

## CHAPTER 3

### METHODOLOGY

The research of Model for Health Promotion Leadership Development of Nursing Students in Nursing College under Praboromrajchanok Institute, the Ministry of Public Health, through research and development. The methodology can be categorized in three phases as the following.

- |         |  |
|---------|--|
| Phase 1 | The analysis of the factors in health promotion leadership.  |
| Phase 2 | The creative and development of the model for the development of health promotion leadership.              |
| Phase 3 | The study on the result of implementation of the model for the development of health promotion leadership. |

There are presented as follows:

#### **Phase 1: The analysis of the factors in health promotion leadership.**

There are 2 steps for analysis the factors in health promotion leadership.

#### **Step 1.1: Analysis the suitability performance criteria for health promotion leadership.**

##### **Resource**

The resources are the 5 experts.

1. Three experts in health promotion, who have at least master's degree in community nursing, and have experience and research in health promotion at least 3 years.
2. One expert in primary health care unit administration, who has at least master's degree in community nursing, and has experience and research in health promotion at least 3 years.
3. One expert in nursing education management, community nursing and nursing administration, who has doctoral degree and experience in instructor at least 3 years.

##### **Tools for Data Collection**

The created and quality testing of questionnaire;

1. Review documents and literatures of concept, theory about leadership and health promotion of the scholars. (Barker, 1992; Bass, 1985; Choochai Supavong, 2009; Kanchana Suntiattapattana et al., 2001; Marisa Krairiksh, 2005; Nuttaya Praboromarajchanok institute, 2009; Puthanawanichnun, 2005; Thailand Nursing and

Midwifery Council, 2009). And then synthesis the performance criteria, there are 58 performance criteria and arrange the questionnaire.

2. Creating the Questionnaire, 5 rating scales.

5 refer to	performance criteria is “excellent” suitable for health promotion leadership.
4 refer to	performance criteria is “good” suitable for health promotion leadership.
3 refer to	performance criteria is “average” suitable for health promotion leadership.
2 refer to	performance criteria is “fair” suitable for health promotion leadership.
1 refer to	performance criteria is “poor” suitable for health promotion leadership.

3. The advisor considers the questionnaire, and then proper adjustment.

4. The five experts screening the questionnaire.

5. Summary the result, selected performance criteria that has average suitable value at least 3.5. This study, there are 50 performance criteria that have the average suitable value 3.6 to 5.

**Data Collection**

1. Send the letter for cooperation with The Chiang Mai University and The experts.
2. Check up the questionnaire; right and complete.

**Data Analysis and Statistic**

Data analyzed by means and standard deviation, and the interpretation criteria as the following. (Boonchom Srisaard, 2002: 47)

Score Means	Meaning
4.50-5.00	performance criteria is suitable at “highest” level
3.50-4.49	performance criteria is suitable at “high” level
2.50-3.49	performance criteria is suitable at “moderate” level
1.50-2.49	performance criteria is suitable at “little” level
1.00-1.49	performance criteria is suitable at “least” level

The Means of performance criteria above 3.50 is suitable.

## Step 1.2: Analysis the factors of health promotion leadership

### Population and Sample

**Population** divided to 2 groups.

1. The 230 nursing instructors under Praboromrajchanok Institue, the Ministry of Public Health, 5 setting in Northern. (Boromarajonani College of Nursing, Chiang Mai, Boromarajonani College of Nursing, Lampang, Boromarajonani College of Nursing, Bhudhachinaraj , Boromarajonani College of Nursing, Sawanpracharak, Boromarajonani College of Nursing, Uttaradit)
2. The 2,223 nurses that work at 17 provinces in Northern of Thailand. ( Chiang Mai, Chiang Rai, Nan, Prayuo, Phrae, Mea Hong Sorn, Lampang, Lamphun, Uttaradit, Tak, Phitsanulok, Phetchaboon, phichit, Kampeangpetch, Nakornsawan and Utaiani).

### Sample Groups

The principles and the concepts for select the sample groups are followings.

