

Chapter 4

Results of Data Analysis

The objectives of this research are three which are (1) to develop standards and quality indicators for educational management in the community college, (2) to construct and develop the model for educational quality assurance in the community college, and (3) to experiment/test the educational quality evaluation in the community college based on the standards and developed indicators. The researcher would like to present the results of data analysis by dividing it into three parts as the followings.

Part 1 Results of development of the standards and quality indicators for educational management in the community college

1. Development results of standards and quality indicators for educational management in the community college.
2. The results of auditing/check the quality of the standards and quality indicators for educational management in the community college.

Part 2 Results of construction and development of the model for educational quality assurance in the community college

1. The results of construction and development of the model for internal educational assurance quality.
2. The results of checking the appropriateness and feasibility for the model application.

Part 3 Results of test on Evaluation on the Educational quality in the community college according to the developed standards and indicators

1. The results of testing/experimenting the evaluation of educational quality in the community college.
2. The results of evaluation of educational quality in the community college.

In data analysis and interpretation of meanings in this research to create same understanding for presenting the results of data analysis of research, the researcher identifies the symbols and abbreviations to be used for presenting the data and analysis results as the followings.

| | |
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| Mean | Means Average |
| SD. | Means Standard Deviation |
| b | means Factor loading value |
| SE | means Standard Error |
| R ² | means Coefficient of determination |
| FS | means the value of Factor Score Regressions |
| df | means the Degrees of Freedom |
| P | means Probability |
| χ ² | means indicators to measure consistency in chi-square values |
| GFI | means the Goodness of Fit Index to measure the consistency of the model |
| AGFI | means Adjusted Goodness of Fit Index to measure the consistency of the model that is already measured |
| RMR | mean Root of Mean Square Residuals |
| e _i | means the error value of observable variables |
|  | means latent variables |
|  | means observable variables |
| | means correlation between dependent variable and independent variable |
| PLAN | means the plan for educational management and academic management |
| PLAN ₁ | means participation of relevant people in identifying the philosophy, objectives, strategies, identification, and implementation plan. |
| PLAN ₂ | means preparation for the strategic plan to be the annual implementation plan |
| PLAN ₃ | means the achievement of success based on the indicators of the implementation plan which is consistent with the mission |
| PLAN ₄ | means the system for development and curriculum and administration with emphasis on the needs of the community and participation |
| PLAN ₅ | means the development system for the instruction management with student-centered approach |
| PLAN ₆ | means the success in developing the learners' potential before pursuing the study in lower than bachelor degrees |

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| PRO | means producing the graduates and giving academic service to society |
| PRO ₁ | means quality of instructors |
| PRO ₂ | means the graduates in the vocational certificate, high vocational certificate, and associate degree with GPA above 2.50 |
| PRO ₃ | means the graduates can apply the knowledge and experience from the community college to perform occupation, develop work, and develop the community |
| PRO ₄ | means satisfaction of manufacturers and employers towards the graduates from the community college. |
| PRO ₅ | means the training process to create the success for the participants of the training |
| PRO ₆ | means the process for academic service with response to the need of the communities |
| PRO ₇ | means the success of training and providing academic service to society |
| STU | means development of students |
| STU ₁ | means the system and the student service activities |
| STU ₂ | means the process to enhance student affairs or activities |
| STU ₃ | means the success in creating quality of the students to society |
| RES | means research |
| RES ₁ | means the research to develop the instructional management and the research work of the institution |
| RES ₂ | means the research to develop the locals |
| RES ₃ | means the system for educational management from the research results or the innovation for the instruction |
| REL | means the maintenance of religion, arts and culture |
| REL ₁ | means the process to maintain religion, arts and culture |
| REL ₂ | means innovation in work and maintenance of religion, arts and culture with the instruction and student activities |
| REL ₃ | means the success on maintenance of religion, arts and culture |
| MAN | means administration |
| MAN ₁ | means the success in administration under the supervision of the community college council |
| MAN ₂ | means the success of academic administration under the supervision of the community college council |
| MAN ₃ | means leadership of administrators of the community college |
| MAN ₄ | means development of institution to the learning institutions |
| MAN ₅ | means the administration of the unit for educational management |

| | |
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| MAN ₆ | means the success in developing the information system in the administration |
| MAN ₇ | means the administration of personnel who are participative and happy in working |
| MAN ₈ | means the administration of risks |
| MAN ₉ | means the financial and budget system |
| MAN ₁₀ | means effectiveness and maximization of expenditure worth |
| MAN ₁₁ | means the system and mechanism for internal educational quality assurance |
| MAN ₁₂ | means the success of internal educational quality assurance |

Part 1 Results of development of the standards and quality indicators for educational management of the community college

The researcher develops the standards and quality indicators for educational management in the community college by synthesizing the standards and quality indicators for educational management from the College Administration Office, the community, ONESQA, Office of the Higher Education Commission (OHEC), and Office of the Public Sector Development Commission. The research in country and overseas check the appropriateness of using in application from the director, deputy directors, heads of department and heads of quality assurance and check the quality of the standards and quality indicators for educational management through the measurement of construct validity, the appropriateness of the model with the empirical data through the method of confirmatory factor analysis. The conclusion can be drawn as the followings.

1. The results of developing standards and quality indicators for educational management of the community college

The results of developing standards and quality indicators for educational management of the community college consisted of 6 standards and 34 indicators as the followings:

Standard 1 the plan for educational management and academic development

Indicator 1 The participation of the relevant people in identifying philosophy, objectives, strategies, and identification for implementation plan.

Indicator 2 The making strategic plan to be annual implementation plan

Indicator 3 The achievement based on indicators of implementation plan that is consisted with missions

Indicator 4 The system for development and curriculum administration with emphasis on the needs of communities and participation

Indicator 5 The system for developing educational management has emphasized on student-centered methods

Indicator 6 The success in developing the students' potentials before entering the associate degree level

Standard 2 Production of graduates and academic service to society

- Indicator 1 The quality of instructors
- Indicator 2 The graduates who passed the standard criteria in the course of vocational certificates, high vocational certificate and associate degree with the GPA of 2.50 or beyond
- Indicator 3 The graduates can apply their knowledge and experience from the community college to perform their occupation, development of their work and their community
- Indicator 4 The satisfaction of the manufacturers or employers of the graduate towards the graduates from the community colleges
- Indicator 5 The training processes which create occupations for the trainers
- Indicator 6 The academic service process that responds to the need of the community
- Indicator 7 The successful trainings and academic service to society

Standard 3 Student development

- Indicator 1 The system and activities to provide service to students
- Indicator 2 The process to enhance student activities
- Indicator 3 The success in constructing student Quality to society

Standard 4 Research

- Indicator 1 The research to develop the instructional management and the research of the institution
- Indicator 2 The research to develop the localities
- Indicator 3 A system for knowledge management from the research findings or the instructional innovation

Standard 5 Maintenance of Religion Arts and Culture

- Indicator 1 The process to maintain religion, arts, and culture
- Indicator 2 The integration of religion, arts, and culture and the teaching and learning and student's activities
- Indicator 3 The successful maintenance of religion, arts, and culture

Standard 6 Administration

- Indicator 1 Success on administration under the supervision of the community college council
- Indicator 2 Success on academic administration under the supervision of the community college council
- Indicator 3 Leadership of the administrators of the community college
- Indicator 4 The development of institution to the learning institution
- Indicator 5 The administration of the educational unit
- Indicator 6 Success on developing the information technology system in the administration
- Indicator 7 The administration of personnel with participation and happiness in working

- Indicator 8 Administration of risk
- Indicator 9 Financial and budget system
- Indicator 10 Effectiveness and maximization of expenditure
- Indicator 11 System and mechanism for internal quality assurance
- Indicator 12 Success on internal educational quality assurance

2. Results of checking the quality of the standards and quality indicators for educational management in the community college

The researcher constructs the standards and quality indicators for educational management of the community college from the synthesis the basic concept and the research work to use as the conceptual frame and all indicators to develop to get the indicators with good qualification that can be used to assure educational quality in the community college that is consistent with the real conditions. These indicators will be used to check the quality of the indicators through the construct validity, the appropriateness, and the appropriateness of the model for measuring the quality for educational management with empirical data. The results of this checking have the following details.

2.1 The results of checking the construct validity

The researcher checks the construct validity of 34 indicators. The results of responses to the questionnaire on the opinion towards standards and quality indicators of the educational management of the community college of the sample groups who are administrators and personnel of community college (a total of 440 people) appear through the Exploratory Factor Analysis (using a computer program) with technique called Principal Component Analysis. Then the researcher makes judgment on which indicators have construct validity (using the Factor Loading score) more than 0.30. In this step the researcher can select the indicators based on the set criteria (34 indicators).

Before presenting the result of component analysis of the indicator group, the researcher presents the analysis results of the value of Kaiser-Meyer-Olkin with value of 0.949 which is higher than 0.50 and the result of testing hypothesis using Bartlett's Test of Sphericity that reveals that 34 variables are correlated. The tests show that the data has appropriateness to use the technique of Factor Analysis.

The result for analysis of Correlation Coefficient among the indicators in each standard is useful to check the correlation of indicators before bringing the results to analysis of the component to see if the correlation coefficients significant or not. Without significant statistical correlation it means that no co-component exists and the indicators should not be used for analyzing the component. The researcher presents the result of correlation coefficient analysis of the group of indicators in each component as the followings.

Table 1: The correlation coefficient value of indicator in the standard of educational management plan and academic development

| | PLAN ₁ | PLAN ₂ | PLAN ₃ | PLAN ₄ | PLAN ₅ | PLAN ₆ |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| PLAN ₁ | 1.00 | | | | | |
| PLAN ₂ | .805** | 1.00 | | | | |
| PLAN ₃ | .679** | .724** | 1.00 | | | |
| PLAN ₄ | .638** | .635** | .603** | 1.00 | | |
| PLAN ₅ | .577** | .588** | .604** | .703** | 1.00 | |
| PLAN ₆ | .510** | .499** | .525** | .550** | .665** | 1.00 |

** P < .01

Table 1 reveals that the correlation coefficient among the indicators in the standard of educational management plan and academic development has the value between 0.499 and 0.805. When tested for the statistical significance, every value has statistical significance at P<0.01. The pair that shows highest correlation is participation of relevant people in identifying philosophy, objectives, strategy, and identification and implementation of plan (PLAN₁) and making the strategic plan to be the annual implementation plan (PLAN₂). The pair that shows the least correlation is making the strategic plan to be the annual implementation plan (PLAN₂) and the level of success in developing the potential of learners before entering the associate degree (PLAN₆). It can be concluded that every indicator has relationship to one another and has appropriateness for analyzing the components.

Table 2: The result of Exploratory Factor Analysis to measure the construct validity of indicators in the standard of educational management plan and academic development

| Indicators | Factor Loading |
|--|----------------|
| 1. Participation of relevant people in identifying philosophy, objectives, strategies, and identification and development plan | .800 |
| 2. Making strategic plan to be annual implementation plan | .847 |
| 3. Achievement based on indicators of implementation plan that is consistent with missions | .692 |
| 4. The system for development and curriculum administration with emphasis on the needs of communities and participation | .621 |
| 5. The system for developing educational management has emphasized on student-centered methods | .525 |
| 6. The success in developing the students' potentials before entering the associate degree level | .460 |

Eigenvalues = 1.838

Percent of Variance = 5.406

Table 2 shows that when six indicators to analyze the components are put together, every indicator has good construct validity as one component has Eigenvalues equal to 1.838 and can explain the Percent of Variance at 5.406 percent; and the Factor Loading of indicators have the values between 0.460 and 0.847. The indicators which have the three highest factor loading scores are indicators number 2 on making strategic plan to be annual implementation plan (with the factor loading value of 0.847). The next highest is indicator number 1 on participation of relevant people in identifying philosophy, objectives, strategies, identification and implementation plan (with the factor loading value equal to 0.800), and indicator number 3 on the success of indicators of the implementation plan that is consistent with the mission (with the factor loading values equal to 0.692).

Table 3: The correlation coefficient value of indicator in the standard of production of graduates and academic service to society

| | PRO ₁ | PRO ₂ | PRO ₃ | PRO ₄ | PRO ₅ | PRO ₆ | PRO ₇ |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| PRO ₁ | 1.00 | | | | | | |
| PRO ₂ | .502** | 1.00 | | | | | |
| PRO ₃ | .558** | .509** | 1.00 | | | | |
| PRO ₄ | .523** | .442** | .630** | 1.00 | | | |
| PRO ₅ | .468** | .401** | .574** | .499** | 1.00 | | |
| PRO ₆ | .498** | .442** | .557** | .517** | .721** | 1.00 | |
| PRO ₇ | .477** | .407** | .529** | .516** | .679** | .750** | 1.00 |

** P < .01

Table 3 reveals that the correlation coefficient among the indicators in the standard of production of graduates and academic service to society has the value between 0.401 and 0.750. When tested for the statistical significance, every value has statistical significance at P<0.01. The pair that shows highest correlation is academic service process that responds to the need of the community (PRO₆) and successful trainings and academic service to society (PRO₇). The pair that shows the least correlation is the graduates who passed the standard criteria in the course of vocational certificates, high vocational certificate and associate degree with the GPA of 2.50 or beyond (PRO₂) and training processes which create occupations for the trainees (PRO₅). It can be concluded that every indicator has relationship to one another and has appropriateness for analyzing the components.

