful as the tool for explaining phenomenon. It can be the tool for constructing new conceptualization (concept) and creating the relationship of new variables which will be the increasing of knowledge (body of Knowledge).

The synthesis of good qualification of the model of Keeves can be summarized as what follows.

1. The model should be composed of the structural relationship of the variables that are studied.
2. The model should lead to prediction and can be checked with supporting with empirical data.

3. The model should explain the structure of logical relationship of the things to study clearly and it also becomes the tool to explain the phenomenon.
4. The model should be a tool for constructing new conceptualization and creating relationship of new variables in order to create the knowledge (body of knowledge) on the topics studied.
5. Consistent with the topics studied.

It can be concluded that the good character of the model should have revealed the structural relationship of variables that are studied, become the tool to explain phenomenon, and transforming to be the tool to create new conceptualization which is considered new knowledge.

## **2.6 Related Literature**

Naphawan Sriphutorn ( 2001) studied about the internal educational quality assurance in the Pilot Schools under Department of General Education in Nongbua Lamphu Province. The objective is to study the condition of implementation, problems, and suggestions for implementing the quality assurance in these Pilot Schools. The data is collected from 120 administrators and teachers. The data is analyzed using some basic statistic values. The research findings show that the implementation of quality assurance in the pilot schools as the whole picture of implementation is in a moderate level. The results of interview show that the schools have implementation on three aspects. These are (1) on preparation there is the training meeting and seminar for personnel to appoint the committee of quality assurance in the school, (2) on the implementation of using the PDCA Cycle, and (3) on reporting the progress and results. There is the preparation of making self-assessment report. The results of interviews show that there is problem on bringing the evaluation results to make improvement and make plan in the next phase because there is still limitation on results, on lack of continuity, and other limitations. One of the limitations is lack of opportunity for school personnel to present the current conditions and to participate in the training together beyond mere attempts to lead personnel to join the training in the schools. In addition,

the schools should take teacher teams and school committee boards to have field trip to the schools that have reached certain levels of success in quality assurance.

Suwimon Wongwanich (2002) conducted the research entitled “The Development of Quality Standard on Teachers’ and School Administrators’ Quality” and made an internal evaluation system. The objective is to develop the quality standard which is composed of professional standards and indicators for use in the evaluation on the implementation among teachers and administrators and place the quality evaluation system for teachers by using a set of developed quality standards as the base. The research findings can be summarized as what follows.

1. The present condition and the problems on the professional standards of teachers and administrators. The interviews with knowledgeable people show that the implementation condition in the past on the identification of criteria or standards of teaching profession is not successful and cannot be implemented or leading to developing teachers seriously because of many things lacking in the system: (1) the administration system, (2) teacher production system, (3) the system of using teachers, (4) personal problems of teachers, (5) quality of instructional system, (6) identification of professional standards, (7) the system for checking and monitoring the teacher development, (8) the target of teacher evaluation, (9) the self-development of teachers, and (10) mobilization of community force to realize educational system.
2. The results of developing teacher professional standards and indicators. These results are produced from analysis of data from studying the related secondary data, survey of general people and academic, interviews with knowledgeable people, and arranged group meetings. When brought to analysis with the factors on the teacher’s and administrator’s professional standard, it shows that the group arrangement is standing in different types of standards. When synthesized together to be the factors of professional standards to be used together by having the indicators, the emphasis of quality evaluation is different only among certain factors.



3. The results of designing the internal quality assurance system show that the persons who are appropriate the most to evaluate the teachers are the persons who are appointed from the schools. The persons who are appropriate to evaluate the school administrators the most are the high level administrators (Educational Service Area) and the quality evaluation there should be standardized and then compared with one another in the same educational service area (80 percent of samples agree on using the test with the indicators on knowledge). More than 65 percent agree that weight importance should be given to the implementation process and the production that create the learners equally.

Soontorn Chaiyakot (2002) studied the implementation of educational quality assurance in the schools under the department of general education in Nakhon Ratchasima province. The objective is to study the implementation conditions, problems of implementation, and suggestions in implementation for educational quality assurance in six schools. There is the structured interview with responsible persons on the quality assurance of the schools. After that the data is brought together to make grouping and described. The findings show that the problems on implementation as the whole picture that need improvement are (1) lack of knowledge, understanding and awareness on quality assurance, (2) media, materials, manuals, lack of guideline for implementation clearly, (3) lack of participation in thinking and doing from personnel in making the School Charter, annual implementation plan, and the criteria of educational standards, (4) the information technology is not up to date to the present and lacking systematic management, (5) lack of checking evaluating the whole system especially on evaluation in the school, (6) many tools for internal evaluation some are not responsible to the knowledge of students who are evaluated, (7) students lack concentration in self-evaluating, (8) the educational committee board in the basic education are not participating in the quality assurance system as they should, (9) criteria for educational standard are made from the feeling, the analysis of the information technology system, and the conditions of the school, (10) some personnel in the school do not understand how the educational quality assurance system influences themselves and the implementation in the school. Therefore, the following suggestions are offered.

