

Chapter 3

Research Methodology

This researcher develops the standards and quality indicators for educational management of the community college and checks the quality of the indicators on the validity and appropriateness for practical implementation. Besides, the researcher also conducts the research on the model for measuring the standards and quality indicators for educational management of the community college to check their consistencies with the empirical data. This is done through the application of the analysis method of Linear Structural Relationship Model (LISREL) and the construction of the model for educational quality assurance in the community college. The constructed model will be used as the sample for implementation on the quality control, quality auditing, and quality evaluation. The test of educational quality evaluation is done in the community college that the personnel can bring it for real application. In proposing the research methodology, the researcher identifies the research steps into three main steps and six sub-steps as the followings.

Step 1 Develop the standard and quality indicator for instructional management of the community college

Step 1: Synthesis the standard and quality indicator for educational management.

Step 2: Check the construct validity of the standard and indicator.

Step 2 Construct and develop the model for the educational quality assurance in the community college.

Step 1: Synthesis the model for the educational quality assurance from the concept, theory, research, and educational organizations.

Step 2: Check the appropriateness and feasibility for application.

Step 3 Study the result of the test on the evaluation of the educational quality of the community college.

Step 1: Preparation for evaluating the educational quality in the community college.

Step 2: Test/experiment the educational quality evaluation in the community college according to the standards and developed indicators.

Step 1: Development of standards and quality indicators for educational administration of community college

