

CHAPTER 3

RESEARCH METHODOLOGY

The objectives of this study were (1) to identify team knowledge in terms of how teams perform and how teams learn, (2) to develop team performance indicators, (3) to modify the Balanced Scorecard for use with health-promoting organizations at the team level, and (4) to reflect team performance through the development process of team performance indicators. In accordance with the conceptual framework presented in the previous chapter (Figure 2.7), this chapter addresses the research methodology used in this study. Quality control and research ethics are also explained.

This study was based on organizational development activities, or action research, which refers to a systematic process of collecting data, feeding the data back into the system and taking actions based on the data. To select an appropriate network from ThaiHealth, a purposive sampling procedure was used as described in Chapter 1. The inclusion criteria were (1) the teams' organizational structure should be similar to that of ThaiHealth, (2) the strategies of teams should conform to those of ThaiHealth, (3) the experiences of how teams perform and how teams learn should reflect team knowledge, and (4) the teams should have achieved their goals. The background of the 'Sweet Enough Network' demonstrated that its provincial health-promoting teams were compatible with these criteria. The provincial health-promoting teams in the 'Sweet Enough Network' are also self-directed teams, which, according to the

literature, are the most effective team type. The ‘Sweet Enough Network’ was selected as an appropriate network for this study.

The research process was divided into four steps:

Step 1: Clarification of the missions and outcomes of Thai health-promoting teams;

Step 2: Identification of team knowledge, which included how teams perform and how teams learn;

Step 3: Generation of team performance indicators for Thai health-promoting teams;

Step 4: Verification and selection of team performance indicators for Thai health-promoting teams.

Each step required different sampling, instruments, quality control, data collection and data analysis. The process of this study is shown in Table 3.1. The following section explains each step in detail.

Table 3.1 Research processes

Step	Framework	Methods & Samples	Output
1. Clarification of the missions and outcomes of Thai health-promoting teams	<ul style="list-style-type: none"> The Balanced Scorecard used in business organizations 	<ol style="list-style-type: none"> In-depth interview: core team leaders (4) and health-promoting team leaders (12) Informal interview: team partners (17) Participant observation in 8 meetings and 2 learning fora Facilitate learning forum for 12 groups, which include health-promoting team leaders (19), team members (61) and team partners (25) Review relevant documents (36) 	Teams' missions and outcomes
2. Identification of team knowledge: how Thai health-promoting teams perform and how Thai health-promoting teams learn	<ul style="list-style-type: none"> Organizational structural design: <ol style="list-style-type: none"> team tasks team work design team composition team process team supporting systems Learning in action: <ol style="list-style-type: none"> type of learning: intelligence gathering and experience leadership challenge: creating opportunity, setting the tone and leading the discussion 	<ol style="list-style-type: none"> Literature review In-depth interview: core team leaders (4) and health-promoting team leaders (12) Participant observation in 5 meetings and 1 learning forum Review relevant documents (29) 	Team knowledge: <ul style="list-style-type: none"> How Thai health-promoting teams perform How Thai health-promoting teams learn
3. Generation of team performance indicators for Thai health-promoting teams	<ul style="list-style-type: none"> The Balanced Scorecard used in business organizations Organizational structural design Learning in action 	<ol style="list-style-type: none"> Analyze and synthesize the results from the clarification and identification steps by following the conceptual framework for generating team performance indicators 	A first set of team performance indicators for Thai health-promoting teams
4. Verification and selection of team performance indicators for Thai health-promoting teams	<ul style="list-style-type: none"> The Balanced Scorecard used in business organizations Organizational structural design Learning in action 	<ol style="list-style-type: none"> Peer review by using questionnaire: health-promoting team leaders (8), team members (3), team partners (3) and coaches (3) Peer review by informal interview: health-promoting team leaders (8) Peer review by focus group discussion in one health-promoting team: health-promoting team leaders (1), team members (10) 	The critical team performance indicators for Thai health-promoting teams

Step 1: Clarification of the missions and outcomes of Thai health-promoting teams

Step	Framework	Methods & Samples	Output
1. Clarification of the missions and outcomes of Thai health-promoting teams	<ul style="list-style-type: none"> The Balanced Scorecard used in business organizations 	<ol style="list-style-type: none"> In-depth interview: core team leaders (4) and health-promoting team leaders (12) Informal interview: team partners (17) Participant observation in 8 meetings and 2 learning fora Facilitate learning forum for 12 groups which include health-promoting team leaders (19), team members (61) and team partners (25) Review relevant documents (36) 	Teams' missions and outcomes

To clarify teams' missions and outcomes, five methods were used to collect the data as follows.