First, the administrator should supervise and monitor continuously and regularly. Second, the parent organization should try to understand the assurance system clearly before expanding it to the relevant personnel. Third, the relevant organization should arrange the training continuously. Fourth, the schools should make the data system and information technology inside the schools systematically, up to date, and ready for use. Fifth, among the schools should adjust and set the tools for self-assessment together. Sixth, working team of the quality assurance should have at least five people in the school. Seventh, the parent organization should prepare the implementation calendar for the quality assurance to schools to implement in the same guideline. Eighth, the schools should arrange sufficient facilities to facilitate convenience sufficiently. Nine, the schools should open opportunity for students to participate to be the committee board to solve the problems on insufficient personnel and to construct the awareness among students. Tenth, the schools should bring international evaluation results to improve the administration and implementation in the schools.

Srisamorn Panghom ( 2002) conducted a study on administration factors that influence the quality assurance in primary schools in Prachuab Kiri Khan province. The sample groups are administrators, teachers, and chairpersons of school committee board of the schools. The data is gathered by using questionnaire with Likert five-rating scale. The research findings show that the administrating factors that influence the quality assurance in school are factors on policy on administration and implementation, on the characteristics or qualification of organization, and on the qualification of personnel. There are sub-factors related to the clarity of identification of target, the adjustment of organization and initiation, the resource management, the external relationship outside organization, the leadership and decision making, the application of technology, and the environment that promotes implementation.

Supatra Sapsathiarn ( 2003) developed a causal relationship model on the effectiveness of internal quality assurance of the schools in basic education level by applying the model called multilevel structural equation model of factors. The samples for analysis of the Structure Model or Full LISREL Model are the schools that get the report to confirm the results of internal quality evaluation from the external evaluators of ONESQA. On the first round 150 schools classified as large-, moderate-, and small-

sized schools (50 each) provide the data that is collected through administrators, teachers, instructors, students, and parents. The hidden or latent variables (or dormant) that used in the research are five. These are the efficiency in the quality assurance in the school, the factor on the character of the school, the factor on the character of the environment, the factors on the qualification of personnel, and the factors on policy and implementation. They can be measured from some 18 observable variables. The tools used are a set of questionnaire. The data is analyzed by descriptive statistics and the relationship analysis among variables by using the Pearson coefficient. After that the consistency of the causal model of the efficiency in the quality assurance in the school is checked as the whole picture that is constructed from the theory and related literature related to empirical data through the use of LISREL Program. The findings show that the variables that influence the efficiency of quality assurance in the school in basic education levels the most are the factors on policy and implementation. The next highest are the factor on qualification of personnel, the factor on qualification of the school, and the factor on qualification of environment. In addition, the data reveals that the school administration is important force to move the administration policy and the guideline of implementation to the personnel of the schools.

Ketkanok Urwongse ( 2003) analyzed the factors that support and stand as obstacles or threats for implementation in the educational quality assurance system of the basic schools. This analysis uses both methodologies in terms of quantitative and qualitative methods. The key informants are school administrators and the heads of class level from the schools inside Office of National Primary Education Commission that organize education in the levels before the pre-primary education, primary school, and secondary high school education which get evaluation of the school standards in the fiscal year 2000. The samples are two persons from each school from the quality group number 1 to 2 and 5 and five schools out of 345 schools with a total number of samples of 1,098 people. The tools used for data collection is a set of questionnaires collecting samples' opinion. The data is analyzed with frequency distribution, percentage, means, and standard deviations. The qualitative research is selecting the schools that arrange the pre-school education level, primary education and high school that get the evaluation of school standard in fiscal year 2000. These schools are the case studies after selection from the quality group numbers 1 and 2 and the quality group number 5

with one school each who has qualification similar to the identified criteria. The tools used for data collection are the researcher who collects the data from the sample school in one semester in each school and the methods of secondary data study such as observation, informal interview, and group discussion. Afterwards, the researcher cross-checks or triangulates the data sources and triangulates the methods. The data is analyzed by analyses on the contents that are classified together. The research findings show that the internal factor that supports implementation in the educational quality assurance system in basic school has three factors. These factors are the factors on leadership, on organizational culture, and on personnel. The next highest supporting factors are the factors on organizational structure, on equipment and supply, and on the physical condition. The external factors that support implementation of quality assurance are the factors on social and on politics. The factors that are threats or obstacles to the implementation in the quality assurance system of the basic school in term of quantitative and qualitative are found: various but can be summarized that the threatening internal factors are factors on personnel, on organizational culture, and on leadership. For the external factors standing as threats are factors on politics and on society.