1. Sample Size Criteria is 10 times of studied performance criteria (Samran Meejang, 2003: 193; Yuth Kaiwan, 2007: 106; Kalaya Wanichbuncha, 2006: 3), that are 500 samples.
2. Sample Size Criteria by Table Selection of Sample Size (Tay Ciengchee, 2005) that selected the sample size at the Confidence Level 99%.
  - The nursing instructor sample size is 135.
  - The nursing sample size is 498.
 Totally 633samples, (questionnaire received were 519 as 81.99%)

### Sample Groups Random

The nursing instructor group was random by Simple Random Sampling and the nurses group was random by Multiple Stage Sampling (Kaitsuda Srisuk, 2006: 78). The details are show;

#### The nursing instructors group

1. Divided the area to 5. . (Boromarajonani College of Nursing, Chiang Mai, Boromarajonani College of Nursing, Lampang, Boromarajonani College of Nursing, Bhudhachinaraj , Boromarajonani College of Nursing, Sawanpracharak, Boromarajonani College of Nursing, Uttaradit) Selected the Sample Size by each population ratio.
2. Sample random by Simple Random Sampling, which have 135 samples.

#### The nurse group

1. Divided the area to 17 Northern provinces, consist of Chiang Mai, Chiang Rai, Nan, Prayuo, Phrae, Mea Hong Sorn, Lampang, Lamphun, Uttaradit, Tak, Phitsanulok, Phetchaboon, phichit, Kampeangpetch, Nakornsawan and Utaiani.
2. District random by Simple Random Sampling, there are 3 districts of each province.
3. Random the nurse from each district, 9-10 nurses by district, totally 498 nurses.

### Result of Data Collection

The researcher received the 519 questionnaires as 81.99% of sample size. That resented at Table 13.

**Table 13** Number and Percentage of Sample information

Information		Nursing instructor		Nurse		Total	
		Number	Percentage	Number	Percentage	Number	Percentage
Sex							
	Male	16	14.82	28	6.81	44	8.48
	Female	92	85.18	383	93.19	475	91.52
<b>Total</b>		<b>108</b>	<b>100</b>	<b>411</b>	<b>100</b>	<b>519</b>	<b>100</b>
Age							
	20-30	36	33.33	89	21.66	40	7.71
	31-40	41	37.96	115	27.98	215	41.43
	41-50	23	21.30	184	44.77	217	41.81
	51-60	8	7.41	23	5.59	47	90.95
<b>Total</b>		<b>108</b>	<b>100</b>	<b>411</b>	<b>100</b>	<b>519</b>	<b>100</b>
Time work							
	1-5 years	5	4.63	98	23.85	103	19.85
	6-10 years	45	41.67	194	47.20	239	46.05
	≥10 years	58	53.70	119	28.95	177	34.10
<b>Total</b>		<b>108</b>	<b>100</b>	<b>411</b>	<b>100</b>	<b>519</b>	<b>100</b>
Education							
	Bachelor's Degree	6	5.56	287	69.83	293	56.46
	Master's Degree	90	83.33	124	30.17	214	41.23
	Doctoral's Degree	12	11.11	-	-	12	2.31
<b>Total</b>		<b>108</b>	<b>100</b>	<b>411</b>	<b>100</b>	<b>519</b>	<b>100</b>

### Research Tools

Research tools created by concept of health promotion leadership. The questionnaire was divided to 2 parts.

Part 1 is personal information, the checklist.

Part 2 is the questionnaire about the health promotion leadership. The 5 level rating scale, and the interpretation criteria as the followings;

- |   |          |  |
|---|----------|--|
| 5 | refer to | the statement is significant for nurse at the “highest” level    |
| 4 | refer to | the statement is significant for nurse at the “high” level       |
| 3 | refer to | the statement is significant for nurse at the “moderate” level   |
| 2 | refer to | the statement is significant for nurse at the “rather low” level |
| 1 | refer to | the statement is significant for nurse at the “low” level        |

Created the statement is clearly, simply and same meaning, from analyzed the questionnaire.

### Research Tools Quality Testing

#### 1. Validity Measurement

a) Brings the questionnaire to the advisor for correct the questionnaire with the Construct Validity.

b) Content Validity: bring the questionnaire to 5 experts to correct The content with Index of Consistency / IOC. The IOC must be more than .50 (Sirichai Kanjanawasee, 2007: 15), it means the statement is association with the aim.

The result of IOC is 0.6 to 1 of 50 statemants (variances).

2. Reliability testing. The questionnaire were tested by 30 nursing instructors at Boromarajanoni Nursing College, Prayoa and 30 nurses that work at PCU , Saraphee district, Chiang Mai province. The data was analyzed by Cronbarrrch’s Alpha coefficient, may be more than 0.7 is means reliable (Kaitsuda Srisuk, 2006: 78)

The reliable of questionnaire form nursing instructors is 0.980, and another group is 0.976.