Table 4: The result of Exploratory Factor Analysis to measure the construct validity of indicators in the standard of production of graduates and academic service to society

| Indicators | Factor Loading |
|---|----------------|
| 1. Quality of instructors | .515 |
| 2. The graduates who passed the standard criteria in the course of vocational certificates, high vocational certificate and associate degree with the GPA of 2.50 or beyond | .631 |
| 3. The graduates can apply their knowledge and experience from the community college to perform their occupation, development of their work and their community | .729 |
| 4. Satisfaction of the manufacturers or employers of the graduates towards the graduates from the community college | .613 |
| 5. Training processes which create occupations for the trainees | .716 |
| 6. Academic service process that responds to the need of the community | .689 |
| 7. Successful trainings and academic service to society | .670 |

Eigenvalues = 2.345

Percent of Variance = 6.898

Table 4 shows that when seven indicators to analyze the components are put together, every indicator has good construct validity as one component has Eigenvalues equal to 2.345 and can explain the Percent of Variance at 6.898 percent; and the Factor Loading of indicators have the values between 0.515 and 0.729. The indicators which have the three highest factor loading scores are indicators number 3 the graduates can apply their knowledge and experience from the community college to perform their occupation, development of their work and their community (with the factor loading value of 0.729). The next highest is indicator number 5 training processes which create occupations for the trainees (with the factor loading value equal to 0.716), and indicator number 6 academic service process that responds to the need of the community (with the factor loading value equal to 0.689)

Table 5: The correlation coefficient value of indicator in the standard of student development

| | STU ₁ | STU ₂ | STU ₃ |
|------------------|------------------|------------------|------------------|
| STU ₁ | 1.00 | | |
| STU ₂ | .834** | 1.00 | |
| STU ₃ | .788** | .800** | 1.00 |

** P < .01

Table 5 reveals that the correlation coefficient among the indicators in the standard of student development has the value between 0.788 and 0.834. When tested for the statistical significance, every value has statistical significance at $P<0.01$. The pair that shows highest correlation is the system and activities to provide service to students (STU_1) and the process to enhance student activites (STU_2). The pair that shows the least correlation is the system and activities to provide service to students (STU_1) and the success in contructing student quality to society (STU_3). It can be concluded that every indicator has relationship to one another and has appropriateness for analyzing the components.

Table 6: The result of Exploratory Factor Analysis to measure the construct validity of indicators in the standard of student development

| Indicators | Factor Loading |
|---|-----------------------------|
| 1. The system and activities to provide service to students | .816 |
| 2. The process to enhance student activities | .769 |
| 3. The success in constructing student quality to society | .721 |
| Eigenvalues = 1.146 | Percent of Variance = 3.370 |

Table 6 shows that when 3 indicators to analyze the components are put together, every indicator has good construct validity as one component has Eigenvalues equal to 1.146 and can explain the Percent of Variance at 3.370 percent; and the Factor Loading of indicators have the values between 0.721 and 0.816. The indicators which have the three highest factor loading scores are indicators number 1 the system activities to provide service to students (with the factor loading value of 0.816). The next highest is indicator number 2 the process to enhance student activities (with the factor loading value equal to 0.769), and indicator number 3 the success in constructing student quality to society (with the factor loading value equal to 0.721).

Table 7: The correlation coefficient value of indicator in the standard of research

| | RES ₁ | RES ₂ | RES ₃ |
|------------------|------------------|------------------|------------------|
| RES ₁ | 1.00 | | |
| RES ₂ | .826** | 1.00 | |
| RES ₃ | .797** | .821** | 1.00 |

** $P < .01$

Table 7 reveals that the correlation coefficient among the indicators in the standard of research has the value between 0.797 and 0.826. When tested for the statistical significance, every value has statistical significance at $P<0.01$. The pair that shows highest correlation is the percentage of the research to develop the instructional management and the research of the institution (RES_1) and the research to develop the localities (RES_2). The pair that shows the least correlation is the research to develop the instructional management and the research of the institution (RES_1) and a system for knowledge management from the research findings or the instructional innovation (RES_3). It can be concluded that every indicator has relationship to one another and has appropriateness for analyzing the components.

Table 8: The result of Exploratory Factor Analysis to measure the construct validity of indicators in the standard of research

| Indicators | Factor Loading |
|---|-----------------------------|
| 1. The research to develop the instructional management and the research of the institution | .796 |
| 2. The research to develop the localities | .822 |
| 3. A system for knowledge management from the research findings or the instructional innovation | .809 |
| Eigenvalues = 1.276 | Percent of Variance = 3.754 |

Table 8 shows that when 3 indicators to analyze the components are put together, every indicator has good construct validity as one component has Eigenvalues equal to 1.276 and can explain the Percent of Variance at 3.754 percent; and the Factor Loading of indicators have the values between 0.796 and 0.822. The indicators which have the three highest factor loading scores are indicators number 2 on research for local development (with the factor loading value of 0.822). The next highest is indicator number 3 a system for knowledge management from the research findings or the instructional innovation (with the factor loading value equal to 0.809), and indicator number 1 the research to develop the instructional management and the research of the institution (with the factor loading value equal to 0.796).

Table 9: The correlation coefficient value of indicator in the standard of maintenance of Religion Arts and Culture

| | REL ₁ | REL ₂ | REL ₃ |
|------------------|------------------|------------------|------------------|
| REL ₁ | 1.00 | | |
| REL ₂ | .785** | 1.00 | |
| REL ₃ | .812** | .841** | 1.00 |

** P < .01

Table 9 reveals that the correlation coefficient among the indicators in the standard of student development has the value between 0.785 and 0.841. When tested for the statistical significance, every value has statistical significance at P<0.01. The pair that shows highest correlation is the integration of religion, arts, and culture and the teaching and learning and student's activities (REL₂) and successful maintenance of religion, arts, and culture (REL₃). The pair that shows the least correlation is the process to maintain religion, arts, and culture (REL₁) and the integration of religion, arts, and culture and the teaching and learning and student's activities (REL₂). It can be concluded that every indicator has relationship to one another and has appropriateness for analyzing the components.

Table 10: The result of Exploratory Factor Analysis to measure the construct validity of indicators in the standard of maintenance of Religion Arts and Culture

| Indicators | Factor Loading |
|--|----------------|
| 1. The process to maintain religion, arts, and culture | .776 |
| 2. The integration of religion, arts, and culture and the teaching and learning and student's activities | .785 |
| 3. Successful maintenance of religion, arts, and culture | .760 |

Eigenvalues = 1.020 Percent of Variance = 3.001

Table 10 shows that when 3 indicators to analyze the components are put together, every indicator has good construct validity as one component has Eigenvalues equal to 1.020 and can explain the Percent of Variance at 3.001 percent; and the Factor Loading of indicators have the values between 0.760 and 0.785. The indicators which have the three highest factor loading scores are indicators number 2 on the integration of religion, arts, and culture and the teaching and learning and student's activities (with the factor loading value of 0.785). The next highest is indicator number 1 on the process to maintain religion, arts, and culture (with the factor loading value equal to 0.776), and indicator number 3 on successful maintenance of religion, arts, and culture (with the factor loading value equal to 0.760)

Table 11: The correlation coefficient value of indicator in the standard of administration

| | MAN ₁ | MAN ₂ | MAN ₃ | MAN ₄ | MAN ₅ | MAN ₆ | MAN ₇ | MAN ₈ | MAN ₉ | MAN ₁₀ | MAN ₁₁ | MAN ₁₂ |
|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|-------------------|
| MAN ₁ | 1.00 | | | | | | | | | | | |
| MAN ₂ | .807** | 1.00 | | | | | | | | | | |
| MAN ₃ | .612** | .606** | 1.00 | | | | | | | | | |
| MAN ₄ | .585** | .577** | .740** | 1.00 | | | | | | | | |
| MAN ₅ | .610** | .655** | .663** | .832** | 1.00 | | | | | | | |
| MAN ₆ | .620** | .572** | .542** | .494** | .546** | 1.00 | | | | | | |
| MAN ₇ | .514** | .489** | .695** | .774** | .709** | .524** | 1.00 | | | | | |
| MAN ₈ | .602** | .570** | .616** | .757** | .802** | .561** | .692** | 1.00 | | | | |
| MAN ₉ | .533** | .555** | .609** | .674** | .674** | .532** | .636** | .703** | 1.00 | | | |
| MAN ₁₀ | .590** | .560** | .643** | .701** | .676** | .611** | .665** | .751** | .877** | 1.00 | | |
| MAN ₁₁ | .600** | .611** | .611** | .632** | .665** | .618** | .608** | .682** | .711** | .754** | 1.00 | |
| MAN ₁₂ | .615** | .621** | .645** | .669** | .686** | .632** | .627** | .700** | .703** | .757** | .917** | 1.00 |

** P < .01

Table 11 reveals that the correlation coefficient among the indicators in the standard of administration has the value between 0.489 and 0.917. When tested for the statistical significance, every value has statistical significance at P<0.01. The pair that shows highest correlation is system and mechanism for internal quality assurance (MAN₁₁) and success on internal educational quality assurance (MAN₁₂). The pair that shows the least correlation is success on academic administration under the supervision of the community college council (MAN₂) and the administration of personnel with participation and happiness in working (MAN₇). It can be concluded that every indicator has relationship to one another and has appropriateness for analyzing the components.

Table 12: The result of Exploratory Factor Analysis to measure the construct validity of indicators in the standard of Administration

| Indicators | Factor Loading |
|--|----------------|
| 1. Success on administration under the supervision of the community college council | .638 |
| 2. Success on academic administration under the supervision of the community college council | .618 |
| 3. Leadership of the administrators of the community college | .747 |
| 4. The development of institution to the learning institution | .801 |
| 5. The administration of the educational unit | .786 |
| 6. Success on developing the information technology system in the administration | .520 |
| 7. The administration of personnel with participation and happiness in working | .776 |
| 8. Administration of risk | .771 |
| 9. Financial and budget system | .741 |
| 10. Effectiveness and maximization of expenditure | .773 |
| 11. System and mechanism for internal quality assurance | .648 |
| 12. Success on internal educational quality assurance | .667 |

Eigenvalues = 17.249

Percent of Variance = 50.731

Table 12 shows that when 13 indicators to analyze the components are put together, every indicator has good construct validity as one component has Eigenvalues equal to 17.249 and can explain the Percent of Variance at 50.731 percent; and the Factor Loading of indicators have the values between 0.520 and 0.801. The indicators which have the three highest factor loading scores are indicators number 4 on the development of institution to the learning institution (with the factor loading value of 0.801). The next highest is indicator number 5 on the administration of the educational unit (with the factor loading value equal to 0.786), and indicator number 7 (with the factor loading value equal to 0.776).

2.2 Results of checking appropriateness

The researcher checks the appropriateness of 34 indicators from the answers to the questionnaire on the opinion towards standards and quality indicators for educational management of the community college of the samples who are administrators and personnel of community college (440 people) by using the analysis of means and standard deviations from the scores to identify the appropriate factor loading. Each indicator will be classified into 5 levels from 1 to 5 which represent the least to highest levels of appropriateness. The researcher makes judgment as to which indicator is appropriate to be used in the evaluation. From the average score of appropriateness, which is more than 3.00, in this step the researcher can select the 34

indicators based on the total set criteria. The details of the checking of appropriateness of the indicators can be used in the educational quality assurance in the community college in each standard as the followings.

Table 13: Means and standard deviation on appropriateness of indicators in the standard on educational management and academic development

| Indicators | Mean | SD. | Level |
|---|--------------|--------------|-------|
| 1. Participation of relevant people in identifying philosophy, objectives, strategies, and identification and development | 3.605 | 0.951 | High |
| 2. Making strategic plan to be annual implementation plan | 3.720 | 0.911 | High |
| 3. Achievement based on indicators of implementation plan that is consistent with missions | 3.657 | 0.907 | High |
| 4. The system for development and curriculum administration with emphasis on the needs of communities and participation | 3.786 | 0.994 | High |
| 5. The system for developing educational management has emphasized on student-centered methods | 3.641 | 0.956 | High |
| 6. The success in developing the students' potentials before entering the associate degree level | 3.545 | 0.968 | High |
| Average Total | 3.659 | 0.951 | High |

Table 13 reveals that the opinion of the sample group on the appropriateness of indicators in the standards on philosophy, objectives, strategies, and identification for implementation plan as the whole picture shows appropriateness in high level. The average value is equal to 3.659 and the standard deviation is at 0.951. On the average the appropriateness of indicators have the values between 3.545-3.786. It can be concluded that every indicator has appropriateness to be used in internal educational quality assurance in the community college, and all indicators have level of appropriateness which the sample group think as appropriate when arranged chronologically from highest to the lowest as what follows. Indicators number 4, 2 and 4 have the average values of appropriateness equal to 3.786, 3.720, and 3.657, respectively. The least appropriateness is indicator 6 having the average values of appropriateness equal to 3.545.

Table 14: Means and standard deviation on appropriateness of indicators in the standard on production of graduates and academic service to society

| Indicators | Mean | SD. | Level |
|--|--------------|--------------|-------|
| 1. Quality of instructors | 3.861 | 0.870 | High |
| 2. The graduate who passed the standard criteria in the course of vocational certificates, high vocational certificate and associate degree with the GPA of 2.50 or beyond | 3.759 | 0.846 | High |
| 3. The graduates can apply their knowledge and experience from the community college to perform their occupation | 3.836 | 0.802 | High |
| 4. Satisfaction of the manufacturers or employers of the graduates towards the graduates from the community college | 3.643 | 0.836 | High |
| 5. Training processes which create occupations from the trainees | 3.725 | 0.818 | High |
| 6. Academic service process that responds to the need of the community | 3.714 | 0.875 | High |
| 7. Successful trainings and academic service to society | 3.759 | 0.836 | High |
| Average Total | 3.757 | 0.843 | High |

Table 14 reveals that the opinion of the sample group on the appropriateness of indicators in the standards on production the graduates to society as the whole picture shows appropriateness in high level. The average value is equal to 3.757 and the standard deviation is at 0.843. On the average the appropriateness of indicators have the values between 3.643-3.861. It can be concluded that every indicator has appropriateness to be used in internal educational quality assurance in the community college, and all indicators have level of appropriateness which the sample group think as appropriate when arranged chronologically from highest to the lowest as what follows. Indicators number 1, 3, and 2 and 7 having the same average, have the average values of appropriateness equal to 3.861, 3.836, and 3.759, respectively. The least appropriateness is indicator 4 having the average values of appropriateness equal to 3.643.