Chakrit Chomchuen (2004) studied the research on the model that enhances efficiency on the implementation of educational quality assurance in the schools. The objectives are to develop the model to enhance efficiency of the implementation on the internal education quality assurance. The research findings show that the model to enhance efficiency on the implementation of educational quality assurance is composed of the concepts or the models that use the conceptual framework of research and development, systematic development, school-based management, and the development of the system of the school that implements continuously the quality circle management (quality circle of PDCA). The important target is that the schools would have quality in implementing quality assurance and the standard quality on three aspects which are on administration and management, on learning management of teachers, and on quality of students. The implementation activity is divided into two levels which are the supporting unit level and school level. The results of analysis on the efficiency of the implementation on educational quality assurance show that after using the model to enhance the system is constructed, the school can implement or list all items in a good

level. The factors that potentially support and hinder the implementation of education quality assurance are factors on leadership of administrators, factor on qualification of personnel in school, and the number of teachers. The factors that threaten the implementation are on the process of systematic working, on support stimulation from parent organization, on external organization, and on factors on environment in the school.

Sittisak Somjaimak (2003) studied the implementation, problems, and the needs for help in implementing the quality assurance in the school of the schools that are ready for the first round of external evaluation in fiscal year 2011 under the Office of Chiang Rai Educational Service Area 2 (number of school is 27 schools and 27 administrators and 188 teacher teams). The research findings show that on the preparation the schools create knowledge and awareness to teachers and personnel on various methods but there is still problem found: teachers' and personnel's lack of knowledge and understanding on quality assurance. The implementation shows that every school prepares the implementation plan. Most of the schools have identified their School Charters. There is also promotion of participation in administration. The study finds that teachers have a lot of other burdens beside the instructional management. There should be cooperation with parent organization in developing the knowledge on integrated working on reporting the research findings that every school reports their progress using many various methods according to the group of the data receiver groups. However, according to the group of data receivers, they still find the problems in preparing reports of self-evaluation. The parent organization should develop knowledge for the teachers in preparing information technology data that is useful for preparation of data improvement. On the need for assistance the findings show that personnel in school need assistance from many sectors as the followings: from the administrator and teacher team in supporting the internal quality assurance, from supervisors and academic on data analysis and on the checking of documents, from the parent organization on supporting budget and technology, and from private organization and external organization in publishing the information creatively.

Siriwan Soda (2003) conducted a case study on the process of development on internal quality assurance system in Vajiravudh College through the use of qualitative

research methodology, observation, and interviews with administrators, teachers, and students. The use of analysis on secondary data shows that the development of internal quality assurance system in the Vajiravudh College is composed of three following processes: (1) preparation on the readiness of personnel, (2) appointing two sets of responsible committee board to be responsible who are the sub-committee board on the educational quality evaluation and the research working team, and (3) the implementation on internal quality assurance by using the quality administration Cycle (PDCA) which are Planning (P), implementation or doing according to the plan (D), checking the evaluation results (C) and development or action to improve (A). There are five main implementation plans to answer the implementation as what follows: (1) the plan for general administration, (2) the instructional plan of the academic section, (3) the plan to promote health, (4) the plan on the management, and (5) the plan for improvement and development. Each of the plans will have project to answer the implementation in a period of three year in advance.

Pongthawat Wisungsu ( 2003) studied the environment of working and the psychological characteristics that relate to participation of personnel in educational quality assurance and collected data from personnel in academic support of the organization on the instruction of Chulalongkorn University (a total of 500 samples). The findings show that the variables on working environment which are support from administrators, cooperation among colleagues, and access to training on educational quality assurance. The variables on psychological characteristics are the attitude toward participation in educational quality assurance, motivation in working, and psychological health of the personnel. These variables have positive correlation with the level of participation of the personnel in quality assurance with statistical significance at the level of  $P < .05$ .

Pensiri Panrangsri ( 2005) conducted the research on evaluation on the implementation of quality assurance in the schools at moderate size secondary high school in Songkhla province using the implementation frame of educational quality assurance of Ministry of Education in 2001 on the eight factors by using the evaluation model of Scriven together with the self-evaluation according to the PDCA Cycle. The evaluation and the conclusion reported at the end of fiscal year show that the majority of

schools have the standard criteria. The aspects that fail the standard criteria are on making the quality development plan, on checking of quality, on revision of quality, and on reporting of the quality. Besides, the results also show that the schools have many problems and threats in the implementation of educational quality assurance which are the personnel's overburdened with work, lack of knowledge an awareness in quality assurance, lack of information technology, budget, and facilities to facilitate the activities in implementation, and lack of continuous monitoring and checking.