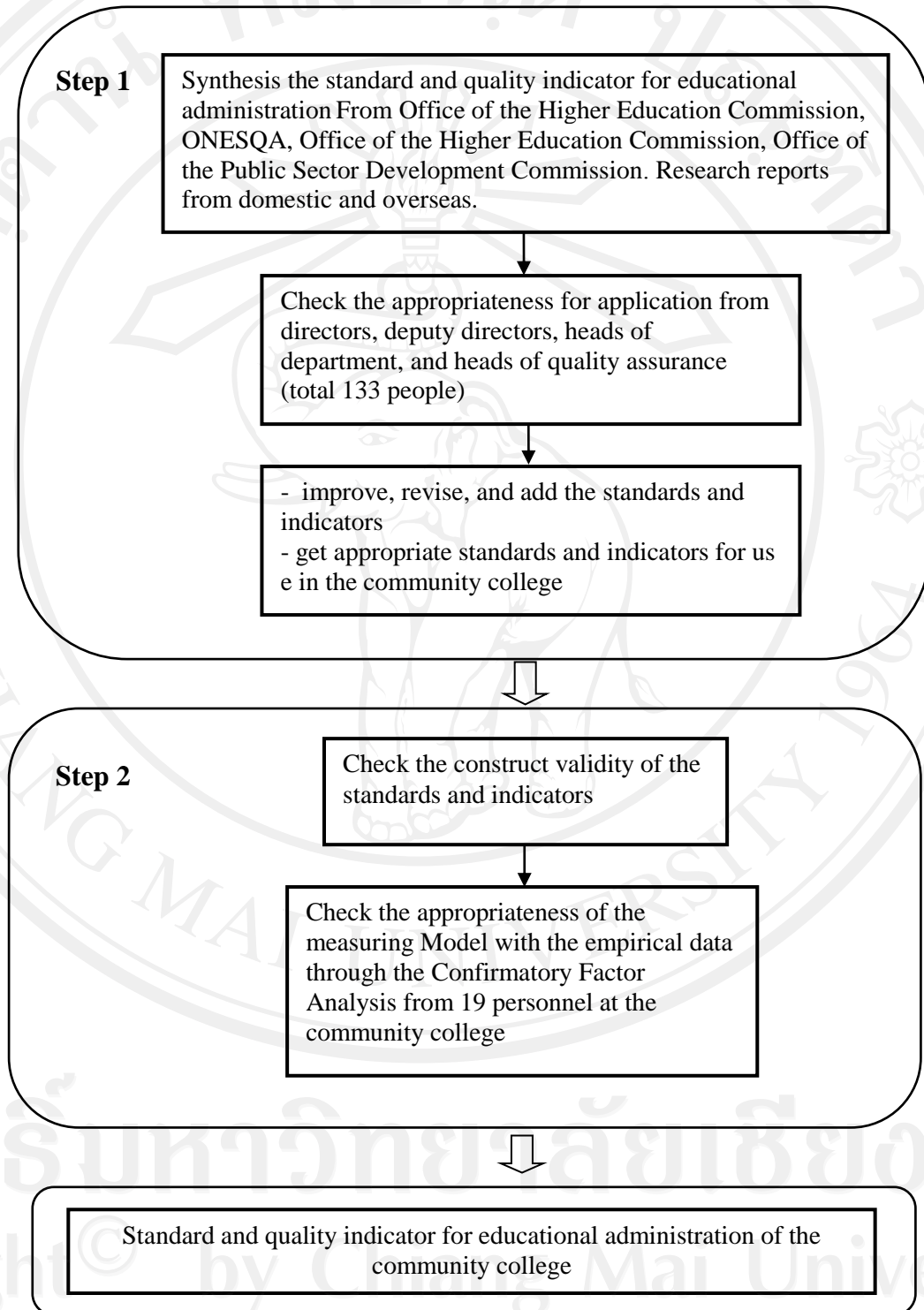
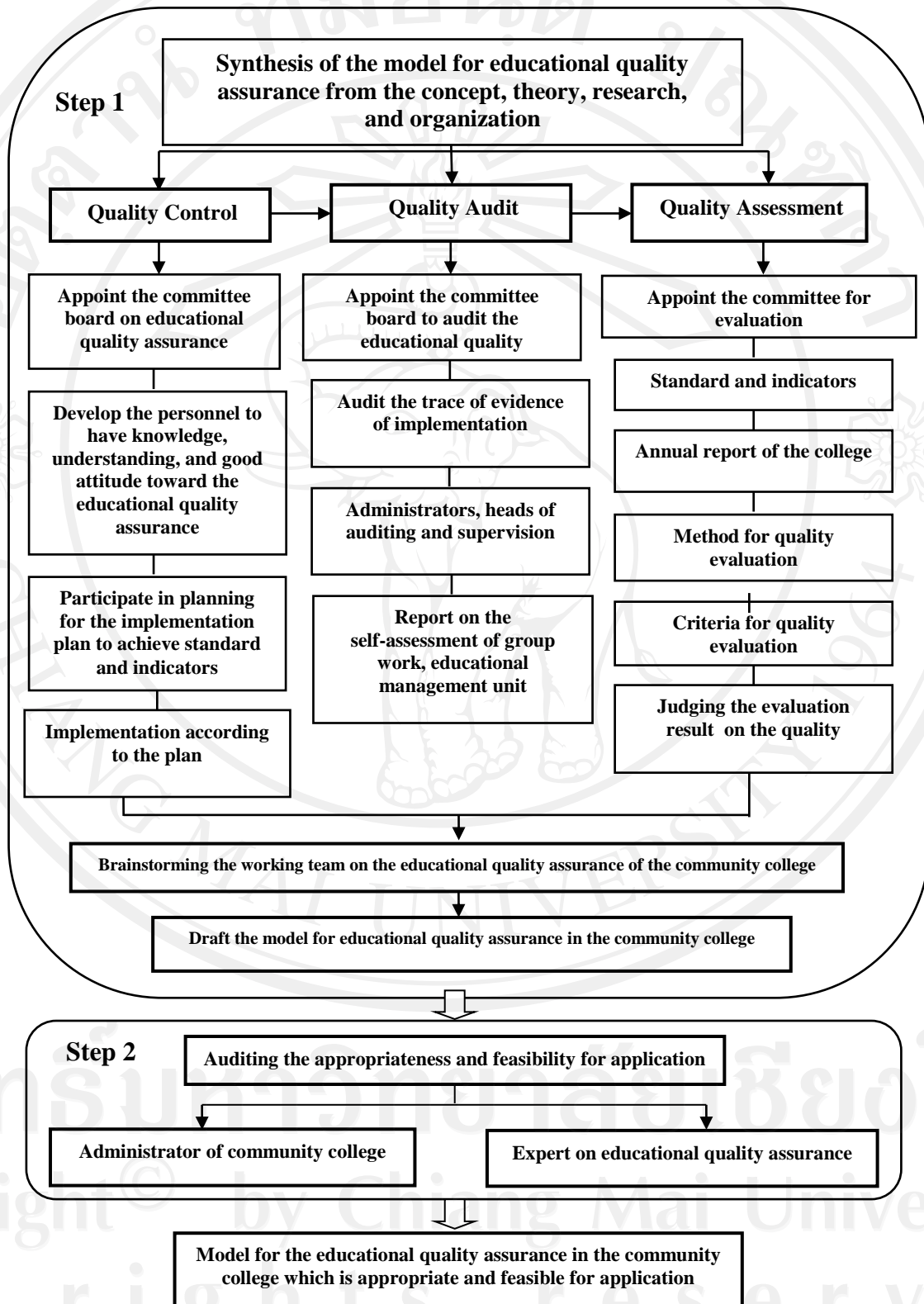
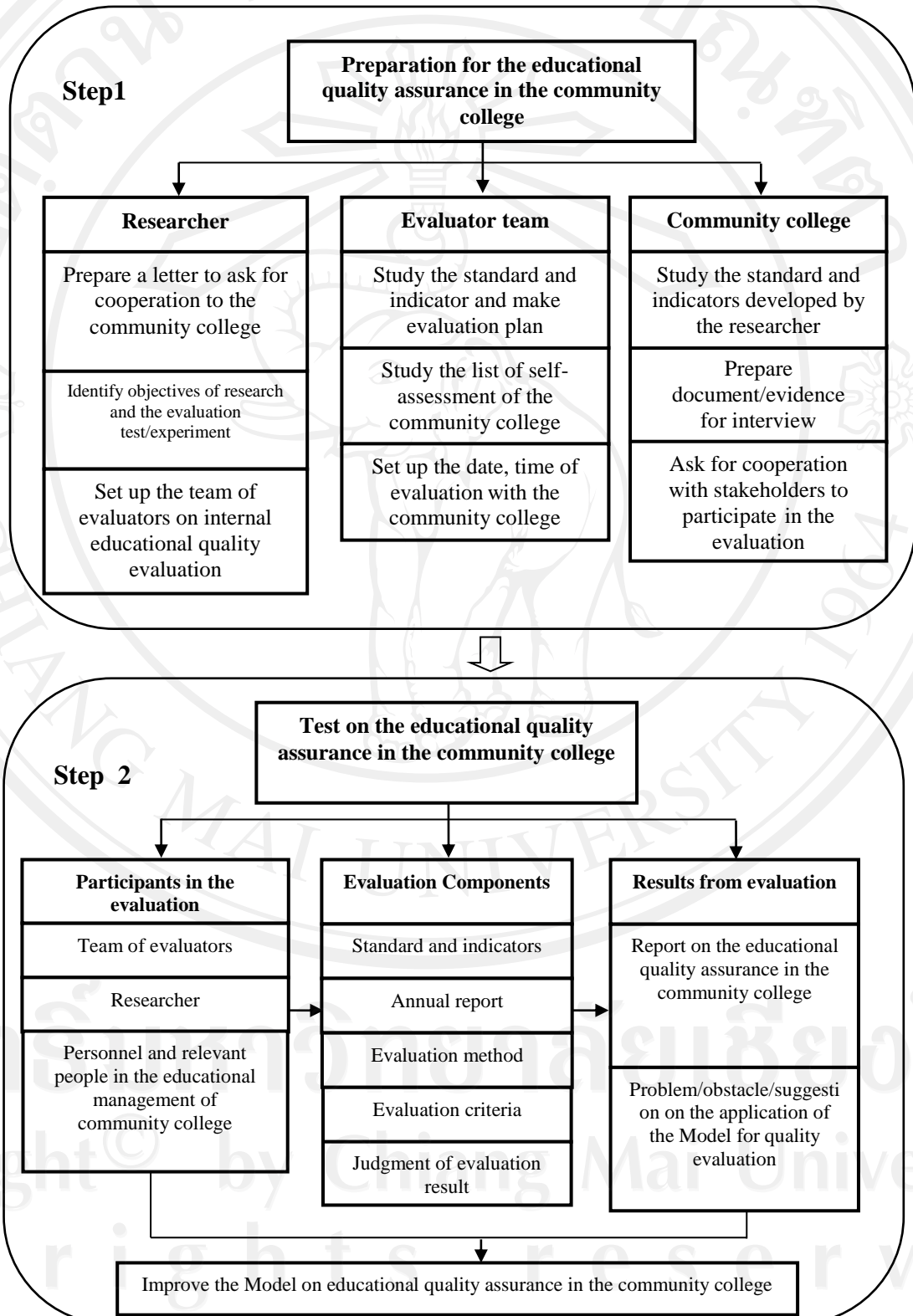