Table 15: Means and standard deviation on appropriateness of indicators in the standard on student development

| Indicators | Mean | SD. | Level |
|---|--------------|--------------|-------------|
| 1. The system and activities to provide service to students | 3.536 | 0.884 | High |
| 2. The process to enhance student activities | 3.586 | 0.860 | High |
| 3. The success in constructing student quality to society | 3.557 | 0.865 | High |
| Average Total | 3.560 | 0.870 | High |

Table 15 reveals that the opinion of the sample group on the appropriateness of indicators in the standards on student development as the whole picture shows appropriateness in high level. The average value is equal to 3.560 and the standard deviation is at 0.870. On the average the appropriateness of indicators have the values between 3.536 and 3.586. It can be concluded that every indicator has appropriateness to be used in internal educational quality assurance in the in the community college, and all indicators have level of appropriateness which the sample groups think as appropriate when arranged chronologically from highest to the lowest as what follows. Indicators number 2, 3 and 1 have the average values of appropriateness equal to 3.586, 3.557, and 3.536, respectively.

Table 16: Means and standard deviation on appropriateness of indicators in the standard on research

| Indicator | Mean | SD. | Level |
|---|--------------|--------------|-----------------|
| 1. The research to develop the instructional management and the research of the institution | 3.139 | 0.946 | Moderate |
| 2. The research to develop the localities | 3.159 | 0.986 | Moderate |
| 3. A system for knowledge management from the research findings or the instructional innovation | 3.139 | 1.009 | Moderate |
| Average Total | 3.146 | 0.980 | Moderate |

Table 16 reveals that the opinion of the sample group on the appropriateness of indicators in the standards on research as the whole picture shows appropriateness in high level. The average value is equal to 3.146 and the standard deviation is at 0.980. On the average the appropriateness of indicators have the values between 3.139-3.159. It can be concluded that every indicator has appropriateness to be used in internal educational quality assurance in the community college, and all indicators

have level of appropriateness which the sample group think as appropriate when arranged chronologically from highest to the lowest as what follows. Indicators number 2 has the average values of appropriateness equal to 3.159 and indicators number 1 and 3 have the average values of appropriateness equal to 3.139, respectively.

Table 17: Means and standard deviation on appropriateness of indicators in the standard on maintenance of Religion, Arts and Culture

| Indicators | Mean | SD. | Level |
|--|-------|--------------|--------------|
| 1. The process to maintain religion, arts, and culture | 3.634 | 0.790 | High |
| 2. The integration of religion, arts, and culture and the teaching and learning and student's activities | 3.620 | 0.792 | High |
| 3. Successful maintenance of religion, arts, and culture | 3.655 | 0.818 | High |
| Average Total | | 3.636 | 0.800 |
| | | | High |

Table 17 reveals that the opinion of the sample group on the appropriateness of indicators in the standards on the maintenance of religion, arts, and culture as the whole picture shows appropriateness in high level. The average value is equal to 3.636 and the standard deviation is at 0.800. On the average the appropriateness of indicators have the values between 3.620-3.655. It can be concluded that every indicator has appropriateness to be used in internal educational quality assurance in the community college, and all indicators have level of appropriateness which the sample group think as appropriate when arranged chronologically from highest to the lowest as what follows. Indicators number 3, 1 and 2 have the average values of appropriateness equal to 3.655, 3.634, and 3.620, respectively.

Table 18: Means and standard deviation on appropriateness of indicators in the standard on administration

| Indicators | Mean | SD. | Level |
|--|--------------|--------------|----------|
| 1. Success on administration under the supervision of the community college council | 3.550 | 0.897 | High |
| 2. Success on academic administration under the supervision of the community college council | 3.580 | 0.887 | High |
| 3. Leadership of the administrators of the community college | 3.661 | 1.074 | High |
| 4. The development of institution to the learning institution | 3.525 | 0.999 | High |
| 5. The administration of the educational unit | 3.484 | 0.999 | Moderate |
| 6. Success on developing the information technology system in the administration | 3.457 | 0.834 | Moderate |
| 7. The administration of personnel with participation and happiness in working | 3.293 | 1.147 | Moderate |
| 8. Administration of risk | 3.409 | 1.026 | Moderate |
| 9. Financial and budget system | 3.616 | 0.957 | High |
| 10. Effectiveness and maximization of expenditure | 3.536 | 1.038 | High |
| 11. System and mechanism for internal quality assurance | 3.571 | 0.961 | High |
| 12. Success on internal educational quality assurance | 3.575 | 0.966 | High |
| Average Total | 3.521 | 0.989 | High |

Table 18 reveals that the opinion of the sample group on the appropriateness of indicators in the standards on administration as the whole picture shows appropriateness in high level. The average value is equal to 3.521 and the standard deviation is at 0.989. On the average the appropriateness of indicators have the values between 3.293-3.661. It can be concluded that every indicator has appropriateness to be used in internal educational quality assurance in the community college, and all indicators have level of appropriateness which the sample group think as appropriate when arranged chronologically from highest to the lowest as what follows. Indicators number 3, 9 and 2 have the average values of appropriateness equal to 3.661, 3.616, and 3.580, respectively. The least appropriateness is indicator 7 having the average values of appropriateness equal to 3.293.

2.3 The results of studying the appropriateness of the model to measure the quality of educational management in the community college with the empirical data

The researcher checks the appropriateness of the model to measure the quality of educational management in the community college with the empirical data. From the responses to the questionnaire on the opinion towards the standards and indicators for the educational quality assurance in the community college through the sample groups who are administrators and personnel of the community college (a total of 440 people) to analyze whether it has the appropriateness and consistency with the model for measurement the researcher's conceptual framework or not. The model to measure the indicators for the educational quality assurance in the community college is presented as the model for Confirmatory Factor Analysis over the findings on the appropriateness of the six sub-models which are (1) the model on the standards of educational management plan and academic development, (2) the model on the standards of the production of graduates and provision of academic service to society, (3) the model of the standards on developing the students, (4) the model of standards on research, (5) the model on the standards on maintenance of religion, arts, and culture, and (6) the model on standards on administration. After that the researcher presents the results of checking on the appropriateness of the model on the quality of educational management of the community college.

The component analysis requires the analysis of correlation coefficient of the indicator which will be brought to analyze the component first to assure that the indicators have correlation and appropriate for the component analysis. The researcher measures such correlations. This measurement reveals that every correlation coefficient has statistical significance at the level of $P<0.01$ and the researcher presents the result of analysis of correlation coefficient in the topic of checking the construct validity. Therefore the presentation of the result of confirmatory factor analysis is done to check the appropriateness of the model with the empirical data in this topic. No presentation on the result of checking the correlation coefficient value is given anymore.

Result of checking appropriateness of the model for measuring/evaluating of six sub models begins with the big model which is the model of Linear Structural Relationship of quality indicator for educational management of the community. This model shows that every model (both the sub-model and big model) has appropriateness with the empirical data which is gathered from the sample groups. The sample groups are the groups of administrators and personnel of the community college. The details on checking the appropriateness of the model for measuring/evaluating the quality indicators for the educational management of the community college with the empirical data are given as the followings.

2.3.1 The model in the standard on the plan for educational management and academic development.

The result of the confirmatory factor analysis of the quality of the educational management in the community college in the standard on the educational management reveals that the model is consistent well with the empirical data which is derived from the sample group. It is considered from the chi-square value that is equal to 4.70 and the probability value (P) equal to 0.19. The chi-square value which is different from zero reveals that the model for measuring constructed by the researcher as the research assumption/hypothesis have appropriateness with the empirical data with the Goodness-of-Fit-Index (GFI) equal to 1.00.

When considered in detail on the factor loading (b) of the six indicators, it reveals that the value is between 0.61 and 0.94 and every value has the statistical significance at the level of $P<0.01$. This shows that every indicator is important indicator for the standards related to the plan for educational management and academic development. In addition, it can measure the Coefficient of determination (R^2) and the coefficient of the Factor Score Regression (FS) which give similar meaning. If these indicators are considered, the first three indicators show the highest importance: indicators number 1, 2, and 3. They show the factor loading value equal to 0.94, 0.92 and 0.88, respectively. The details of the result of analysis are shown in Table 19 and in Figure 16.

Table 19: Result of Confirmatory Factor Analysis of the Model for the quality of the educational management in the community college on the plan for educational management and academic development

| Indicator | B | SE | R ² | FS |
|---------------------------------------|-------|-------------------------------|----------------------|---------|
| Plan ₁ | .94** | .04 | .88 | .47 |
| Plan ₂ | .92** | .04 | .85 | .22 |
| Plan ₃ | .88** | .04 | .77 | .28 |
| Plan ₄ | .76** | .04 | .58 | .03 |
| Plan ₅ | .73** | .04 | .53 | .09 |
| Plan ₆ | .61** | .04 | .37 | -.03 |
| Result of testing the appropriateness | | $\chi^2 = 4.70$ GFI = 1.00 | df = 3 AGFI = .98 | P = .19 |

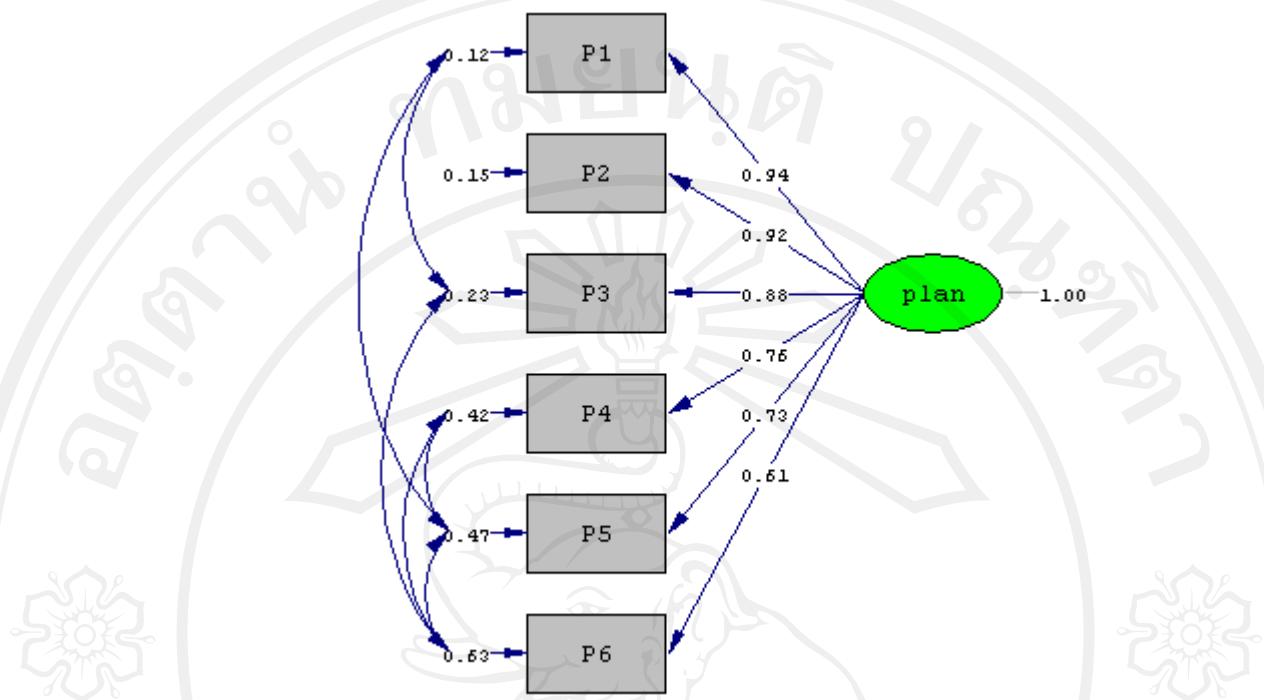


Figure 16: Result of confirmatory factor analysis of the model for the quality of the educational management of the community college in the standards that are related to the plan for educational management and academic development

The researcher brings the analysis to construct the scores of the factors/components related to the plan for educational management and academic development to be used as new variables. The researcher prepares the analysis to be indicators and quality of the educational management in the community college that the scores on the factors/components which are related to the plan for educational management and academic development can be calculated through the formula below.

$$\begin{aligned}
 \text{PLAN} = & 0.47(\text{PLAN}_1) + 0.22(\text{PLAN}_2) + 0.28(\text{PLAN}_3) + 0.03(\text{PLAN}_4) \\
 & + 0.09(\text{PLAN}_5) - 0.03(\text{PLAN}_6)
 \end{aligned}$$

2.3.2 The model in the standard on production of graduates and academic service to society

The result of the confirmatory factor analysis of the quality of the educational management in the community college in the standard on production of graduates and academic service to society reveals that the model is consistent well with the empirical data which is derived from the sample group. It is considered from the chi-square value that is equal to 14.23 and the probability value (P) equal to 0.08. The chi-square value which is different from zero reveals that the model for measuring constructed by the researcher as the research assumption/hypothesis have appropriateness with the empirical data with the Goodness-of-Fit-Index (GFI) equal to 0.99.