### Data Collection

1. Send the letter for cooperation with The Chiang Mai University and The experts.
2. Check up the questionnaire; right and complete.

### Analysis and Statistic

The Data was analysis by programs.

1. Basic data was analyzed by descriptive statistic: Frequency and Percentile.
2. The performance criteria data were analyzed by descriptive statistic: means and standard deviation.
3. The factors analysis for health promotion leadership is Factor Analysis



in Exploratory Factor Analysis by stepping followings;

### 3.1 Correlation matrix

1) Correlation matrix hypothesis testing by Bartlett's Test of Sphericity. It is the statistic distribution as Chi-Square pattern. If The Chi-Square is high value, means Significance, and accept the hypothesis, that is the variances are correlated.

2) The Correlation coefficient analysis by KMO (The Kaiser-Meyer-Olkin) or Measure Sampling Adequacy, if nearby, it means the data is proper for analyze the factor (Kalaya Wanichbuncha, 2006: 204; Yuth Kaiwan, 2007: 45)

3.2 Factor Extraction by technique of principle Component Analysis. It is the analysis each factor. Each factor is Linear combination of the earlier factor. At the last, get the factor that explain all variances (Penkhae Siriwan, 2003: 15-18)

3.3 Factor Rotation makes the variance to clear up caused of sometimes the Means of Factor loading not clearly. The variance that have Eigenvalue more than 1 use to Orthogonal Rotated by Varimax technique, convenience and simply. Selected the variance that has Factor Loading more than .30 (Yuth Kaiwan, 2008: 71). One factor must be has the variance at least 3 (Wiyada Tanvatanagul, 2005: 220; Yuth Kaiwan, 2008: 45)

4. Naming the factor

5. Brings the factors to the advisor and co-advisor for discussion.

## **Phase 2: The creative and development of the model for the development of health promotion leadership.**

There are 2 steps.

### **Step 2.1: Create the model (draft), operation followings;**

**Setting the structure framework** by review documents and literatures

#### **Data Source**

The resources were articles, research, the concept of health promotion leadership in textbooks, journals and electronic Medias.

#### **Research Tools**

Data record form

#### **Data Collection**

1. Review documents

2. Data analysis

3. Synthesis the factors of model. The result, there are 7 factors of model.

1) goal of development 2) boundary of development 3) management structure 4) strategies of development 5) development structure 6) development unit 7) target of development.

4. Setting the structure; factor of structure, correlation, activities, detail, content, goal, operation, evaluation of the model.

5. Present the model (draft) to the advisor for recommendation.

### **Data Analysis and Statistic**

Data analyzed by synthesis the content of the model.

### **Step 2.2: Quality assessment of The Model for Health Promotion Leadership Development of Nursing Students in Nursing College under Praboromrajchanok Institue, the Ministry of Public Health.**

Quality will test by 9 experts by survey the recommendation of Feasibility Standards, Utility Standards, Propriety Standards, Accuracy Standards Adequacy Standards and any recommendations.

### **Data Source**

Consist of 9 experts. Followings;

1. Four experts in health promotion. Those have at least master's degree and have experience of working at least 3 years.
2. Three experts in education administration. Those have doctoral degree and have experience administration at least 3 years.
3. Two scholars, who have the study in health promotion leadership. Those have doctoral degree.

### **Research Tools**

Research tools is the Quality Assessment of The Model for Health Promotion Leadership Development of Nursing Students in Nursing College under Praboromrajchanok Institue, the Ministry of Public Health. The quality assessment form, that adjusted by the evaluation form of Somsak Phuvipadawat et al (2011), divided to 3 parts.

Part 1            Personal information

Part 2            The questionnaire of Feasibility Standards, Utility Standards, Propriety Standards, Accuracy Standards Adequacy Standards. There are 5 Rating Scales, and the interpretations criteria as the followings;

- |   |          |                                     |
|---|----------|-------------------------------------|
| 5 | refer to | the comment at the highest level    |
| 4 | refer to | the comment at the high level       |
| 3 | refer to | the comment at the moderate level   |
| 2 | refer to | the comment at the rather low level |
| 1 | refer to | the comment at the low level        |

Part 3 Other recommendations.

### **Create the Tools and Quality Assessment**

1. Study the detail of factors in Feasibility Standards, Utility Standards, Propriety Standards, Accuracy Standards and Adequacy Standards. Then, the experts test the detail and set the questions.