Figure 15: Summary of three research implementation steps

Step 2: Construction and development of the model for educational quality assurance in the community college



Step 3: Study the test/experimental result of evaluation on the educational quality evaluation in the community college according to the standards and developed indicators



Step 1 Develop the standard and quality indicators on educational management of the community college which can be classified into two steps as the followings

Step 1 Synthesize the standards and quality indicators for educational management of the community college that can be implemented as what follows.

1. Study the principle, concept, theory, secondary data, and related literature on quality, educational management, concepts, and principles about the construction of the standards and indicators.
2. Synthesize the standards and quality indicators for educational management from the Bureau of Community College Administration, external quality assurance from Office for National Education Standards and Quality Assessment (ONESQA), the manual for the internal educational quality assurance of Office of the Higher Education Commission (OHEC), Office of the Public Sector Development Commission (OPSDC), research works both from domestic and oversea universities.
3. Acquire some nine standards and 36 indicators from the synthesis. It composed of philosophy, vision, objectives, identity and implementation plan (standard 1), educational management in below bachelor degree (diploma) (standard 2), training and academic service to society (standard 3), development of student (standard 4), research (standard 5), maintenance of religion and art and culture (standard 6), administration (standard 7), finance and budget (standard 8), and internal quality assurance system (standard 9).
4. Check the appropriateness of the application through the opinions of the directors, deputy directors, heads of departments/units, and heads of the quality assurance of 19 community colleges (total of 133 people).
5. Analyze the standards and indicators which are appropriate for application, improvement, and additional revision of the prepared standards and indicators.

Step 2 Check the construct validity of the standards and quality indicators for educational management of the community college. It can be implemented as the followings.

1. Settling the derived standard and indicators. Then the researcher asks the personnel of the community college on the appropriateness of the use the standards and indicators of educational quality assurance in the community college.
2. Checking the appropriateness of the measurement model and the empirical data through the method of Confirmatory Factor Analysis from the personnel of 19 community colleges.

The conclusion is in step 1 the experiment gets six standard and 34 quality indicators for educational management of the community colleges.

Sample group in Step 1

In the research implementation in step 1, the researcher studies the two sample groups through the following step.

Group 1 is the group sampled for checking the appropriateness of the standard and indicators, quality of educational management of the community college. They are the directors of the community college, deputy directors of the community college, heads of department/unit of the community college, and heads of educational quality assurance in the community colleges (total of 133 people).

Group 2 is the group sampled for checking the construct validity of the Model and the measurement with the empirical data through the method of Confirmatory Factor Analysis. They are the groups of administrators and personnel of the 19 community colleges composed of the directors, deputy directors, government teachers, and government staff. The researcher seeks for the appropriate sample size for the given number of population. From the table of Krejcie and Morgan (cited in Uthen Panyo, 1996, p. 141) which is the Table at the 95% of Confidence Level ($\alpha = 0.05$) the sample size should be at least 218 persons. The researcher thus sends out 472 sets of questionnaire and the gets 440 sets of questionnaires back (93.22 percent of returned questionnaire).