When considered in detail on the factor loading (b) of the seven indicators, it reveals that the value is between 0.93 and 0.53 and every value has the statistical significance at the level of $P < 0.01$. This shows that every indicator is important indicator for the standards related to the plan for educational management and academic development. In addition, it can measure the Coefficient of determination (R^2) and the coefficient of the Factor Score Regression (FS) which give similar meaning. If these indicators are considered, the first three indicators show the highest importance: indicators number 6, 7, and 5. They show the factor loading value equal to 0.93, 0.88 and 0.87, respectively. The details of the result of analysis are shown in Table 20 and in Figure 17.

Table 20: Result of Confirmatory Factor Analysis of the Model for the quality of the educational management in the community college on production of graduate and academic service to society

| Indicator | b | SE | R ² | FS |
|--|-------|------------------|----------------|---------|
| PRO ₁ | .61** | .04 | .37 | .03 |
| PRO ₂ | .53** | .05 | .28 | .02 |
| PRO ₃ | .69** | .04 | .48 | .05 |
| PRO ₄ | .64** | .04 | .41 | .03 |
| PRO ₅ | .87** | .04 | .76 | .24 |
| PRO ₆ | .93** | .04 | .86 | .45 |
| PRO ₇ | .88** | .04 | .77 | .26 |
| Result of testing the appropriateness | | $\chi^2 = 14.23$ | df = 8 | P = .08 |
| | | GFI = .99 | AGFI = .97 | |

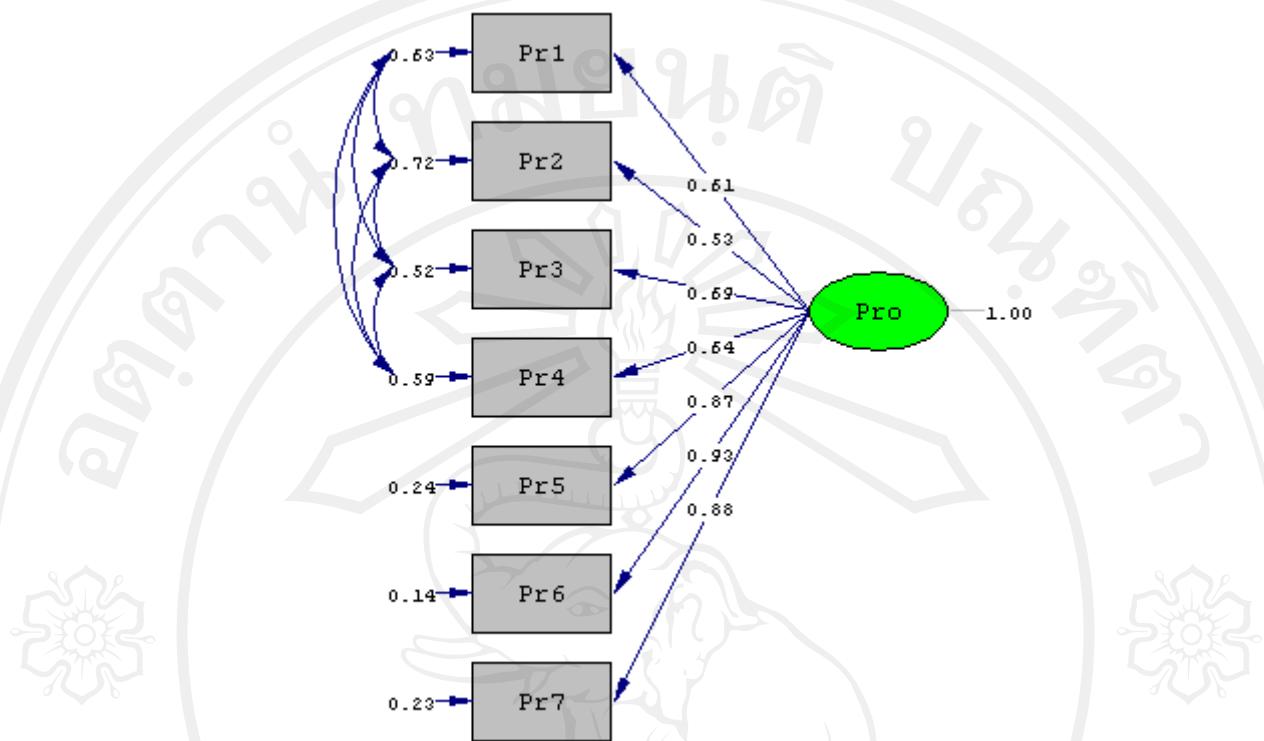


Figure 17: Result of confirmatory factor analysis of the model for the quality of the educational management of the community college in the standards that are related to the production of graduates and academic service to society

The researcher brings the analysis to construct the scores of the factors/components related to production of graduates and academic service to society to be used as new variables. The researcher prepares the analysis to be indicators and quality of the educational management in the community college that the scores on the factors/components which are related to production of graduates and academic service to society can be calculated through the formula below.

$$\begin{aligned} \text{PRO} = & .03(\text{PRO}_1) + .02(\text{PRO}_2) + .05(\text{PRO}_3) + .03(\text{PRO}_4) \\ & + .24(\text{PRO}_5) + .45(\text{PRO}_6) + .26(\text{PRO}_7) \end{aligned}$$

2.3.3 The model in the standard on student development

The result of the confirmatory factor analysis of the quality of the educational management in the community college in the standard on student development reveals that the model is consistent well with the empirical data which is derived from the sample group. It is considered from the chi-square value that is equal to 0 and the probability value (P) equal to 1.00. The chi-square value which is different from zero reveals that the model for measuring constructed by the researcher as the research assumption/hypothesis have appropriateness with the empirical data with the Goodness-of-Fit-Index (GFI) equal to 1.00.

When considered in detail on the factor loading (b) of the 3 indicators, it reveals that the value is between 0.91 and 0.96 and every value has the statistical significance at the level of $P<0.01$. This shows that every indicator is important indicator for the standards related to the plan for educational management and academic development. In addition, it can measure the Coefficient of determination (R^2) and the coefficient of the Factor Score Regression (FS) which give similar meaning. If these indicators are considered, the first three indicators show the highest importance: indicators number 2, 1, and 3. They show the factor loading value equal to 0.96, 0.95 and 0.91, respectively. The details of the result of analysis are shown in Table 21 and in Figure 18.

Table 21: Result of Confirmatory Factor Analysis of the Model for the quality of the educational management in the community college on student development

| indicators | b | SE | R^2 | FS |
|--|-------|-----------------|-------------|----------|
| STU ₁ | .95** | .04 | .91 | .36 |
| STU ₂ | .96** | .04 | .93 | .46 |
| STU ₃ | .91** | .04 | .83 | .19 |
| Result of testing the appropriateness | | $\chi^2 = 0.00$ | df = 0 | P = 1.00 |
| | | GFI = 1.00 | AGFI = 1.00 | |

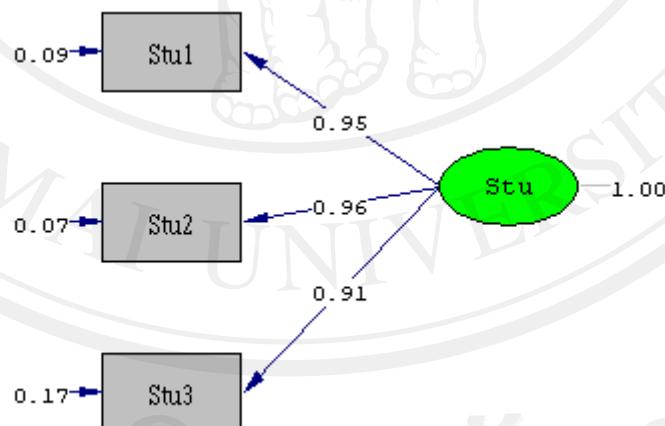


Figure 18: Result of confirmatory factor analysis of the model for the quality of the educational management of the community college in the standards that are related to the student development

The researcher brings the analysis to construct the scores of the factors/components related to student development to be used as new variables. The researcher prepares the analysis to be indicators and quality of the educational management in the community college that the scores on the factors/components which are related to student development can be calculated through the formula below.

$$STU = .36(STU_1) + .46(STU_2) + .19(STU_3)$$

2.3.4 The model in the standard on research

The result of the confirmatory factor analysis of the quality of the educational management in the community college in the standard on research reveals that the model is consistent well with the empirical data which is derived from the sample group. It is considered from the chi-square value that is equal to 0 and the probability value (P) equal to 1.00. The chi-square value which is different from zero reveals that the model for measuring constructed by the researcher as the research assumption/hypothesis have appropriateness with the empirical data with the Goodness-of-Fit-Index (GFI) equal to 1.00.

When considered in detail on the factor loading (b) of the 3 indicators, it reveals that the value is between 0.93 and 0.95 and every value has the statistical significance at the level of $P < 0.01$. This shows that every indicator is important indicator for the standards related to the plan for educational management and academic development. In addition, it can measure the Coefficient of determination (R^2) and the coefficient of the Factor Score Regression (FS) which give similar meaning. If these indicators are considered, the first three indicators show the highest importance: indicators number 2, 1, and 3. They show the factor loading value equal to 0.95, and 0.93, respectively. The details of the result of analysis are shown in Table 22 and in Figure 19.

Table 22: Result of Confirmatory Factor Analysis of the Model for the quality of the educational management in the community college on research

| Indicators | b | SE | R ² | FS |
|--|-------|--------------|----------------|----------|
| RES ₁ | .93** | .04 | .87 | .29 |
| RES ₂ | .95** | .04 | .91 | .44 |
| RES ₃ | .93** | .04 | .87 | .29 |
| Result of testing the appropriateness | | $\chi^2 = 0$ | df = 0 | P = 1.00 |
| | | GFI = 1.00 | AGFI = 1.00 | |

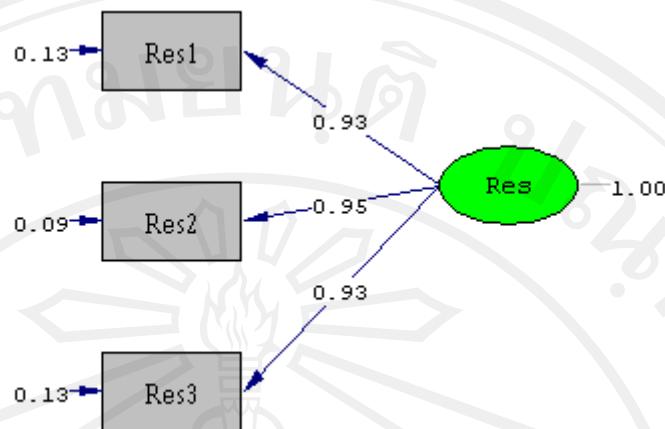


Figure 19: Result of confirmatory factor analysis of the model for the quality of the educational management of the community college in the standards that are related to the research

The researcher brings the analysis to construct the scores of the factors/components related to the research to be used as new variables. The researcher prepares the analysis to be indicators and quality of the educational management in the community college that the scores on the factors/components which are related to the research can be calculated through the formula below.

$$RES = .29(RES_1) + .44(RES_2) + .29(RES_3)$$

2.3.5 The model in the standard on maintenance of Religion Arts and Culture

The result of the confirmatory factor analysis of the quality of the educational management in the community college in the standard on maintenance of Religion Arts and Culture reveals that the model is consistent well with the empirical data which is derived from the sample group. It is considered from the chi-square value that is equal to 0 and the probability value (P) equal to 1.00. The chi-square value which is different from zero reveals that the model for measuring constructed by the researcher as the research assumption/hypothesis have appropriateness with the empirical data with the Goodness-of-Fit-Index (GFI) equal to 1.00.

When considered in detail on the factor loading (b) of the 3 indicators, it reveals that the value is between 0.92 and 0.99 and every value has the statistical significance at the level of $P < 0.01$. This shows that every indicator is important indicator for the standards related to the plan for educational management and academic development. In addition, it can measure the Coefficient of determination (R^2) and the coefficient of the Factor Score Regression (FS) which give similar meaning. If these indicators are considered, the first three indicators show the highest importance: indicators number 3, 2, and 1. They show the factor loading value equal

to 0.99, 0.96 and 0.92, respectively. The details of the result of analysis are shown in Table 23 and in Figure 20.

Table 23: Result of Confirmatory Factor Analysis of the Model for the quality of the educational management in the community college on maintenance of Religion Arts and Culture

| Indicators | b | SE | R ² | FS |
|--|-------|--------------|----------------|----------|
| REL ₁ | .92** | .04 | .84 | .11 |
| REL ₂ | .96** | .04 | .91 | .21 |
| REL ₃ | .99** | .03 | .97 | .69 |
| Result of testing the appropriateness | | $\chi^2 = 0$ | df = 0 | P = 1.00 |
| | | GFI = 1.00 | AGFI = 1.00 | |

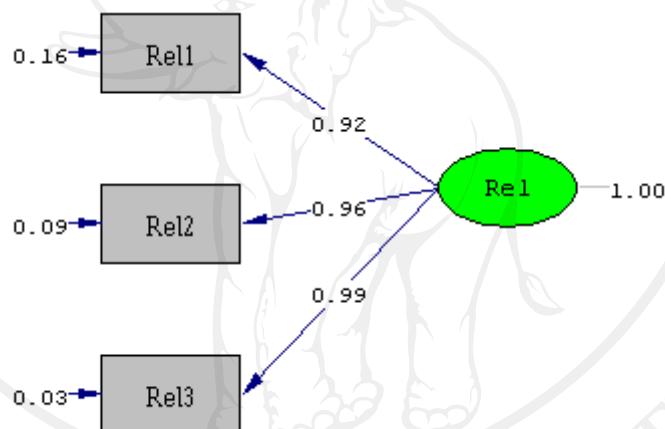


Figure 20: Result of confirmatory factor analysis of the model for the quality of the educational management of the community college in the standards that are related to the maintenance of Religion Arts and Culture

The researcher brings the analysis to construct the scores of the factors/components related to the maintenance of Religion Arts and Culture to be used as new variables. The researcher prepares the analysis to be indicators and quality of the educational management in the community college that the scores on the factors/components which are related to the maintenance of Religion Arts and Culture can be calculated through the formula below.

$$REL = .11(REL_1) + .21(REL_2) + .69(REL_3)$$

2.3.6 The model in the standard on administration

The result of the confirmatory factor analysis of the quality of the educational management in the community college in the standard on administration reveals that the model is consistent well with the empirical data which is derived from the sample group. It is considered from the chi-square value that is equal to 22.48 and the probability value (P) equal to 0.31. The chi-square value which is different from zero reveals that the model for measuring constructed by the researcher as the research assumption/hypothesis have appropriateness with the empirical data with the Goodness-of-Fit-Index (GFI) equal to 0.99.