Firstly, in-depth interviews of key informants from Thai health-promoting teams were conducted. A purposive sampling procedure was used to collect data. The inclusion criteria to select the health-promoting teams from the 'Sweet Enough Network' were: (1) teams that had been members of the 'Sweet Enough Network' for at least three years and (2) team leaders who worked in the Provincial Public Health Offices. From 19 provincial health-promoting teams in 2007 (The Sweet Enough Network, 2006; 2007; 2008), the six teams of Lampang, Phrae, Saraburi, Ratchaburi, Nongkhai and Nongbualamphu were included as samples. In addition, the core team managers were included to clarify their experience to manage the provincial health-promoting teams. Thus, 16 key informants, consisting of four leaders from the core

team and 12 health-promoting leaders from six provincial health-promoting teams, were selected. The researcher interviewed key informants between July 2007 and April 2008, using a semi-structured interview technique. The theme for the semi-structured interview questions was created from the framework of the Balanced Scorecard used in business organizations (Kaplan, 1992; 1996a; 1996b; Kaplan & Norton, 2004, p.8). The agenda for the in-depth interview was organized as follows: (the details are shown in Appendix A)

Agenda 1: the researcher introduced the objective of the interview.

Agenda 2: the interviewees identified their background information.

Agenda 3: the interviewee identified the team's vision, missions, the most important image of the team, its strategies and outcomes.

Secondly, to ensure a thorough clarification of the provincial health-promoting teams' missions and performance in the partner perspective, the researcher informally interviewed 17 team partners between May 2008 and July 2008. Seven school administrators, five school teachers and five community leaders were selected purposively as key informants who were involved in 11 best practice cases. Video recorders were also used as a tool to capture the interview. The themes for the informal interview were intended to clarify how the provincial health-promoting teams worked with the partners. The agenda for the informal interviews were organized and conducted as follows (the details are shown in Appendix B):

Agenda 1: the researcher introduced the objective of the interview.

Agenda 2: the interviewees identified why and how they worked with Thai health-promoting teams.

The questions used in both interviews were pre-tested in other target samples and adjusted for use in this study. After the interviews of key informants, the recorded interviews were transcribed. Quality control was used to check the validity of the data. The researcher used a member-checking technique by immediate checks, and final checks after thematic extraction and data analysis with interviewees (Creswell, 1998, p. 202; Janesick, 2000, p. 393; McWilliam, 2000; Cohen & Crabtree, 2008).

The third method was participant observation. The researcher participated in a total of eight meetings and two learning fora which were set up by either the core team or the provincial health-promoting teams. In every meeting and learning forum, the committee or participants discussed the performance of the provincial health-promoting teams. In each participant observation, the researcher acted as a participant and made field notes which focused on team performance. These meetings and learning fora comprised:

- Steering committee meetings (3)
- Coaching team meetings (2)
- Provincial health-promoting teams meetings (2)
- Outcome mapping training meetings (1)
- Provincial learning fora (2)

Learning forum facilitation was the fourth method. As the core team leaders developed the learning forum for the provincial health-promoting teams from 29 April to 1 May 2008, the researcher helped them to facilitate the forum for enhancing team performance. The objectives of the forum were to share the vision, review the

previous activities and tasks of the provincial health-promoting teams, revise tasks for the future, and plan their implementation together. One hundred and five participants from 20 provincial health-promoting teams, composed of 19 provincial health-promoting team leaders, 61 team members, 25 team partners, were involved to share their experiences. Twelve learning groups were established to share their knowledge, using the After Action Review technique (Appendix C). The researcher also communicated the purpose and process of the study and of the development of the team performance indicators to the participants.