Tools used for the research in Step 1

The tools used for the research implementation in Step 1 has three sets as the followings.

Set 1: record from on the synthesis of the standard and quality indicator on educational management in the community college. This record is used for recording the synthesis of standards and indicators from the materials and related literature both from domestic and oversea institutions.

Set 2 Questionnaire on the measuring the appropriateness of the standards and quality indicators of educational management in the community college. This questionnaire is used for checking the appropriateness from the standards and synthesized indicators.

Set 3 Questionnaire on the appropriateness for application of the standards and indicators for educational management of the community college. This questionnaire is used for checking the construct validity of the model of measuring with the empirical data from the groups of administrators and personnel of the community colleges.

The construction of the tool in step 1

The researcher implements the construction of three sets of tools. It has these following steps.

Set 1 Record form of the synthesis of standards and quality indicators of educational management of the community college. The researcher constructs the tools through the following steps.

1. Study the principle, concept, theory, materials, and related literature on the quality of educational management, concepts, and theory on the construction of the standard and indicators.

2. Identify the characters/qualification of the standards and quality indicators of educational management which are used in the synthesis as following.

- 2.1 Standards and quality indicators for the educational management in the community college as given from the Bureau of Community College Administration.

- 2.2 The manual for the internal quality assurance from the Office of the Higher Education Commission (OHEC).

- 2.3 Report on the implementation result according to the confirmation letter on the governmental implementation from the Office of the Public Sector Development Commission.

- 2.4 Standards and indicators for evaluating the external quality assurance in the third round by the Office for National Education Standards and Quality Assurance (ONESQA).

- 2.5 Standards and quality indicators for the educational management in the community college from nine research works both from domestic and overseas institutions.

3. Creating the record form on the synthesis of standards and indicators for the educational quality assurance in the community college. It is set in a form of table for recording the standards and indicators, the researcher's name, and year of study.

4. Trying to record the standards and quality indicators of educational management (a total of three titles).

5. Improving and making revision before recording in the research typescript.

Sample of Record Form on the Synthesis of Standards and Quality Indicators for Educational management

Indicators	Thomas 2001	Hodge 2002	Denise&Others 2002	Beas&Zarkesh 2003	Sane 2004	Joseph&Henrick 2004	Richard&others 2007	Wyoming 2008	Kevin&Others 2009
Ratio of educational completion of the learners	✓	✓	✓	✓	✓	✓	✓	✓	✓
Ratio of the educational completion and get professional license	✓			✓			✓	✓	✓
Ratio of employment after one year of educational completion	✓	✓		✓	✓	✓	✓	✓	✓

Set 2 Questionnaire on the auditing/check of appropriateness of the standards and quality indicators on educational management of the community college. The researcher implements the construction through the following order.

1. Study standards and quality indicators for educational management of the community college which have been synthesized.
2. Create the questionnaire on the measuring on the appropriateness for application of the standards and indicators as shown in the sample.

Sample of Questionnaire on the checking of appropriateness of the standards and quality indicators of the educational management of the community college

Indicator no.1.1 have philosophy, objectives, strategy, identity and implementation plan.

- ☐ (1) appropriate for the control, auditing/check and quality evaluation
- ☐ (2) not sure
- ☐ (3) not appropriate

Additional suggestion.....

Is there anything which represent the implementation method, activities, project, including materials and evidence which show the implementation according to the indicators no. 1.1

1.
2.
3.

Set 3 Questionnaire on the appropriateness in the application of the standard and quality indicators for educational management in the community college. It is constructed in the following order.

1. Create the questionnaire on the appropriateness of application of the standards and quality indicators for educational management of the community college. It is set in a five-rating scale.

2. Implement to check the quality of the questionnaire by checking the clarity of the language and calculating the reliability value.

2.1 Check the clarity of the language by three experts on the Thai language, measurement and evaluation, and educational research.

2.2 Trial-use of the questionnaire with 30 personnel from the community college in order to find the reliability in the value of Cronbach's Alpha Coefficient. The reliability value is found at 0.916.

3. Improve the questionnaire and make the final set of questionnaire for data gathering.

Sample of Questionnaire on the appropriateness for application of standards and quality indicators for the educational management of the community college

This questionnaire is constructed through the following order.

Standard and indicators	Appropriateness for application of the educational quality assurance in community college				
	1	2	3	4	5
1. Philosophy, vision, objectives, identity and implementation plan					
1.1 Participation of the stakeholders/ relevant people in identifying philosophy, objectives, strategy, identify and implementation plan					
1.2 Making strategic plan to be the annual implementation plan					
1.3 The achievement according to the indicators of the implementation plan which consistent with the mission					

Data collection in Step 1

In data gathering in Step 1, the researcher implements to gather the data through three sets of tools. There are steps as the followings.

1. Collect data for synthesis the standards and quality indicators for the educational management in the community college. The researcher implements the following procedures.

- 1.1 Study and gather the principle, concept, theory, secondary data, and related literature on educational quality assurance, concepts, and principle on creating standards and indicators both from domestic and overseas research.

- 1.2 Record the result of synthesis of standards and quality indicators for educational management in the community college.