When considered in detail on the factor loading (b) of the 7 indicators, it reveals that the value is between 0.74 and 0.91 and every value has the statistical significance at the level of $P < 0.01$. This shows that every indicator is important indicator for the standards related to the plan for educational management and academic development. In addition, it can measure the Coefficient of determination (R^2) and the coefficient of the Factor Score Regression (FS) which give similar meaning. If these indicators are considered, the first three indicators show the highest importance: indicators number 10, 12, and 9. They show the factor loading value equal to 0.91, 0.90 and 0.89, respectively. The details of the result of analysis are shown in Table 24 and in Figure 21.

Table 24: Result of Confirmatory Factor Analysis of the Model for the quality of the educational management in the community college on administration

| Indicators | b | SE | R ² | FS |
|--|-------|------------------|----------------|---------|
| MAN ₁ | .74** | .04 | .55 | -.01 |
| MAN ₂ | .75** | .04 | .56 | .12 |
| MAN ₃ | .76** | .04 | .59 | .03 |
| MAN ₄ | .82** | .04 | .69 | .09 |
| MAN ₅ | .83** | .04 | .69 | -.03 |
| MAN ₆ | .76** | .04 | .57 | .11 |
| MAN ₇ | .77** | .04 | .60 | .04 |
| MAN ₈ | .85** | .04 | .73 | .12 |
| MAN ₉ | .89** | .04 | .79 | .19 |
| MAN ₁₀ | .91** | .04 | .84 | .17 |
| MAN ₁₁ | .89** | .04 | .79 | .03 |
| MAN ₁₂ | .90** | .04 | .82 | .24 |
| Result of testing the appropriateness | | $\chi^2 = 22.48$ | df = 20 | P = .31 |
| | | GFI = .99 | AGFI = .97 | |

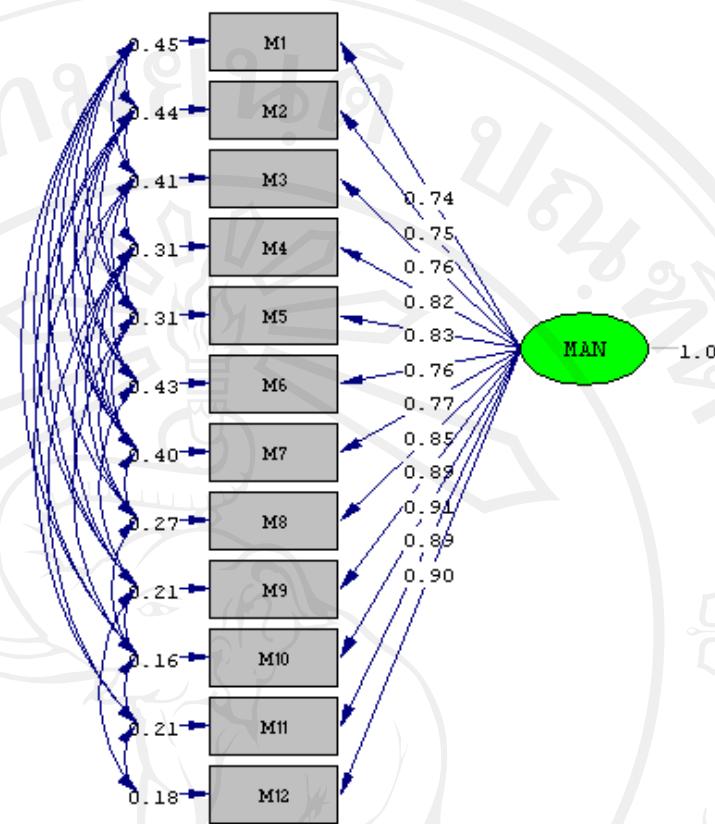


Figure 21: Result of confirmatory factor analysis of the model for the quality of the educational management of the community college in the standards that are related to the administration

The researcher brings the analysis to construct the scores of the factors/components related to the administration to be used as new variables. The researcher prepares the analysis to be indicators and quality of the educational management in the community college that the scores on the factors/components which are related to the administration can be calculated through the formula below.

$$\begin{aligned}
 \text{MAN} = & - .01(\text{MAN}_1) + .12(\text{MAN}_2) + .03(\text{MAN}_3) + .09(\text{MAN}_4) \\
 & - .03(\text{MAN}_5) + .11(\text{MAN}_6) + .04(\text{MAN}_7) + .12(\text{MAN}_8) \\
 & + .19(\text{MAN}_9) + .17(\text{MAN}_{10}) + .03(\text{MAN}_{11}) + .24(\text{MAN}_{12})
 \end{aligned}$$

2.3.7 The model in quality's measurement of educational management of Community College

The result of the confirmatory factor analysis of the quality of the educational management in the community college in the standard on educational management of Community College reveals that the model is consistent well with the empirical data which is derived from the sample group. It is considered from the chi-square value that is equal to 362.49 and the probability value (P) equal to 0.51. The chi-square value which is different from zero reveals that the model for measuring constructed by the researcher as the research assumption/hypothesis have appropriateness with the empirical data with the Goodness-of-Fit-Index (GFI) equal to 0.95.

When considered in detail on the factor loading (b) of the six indicators, it reveals that the value is between 0.64 and 1.00 and every value has the statistical significance at the level of $P < 0.01$. This shows that every indicator is important indicator for the standards related to the plan for educational management and academic development. In addition, it can measure the Coefficient of determination (R^2) and the coefficient of the Factor Score Regression (FS) which give similar meaning. If these indicators are considered, the first three indicators show the highest importance: the standard of philosophy, mission, objectives, and the plan of educational management (PLAN), the production of graduates and academic service to society (PRO), and the maintenance of religion, arts and culture (REL). They show the factor loading value equal to 1.00. The details of the result of analysis are shown in Table 25 and in Figure 22.

Table 25: Result of Confirmatory Factor Analysis of the Model for the quality of the educational management in the community college

| Indicators | b | SE | R ² | FS |
|--|--------|-------------------|----------------|---------|
| PLAN | 1.00** | .06 | 1.00 | - |
| PRO | 1.00** | .06 | 1.00 | - |
| STU | 0.68** | .05 | 0.46 | - |
| RES | 0.64** | .05 | 0.41 | - |
| REL | 1.00** | .05 | 1.00 | - |
| MAN | 0.78** | .06 | 0.61 | - |
| Result of testing the appropriateness | | $\chi^2 = 362.49$ | df = 364 | P = .51 |
| | | GFI = .95 | AGFI = .92 | |

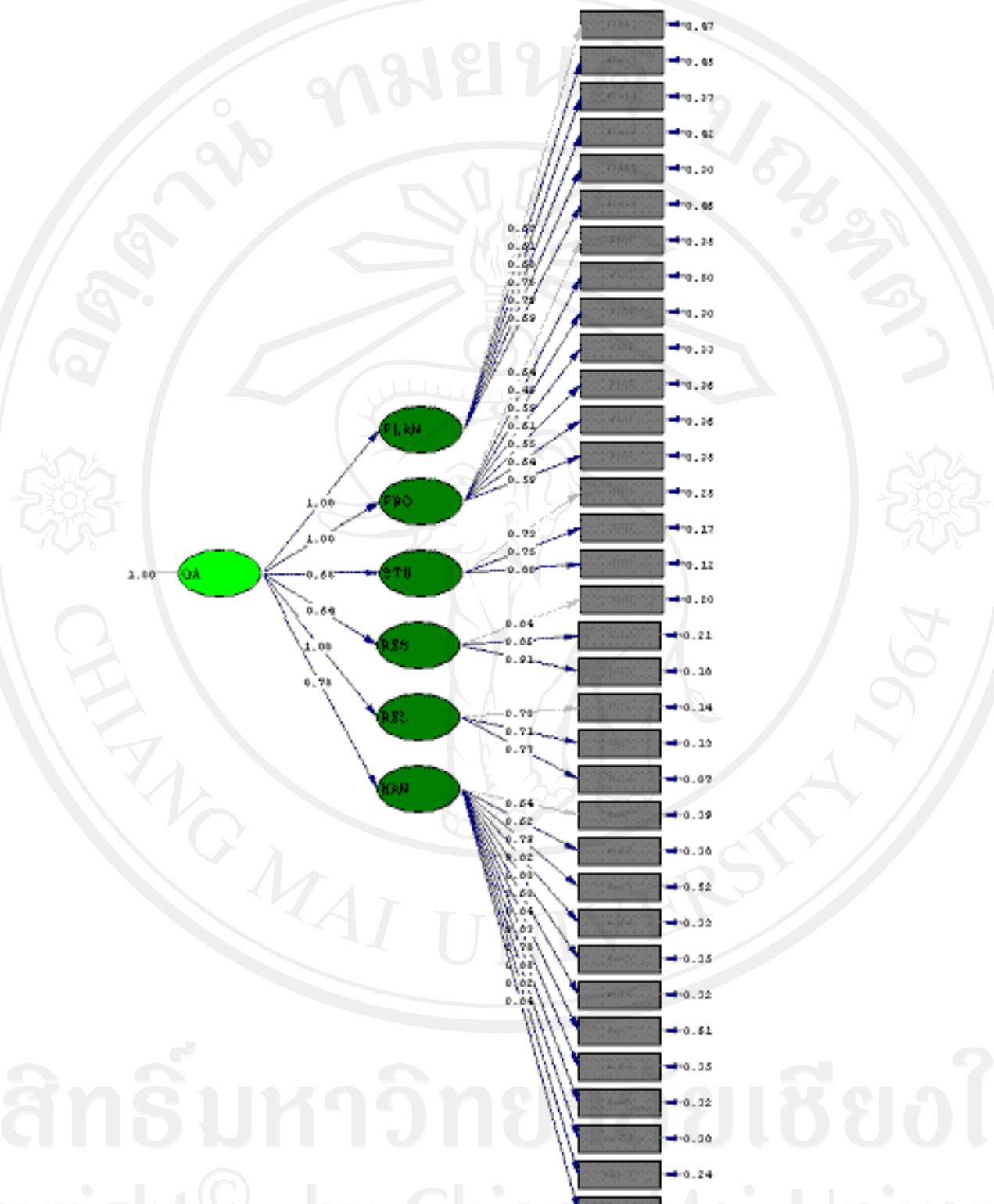


Figure 22: Result of confirmatory factor analysis of the model for the quality of the educational management of the community college in the standards that are related to the educational management of Community College

Part 2 Results of construction and development of the model for educational quality assurance in the community college

The results of constructing and developing the model for educational quality assurance in the community college have appropriateness and feasibility for real application. The researcher synthesizes the model for educational quality assurance from the concept, theory, research works, and organizations. Besides, the checking for the appropriateness and feasibility for application is done by using the following details.

1. Result of constructing and developing the model for educational quality assurance in the community college

The researcher studies and synthesizes the model of educational quality assurance from the concept, theory, research work, and organizations such as model for educational quality assurance of the ministry of education, basic education school, higher educational institution, the colleges under the Ministry of Public Health (Praboromrajanok Institute), and department of vocational education composing the brainstorming with the administrator team and the heads of the quality assurance of the community college (eight people). The educational quality assurance model in the community is composed of target of educational quality assurance, standards and quality indicators for educational management, implementation to guarantee/assure the educational quality on quality control, quality audit, and quality assessment. The details are shown in Figure 23