2. Validity; the questionnaire were present to the advisor and were tested by Construct Validity theory.

3. Content Validity; the evaluation form were tested by three experts, two of measurement and evaluation experts, one of course development. Use of the Index

Consistency / IOC for test. The score must be more than .50 (Sirichai Kanjanawasri, 1998: 15).

4. Adjusted the evaluating form.
5. Bring the questionnaire to the advisor for recommendation.

#### **Data Collection**

1. Contact the experts.
2. Coordinate the Head office of Research and Development, Education Faculty, Chiang Mai University for appoints the experts.
3. Brings the questionnaire to the experts.

#### **Data Analysis and Statistic**

1. Check up the questionnaire
2. Setting the criteria level
  - 5 refer to the comment at the “highest” level
  - 4 refer to the comment at the “high” level
  - 3 refer to the comment at the “moderate” level
  - 2 refer to the comment at the “rather low” level
  - 1 refer to the comment at the “low” level

The interpretation criteria show as the following. (Boonchom Srisaard, 1992)

Score Means	Meaning
4.50-5.00	The model has quality at the “highest” level
3.50-4.49	The model has quality at the “high” level
2.50-3.49	The model has quality at the “moderate” level
1.50-2.49	The model has quality is at the “rather low” level
1.00-1.49	The model has quality is at the “low” level

The Criteria for define the model has quality is the means has more than 3.50.

3. Data analysis by Means and Standard deviation, means more than 3.50 and SD was unique or non unique. The information is accepted when Means Score more than 3.50.

4. The data from the questionnaire was analyzed by content analysis and content synthesis

5. The recommendation that more than two, they were insert in model.



**Phase 3: The study on the result of implementation of the model for the development of health promotion leadership.**

The implementation was set with the fourth year, nursing students of Chiang Mai Boromarajanoni, nursing College.

**Population and Sample Group**

**Population**

Population is the 100, fourth years of nursing students in Chiang Mai Boromarajanoni, nursing College.

**Sample Group**

Sample group is the 30, fourth years of nursing students in Chiang Mai Boromarajanoni, nursing College. The sample is selected by Simple Random Sampling (Kaitsuda Srisuk, 2006: 78).

1. Setting 100 labels
  2. Numbering 1-100 to the label
  3. Random 30 pieces
- The details revealed at Table 14.

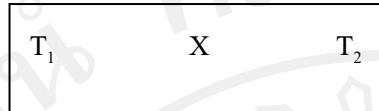
**Table 14** Number and percentile of the sample were classified by sex and age (n=30)

Information	Number	Percentile
Sex		
Male	2	6.67
Female	28	93.33
<b>Total</b>	<b>30</b>	<b>100</b>
Age		
21 years	8	26.70
22 years	13	43.30
23 years	9	30.00
<b>Total</b>	<b>30</b>	<b>100</b>

Table 15 shows that the samples were female 93.33%, male 6.67%, age at 22 years is highest level at 43.30%, and then 23 years at 30.00%.

### Research Design

It is the One Group pretest-posttest Design.



The meanings are following;

X refer to Trial

$T_1$  refer to Pretest

$T_2$  refer to Posttest

### Data Collection Tools

1. The Manual of the Model for Health Promotion Leadership Development of Nursing Student.
2. The knowledge measurement form for health promotion leadership.
3. The measurement form for attitude for nursing leadership
4. The self-evaluating form for health promotion leadership skill.
5. The observation form for health promotion leadership.
6. The evaluating form for the health promotion leadership development project.
7. The quality measurement form for the Model for Health Promotion Leadership.

### Create the Tools and Quality Assessment

#### 1. The manual of the Model for Health Promotion Leadership Development of Nursing Student.

The stepping are followings;

- 1.1 Review literature.
- 1.2 Create the manual, detail are introduction, useful, concept of health promotion leadership, Model for Health Promotion Leadership, the structure of the health promotion leadership development and unit of the development.
- 1.3 Present the Manual to three experts for adjust it.
- 1.4 Manual testing
- 1.5 Adjusted the manual

#### 2. The knowledge measurement form for health promotion leadership.

- 2.1 Review literature.
- 2.2 Create the fifty objective question ( item), knowledge testing about six factors for health promotion leadership; items 1-12 are the leadership of individual consideration, items 13-23 are the leadership of intellectual stimulation, items 24-31 are the leadership of moral, items 32-39 are the leadership of nursing knowledge and

health promotion, items 40-44 are the leadership of inspiration motivation and items 45-50 are the leadership of personality.