2. Data gathering to check the appropriateness of the synthesized standards and quality indicators for educational management.

- 2.1 Prepare the letters asking for cooperation through the Faculty of Education, in the major of research and educational development at Chiang Mai University and send them to the directors of the 19 community colleges to ask for permission to gather data from the personnel in each of the community colleges.

- 2.2 Contact or cooperate through phone calls to the directors and personnel of the community colleges to ask for permission for data collection.

- 2.3 Send the questionnaire to 19 community colleges.

- 2.4 Arrange to send the questionnaire and ask the community colleges to return them filled up back through self-addressed post/mail.

3. Gathering data to calculate the construct validity of the Model with the empirical data through the method of Confirmatory Factor Analysis.

- 3.1 The researcher through Faculty of Education, majoring Research and Educational Development, Chiang Mai University to 19 community colleges prepares letters to ask for permission for data gathering with the administrators and personnel of the community colleges. The researcher sends the sets of questionnaire with a self-addressed return envelope through post/mail.

- 3.2 Contact or cooperate through phone to the directors and personnel of the community colleges in order to ask permission for data gathering.

- 3.3 Implement to send the sets of questionnaire to 19 community colleges and ask their cooperation to return the filled up questionnaire through the post/mail.

Statistics used for data analysis in Step 1

The statistics gathered from the data analysis are coming through the three sets of tools as shown by the followings.

1. The record form on the synthesis of the standards and quality indicators for educational management in the community college. The analysis of this data is done through finding and presenting the values of frequencies.

2. The questionnaire from checking the appropriateness of the standards and quality indicators for educational management in the community colleges and the analysis of data through tabulating the frequency value, percentage values, and descriptive statistics.

3. The questionnaire on appropriateness of the applied standards and quality indicators for educational management in the community college. The data is analyzed by finding the Means, standard deviation (SD), Correlational Analysis, Exploratory Factor Analysis, and Confirmatory Factor Analysis.

The criteria in interpreting the result of appropriateness in the application of the standards and indicators for quality on the educational management in the community college is set through the judgments of the values of means as the followings.

The average 1.00 - 1.50 means have appropriateness in the lowest level.

The average 1.51 - 2.50 means have appropriateness in low level.

The average 2.51 - 3.50 means have appropriate level in moderate level.

The average 3.51 - 4.50 means have appropriateness in high level.

The average 4.51 - 5.00 means have appropriateness in the highest level.

The criteria for interpreting the appropriateness of the model for measurement with the empirical data through the method of Confirmatory Factor Analysis and the calculation of construct validity by judging the value of Factor Loading are settled as the following.

Value of Factor Loading above 0.30 means that indicators have proper construct validity (Kietsuda Srisook, 2002, p. 108).

Value of Kaiser-Meyer-Olkin (KMO) above 0.50 means the existing data is appropriate to be used with the technique of Factor Analysis.

Value of Eigenvalues will consider the Factor that has the value of Eigenvalues above/more than 1.

The hypothesis test is accomplished through the method of Bartlett's Test of Sphericity that has 34 indicators to show correlation; so the test will use Factor Analysis for further analysis.

Step 2: Create and develop the model for educational quality assurance in the community college. This step is divided into two steps as what follows.

Step 1 synthesis of model for the educational quality assurance in the community college from the concept, theory, research work, and educational institutions. The researcher implements this step as the followings.

1. Study the concept, theory, and research works that reveal about the model for educational quality assurance and the system for educational quality assurance.

2. Study the model for educational quality assurance of educational organizations. This model is composed of the model for educational quality assurance of the Ministry of Education, basic education institutions, higher education institutions, the colleges under Ministry of Public Health (Boromrajanok Institute) and Department of Vocational Education, and reports on the educational quality assurance in 19 community colleges.

3. Draft the Model for the educational quality assurance in the community college. This model is composed of the target for educational quality assurance, standards, and quality indicators for educational management. The implementation for the educational quality assurance is composed of quality control, quality auditing, and quality evaluation.

4. Brainstorm among the working team on educational quality assurance in the community college on the drafted of Model for educational quality assurance in the community college and attempt to improve and revise the model according to the conclusion of the opinion.

5. Draft the model for the educational quality assurance in the community college.

Step 2 check the appropriateness and feasibility in application. The implementation is as following.

1. Check the appropriateness and feasibility for application by soliciting opinion of the administrators of the community college and group of experts on the educational quality assurance in the community college.

2. Improve and revise the Model for the educational quality assurance in the community college according to the opinion of the administrators in the community college and experts.

3. Set the model for the quality assurance. The quality assurance in the community college is then tested for appropriateness and feasibility for application. It is composed of the target for educational quality assurance, standards, quality indicators for educational management, and the implementation for educational quality assurance and quality evaluation.

Sample group in Step 2

In the research implementation in Step 2, the researcher studies from the two sample groups as the followings.

Group 1 is the group sampled for the construction of the model for the educational quality assurance in the community college who are the working team of the educational quality assurance of the community college (a total of 8 people).

Group 2 is the group used to check on the appropriateness and feasibility of the Model in real application. The group is composed of the directors of the community college, advisors of the office for the community college administration,

deputy directors of the ONESQA, the evaluator of internal educational quality of Office of the Higher Education Commission, and the researchers who have experiences on quality assurance (a total of 24 people) (Details shown in Appendix A).