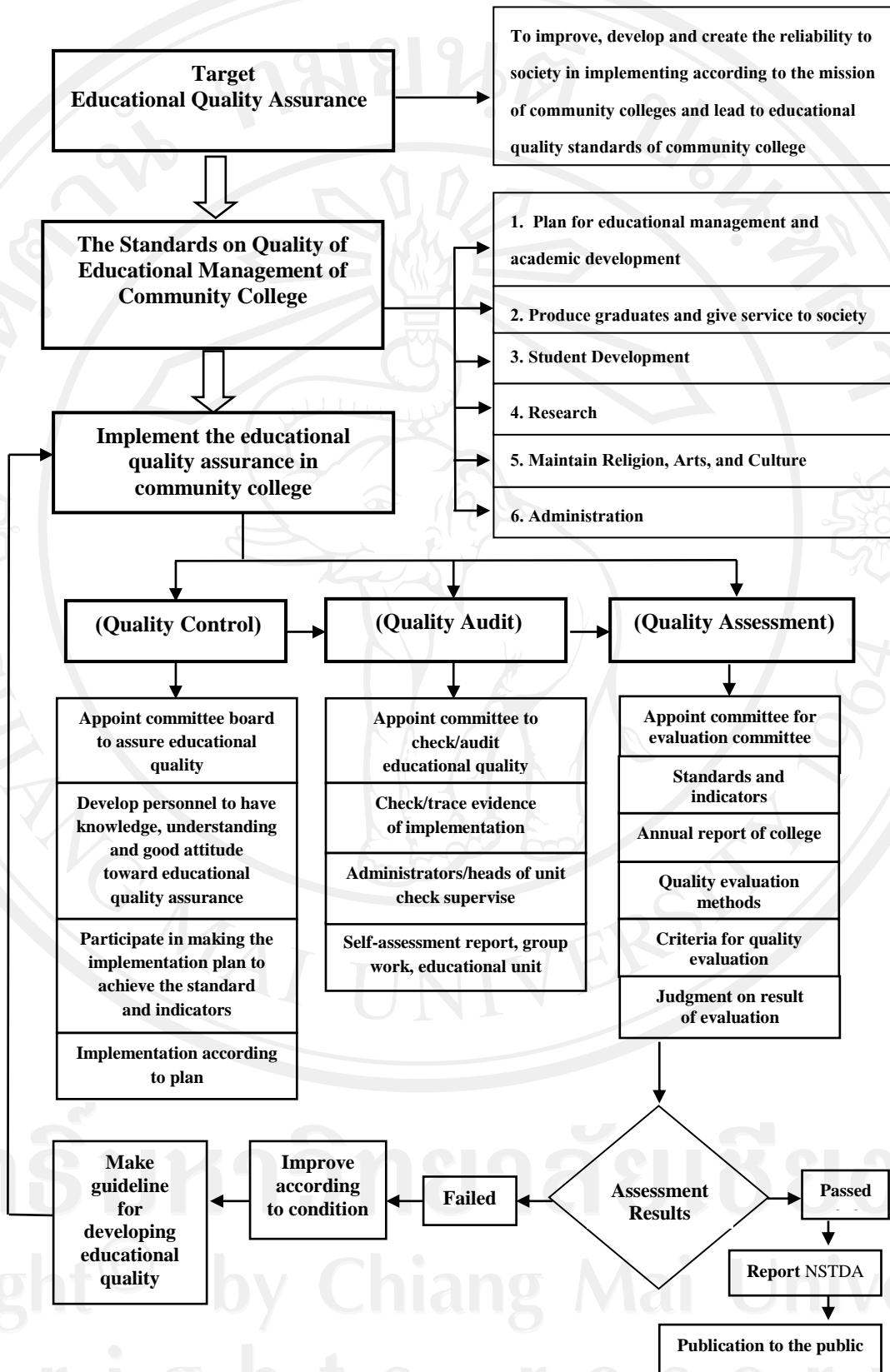


Figure 23: The Model for Educational Quality Assurance in the Community College

The model of educational quality assurance in the community college shown in Figure 23 can explain the following details.

1. Target of educational quality assurance

Target of education quality assurance according to the identified model has the following targets.

1. To make every personnel aware and see the importance of the educational quality assurance by together improving and developing educational quality through the quality control, checking, and evaluating the educational quality of the community college.
2. To construct trust into the society in the implementation according to the mission of community college that leads to the standards of educational quality and acceptance by the society.

2. Implementation of educational quality assurance in the community college

Implementation of educational quality assurance in the community college based on the identified model is composed of Quality Control, Quality Audit, and Quality Assessment. The details are given below.

Standard 1 the plan for educational management and academic development

Indicator 1 The participation of the relevant people in identifying philosophy, objectives, strategies, and identification for implementation plan.

Indicator 2 The making strategic plan to be annual implementation plan

Indicator 3 The achievement based on indicators of implementation plan that is consisted with missions

Indicator 4 The system for development and curriculum administration with emphasis on the needs of communities and participation

Indicator 5 The system for developing educational management has emphasized on student-centered methods

Indicator 6 The success in developing the students' potentials before entering the associate degree level

Standard 2 Production of graduates and academic service to society

Indicator 1 The quality of instructors

Indicator 2 The graduates who passed the standard criteria in the course of vocational certificates, high vocational certificate and associate degree with the GPA of 2.50 or beyond

Indicator 3 The graduates can apply their knowledge and experience from the community college to perform their occupation, development of their work and their community

Indicator 4 The satisfaction of the manufacturers or employers of the graduate towards the graduates from the community colleges

Indicator 5 The training processes which create occupations for the trainers

Indicator 6 The academic service process that responds to the need of the community

Indicator 7 The successful trainings and academic service to society

Standard 3 Student development

Indicator 1 The system and activities to provide service to students

Indicator 2 The process to enhance student activities

Indicator 3 The success in constructing student Quality to society

Standard 4 Research

Indicator 1 The research to develop the instructional management and the research of the institution

Indicator 2 The research to develop the localities

Indicator 3 A system for knowledge management from the research findings or the instructional innovation

Standard 5 Maintenance of Religion Arts and Culture

Indicator 1 The process to maintain religion, arts, and culture

Indicator 2 The integration of religion, arts, and culture and the teaching and learning and student's activities

Indicator 3 The successful maintenance of religion, arts, and culture

Standard 6 Administration

Indicator 1 Success on administration under the supervision of the community college council

Indicator 2 Success on academic administration under the supervision of the community college council

Indicator 3 Leadership of the administrators of the community college

Indicator 4 The development of institution to the learning institution

Indicator 5 The administration of the educational unit

Indicator 6 Success on developing the information technology system in the administration

Indicator 7 The administration of personnel with participation and happiness in working

Indicator 8 Administration of risk

Indicator 9 Financial and budget system

Indicator 10 Effectiveness and maximization of expenditure

Indicator 11 System and mechanism for internal quality assurance

Indicator 12 Success on internal educational quality assurance

3. Implementation of educational quality assurance in the community college

Implementation of educational quality assurance in the community college based on the identified model is composed of Quality Control, Quality Audit, And Quality Assessment. The details are given below.

3.1 Quality Control

Quality Control is the process of supervising and monitoring the educational quality of the community college to make following the standards and the quality indicators for educational management and the development plan of quality of the community college. There is a committee that implements quality control through the following steps.

3.1.1 Appoint the committee board for educational quality assurance

Implementing the educational quality assurance in the community college requires responsible persons to coordinate, supervise, support, and every sector to work together in teamwork. The responsible people who are important the most are the administrators who must implement the plan along with the main personnel who get assignment in form of community board to implement the work efficiently to prepare for the educational quality assessment at the university level and the external assessment of ONESQA Office. The community college must appoint the committee board for educational quality assurance. It is composed of committee boards that have roles and duties as what follows.

Advisory board for implementing educational quality assurance

The advisory board to implement the educational quality assurance in the community college is composed of a committee from the community college council, academic council and the director. They have roles and responsibility as the followings.

- 1) Identify policy, criteria, and guideline for implementation to enhance, support and develop educational quality assurance system in the community college.
- 2) Propose the guideline for making rules, regulation, and announcement on the standards on educational quality assurance in the community college.
- 3) Provide consultation and suggestions in implementing internal educational quality assurance for the personnel in the community college.
- 4) Supervise and monitor the implementation to follow the mission of the community college and the targets of educational quality assurance.
- 5) Support or encourage developing of quality, monitoring, auditing, monitor, and self-assessment. It is considered that the internal quality assurance is a part of administration processes which are important for developing the educational quality sustainably.

The team for implementation of education quality assurance

The team for implementation of education quality assurance in the community is composed of the director, deputy directors, assistant directors, heads of units and personnel of community college who have the following roles and responsibilities.

- 1) Make the implementation plan for educational quality assurance according to the policy and the target of educational quality assurance in the community college.
- 2) Support and encourage the implementation and the development of internal educational quality assurance system in the community college.
- 3) Offer opinions and suggestions on the implementation of educational quality assurance in the community college.
- 4) Prepare data on the report on the implementation results and the report on self-assessment reports (SAR) to prepare for the internal educational quality assurance in the unit of the school units, educational organizations, and the community college.
- 5) Prepare evidence/documents for the evaluation and coordinate the implementation with the committee board of the evaluation and the relevant organization.

3.1.2 Develop the personnel to have knowledge, understanding, and good attitude towards educational quality assurance

Development of personnel to have knowledge, understanding, and positive attitude towards the educational quality assurance is preparing the personnel to implement educational quality assurance as a part of administrative process and regulation work that require implementation continuously. Quality assurance is the duty of every personnel in the community college who are the administrators, instructors and other personnel. The personnel must be developed to have knowledge, understanding, and positive attitude towards the educational quality assurance as the followings.

- 1) Make project to develop personnel related to educational quality assurance with the objective to develop personnel to have knowledge, understanding than positive attitude toward the educational quality assurance.
- 2) Arrange activities to provide knowledge, understanding of the background and importance of educational quality assurance, principle, concepts, and theories for educational quality assurance, standards and indicators, the criteria for evaluation, the criteria for certifying the relationship between the internal and external quality assurances.
- 3) Create awareness on the value of internal educational quality assurance and teamwork by using the concept of theory of quality of the Office on the Community College Administration Office like Quality Mind, Quality Process and

Quality Improvement to construct positive attitude towards the educational quality assurance in the community college.

5) Test the knowledge, understanding about educational quality assurance before and after the training including measurement of attitude towards the educational quality assurance.

6) Evaluate the project according to the objective and arrange the report presented to the academic council and community college council.

3.1.3 Participate in making the implementation plan to achieve standards and indicators

The community college must have plan for implementation to achieve the target of educational quality assurance based on the standards and identified indicators. Plans should be made together both administrators and personnel of the community college to identify the guideline of implementation. The responsible persons, the duration and the resources to be used for implementation to achieve success in the steps of implementation are settled as the followings.

1) Make annual implementation plan which is consistent with mission, standards and indicators of the community college by bringing the data from several sources such as self-assessment report (SAR) of last year, the report of external assessment of ONESQA Office, and other research reports to improve and make revision on the community college.

2) Propose the annual implementation plan to the community college council for the approval to be the framework and direction for implementation according to the mission of the community college.

3) Transfer the annual implementation plan to the department/units according to the structure of the college and then give assignment on supervision on the standards and indicators according to the mission of each department or unit. This includes understanding about standard criteria, evaluation criteria, the method of quality control, methods of quality audits, and methods of quality evaluation.

4) Appoint the responsible persons in each indicator according to the assignment in each unit/department in the structure of the college to run the implementation of educational quality assurance in the community college efficiently.

5) Make plan for data collection in each group/unit according to the standards and assigned indicators to prepare the collection of the evidence for making the self-assessment report and prepare for auditing and evaluation of the quality.

3.1.4 Implementation according to the plan

The implementation according to the set plan of each group/unit including check/audit the implementation and improvement continuously is explained below.

3.2 Quality Audit

Quality Audit is the process to inquire for trace, evidence and check the process for quality control and self-assessment report to improve the educational quality of the community college to follow the educational standards. The committee board implements the auditing of the quality. The implementation step is as the following.

3.2.1 Appoint the committee board to audit the educational quality

The implementation of the auditing of the educational quality of the Community college is about auditing whether the implementation applies the educational quality control or not. The community college must assign the committee to audit the educational quality. This committee is composed of directors, deputy directors, and heads of unit/head of department. They have roles and responsibilities as the followings.

- 1) Monitor, audit and evaluate the educational quality in the group level of educational management and university level.
- 2) Give consultation and suggestion to personnel to be able to implement the work concretely.
- 3) Present the result of checking/auditing the educational quality to the academic council and the community college council to judge the opinion and give suggestion in developing the improvement for the educational quality.

3.2.2 Audit/check the trace and evidence for implementation.

The committee checks the trace, evidence of implementation of each unit/department of standard and indicators according to the assigned responsibility. The guideline for checking trace and evidence according to the standard and indicators is based on the model for educational quality assurance in the community college.

3.2.3 Administrator/Head of unit/department audit and supervision.

The administrators of units or departments are part of the committee to check the educational quality of the college. There is monitoring and auditing in individual level, department and unit level to stimulate and encourage the implementation according to the target or the identified plan. If it does not follow the plan, the administrators should supervise to improve or correct the implementation. This supervision gives moral support to the personnel to perform the work or invite trainers who have knowledge and skill on each aspect to supervise or send personnel to get training during implementation. In addition there should be supports or

encouragement for every personnel to work happily which means the facility is arranged in a way to support resources to ease the efficient implementation.

3.2.4 Self-assessment report, work group, and educational unit

Making self-assessment report of the personnel, group work and educational management unit is done according to the standards and assigned indicators that they become the model for writing reports of the community college. The personnel and work unit/department should analyze the strengths and weaknesses into development and suggestions to improve and development the work of oneself and the committee of internal educational quality assurance regarding the data in making annual report of the community college.

3.3 Quality Assessment

Quality Assessment is the process of judging the educational quality of the community college, i.e., how much the implementation follows the criteria and identified standards. The committee implements the evaluation of the quality. The details of implementation step are done as what follows.

3.3.1 Appoint a committee for evaluating educational quality

Implementing the educational quality education of the committee college is a process of judging educational quality of the community college on how much the implementation follows the criteria and identified standard. The community college thus knows the real status and holds a guideline for developing the quality according to the criteria and set standards continuously. Therefore the community college should appoint the committee for evaluating the educational standard. It is composed of the committee board members who have roles and responsibilities as what follows.

The committee board for evaluating educational quality

The committee board for evaluating educational quality of the committee college must be the evaluators who evaluate to improve and develop the educational quality in the community college to set it according to the quality and the standard of educational management. They have knowledge and understanding on objective, principle, educational management guideline, the learning process arrangement, the quality assurance system and educational standards to evaluate the internal educational quality of the community college. And most importantly they must have knowledge and understanding in the context and mission of educational management of the community college well. For example, they have experiences on educational management in the community colleges and research work on the community colleges. The personnel of the community college are arranged into the committee board to evaluate the educational quality (three persons per college). This committee is composed of the following members.

1) Evaluator has the lists of names registered to be the internal educational quality evaluators of Office of Higher Education Commission of at least one person.

2) Evaluator has experience on educational management of the community college or have the research work related to community college (at least one person).