Thun Thongdee (2005) studied the condition and the problems of implementing quality assurance in the schools under the Office of Lopburi Educational Service Areas. The research findings show the following results. First, the implementation conditions both per aspect and as the whole picture on preparation and reporting stand in a high level. The implementation itself is in a moderate level. The problems on the implementation per aspect and the whole picture stand in a moderate level. Second, the whole picture of people who join the training and who never join the training and internal quality assurance show the differences in implementation conditions with high statistical significance. When classified according to the size of the schools, positions, responsibility, working experience, and the educational level, the school data shows no differences. When comparing the problems in implementation, the study finds that the whole picture of the groups who have different positions and responsibilities also have differences in levels of program completion. However, when classified according the size of schools, working experience, educational level, and different trainings, the analysis shows no differences in school implementation.

Prasarn Bangpetch (2005) studied the participation of teachers in implementing the quality assurance in basic schools under Office of Suphan Buri Educational Service Area and found the following results. First, the level of participation of the teachers as whole picture is in a high level in six steps which are the step on implementing according to the plan, planning, preparing, making annual report, checking and evaluating results, and bringing evaluation results to improve the work. Second, the teachers who are in different class levels show no difference in the levels of participation. And third, the condition of problems and guidelines to solve the problem the most in three ranks which are (1) making annual report, lack of information

technology/data, make revision by gathering evaluation results of educational quality, (2) the problem in bringing evaluation results to improve the work which is the responsibility of administrators and teachers only; the solution is to promote every personnel to participate in making revision of the work, and (3) problems in the step of planning with lack of data analysis for planning the developing the education quality. The solution is to allow the teacher teams to analyze the data and information technology of the school.

Suchai Jinasena ( 2005) studied the factors influencing the success of quality assurance in the schools under Office of Phuket Educational Service Area. The objective is to study the factors that influence the success and the level of implementation on the internal quality assurance. The research findings show the following results. First, the factors that influence the success that have the highest average value is attitude, leadership, communication, working team, motivation in working, cooperation and support from other sources, the quality system, and network of responsibilities. Second, the implementation on quality assurance arranged from the highest average value to the least are the planning implementation, the implementation according to the plan, the application of evaluation results to improve the work, the checking and evaluating. And third, the analysis results on predicting variables show that the factors that influence the success of quality assurance in the school with high significance level are seven factors: the system of quality and responsible network, the leadership, the motivation in work, the communication, the positions and duties, the sex (male or female), and the size of schools.

Prachum Panruang ( 2005) studied the maintenance of the educational quality assurance system in each indicator according to the details of basic educational standard under Office of Phra Nakorn Sri Ayutthaya Educational Service Areas 1 and 2. The findings show that the implementation to maintain the quality assurance system involve the as the following factors. First, all learners show that there is the construction of awareness, the development of the personnel to have knowledge, understanding, planning and implementation according to project implementation plan including the evaluation to compare with the identified criteria that is then brought to be a future plan. Second, the teachers know that there is the development plan for teachers to participate



in meetings, trainings, seminars and study tours, as well as the plan for developing labor force, assigning the right work to the right persons to right capabilities of teachers, creating moral support, and giving academic support, and having supervision to monitor the work of teacher to bring the results to use for planning, and assigning the work that is appropriate later. Third, the administrators show that the administrators have self-development plan, the organization management that is attached the structure diagram clearly, development of curriculum, production and use the media including stimulating students to learn by themselves, and publication between the schools and communities.

Bureau of Academic Affairs and Education Standards (2005) studied the condition and plan for implementation, promotion, and development of the quality assurance system inside the schools in the educational service area through some questionnaires to 175 offices of educational service area. The results show that the majority of the offices of educational areas emphasize on promotion, support, and reinforcement to every school to develop the quality assurance system in the schools to have quality according to the main duty of five factors following the announcement of the regulations of Ministry of Education.