Tools used in the research in Step 2

The tools used in the research implementation in Step 2 have two sets which are composed of the followings.

Set 1 Brainstorming record form. This form is used for recording the draft of the model for educational quality assurance in the community college.

Set 2 Questionnaire on the appropriateness and feasibility in using the model for educational quality assurance of the community college. This questionnaire is used for checking the appropriateness and feasibility in the application.

Creating the tools in Step 2

The researcher implements the construction of the two sets of tools. The step is arranged as the followings.

Set 1 Brainstorm record form. After drafting the model for the educational quality assurance in the community college, the researcher constructs the model through the following steps.

1. Study the structure of the model for educational quality assurance. It is composed of four parts which are the target for educational quality assurance, standards, and indicators. The implementation of educational quality assurance is done through the composition of quality control, quality check, and quality evaluation.
2. Construct the Brainstorming record form for the brainstorm session to build the model for educational quality assurance in the community college.
3. Trial-use of the Brainstorming record form with three instructors in the community college.
4. Make revision of the issues on the brainstorming form before bringing it into use.

Sample of the Brainstorming record form on the model for educational quality assurance in the community college

Group name.....Data.....

Moderator of the group.....

Recorder.....

Issues for brainstorming

1.....

2.....

3.....

Set 2 Questionnaire on the attitude toward the Model for educational quality assurance in the community college. The researcher implements the production of the questionnaire as the following steps.

1. Study the principle, concept, theory, secondary data and related literature on the auditing of the model for the educational quality assurance.

2. Identify the questions and issues on the appropriateness and feasibilities for application.

3. Create the questionnaire on the attitude/opinion toward the model for the educational quality assurance in the community college which is divided into four steps as the followings

3.1 Demographic data of the respondents.

3.2 The attitude/opinion toward the drafted model for the educational quality assurance in the community college as the whole picture of the implementation for the quality assurance which is set in the five-rating scales as shown in the table.

List	Level of opinion				
	1	2	3	4	5
1. The Model for educational quality assurance in the community college is consistent with the mission of educational management in the community college.					
2. The Model for the educational quality assurance in the community college can be really applied.					
3. The target for the educational quality assurance in the community college is clear.					

3.3 Attitude/opinion toward the draft of the model for the educational quality assurance in the community college in each of the standards and indicators which are shown below.

Indicator number 1.1 Participation of the relevant people in identifying philosophy, objectives, strategy, identity and implementation plan

No.	Statement	Opinion		
		No (-1)	Not sure (0)	Yes (1)
1	Explanation on indicators is covering and clear.			
2	Standard criteria no. 1 has appropriateness in evaluation.			
3	Standard criteria no. 2 has appropriateness in the evaluation.			

4. Bring the tools to consult with the advisor and then bring them to improve or make revision.

Data collection in Step 2

In data gathering in Step 2, the researcher implements the collection of the data from the three sample groups. The steps are shown as the followings.

1. Data gathering to draft the model for educational quality assurance in the community college from the working team of the educational quality assurance in the community college. The step is as what follows.

1.1 Prepare the letter through Faculty of Education, majoring the Research and Educational Development at Chiang Mai University to solicit cooperation of the administrators and the working team of the educational quality assurance in the community colleges to invite them for the brainstorming on the model for educational quality assurance.

1.2 Contact through phone to ask cooperation from the directors of the community college to allow their personnel to participate in brainstorming on the model for educational quality assurance in the community college.

1.3 Implement to data collection by the working team of quality assurance in the community college through Brainstorming (a total of 8 people).

2. Data collection in order to check the appropriateness and feasibility for application of the model for the educational quality assurance in the community college from the directors.

2.1 Prepare the letter to ask for cooperation from the Faculty of Education, majoring Research and Educational Development, Chiang Mai University to some 19 community colleges to ask for help on the checking on the appropriateness for the model and its content validity.

2.2 Implement to send the questionnaires by post and ask help from the community colleges to send the filled in questionnaire back by post.

2.3 Implement to call cooperation from the samples through phone to monitor/follow up the questionnaires.

3. Collect the data from the experts to check the appropriateness and feasibility for application of the model for educational quality assurance in the community college.

3.1 Prepare the letter from Faculty of Education, majoring Research and Educational Development, Chiang Mai University to solicit cooperation by the experts to ask for help in measuring the content validity and covering the standards that need to be measured. The researcher delivers the questionnaires to the experts and asks them to send the filled up sets back through post/mail.

3.2 Contact the experts through phone to ask for help to measure the content validity and the coverage of the standards that need to be measured.

3.3 Deliver the questionnaires and ask the samples to send the filled up questionnaire back through post to the researcher.

Statistics used in data analysis in Step 2

The researcher uses the statistics for data analysis through two sets of tools which are the followings.

1. Record from Brainstorming on the model for the educational quality assurance in the community college. The data is analyzed through content validity measurement and drawn conclusion.

2. The data gathered through the questionnaire on the appropriateness and feasibility for application of the model for the educational quality assurance in the community college is analyzed by using Means and standard deviation (SD).

The criteria for interpreting the appropriateness and feasibility of the model for the educational quality assurance in the community college can be shown from the means as what follows.