3) Personnel for other community colleges

The roles and responsibilities of the committee board members for evaluating the education quality.

1) Visit the community college to create understanding about the evaluation on educational quality evaluation in the college and require the community college to prepare for preparation including creating correct attitude towards the evaluation of the internal educational quality to the personnel and related people.

2) Gather data and check evidence to know the status in the implementation of the community college through annual reports, observation, interview and documents or materials from the practitioners according to the standards and indicators and other relevant people.

3) Evaluate the educational quality in the community college according to the standards and indicators, evaluation criteria and the judgment of the evaluation of the quality.

4) Give opinion and suggestion to improve the educational management of the community college after showing the internal quality evaluation results to the community college that they use to improve and develop concretely.

5) Make annual report which is the report on the evaluation of the quality sent to the office of community college administration.

3.3.2 Standards and quality indicators for educational management of the community college

In the evaluation of educational quality in the community college, the researcher applies the standards and quality indicators for developed educational management of the community college to evaluate the educational quality in the community college. This set of standards is composed of six standards which are (1) the plan for educational management and academic development, (2) production of the graduates and provision of academic service to the society, (3) student development, (4) research, (5) maintenance of religion, arts and culture, and (6) administration (total of 34 indicators).

3.3.3 Annual report of the community college

The annual report is gathering the results of implementation, evaluation results, analyses, and syntheses as classified according to the standards and quality indicators for educational management of the community college. The result of implementation according to the implementation in a fiscal year is published to the public, parents, communities, personnel, and relevant group of people including the

evaluators of the internal educational quality. The contents of the reports are given as the followings.

1) General data of the community college such as history and background of the college, location, the curriculum of instruction, the administration of structure, the data of administrator and personnel, number of students, budget, the data on locals' occupations, and economic situation.

2) Philosophy, vision, mission, objective and the plan of college.

3) The results of evaluation according to the standards and indicators. Each indicator should report on the target, implementation to achieve the target, and the implementation results. It may end in presentation of the data to support such implementation results. Besides, each standard should present the weak points to be improved and guideline for problem solution.

4) Conclusion of summary evaluation of each standard in each aspect should tell the standard strength of the condition to achieve, the points to be improved, the causes and guidelines for correction, and aspects for improvement.

5) Appendices may report about methods and tools used for evaluation.

6) The team that makes annual report should have knowledge about the methods to present the analysis results of data which can draw the evaluation results correctly. In making the report the researcher should implement some parts that can be implemented continuously (no need to wait before the end of semester). The report cannot catch up the due time to be sent to partner organization and publicized to relevant people to know.

3.3.4 Quality evaluation methods

The internal educational quality evaluation method is the step to check and evaluate the implementation results of the community college according to the standards and identified indicators. The community college can find the real condition that lead to identifying of guideline for developing the quality based on the criteria and set standards continuously. For the steps on evaluating the internal educational quality they are classified into three phases which are before the visit, during the visit, and after the visit. The evaluator and the receiver of the evaluators play role and responsibility on the evaluation steps as the followings.

Before the visit

During the phase before the visit the evaluator team and community college prepared for the evaluation of internal evaluation of educational quality as the followings.

The preparation of the community college before the visit is as the followings.

1) Prepare the annual report. The annual report of the college must be completed before the evaluation of at least two weeks and submitted to the evaluator team to study and prepare the documents or evidence or reference in each standards

and indicators for easy access for retrieval. It should be composed of number of materials, the unit/department, and personnel who join the production. The preparation of document should be arranged in regular implementation or it may bring the materials together in a place in a working room of the evaluator team.

2) Preparation on the personnel. The team prepares the personnel to understand about evaluating internal educational quality. The step for evaluation and emphasis with the personnel on giving cooperation in the interviews or questions of the evaluator team. The answer given about implementation should be true and the results are also true. In addition the working team responsible for each standard and indicator should be appointed in order to facilitate the investigation and ask to retrieve the material evidence according to the assignment that the personnel perform. There should be coordinator between the evaluator team and relevant people (at least 1 to 3 people).

3) Preparation on the site or venue. A working room is arranged for the evaluator team. It should be big enough for placing the materials and quiet from noise to disturb from outside; but there should be another room to interview personnel and relevant people that the process will not disturb the implementation of the other evaluators. In addition there should be facilitating equipment such as computer, writing kits, snacks, and drinks.

4) Preparation for coordinating with the evaluator team. The community college makes the order to appoint the committee for evaluating the educational quality inside the community college and send the invitation letter to the evaluating committee to know and consider the answers to the evaluating committee. Then the committee sends the annual report of the college to the evaluator team at least two weeks before the evaluation of the college. After that the committee cooperates with the chairperson of the evaluation committee to prepare the evaluation plan such as identify, the dates and time for visit, activities during evaluation, and to set appointment with relevant people.

Preparation of evaluator team before the visit

1) The chairperson of the evaluator calls the evaluation team to have meeting to identify the guideline of the implementation and give assignment to the evaluators to study the annual report of the community college (SAR) to analyze and draw issues to make plan for further evaluation.

2) The evaluator team makes plan for evaluation together. The evaluator is responsible to evaluate according to the standards and indicators with their own knowledge, abilities, and skills of each person. The evaluator team also needs to crosscheck the information by using the triangulation method. Each indicator will have two evaluators.

3) The evaluator team makes plan to visit together by identifying dates and time, setting appointment of evaluation for three days, and preparing the itinerary

of implementation in each day on activities to evaluate by coordinating with the community college.

During the visit Phase

During the visit the evaluator team and community college implement the internal educational quality evaluation as the followings.

The implementation of the community college during the visit

1) The administrator opens chances for every personnel including the committee of community college council, academic council, heads of educational management units, special instructors, students, organizations both government and private sectors, parents, and people. They participate to listen to the chairperson of the evaluator team to identify objectives of the evaluation on the quality and the evaluation methods. The criteria and the evaluation judgment on the first day of the visit are included.

2) The personnel allow the personnel to work normally but prepare to be ready and give cooperation in interviews with the evaluator team or ready for the visits in workplace.

3) Allow the personnel to coordinate and facilitate during the visit in term of the data and site.

4) Cooperate and write invitation and invite the committee of the community college council, academic council, academic personnel, heads of educational management unit, special teachers, students, organizations both government and private sectors, parents, and people. They have opportunity to listen to evaluation results and the feedback of the facts about the community college, suggestions, and development guidelines from the evaluation committee at the end of evaluation. Every party participates in knowing and seeking for guideline to improve and develop the community college and the people who participate in listening can exchange and listen to propose their opinion appropriately.

The implementation of the evaluator team during the visit

1) On the first day of the visit the chairperson of evaluator team identifies the objectives of the quality evaluation, evaluation methods, and the criteria to judge the evaluation to the administrator team, personnel, and relevant people to the community college including identifying the itinerary of evaluation according to implementation table of three days including asking for cooperation from the personnel in the community college on the materials, evidence, and interviews.

2) The evaluator team implements the evaluation according to the standards and identified indicators according to the data and issues that study from the annual reports (SAR) to confirm the fact discovered from data collection with several methods such as studying materials, observation, and interviews.

3) The evaluator team brings the discovered data to discuss together to analyze for evaluation results.

4) The evaluator team presents the discovered issues from the evaluation verbally to exchange opinions with the committee from community college council, academic council, every personnel, the head of educational management unit, special instructors, students, organizations both government and private sectors, parents and people. The team allows the opportunities to the college to clarify the unclear issues uncovered and summarize the conclusion of the results.

After the visit phase

After the visit the evaluator team and community college implement the following steps.

1) Administrator, personnel and relevant people bring the evaluation result and suggestion from the evaluation committee to the meeting to make the development plan or improve the implementation according to the mission concretely. The implementation plan for the improvement is based on the suggestions. For the strengths, they should be strengths to develop to be the good samples for other community colleges. The project/activity, budget and responsible persons for implementation should be identified in order to be able to monitor and check/audit the development result continuously.

2) The administrators create moral support to the personnel to perform the work. Successful evaluation comes from the cooperation of everyone. In the part that needs improvement it must be solved that the community college has better development.

3) Administrators, personnel and relevant people to the evaluation should give feedback data to the evaluator to implement the evaluation of educational quality in the community college it will be the feedback data to the evaluator team for further improvement.

4) Administrator presents the reproduction on the result of evaluating educational quality inside the community college through the office of community college administration and publishes the report to the public.

Implementation of evaluator team after the visit

1) Evaluator team improves the evaluation results after oral presentation and prepares report for the community college in two weeks for the community college to check against the other results. And if the evaluation results are not consistent with the fact, or the presentation of the evaluation result verbally is not correct, the administrator can complain within 15 days. If no complain is lodged, the committee considers that the evaluation result is accepted as correct.

2) If there is any complain on the report on the evaluation results of the educational quality in the community college, the evaluator team will join together to analyze according the complain and then consider to correct the report to be sent back to the community college.

3.3.5 Criteria for quality evaluation

The criteria for evaluating the educational quality in the community college are divided into two parts. The first is the set of criteria to evaluate each of indicators and the details are shown in the book. The second is the set of evaluation criteria of each standard without identification of weight of loading factor; yet the researcher will identify the weight from the average of given weight on the evaluation of quality from the experts.

| Standard for Educational Quality Assurance in the Community College | Number of Indicators | Weight of Evaluation |
|---|----------------------|----------------------|
| Standard 1 Plan for educational management and academic development | 6 | 20 |
| Standard 2 Production of graduates and academic service to society | 7 | 25 |
| Standard 3 Student development | 3 | 10 |
| Standard 4 Research | 3 | 15 |
| Standard 5 Maintenance of Religion Arts and Culture | 3 | 10 |
| Standard 6 Administration | 12 | 20 |
| Total | 34 | 100 |

3.3.6 The Judgment of evaluation results on quality

The judgment of evaluation results on quality is considered from the level of quality in the community college. This is done by gathering the scores from every indicator and comparing the scores to judge the quality level of educational management in the community college based on judging the criteria for the evaluation results. The details are shown in the next table.

| Range of Score | Level of quality |
|----------------|---|
| 0.00 – 1.50 | Implementation needs improvement urgently |
| 1.51 – 2.50 | Implementation needs improvement |
| 2.51 – 3.50 | Implementation is in moderate level |
| 3.51 – 4.50 | Implementation is in good level |
| 4.51 – 5.00 | Implementation is in very good level |

Source: The Manual for Educational Quality Assurance in the School in the Higher Education School, 2010, p. 33)

The community college which passes the educational standard criteria according to the model for educational quality assurance in the community college must have the evaluation results as what follows.

- 1) The total score of evaluation for internal educational quality assurance with the average score of 3.51 up.
- 2) Standard 2 on production of the graduates and provision of academic service to society that must have the evaluation result above good level.
- 3) No indicator is at the quality level of “need improvement” or “need improvement urgently”.

In case that the college can pass the educational standard criteria according to the model, it can submit the report of internal educational quality to Office of Community College Administration and publicize the report to public. In case the community college passes the educational standard criteria lower than the model, the community college brings the suggestion to improve, develops the educational quality by making the development guideline to be the annual implementation plan, and develops the system for internal educational quality assurance according to the PDCA processes.

2. The results of checking appropriateness and feasibility for application

After the researcher synthesizes and develops the model for educational quality assurance in the community college to be the guideline for the personnel to bring the model for educational quality assurance in the community college to use then the researcher checks appropriateness and feasibility for the application of the model. The directors of the community college and the experts on the educational quality assurance who are composed of the councilor or advisors of community college administration and deputy directors of ONESQA (a total of 20 people) are considering the attitude or opinion towards the model as the whole picture of the implementation on educational quality assurance, the validity to measure consistency covering according to the standards and indicators including identifying the weight of each standards, and then certify the standards for educational quality of the community college. The details of the checking the results on appropriateness and

feasibility for the model application on educational quality assurance in the community college are given as follows.

Table 26: Means and Standard Deviation on the opinion towards the model for Educational Quality Assurance in the Community College as the whole picture

| | Statement | Mean | SD. | Level |
|----|--|-------|-------|-------|
| 1. | The model for educational quality assurance in the community college is consistent/ correlated with the mission of educational management of the community college | 4.130 | 0.548 | High |
| 2. | The model for educational quality assurance in the community college can be applied for implementation | 4.217 | 0.671 | High |
| 3. | The target of educational quality assurance in the community college is clear | 4.043 | 0.825 | High |
| 4. | The standards and developed indicators are appropriate to the context community college | 4.130 | 0.757 | High |
| 5. | Standards and developed indicators are feasible for application with the educational quality assurance in the community college | 4.174 | 0.887 | High |
| 6. | The implementation of educational quality assurance is appropriate to the context of community college | 4.087 | 0.596 | High |
| 7. | The implementation of the educational quality assurance is the process that has feasibility for application | 4.217 | 0.671 | High |
| 8. | Quality control is the process to monitor supervise the implementation of quality assurance has appropriateness and clear | 4.261 | 0.689 | High |

Table 26: Means and Standard Deviation on the opinion towards the model for Educational Quality Assurance in the Community College as the whole picture (continue)

| Statement | Mean | SD. | Level |
|--|--------------|--------------|-------------|
| 9. The quality control is the process to supervise control monitor the implementation of the quality assurance has feasibility for application | 4.261 | 0.619 | High |
| 10. Checking quality is seeking for the evidence face that has the auditing/checking that is appropriate and clear | 4.174 | 0.717 | High |
| 11. Quality auditing is seeking for the evidence trace that has the auditing process that is feasible for application | 3.957 | 0.706 | High |
| 12. The quality evaluation is judging the educational quality of the community college that has appropriate and clear process | 4.087 | 0.793 | High |
| 13. Quality evaluation is judging of the educational quality of the community college that has feasibility for application | 4.087 | 0.949 | High |
| Total Average | 4.140 | 0.724 | High |

Table 26 shows that the opinion of the experts on the model for educational quality assurance in the community college as the whole picture is in appropriateness in a high level with the average value of 4.140 and standard deviation at 0.724. The detailed of appropriate average values of the model is between 3.957 and 4.261. It can be concluded that the model has appropriateness for application in assuring educational quality in the community college. The issue that the experts agree as having the highest appropriateness in three ranks are items 8 and 9 (average value of appropriateness equally 4.261), items 2 and 7 (average values of appropriateness equally at 4.217), and items 5 and 10 (average values of appropriateness equal to 4.174).