Finally, 36 relevant documents were collected for analysis as the fifth method.

These relevant documents consisted of:

- Annual reports of the Sweet Enough Network (The Sweet Enough Network, 2005; 2006; 2007) (3)
- The Sweet Enough Network Best Practice Model report (1)
- Steering committee meeting reports (5)
- Coaching team meeting reports (3)
- Provincial health-promoting teams meeting reports (7)
- Outcome mapping training documents (3)
- Provincial learning forum documents and reports (14)

All of the data were analyzed by content analysis. Content analysis was the technique for reducing texts to a unit-by-variable matrix and analyzing that matrix.

The researcher produced the matrix by applying a set of codes to a set of quantitative data. The content analysis assumed that the codes of interest had already been

discovered and described (Creswell, 1998, pp. 140-142; Ryan & Bernard, 2000, pp. 780-786). All of the data from these methods confirmed teams' missions and outcomes. In addition, teams' missions and outcomes were used for formulating indicators and used as inputs to generate team performance indicators in the fourth step by following the framework from the first step.

Step 2: Identification of team knowledge, which included how teams perform and how teams learn

Step	Framework	Methods & Samples	Output
2. Identification of team knowledge: how Thai health-promoting teams perform and how Thai health-promoting teams learn	<ul style="list-style-type: none"> • Organizational structural design: <ol style="list-style-type: none"> (1) team tasks (2) team work design (3) team composition (4) team process (5) team supporting systems • Learning in action: <ol style="list-style-type: none"> (3) type of learning: intelligence gathering and experience (4) leadership challenge: creating opportunity, setting the tone and leading the discussion 	<ol style="list-style-type: none"> 1. Literature review 2. In-depth interview: core team leaders (4) and health-promoting team leaders (12) 3. Participant observation in 5 meetings and 1 learning forum 4. Review relevant documents (29) 	Team knowledge: <ul style="list-style-type: none"> • How Thai health-promoting teams perform • How Thai health-promoting teams learn

This step started as knowledge management by capturing and codifying tacit knowledge. How Thai health-promoting teams perform and how Thai health-promoting teams learn were important tacit knowledge for developing team performance indicators. Team knowledge referred to (1) how Thai health-promoting teams perform and (2) how Thai health-promoting teams learn. The techniques of how Thai health-promoting teams perform were categorized by using the organizational structural design (Cummings & Worley, 2001, pp. 280- 369) into five

categories. These categories were comprised of (1) team tasks, (2) team work design, (3) team composition, (4) team process and (5) team support systems. Meanwhile, Garvin's learning theory (Garvin, 2000) was used as a framework for identifying the techniques of how the health-promoting teams learn. The techniques of team knowledge were used as inputs to formulate team performance indicators for the health-promoting teams.

As the experience of teams was important to identify team knowledge and a team required time to develop, the six provincial teams and the 16 key informants in Step 1 were purposively selected as samples.

The researcher collected data through three methods: in-depth interviewing of key informants, participant observation and documentary research. Creswell (1998, p. 202), Denzin & Lincoln (1998, p. 46) and Janesick (2000, p. 391) suggest that these methods triangulate the information gained and ensured the credibility, dependability and confirmability of data. The in-depth interview included four core team leaders and 12 health-promoting team leaders. The researcher participated in five meetings and one learning forum for participant observation. In addition, 29 documents were collected for document analysis. The researcher interviewed key informants at the time of the clarification step by using a semi-structured interview technique. The theme for the semi-structured interview questions was created from the literature review of the organizational structural design (Cummings & Worley, 2001, pp. 280-369) and of learning in action (Garvin, 2000). The agenda for the in-depth interview was organized as follows: (the details are shown in Appendix A)

Agenda 1: the researcher introduced the objective of the interview.

Agenda 2: the interviewees identified their background information.

Agenda 3: the interviewees identified how Thai health-promoting teams perform.