The means value between 1.00 and 1.50	means the least
The means value between 1.51 and 2.50	means little
The means value between 2.51 and 3.30	means moderate
The means value between 3.51 and 4.50	means a lot
The means value between 4.51 and 5.00	means the most

The criteria for quality evaluation

The criteria for educational quality assurance in the community college are divided into two parts. The first part is the evaluation criteria of each indicator. The second part is the evaluation criteria of each standard. The criteria do not identify the weight of evaluation which will be identified from the average value of giving weight for quality evaluation from the experts.

Standard for the educational quality assurance in the community colleges	No. of indicators	Weight of evaluation
Standard no. 1: set educational management plan and academic development	6	20
Standard no. 2: produce educational graduates and provide social service	7	25
Standard no. 3: develop students	3	10
Standard no. 4: research	3	15
Standard no. 5: maintain religion and arts and culture	3	10
Standard no. 6: manage administration	12	20
Total	34	100

Step 3: Study the test result of educational quality evaluation in the community college according to the developed standards and indicators (divided into two steps as the followings).

Step 1 Prepare the evaluation of the educational quality in the community college. There are three parts of preparation which are the researcher, the evaluator team, and the community college in the following order.

On researcher: the researcher prepares the readiness for the evaluation as what follows.

1. Prepare the letter from Faculty of Education, Research and Educational Development, Chiang Mai University to a community college to ask for assistance to the researcher to test the evaluation of the educational quality in the community college.
2. Clarify the research objectives and test the evaluation for educational quality in the community college through planning the implementation with the administrators, heads of the department/unit and the heads of the educational quality assurance.
3. Set up the committee board for evaluating the internal quality in the community college (a total of three people) to evaluate the model for educational quality evaluation.

On the evaluator team: the researcher prepares the readiness for the evaluation as what follows.

1. Study the model for evaluating the educational quality in the community colleges. It is composed of the standards and indicators, evaluation methods, evaluation criteria, and the judgment for the evaluation result.
2. Study the report of educational quality assurance in the community college and make the evaluation plan for educational quality in the community college.
3. Appoint the date and time with the community college to test the evaluation for educational quality in the community college.

On community college: the researcher prepares the readiness for the evaluation as following.

1. Study the standards and indicators that the researcher has developed. They are composed of indicator explanation, evaluation criteria, method for controlling quality, method for auditing quality, the method for quality evaluation, and judgment of quality evaluation.
2. Prepare materials and evidence according to the normal implementation condition. The materials are composed of the preparation in giving interviews for the evaluator team.
3. Cooperate to ask for the cooperation from the relevant people with the educational management in the community college to participate in giving data to the evaluator team and listen to suggestions in reporting the evaluation result verbally. These relevant people are the committee of the college council, Committee of Academic Council, compositing instructor, special instructors, students, alumni, and people and personnel at the community colleges.

Step 2: Test on the evaluation of educational quality in the community college. The implementation is accomplished as what follows.

Relevant people in the evaluation are the followings.

1. The members of evaluator team who have roles and responsibility which are (1) visiting the community college to create understanding and good perception on the evaluation of internal educational quality to the personnel, (2) gathering the data and checking the evidence to know the authentic condition of implementation in the community college. These are the annual report, observation and materials form the practitioners, and relevant people, (3) evaluating the educational quality according to the standards and indicators, evaluation criteria, and the judgment of the evaluation result, 4) providing concepts and suggestions for the educational management of the community college for the evaluation result that the community college can bring to improve and develop the management concretely, and (5) preparing the report on the evaluation of the educational quality in the community college.
2. The researcher plays roles in collecting data according to the standards and indicators, the method for evaluation, evaluation criteria, and the judgment of evaluation result from the evaluator team, personnel, and relevant people in order to improve the model for evaluating the educational quality to make it appropriate and feasible for application.
3. The personnel and relevant people on the educational management of the community college play roles and responsibility in implementing the educational management according to the mission of the community college, and they

give data to the team of evaluators based on the fact and materials, evidence, and interviews to the evaluator team.

The component of the evaluation is as the followings.

1. The standards and quality indicators for educational management are composed of six standards which are (1) plan for educational management and academic development, (2) production of the educational graduates and service to society, (3) development of students, (4) research, (5) maintenance of religion and art and culture, and (6) management of administration. The total number of indicators is 34 indicators.

2. Annual report of the community college has important contents in writing report on (1) demographic data of the community college, (2) philosophy, vision, mission, objectives and plan of the college, (3) the evaluation result according to the standards and indicators, and (4) conclusion of evaluation result of each of the standards (each of these aspects should tell the strength, the condition for success, the points that need improvement, and causes and guideline for improvement), (5) appendix, and (6) committee that makes the annual reports.

3. The evaluation method can be divided into three phases which are before the visit, during the visit, and after the visit.

4. The criteria for evaluating of educational quality in the community college are divided into two parts. The first part is the evaluation criteria of each indicator and the second part is the evaluation criteria of each of the standards.

5. The judgment for evaluation result is done from the quality level of the community college which will bring the total of scores from every indicator for comparison to consider the level of quality of the educational management of the community college based on the criteria for judging the evaluation results.

Results gained from the evaluation of educational quality in the community college. They are as the followings.

1. The report on the evaluation result of educational quality in the community college according to the standards and indicators, strength, weak point that need development, and suggestions for the community college to improve the develop the quality of the educational management.