Part 3 Results of test on Evaluation on the Educational Quality in the Community College according to the developed standards and indicators

For the study on the test results on the evaluation of educational quality inside the community college according to the standards and developed indicators, the researcher brings the model to trial use with a community college to study on the clarity of the standards and indicators, evaluation criteria, and the judgment of evaluation results. These results would show whether there are problems in evaluation in real application or not to improve the model for educational quality assurance in the community college for the quality evaluation to be appropriate and applicable. Included here is the study on the evaluation results of educational quality in the community college to bring the evaluation result to improve and develop the community college later. Therefore the conclusion or the summary of the test result can be two fold as the followings.

1. The test result on the evaluation of educational quality in the community college

The researcher tests the evaluation on educational quality in a community college. The administrator team and the personnel at the community college are composed of the chairperson of the committee board of community college council, directors, instructors, special instructor, students, alumni, people, and personnel (a total of 40 people) and three evaluator teams. They participate in evaluating the educational quality in the Phrae community college.

In presenting the test result of evaluation on educational quality in the community college, the researcher summarizes the concepts of the evaluation team, director, and responsible personnel in each indicator. The suggestions on improving each of the standards and indicators are check to set clearer set of standards and indicators. The summary of the important issues are given below. (More details are given in Appendix F.)

1.1 On standards, indicators and evaluation criteria

Standard 1: The plan for educational management and academic development should add the term “identification” in the indicator number 1.1. Because the identification of the college as identification of the target of success is based on the emphasis and the strength, it reflects the prominent characters on the community colleges. It also makes consistent correlation with the external evaluation in the third round of ONESQA.

Standard 2: Producing graduates and academic service to society. Using the indicators number 2.3 the graduates can bring the knowledge and experience from the community college to perform occupation, develop works, and develop communities. It should explain about the calculation methods of the number of desired sample groups. The committee should increase the standard criteria about the graduates who still stay in the communities for at least one year and can bring the

knowledge and experience from the community college to develop their own communities with the average values of 3.51 or above.

Standard 3: The student development on the indicator number 3.1 system and activities for students service, surveys, and on the need to give services should be done twice a year. Due to limited budget and the gathering of questionnaire of the students that takes long time, the college suggests to improve and to seek for supply materials and facilities for the students. Therefore if survey is done every semester, the implementation becomes difficult. Indicator number 3.1 on the process to enhance students' activities should increase the criteria to identify the identification of the students and the curriculum at the associate degree level. Indicator number 3.3 on the success in creating the quality of the students in society should change the scoring criteria. Because most of the results or certificate for the students or alumnae reaches the community and provincial levels, the quality measurement should add about the evaluation results on the satisfaction of the communities towards the graduates in helping society.

Standard 4: Research indicator number 4.1 on the researcher's duty to develop the instruction management and the research of the institution should explain more on the number of research that is the research work of the instructor and personnel who work in community college for at least nine months. This includes the research work of personnel who take leave for study. Anyway the research must be done in at least six months.

Standard 5: The maintenance of religion, arts, and culture indicator number 5.3 on the success on maintenance of religion arts and culture the evaluation criteria should be adjusted as the followings.(1) Identifying the policy and the plan to enhance the maintenance of arts and culture in communities, (2) implementing the maintenance of arts and culture according to the PDCA cycle, (3) learning among instructors, students and personnel in the community college the best way for the community, (4) setting the work of community college, students or alumni in maintenance of arts and culture together with the community which is accepted in society in the domestic or international levels.

Standard 6: Administration. Indicator number 6.5 on the administration on educational management unit especially on ratio of number of students in associate degree curriculum of at least 30 people should be changed to be not lower than 25 people because in opening the classrooms there must be at least 25 students.

1.2 On the judgment of quality evaluation results

On the judgment of quality evaluation results there is suggestion for improvement. The details are given below.

In judging the quality evaluation result there should be adjustment on the score range and the quality level from the previous reference or source (The Manual for External Evaluation in Basic Education Level, 2011, p. 33) which is the manual for the educational quality assurance in the schools at the high education level of 2010, p. 33).

Table 27: Comparison of Interpretation of the Evaluation Score Result from the Basic Education level and high educational level

| Basic Education Level | | High Education Level | |
|---------------------------------|---------------------------|----------------------|---|
| Score Range (Full Score 100) | Quality Level | Score Range | Quality Level |
| 0.00 – 49.99 | Need improvement urgently | 0.00 – 1.50 | Implementation Needs improvement urgently |
| 50.00 – 49.99 | Need improvement | 1.51 – 2.50 | Implementation needs improvement |
| 60.00 – 74.99 | Moderate | 2.51 – 3.50 | Implementation in moderate level |
| 75.00 – 89.99 | Good | 3.51 – 4.50 | Implementation in good level |
| 90.00 – 100.00 | Very Good | 4.51 – 5.00 | Implementation in very good level |

Source: The Manual for Educational Quality Assurance in the School at High Education Level, 2011, p. 33

There should be changes in the certification of the quality standards of the community college to be the conclusion or summary of evaluation on educational quality in the community college because the judgment of “pass” or “fail” is not sufficient. This change gives every personnel awareness on importance of educational quality assurance. They help improving the educational quality with quality control, auditing the quality and evaluating the quality of the community college to create reliability to society in implementing following the missions of the community college that lead to the educational quality standards and acceptance by society. Therefore the evaluation results presented to the administration in making judgment and submitted to office of community college administration to set improvement according to the conditions suggested by evaluator teams before publication of the reports to the public.

The summary of the evaluation of educational quality in the community with the tool's using score of every indicator starting from 75 or above should be adjusted to be the average total score of set standards and to have the value at 3.51 or above.

1.3 The results of testing the evaluation on the educational quality as the whole picture

The results of test on the evaluation on the educational quality in the community college using the opinion of the evaluator team, directors, and responsible personnel in each indicator can be summarized in what follows.

The administrators think that the model on evaluating educational quality in the community is appropriate to be applied in evaluation of educational quality because the administrators can use the standards and indicators for the planning of implementation according to the mission of community college. The implementation step of each indicator is under the quality control, quality auditing and quality evaluation. The evaluation of quality audit is openly done during the implementation. It can be used as data for monitoring and supervising in each of the standards and indicators for personnel.

The personnel have agreed that the practitioner with responsibilities and tasks according to indicators can bring the guideline for quality control, quality auditing and quality evaluation to be used as guideline for supervising the implementation according to the responsibility assigned and collecting the evidence materials according to the standards and indicators. In addition it allows the personnel to swift the responsibility of duty of implementation or transfer from other organizations; they can learn and perform the work in the community college faster.

The evaluators think that the internal evaluation of educational quality according to the standards and indicators is the innovation that should be published to the other community college. It will be samples and guidelines for implementation on educational quality assurance for the personnel in the community college. It can be implemented and the model will be used as the tools for evaluating the educational quality in the community college.

2. The evaluation results of the educational quality in the community college

The results of testing the use the model for educational quality assurance in the community college come after the researcher tests on the evaluating the educational quality in a community college between 18 and 20 July 2012. There are three evaluator teams composed of (1) the evaluators who are listed as registered internal evaluators of educational quality under Office of High Education Commission (a person), (2) the evaluators who have experience on the educational management of the community college or have the research work related to community college (a person), (3) the personnel from other community college who

have experience on evaluating educational quality (1 person). The qualification identified in the model for reporting the evaluating on educational quality is taken from Phrae Community College. The summary of the results is shown as what follows. (Further details are given in Appendix E.)

Standard 1: The plan for educational management and academic development shows that the evaluation result is in good level because the administrators give importance on the implementation with participation from all sectors. In identifying the philosophy, objective, strategy, identification and the implementation plan of the college including making the strategic plan to be annual implementation plan there is identification of indicators and criteria to measure the success according to the mission. There is supervision and monitor on the implementation and reporting of the result to the university council every month. But there is the mission that the college is not successful according to certain indicators which is the mission on research to response to the need of the community and the local development. For the development of academic the college has the process to develop the curriculum that emphasizes the community needs and people's participation truly. After opening the courses of associate degree and the short courses with the instructional management that emphasizes student-centered learning. There is development of the learners before studying the course to adjust the fundamental knowledge of the students who have acquired different levels of basic knowledge that they are able to study together. However the colleges should have the course evaluation which emphasizes on the participation of the relevant people. The results of such evaluation can be used to improve the course/curriculum and further implementation of the college.

Standard 2: The production of the graduates and academic service to society. The findings show that the evaluation result is in moderate level. The academic/technical administration on the instructional management in the course of associate degree, short course, registration and measurement work through the consideration and approval from the academic council. There is implementation step based on the mission. Therefore there are some graduates who have completed the course of associate degree and the short courses who can bring the knowledge and experience from the community college to perform occupation and develop their work truly. Nevertheless the training course should have the process and criteria for selecting trainers to construct reliability for the people who attend the training and create opportunity for the instructors who have knowledge and ability to develop on several aspects and should make the plan systematically in giving academic service to the society. In addition, there should be the evaluation of the satisfaction of the manufacturers or employers of the graduates to bring improvement and development of the instructional management to respond to the need of the graduates.

Standard 3: Students' development. The findings show that the evaluation result is in good level because the college has analyzed and identified the students in the course of associate degree at Phrae Community College through the meeting together among the university council, administrators, instructors, personnel and students to brainstorming to get the identification of the student which is "conserving the local and having public mind". In arranging the student's activities, the college surveys the need of the students in every class level to set the plan/project for developing students in certain aspect such as health, morality, ethnicity, social ability, and academic. The implementation follows the identified plans and time schedules. The implementation is evaluated by the students who write the self-assessment and then the college evaluates the implementation result. Then the college draws conclusion, summarizes the evaluation, and improves the project in the future. It is the activity which requires participation starting from making implementation plan to implementation and evaluation of the participation process. This plan attracts the students to be enthusiastic about doing activities and they become successful on activities. For the service given to college students, the need to use the service of students has five aspects which are (1) services on providing facilities, (2) counseling services, (3) information service, (4) health care service, and (5) service for library and information technology. The evaluation result is brought to give service on each aspect then to improve the service in next semester to develop the service system on several aspects to be efficient and to maximize its use to the students. However this system still lacks the service on information. The activity is arranged to develop the knowledge and experience for the alumni who can bring knowledge to use or to enhance strengthening the community. A floor should be given to create the opportunity for the students to express their abilities that the students can open their worldview for exchanging opinion with others.

Standard 4: The research. The findings show that the evaluation result stands in the level of "need improvement urgently". The community college has a policy to promote research. The identification of research project to enhance the instruction allows the main mission project to be implemented annually. Support and arrangement for the learning climate for research are stimulated by permanent instructor and personnel to see the importance of research and to create the understanding to instructors on the research process. Thus they develop the instruction development for the research to develop the local community. The community college works along with the communities and gets onto the people in the localities. However the college has no research work to develop the locals because the permanent instructors and personnel have already taken a lot of burden. There are suggestions to develop the research which are (1) should have policy to enhance research on the institutions, the research to develop the locals and the classroom research, (2) should find the advisors for the researcher to give suggestion on the research process and research report until the research completes, and (3) should be the measurement to

enhance the use of knowledge from research for application. It will result on the implementation of the college and the community development, and (4) there should be a floor to present the research work. The instructors and personnel of the community college are encouraged and trained to present their research work.

Standard 5: The maintenance of religion, art and culture. It shows that the evaluation result is in good level because the community college opens opportunities for the students to participate in making the activity plan, implementing the activity, and evaluating the activity. This opportunity allows the students to create the process of creative thinking and participation. The opportunity sets the implementation result run well. The college council and the administrator give importance to the activity arrangement, maintenance of religion, arts and culture. In addition the students, instructors and personnel can access to communities. This connection encourages the community's participate in every time of the activity arrangement. In addition there is the integrated plan on maintenance of religion, arts, and culture with the instruction. The morality, ethics, culture and tradition are inserted into the instructional activities such as in the course of province study, self-development, Thai way of life, and the course on facts about life. There is suggestion for the development where communities should participate in making plan for maintaining the religion, arts and culture and integrate the instructional management with the communities. There should be promotion and enhancement for the students and alumni to participate in the activity on competition on maintenance of arts and culture in regional, domestic, or international levels.

Standard 6: The administration. The findings show that the evaluation result is in good level because the college has the university council who are knowledgeable and skillful in various abilities. The council can give advice for the implementation of the collage in several dimensions. This cooperation enhances the quality of the community college and the academic council to give advice and suggestion on academic, curriculum for instruction, educational quality on students, instructors, or educational management unit. This cooperation sets the administration run smoothly. The most important fact is that the administrator has leadership and the participatory administration; the parts of administration help one another and create moral support for the personnel to work happily. This cooperation creates agility and speed in implementation of the administration on the classroom administration, development of system for information technology in managing competent personnel, finance and budget system which have withdrawal according to the plan, and the withdrawal of budget following the regulation of The Comptroller General's Department. The success of the internal quality assurance takes place because the personnel collaborate in the implementation and responsible for their own assignment/ responsibility. There is a suggestion for the development which is the college must use the Model of the educational administration for the educational management unit to begin agility in implementation.