2.3 Measurement of the Content Validity and suitable of questionnaire by three experts, consists of one of leadership expert, one of measurement and evaluation expert and one of health promotion expert.

Result of testing, the fifty items', IOC are between 0.67 and 1.

2.4 Reliability measurement by tested with the thirty, 4<sup>th</sup> years of Nursing students at Lampang Boromarajanoni nursing college.

2.5 Scoring the test by criteria followings;

Scoring

Wrong in question	meaning	0
True in question	meaning	1

Interpretation of score

There are five interval scales. The formal for calculation shown followings; (Boonreang Kajornsins, 1999: 13)

$$\text{Interval} = \frac{\text{maximum score} - \text{minimum score}}{\text{Class Interval}}$$

Interpreted by score interval, show that;

Knowledge the leadership at "low" level, score at	0-10
Knowledge the leadership at "rather low" level, score at	11-20
Knowledge the leadership at "moderate" level, score at	21-30
Knowledge the leadership at "high" level, score at	31-40
Knowledge the leadership at "highest" level, score at	41-50

2.6 The quality measurement of each question by Difficulty and Discrimination Value. The criteria for Difficulty Value are between 0.20 and 0.80, for Discrimination Value is more than 0.20. The Difficulty Value was between 0.44 and 0.75, and other was between 0.55 and 0.88.

2.7 The quality measurement of all questions by Reliability measurement. This study used Kuder-Richardson 20 (KR 20) formula, the result was 0.96.

### **3. The measurement form for attitude for nursing leadership**

#### **3.1 Review literature**

3.2 Create the attitude measurement by Likert's Scale. It is 5 levels; 1 refer to low level, 2 refer to rather low level, 3 refer to moderate level, 4 refer to high level and 5 refer to highest level. There are 44 items, positive and negative. question about 6 factors of health promotion consist of; items 1-7 are the leadership of individual consideration, positive items are 1, 2, 3, 5 and 7, negative items are 4, items 8-16 are the leadership of intellectual stimulation, positive items are 8, 9, 10, 11, 13, 14 and 16, negative items are 12 and 15, item 17-24 are the leadership of moral, positive are 17, 20, 23 and 24, negative items are 18, 19 and 22, item 25-27 are the leadership of nursing knowledge and health promotion, all items are negative, items 28-40 are the leadership of inspiration motivation, positive are 28, 30, 31, 36, 38, 39 and 40, negative items are 29, 32, 33, 34 and 37, item 41-44 are the leadership of personality, all item are positive.

#### **3.3 Measurement of the Content Validity and suitable of questionnaire by**

Three experts, consists of one of leadership expert, one of measurement and evaluation expert and one of health promotion expert.

Result of testing, the fifty four items's, IOC are between 0.67 and 1.

3.4 Reliability measurement by tested with the thirty, fourth years of Nursing students at Boromarajanoni Nursing College, Lampang.

3.5 Scoring the measurement, the criteria are followings;

Positive statement, scale show below

Agree with at highest level is	5
Agree with at high level is	4
Agree with at moderate level is	3
Agree with at rather low level is	2
Agree with at low level is	1

Negative statement, scale show below

Agree with at highest level is	1
Agree with at high level is	2
Agree with at moderate level is	3
Agree with at rather low level is	4
Agree with at low level is	5

#### Interpretation the score

There are five interval scales. The formal for calculation shown followings; (Boonreang Kajornsins, 1999: 13)

$$\text{Interval} = \frac{\text{maximum score} - \text{minimum score}}{\text{Class Interval}}$$

Interpreted by score interval, show that;

Attitude for leadership at "low" level	1.00-1.80
Attitude for leadership at "rather low" level	1.81-2.60
Attitude for leadership at "moderate" level	2.61-3.40
Attitude for leadership at "high" level	3.41-4.20
Attitude for leadership at "highest" level	4.21-5.00

3.6 The quality measurement by Cronbach's Alpha coefficient (Boonjai Srisatidnarakul, 2007: 48) was 0.89.

#### **4. The self-evaluating form for health promotion leadership skill.**

##### 4.1 Review literature

4.2 Create the measurement for health promotion leadership skill by Likert's scale. It is 5 levels; 1 refer to low level, 2 refer to rather low level, 3 refer to moderate level, 4 refer to high level and 5 refer to highest level. There are 46 questions (items)

The questions about health promotion; items 1-8 are the leadership of

individual consideration, items 9-16 are the leadership of intellectual stimulation, items 17-24 are the leadership of moral, items 25-28 are the leadership of nursing knowledge and health promotion, items 29-32 are the leadership of inspiration motivation and item 33-46 are the leadership of personality.