Agenda 4: the interviewees identified how Thai health-promoting teams learn by using learning in action, which included:

- two types of learning:
 - (1) intelligence gathering, which includes search, inquiry, observation
 - (2) experience learning refers to reflection and review
- leadership challenge: creating opportunity, setting the tone and leading the discussion.

The questions were pre-tested on health professionals in other target samples and adjusted for this study. The procedures after the interviews, such as transcriptions of the recorded interviews and validity of the data, were similar to those in the clarification step.

Furthermore, the researcher participated in five meetings and one learning forum.

These meetings included one provincial health-promoting team meeting, one coaching team meeting, one outcome mapping training session and two steering committee meetings, while the learning forum was jointly conducted by the Nongkhai and Nongbualamphu teams. Moreover, the secondary data from the 29 documents were collected and analyzed. These documents were comprised of 16 meeting reports, five articles, four annual reports and four papers for presentation. Both the field notes from participant observation and the documents emphasized how Thai health-promoting

teams perform and how Thai health-promoting teams learn. In addition, the field notes of each participant observation and each document were used to verify the data.

Then, two techniques, content analysis and thematic extraction, were selected as the methods to analyze the data. After content analysis, which is described in Step 1, themes were induced and constructed from the codes. The steps for analysis of the data included (Creswell, 1998, pp. 140-142; Ryan & Bernard, 2000, pp. 780-786):

1. Data management: create and organize files for data from collecting verbatim transcripts of interviews.
2. Reading and memoing: read through the transcribed text, line by line, and memo by making marginal notes, which are code notes, theory notes and operational notes.
3. Classification: identify potential themes by pulling together real examples from the text and identify the categories and terms used by informants themselves.
4. Interpreting data, relating categories and developing analytic frameworks: build theoretical models and link them together by comparing and contrasting themes and concepts.

The results of analysis in this step demonstrated team knowledge which included how Thai health-promoting teams perform in terms of five categories and how Thai health-promoting teams learn via learning in action. In addition, team knowledge was identified and reflected in terms of the techniques of how Thai health-promoting teams perform and the techniques of how Thai health-promoting teams

learn. These techniques were used to formulate indicators and used as inputs to generate team performance indicators in the next step.

Step 3: Generation of team performance indicators for Thai health-promoting teams

Step	Framework	Methods & Samples	Output
3. Generation of team performance indicators for Thai health-promoting teams	<ul style="list-style-type: none"> • The Balanced Scorecard used in business organizations • Organizational structural design • Learning in action 	1. Analyze and synthesize the results from the clarification and identification steps by following the conceptual framework for generating team performance indicators	A first set of team performance indicators for Thai health-promoting teams

This step was intended to generate team performance indicators by following the conceptual framework for generating team performance indicators for Thai health-promoting teams as shown in Figure 2.7.

The researcher pinpointed (1) teams' missions and outcomes, (2) the techniques of how Thai health-promoting teams perform and (3) the techniques of how teams learn. Each technique was analyzed and used to formulate indicators for reflecting team performance. After that, each indicator was analyzed by following the conceptual framework and applied to the appropriate perspectives. As well, each indicator was categorized into one of two types of indicators, lagging or leading indicators. Then, sub-perspectives were formulated by grouping similar attributes of indicators.

The result of this step was a first set of team performance indicators for Thai health-promoting teams as a draft for the verification and selection step. The first set

of team performance indicators fulfilled the conceptual framework for generating team performance indicators for Thai health-promoting teams.

Step 4: Verification and selection of team performance indicators for Thai health-promoting teams

Step	Framework	Methods & Samples	Output
4. Verification and selection of team performance indicators for Thai health-promoting teams	<ul style="list-style-type: none"> • The Balanced Scorecard used in business organizations • Organizational structural design • Learning in action 	<ol style="list-style-type: none"> 1. Peer review by using questionnaire: health-promoting team leaders (8), team members (3), team partners (3) and coaches (3) 2. Peer review by informal interview: health-promoting team leaders (8) 3. Peer review by focus group discussion in one health-promoting team: health-promoting team leaders (1), team members (10) 	The critical team performance indicators for Thai health-promoting teams

To verify the first set of team performance indicators and select the critical team performance indicators for Thai health-promoting teams, three peer review techniques were used for the study: a questionnaire, interviews and a focus group discussion. Peer review provided an external check (Creswell, 1998; p. 202) and validated information regarding team performance indicators.