Chonchakorn Worain (2006) conducted the development of the model on the quality assurance in the schools in basic education level: the additional evaluation by having a research with the objective to develop and evaluate the model for quality assurance in the schools in basic education level according to the concept of reinforcement in evaluation. The findings show that the model for the quality assurance in the schools in basic educational level is appropriate with three dimensions which are the dimensions of qualification or the criteria for evaluation, on the qualification dimension/the methods for quality assurance in the school, and on the evaluation dimension. Each dimension has components or factors that correlate to one another by having the implementation strategy which are (1) training, (2) offering consultation, and (3) facilitating the results of expert evaluation of the model for quality assurance in the school in the basic education level. It shows that the structure of the factors is appropriate in the highest level. When considered per sub-component, the levels on appropriateness, feasibility, clarity, and simplicity for application are in a high to highest level.

The evaluation results on the model on quality assurance in the school in basic education level from the application of the trial use show that the model for quality assurance in the school in the basic education level is useful, feasible, appropriate, correct, and the relevant personnel on the education are satisfied with the model for quality assurance in school in a high level.

Nawaporn Jutong ( 2003) conducted a study on implementation of quality assurance in Wichienchom School under Office of Songkhla Educational Service Area to find that the components or factors for implementing the quality assurance of the school are composed of (1) the preparation before the implementation of internal quality assurance, (2) the implementation of internal quality assurance, and (3) the arrangement to make annual report. The internal quality assurance of Wichienchom School is the implementation for internal quality assurance done continuously from the preparation, implementation of quality assurance, and production of report without dividing any step or separating the steps from other procedure definitely.

Pongpan Chaiwan (2008) studied the quality evaluation of education quality in Bankad Wittayakom School, Chiang Mai province and found that the guideline which is the strategy for developing educational quality of the school is the evaluation of internal quality systematically by applying the concept of using the evaluation system to be the mechanisms for working systematically of the school. The system becomes part of the systematic functioning which is composed of preparation, implementation, and monitoring of the result of implementation according to the plan.

Wichien To-eung (2006) studied the condition of implementation on education quality assurance in the schools under Office of Nong Khai Educational Service Area 3 to show that the condition of implementation on the educational quality assurance in the schools as the whole picture was in the high level. When considered per aspect mostly it is in a high level. Ranked from the average highest values to the least, the first three are (1) on the implantation according to the implementation plan on educational quality, (2) on the management of the administrative system and on information technology, and (3) on making development plan on educational quality which stands in moderate level on one aspect (on development of the educational standard).

Joseph (1999) studied the influence of the process to make plan to improve the work and the internal quality assurance that influence the attitude of teachers of the state school in Illinois State on improving the education and motivation which influence the decision making on improving the education. The data is gathered on three issues on both internal and external quality assurance including the process for making plan for improvement which are (1) teaching and learning, (2) achievement progress of learning among students, and (3) learning communities. The data on attitude of the teachers is collected before and after the treatment on the process of planning to improve the work and quality assurance to the teachers in the state school of Chicago (122 teachers). These two sets of data are then compared and produce a statistics that show difference with high statistical significance on the attitude toward teachers in ten items. The average values of the score in change stand between .06 and .70, which indicate that the planning process for improving the work and quality insurance of Illinois state show positive results toward attitude of teachers in improving the education in the schools.

Patricia (2000) studied the evaluation of the progress of the educational quality assurance and the control of implementation in the organizations in Sweden, France, New Zealand, and Australia. The research findings show that the changes occur clearly in the system of educational quality assurance system. The social mechanisms create the changes rapidly from the developed countries to other countries. The appropriate educational quality assurance must be controlled and evaluated. The most important factor is the teachers must be responsible for their profession and must implement reasonably through clear processes as the followings.

1. In Sweden there is the clear educational quality assurance in the evaluation on the teaching and learning of the teachers.

2. In France there is implementation to check from outside of the schools and the quality control from the center.

3. In New Zealand the implementation is done through evaluation by outsiders or people who are relevant to the schools and through settlement of the instruction on system according the central standard to implementation in each school.

4. In Australia there is the thinking of evaluation system accomplished through the use of standards in examinations. The schools have the preparation with the patterns that lead to the quality control and educational quality assurance.

Abraham (2006) studied the evaluation of quality assurance system in the schools in basic education level on the implementation of the teachers and showed that the evaluation of education was identified to be integrated and cannot be separated from the educational system. On the database of evaluation on educational evaluation, decision making on instruction, the learners, the educational program and learning of environment that leads to decision making that create benefit to the organization or the organizational system, the results which derived from the evaluation must be having reliability and validity. This research discusses the necessary of evaluating quality assurance system in basic education level with the steps for implementation to evaluate and the various tools for evaluation that the teachers can use and become part of the basic skill for implementing the evaluation in qualitative methods. They must get additional learning because teachers are considered as having a duty and responsibility on evaluation in school which is considered in the implementation steps to improve the implementing of evaluation at school level.

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## 2.7 Research Conceptual Framework