4.3 Measurement of Content Validity by three experts, consists of one of leadership expert, one of measurement and evaluation expert and one of health promotion expert.

Result of testing, the fifty six items's, IOC are between 0.67 and 1.

4.4 Reliability measurement by tested with the thirty, 4<sup>th</sup> years of Nursing students at Lampang Boromajonani Nursing College.

4.5 Scoring the measurement, the criteria are followings;

Frequency at "highest" level	is	5
Frequency at "high" level	is	4
Frequency at "moderate" level	is	3
Frequency at "rather low" level	is	2
Frequency at "low" level	is	1

#### Interpretation the score

There are five interval scales. The formula for calculation shown followings; (Boonreang Kajornsins, 1999: 13)

$$\text{Interval} = \frac{\text{maximum score} - \text{minimum score}}{\text{Class Interval}}$$

Interpreted by score interval, show that;

Skill for leadership at low level	1.00-1.80
Skill for leadership at rather low level	1.81-2.60
Skill for leadership at moderate level	2.61-3.40
Skill for leadership at high level	3.41-4.20
Skill for leadership at highest level	4.21-5.00

4.6 The quality measurement by Cronbach's Alpha coefficient (Boonjai Srisatidnarakul, 2004: 48) is 0.89.

## **5. The observation form for health promotion leadership.**

### **5.1 Review literature**

5.2 Create the observation form by Likert's Scale. It is 5 levels; 1 refer to low level, 2 refer to rather low level, 3 refer to moderate level, 4 refer to high level and 5 refer to highest level.

5.3 Measurement of Content Validity and suitability by three experts, consists of one of leadership expert, one of measurement and evaluation expert and one of health promotion expert.

5.4 Reliability measurement by observation (Interrater Reliability) from two speakers, then scoring and formula calculation (Boonjai Srisatidnarakul, 2004: 49).



$$P = \frac{P_o}{P_o + P_e}$$

P	is	Interrater Reliability
P <sub>o</sub>	is	Number of evaluation as associated
P <sub>e</sub>	is	Number of evaluation as not associated

The result of Reliability measurement is .70

## **6. The evaluating form for the Health Promotion Leadership Development Project.**

6.1 Review literature

6.2 Setting the boundary of evaluation

6.3 Create the evaluating form by Likert's Scale; 1 refer to low level, 2 refer to rather low level, 3 refer to moderate level, 4 refer to high level and 5 refer to highest level.

6.4 Measurement of Content Validity by three experts in measurement, education administration and health promotion. The Measurement used of IOC.

IOC was between 0.67 and 1.

6.5 Present the result to advisor.

### The interpretation

Data interpretation by identified criteria (Boonreang Kajornsinsin, 1999: 41)

Followings;

Means between 4.50-5.00	it means the project is suitable at "highest" level
Means between 3.90-4.49	it means the project is suitable at "high" level
Means between 2.50-3.49	it means the project is suitable at "moderate" level
Means between 1.50-1.49	it means the project is suitable at "rather low" level
Means between 1.00-1.49	it means the project is suitable at "low" level

The result accepted, the Means must be pass the high level.

### **Data Collection**

1. Bring the dispatch to the Chiang Mai Boromarajanoni Nursing College Director.
2. Present the aims and detail of the study to the Director.
3. Coordinate with the Head office of community and psychiatric nursing department, the community and psychiatric nursing instructors, The nurses at primary care unit, the family medicine doctor, the health officers and the speakers.
4. The Board operates with planning.

### **Plan Setting**

1. Planning development followed by the model.

Planning with the represent of fourth year nursing students, the nursing Instructors and board have to plan implementation, time, date and place. Result that implement at Chiang Mai Boromarajanoni Nursing College, timings are four weeks, model is PDCA of Deming.