A significant process for using the Balanced Scorecard is feedback and learning (Kaplan & Norton, 1996b). Thus, this step aimed to gather feedback from the teams. The questionnaire (Appendix D) was designed to collect feedback from the consideration of the first set of team performance indicators, the baseline data and target determination for teams between November 2008 and January 2009. The

questionnaire provided descriptions of teams' missions in the introduction. Purposive samples included six provincial health-promoting teams, those of Lampang, Phrae, Saraburi, Ratchaburi, Nongkhai and Ubon Ratchathani. The Nongbualamphu team was excluded and replaced by the Ubon Ratchathani team because the Nongbualamphu team was no longer a member of the network when this step in the data collection was performed. As well, the experience of the Ubon Ratchathani team was similar to that of the other teams. The samples answering the questionnaire included eight provincial health-promoting team leaders, three team members, three team partners and three coaches. These 17 people joined the network more than three years before the study was begun, and were willing to answer the questionnaire.

Content analysis was used to analyze the content of the feedback questionnaires.

After the completed questionnaires were returned, the researcher informally interviewed eight provincial health-promoting team leaders from six teams who responded the questionnaire in January and February 2009. Five informal interview questions (Appendix E) aimed to verify the first set of team performance indicators in terms of practicability and to reconsider how team leaders learned from the indicators. The agenda for the informal interviews was organized as follows:

Agenda 1: the researcher introduced the objective of the interview.

Agenda 2: the interviewee identified the practicability of team performance indicators and what they learned from the indicators.

In addition, the team performance indicators were reviewed once more by one provincial health-promoting team, the Lamphun team, which had been a member of the network for one year. This team consisted of one provincial health-promoting

team leader and ten team members. Focus group discussion was used as a technique for priority setting and for selecting the appropriate indicators for team performance. The discussion occurred in August 2009. The agenda for the informal discussion was organized as follows:

Agenda 1: the researcher introduced the objective of the discussion.

Agenda 2: the participants set the priority and selected the critical team performance indicators for their team by giving a score from one to five for each indicator. Higher scores referred to the more important indicators.

The feedback from the questionnaire, informal interview and focus group discussion was analyzed. Finally, the results of this study are presented as the critical team performance indicators for Thai health-promoting teams.

Research ethics

This study received the Certification of Research Projects Involving Human Subjects issued by the Committee of Research Ethics in Public Health, The Graduate School, Chiang Mai University. In addition, the manager of the Sweet Enough Network permitted the researcher to do this research in the organization. All of the study participants were informed of the objectives and processes of the study before being interviewed, and gave their consent, both verbally and by signing a consent form. The findings of the study resulted from an analysis of all of the data and were distributed to the interviewees to check the final interpretation. In addition, all of the data were secured for privacy and confidentiality (Christians, 2000: pp. 138-140).

Summary

Four research processes were designed for this study. These processes consisted of Step 1: Clarification of the missions and outcomes of Thai health-promoting teams, Step 2: Identification of team knowledge, which included how teams perform and how teams learn, Step 3: Generation of team performance indicators for Thai health-promoting teams and Step 4: Verification and selection of team performance indicators for Thai health-promoting teams. Each step was designed by using different methods, samples and instruments for collecting and analyzing data. The provincial health-promoting teams in the 'Sweet Enough Network' were employed as samples. Data were collected through various methods: in-depth interviews, participant observation, documentary analysis and peer review via questionnaire, interviews and a focus group discussion. Triangulation and a member-checking technique were used to control the quality of, and verify, the data, and content analysis and thematic extraction were used for data analysis. In accordance with the conceptual framework for generating team performance indicators for Thai health-promoting teams, the Balanced Scorecard used in business organizations was modified for use as a measurement approach to health-promoting teams.