2. The researcher collects the data to analyze and conclude the results on problems, obstacles and suggestions from the test/experiment on the evaluation of quality in the community college to improve and correct the problems for further application.

Sample group in Step 3

In the implementation of research in Step 3, the researcher studies from the sample group through the following steps.

1. Setting three evaluator teams. These teams are composed of (1) an evaluator who has the list of names registered as the evaluators of educational quality in the Office of the Higher Education Commission (OHEC), (2) an evaluator who has experience on educational management of the community college or has done research work on the community college, and (3) a personnel from other community college who has had experience on the evaluation of educational quality.
2. The group who utilizes the studying of the test result on evaluating the educational quality in the community college as the administration team and personnel of the community college. They consist of chairpersons of the community college, directors, composing instructors, special instructors, students, alumni, people and personnel (a total of 40 people).

Tools used for research in Step 3

The tools used for implementation of research in Step 3 have two sets as the followings.

Set 1 is the field note form for studying the evaluation result of educational quality of the community college by the team of evaluator who fills the field note form.

Set 2 is questionnaire on the result of the test/experiment on the educational quality in the community college by the administrators and personnel of community college who are respondents of the questionnaire.

The construction of tool in Step 3

The researcher implements the construction of the tools by following the steps as following.

Set 1 Field note form is used for studying the evaluation result of educational quality of the community college. The researcher constructs it as the followings.

1. Study the secondary data in the field note form from the manual of external educational quality assurance of the Office of Basic Education Commission and the Office of the Higher Education Commission.
2. Construct the field note form to allow the evaluator team to test/trial use of the evaluation of education quality in the community college.
3. Improve and correct the field note according to the suggestion of the evaluators for educational quality in the community college.
4. Apply the field note to use in evaluating the quality assurance in the community college.

Sample of record of field note for evaluating the educational quality in the community college

Indicator no. 1.1 Participation in identifying philosophy, objectives, strategy, identity and implementation plan (weight 4 scores)

Standard criteria	Implementation result from study of secondary data, observation, interview
1. Hold meeting with relevant people in identifying philosophy, objectives, strategy, identity, and implementation plan of the community college to gather opinion, analysis and synthesis together.
2. The relevant people make the plan for identifying philosophy, objectives, strategy, identity and implementation plan of the community college together according to the objectives of the establishment and emphasis of the mission.

Set 2 Questionnaire on the experiment/test evaluation result of the educational quality in the community college. The researcher constructs the questionnaire in the following order.

1. Study the principle, concept, theory, secondary data and related literature on the evaluation and the educational quality assurance.
2. Identify the question items from the Model on developed quality evaluation.
3. Construct the questionnaire on the test/experiment result on the evaluation of internal educational quality on quality control, quality check and quality evaluation according to the standard and indicators on problem and obstacle for real application.
4. Apply the trial-use of the questionnaire with three of the personnel of the community college.
5. Improve and make revision of the questionnaire before going to real application.

Sample of the questionnaire on the testing/experiment result of evaluation of the educational quality in the community college

Indicator 1.1 Participation in identifying philosophy, objectives, identity, strategy and implementation plan

Quality Control	Quality Check	Quality evaluation
<input type="checkbox"/> (1) appropriate	<input type="checkbox"/> (1) appropriate	<input type="checkbox"/> (1) appropriate
<input type="checkbox"/> (2) inappropriate	<input type="checkbox"/> (2) inappropriate	<input type="checkbox"/> (2) inappropriate
Additional suggestion	Additional suggestion	Additional suggestion
.....
.....
.....

Problem and obstacles in utilizing the model.....

Other suggestions.....

Data gathering

During gathering the data in Step 3, the researcher gathers the data with two sets of tools. The steps are shown as the followings.

1. Gather the data through the field note to study the evaluation result of educational quality in the community college. The researcher implements the following procedures.

1.1 Hold meeting and identify in the meeting with the team of educational quality evaluation on data gathering and recording the data in the field note form. The evaluator is responsible for gathering the data and studying the evaluation result to bring suggestions to improve and develop further.

1.2 Make evaluation plan with the team of evaluators that is responsible for the standards and indicators for evaluating the educational quality in the community college according to the knowledge, abilities and skill of each person (and to do the cross-checking). Two evaluators are responsible for each of the indicators.

1.3 Gather the data by using the field note form for the evaluation of educational quality in the community college between 18 and 20 July 2012.

2. Questionnaire for the result of test/experiment on the educational quality evaluation in the community college. The researcher implements it as what follows.

2.1 The researcher makes the plan for data collection with the head of the educational quality assurance of Phrae Community College to deliver the questionnaire among the personnel who are responsible for implementation in each indicator.

2.2 Identify the objectives of the research and then give out the questionnaire to the people related to the implementation in each of the standards and indicators to analyze the problems and obstacle for application and give suggestion for the researcher to improve further for application.

2.3 Gather the data from the questionnaire from the personnel to analyze and summarize the conclusion.

Statistics used for data analysis in Step 3

The researcher utilizes the following statistics to analyze the data through two sets of tools.

Set 1 is the field note for studying the evaluation result of educational quality of the community college. The data analysis is done through frequency, percentage and Means, standard deviation (SD), and Content Analysis.

Set 2 is the questionnaire on trial use of the model for educational quality assurance in the community college through frequency, percentage, Mean, standard deviation (SD), and Content Analysis.