2. Preparing the personals for understanding the factor of model.

The researcher, the director, the speaker and nursing instructors were plan the model. Showed that;

### **2.1 The Factor 1 Goal of Development**

2.1.1 The Boromarajanoni Nursing College Director appointed the board. Consists one of Head office of community and psychiatric nursing department, the two community and psychiatric nursing instructors, a family medicine doctor, The two nurses at primary care unit, a health officers.

2.1.2 The Board considers the goal of model and activities.

2.1.3 The Board plan for working.

2.1.4 Advertise the goal of the model.

### **2.2 Factor 2 Boundary of Development**

2.2.1 The Board understands with knowledge, attitude and skill of Health Promotion Leadership. Understanding with six factors for health promotion leadership, these are the leadership of 1) individual consideration, 2) the leadership of intellectual stimulation, 3) the leadership of moral, 4) the leadership of nursing knowledge and health promotion, 5) the leadership of inspiration motivation and 6) the leadership of personality.

2.2.2 The Board setting the implementation between 1<sup>st</sup> February to 14<sup>th</sup> March, 2012.

### **2.3 Factor 3 Management Structure**

Appointed the Board for development the model. Consists Head office of community and psychiatric nursing department, the two community and psychiatric nursing instructors, a family medicine doctor, The two nurses at primary care unit, a health officers, totally seven persons.

### **2.4 Factor 4 Strategies of Development**

2.4.1 Management with quality process

2.4.1.1 Planning

The Boards set the development of the model in the fourth year, 30 nursing students, between 1<sup>st</sup> February 2012 to 14<sup>th</sup> March 2012.

1. Practice

Board Meeting at pre and post implementation

2. Follow-up

1) Evaluate the step and problem

2) Evaluate the efficacy of model

3) Evaluate the effectiveness of model

3. Quality Adjustment

present at Chapter 4 , Table 38.

1) Analysis of the evaluation. The evaluation

2) Adjustment and Develop the good results.

2.4.2 Promote the nurse at PCU for participate the nursing education management. The speaker team has the two nurses from PCU.

## **2.5 Factor 5 Development Structure**

Understanding to the stakeholder, these are Boromarajanoni Nursing College Director, Head office of community and psychiatric nursing department, the community and psychiatric nursing instructors, the family medicine doctor, The nurses at primary care unit, the health officers.

## **2.6 Factor 6 Development Units**

2.6.1 Understanding to the stakeholders about the development units.

2.6.2 Plan for training the stakeholders

## **2.7 Factor 7 Target of Output**

2.7.1 Set goals of development for increase the performance.

2.7.2 Plan of development, Clearly, achieve goals. The researcher and the instructor of the community and psychiatric nursing department, Chiang Mai, Boromarajanoni were follow up and evaluate on pre-implementation, during implementation and post-implementation period by PDCA process.

## **Implementation**

The activities are followings;

1. Pre evaluation of Knowledge, Attitude and skill of health promotion
2. Set the activities for develop the health promotion leadership.

## **Follow up and Evaluation**

1. Supervise, follow up and evaluation
2. Evaluate the experiment at ending of development for knowledge and attitude. The skill was evaluated after 1 month of ending.

- 1) Pre-implement evaluation
  - Evaluate the Knowledge, Attitude and skill of health promotion activities.
  - Evaluate the context and input factor of development

- 2) During implement evaluation
  - Evaluate the activities process
  - Evaluate the health promotion leadership skill.
- 3) Post-implement evaluation

## **Evaluated by sample group**

- Evaluate the efficacy of model. Evaluate from knowledge, attitude of health promotion leadership after experimentation.

- Evaluate the skill of health promotion leadership after experimentation 1 month.

#### Evaluated by Board

Evaluate the quality of the model by survey the consideration about Feasibility Standards, Utility Standards, Propriety Standards, Accuracy Standards, Adequacy Standards and other recommendations.

#### Data Resource

Consists of six speakers

#### Operation

1. The Board evaluate the quality of the model
2. Group discussion on issues followings;
  - 2.1 Suitability
  - 2.2 Other recommendation
3. Summarized the discussion, timing are three hours.
4. Data analysis from the tape recorder.

#### Research Tools

The documents for record group discussion.

#### Criteria and indicators for successes

Followings (Woradej Juntarasorn and Pairoj Pattaranarakul, 1998: 44)

that;

1. The Criteria of Efficacy, followings; Increasing of knowledge, attitude and behavior of health promotion leadership.
2. The Criteria of Effectiveness, followings; level of achieve goal, achieve standard, level of participatory, that evaluated from result of process and products.
3. The Criteria of Adequacy, followings; sufficiency of resource that evaluated from context evaluation and input factors, must be increase.
4. The Criteria of Satisfaction is the satisfaction of the development recipient.

#### **Adjustment**

The adjustment analyzed the contents of implementation in Efficiency, Effectiveness, and other recommendations. Adjust the model to complete, conclusions, discussions and recommendations. Then, present and publish the model in Thesis.

Research Tools are the form of implementation, Efficiency of model and recommendations.

Analysis and Statistic is the Content analysis.

#### **Data Analysis and Statistic**

The step of data analysis, followings;

1. The data of evaluation the model efficiency are knowledge questionnaire, the form of attitude measurement, the evaluating form of health promotion leadership behavior. These are analyzed by Means and Standard deviation.
2. The data of evaluation the model quality was analyzed by means, standard deviation and content synthesis of the comments and recommendations.

3. The data of evaluation the model was analyzed by means, standard deviation and content synthesis of the comments and recommendations.

The research implementation can be chronologically shown in Table 15

**Table 15** Population, Sample, Research tools, Data selection and Data analysis

Population and Sample groups	Research Tools		Data selection	Data analysis
	Name	quality testing		
Phase 1: The analysis of the factors in health promotion leadership.				
Step 1 Analysis the suitability performance criteria for health promotion leadership.				
Resource The resources are the 5 experts: health promotion, primary health care and nursing education management	The questionnaire of suitability performance criteria for health promotion leadership.	Advisor consider a proper of questionnaire in clarify and compact of writing	Self-send and get back the question naire	-Mean -Standard Deviation analysis Mean≥ 3.50
Step 2 Analysis the factors of health promotion leadership				
1.2 The 633 samples; - 135 nursing instructors of Northern Boromarajanoni Nursing College. - 498 nurses that work at PCU in Northern. The samples were selected by Multiple Stage Sampling	the questionnaire for health promotion leadership is the 5 rating scales	- IOC =0.67-1 - reliability From Nursing instructors = 0.980 2.From Nurses= 0.976	Self-send and get back the question naire	- Mean - Standard Deviation analysis - Exploratory factor analysis



Table 15 (cont.)

Population and Sample groups	Research Tools		Data selection	Data analysis
	Name	quality testing		
Phase 2: The creative and development of the model for the development of health promotion leadership.				
2.1 Create the model (draft)				
2.1 document, research report of leadership development and development model	Research Synthesis form	Advisor consider a proper of tool in clarify and compact of writing	Content analysis	Support by the at least 2 researches
2.2 Quality Testing of The Model for Health Promotion Leadership Development				
2.2 quality testing the model by 9 experts	Quality model evaluation form	- IOC =0.67-1	Self-send and get back the questionnaire	-Mean -Standard Deviation analysis Mean≥ 3.50
Phase 3: The study on the result of implementation of the model for the development of health promotion leadership.				
3.1 The 30, fourth year of Chiang Mai Boromarajanoni nursing students.	1. manual of the model	3 experts	Self-send and get back the questionnaire	Content analysis
	2. the evaluation form of knowledge, attitude and health promotion leadership skill	- IOC=0.67-1 -P=0.44-0.75 -r=0.50-0.88 -KR-20 = 0.96	Pre-post test	-Mean -Standard Deviation analysis Mean≥ 3.50
	3.The measurement form for attitude for nursing leadership	- IOC 0.67- 1 -reliability=0.89		

Table 15 (cont.)

Population and Sample groups	Research Tools		Data selection	Data analysis
	Name	quality testing		
	4.The self-evaluating form for health promotion leadership skill.	- IOC 0.67- 1 -reliability=0.93	Pre-post test	
	5. The observation form for health promotion leadership.	-IOC=0.67-1 -reliability =0.70	Evaluation when doing activities by speakers	-Mean -Standard Deviation analysis Mean $\geq$ 3.50
	6. the evaluation form of the development for health promotion leadership project.	- IOC=0.67-1 - Advisor consider a proper of tool in clarify and compact of writing	Pre-post test	-Mean -Standard Deviation analysis Mean $\geq$ 3.50
2. 7 speakers	Quality model evaluation form	- IOC 0.67- 1	Self-collection	-Mean -Standard Deviation analysis Mean $\geq$ 3.50
	Documents for group discussion	Advisor consider a proper of tool in clarify and compact of writing	Focus group	Content analysis