
PUBLIC HEALTH RESEARCH

Outcomes of the Prince of Songkla University Model to Building Nursing Research Capacity for Thai Nurses to the Asian Region : Participatory Action Research

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ABSTRACT

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Introduction	Building research capacity in nursing services has been recognized internationally as important in order to produce a sound evidence for decision-making in policy. Prince of Songkla University has adopted the direction of development which is consistent with its vision of being a leading university in the Asian region with the obligations of producing research. The aim of this study is to evaluate the outcomes (the number of research reports and nurses' satisfaction) of building nursing research capacity with the Prince of Songkla University Model.
Methods	This participatory action research was a part of study on the outcomes of building nursing research capacity with the Prince of Songkla University Model. One hundred participants ($n = 100$) were recruited on a voluntary basis during the years 2004–2009. Six participatory development steps were carried out. Data were collected through recording research report presentations, a questionnaire, and satisfaction interviews. Quantitative data were analyzed with descriptive statistics.
Results	It was found that 61% ($n = 61$) of the Thai nurses were able to present their research reports at international conferences in three countries, namely the Republic of Korea (three times, or 50.82%), Japan (44.26%) and Indonesia (4.92%). The majority of the presentations (72.13%) were in the form of poster presentations; most of the research designs (45.90%) were descriptive studies, followed by quasi-experimental research (27.87%); and most of the research topics (22.95%) were on adult nursing, followed by nursing administration and management (18.03%), and nursing education (16.38%). The participants' satisfaction was: 85% at a high level, and 15% at a moderate level.
Conclusions	As academic and service partners move forward to design and implement changes to prepare the next generation of building nursing research capacity for the realities of a changing health care delivery, both process from PSU Model and outcomes evaluations must be incorporated in planning. The key point is that measurement is essential to determine the short –and long-term effectiveness and the efficiency of this model.
Keywords	Nursing Research – Capacity - Asian Region - Participation Action Research

INTRODUCTION

In Thailand there are approximately 59 educational institutions that produce nurses.¹ At present, all study plans require nursing students to have a bachelor's degree. Hence, nurses in clinics and communities, to an extent, have had experience in doing research as part of their study. However, studies have found that 80% of research was found in universities where thesis writing is required as part of graduate study programs for master's and doctoral degrees. Many studies found that very little research had been conducted by nurses working in government hospitals and health centers²⁻⁵ even though research in the field of nursing is very important in building the body of nursing knowledge; can affect service recipients and respond to society as a whole in terms of the needs for health services as well as receiving more efficient services. In addition, research in nursing can make the nursing profession more acceptable as a profession that is valuable and beneficial to society.⁶ In the past, never has the collaborative effort resultant from nursing educational institutions and inter-professional collaboration to develop nursing research capacity for Thai nurses in the workplace to present at international conferences through participatory action research.

Prince of Songkla University has adopted the direction of development which is consistent with its vision of being a leading university in the Asian region with the obligations of producing graduates, providing academic services and preserving arts and culture, and employing research-based approach. There are several indicators which serve to illustrate the research directions of the University.⁷ As nurse educators at Prince of Songkla University, part of the researchers' work consists of academic services, especially developing nursing research capacity in nursing agencies in the southern part of the country by means of the Prince of Songkla University Model (PSU Model). The concept of capacity-building⁸ was adapted to the context of bureaucracy in the Thai nursing profession. Six participatory development steps were carried out. Participatory action research (PAR) is increasingly recognized as a crucial research tool in the nursing field. Its principles build on the capacity of a group of nurse professionals to think and work together on nursing problems through the sharing of knowledge, skills and resources.⁹ The aim of this study was to evaluate the outcomes of the PSU Model on increasing nursing research capacity through participatory action research, in order to enhance the ability of Thai nurse researchers to present their research reports at an international level.

Definition of Term

Prince of Songkla University Model (PSU Model) refers to a cooperation framework between nursing

academics from the Faculty of Nursing, Prince of Songkla University and the government health service division in the southern part in order to increase nursing research competency of nurses using four capacity building approaches: top-down organizational approach, bottom-up organizational approach, partnerships approach, and community organizing approach, through participatory research under the context of Thai management.

METHODOLOGY

Research design

Participatory action research was conducted using the PSU Model because it emphasizes action learning involving individuals and organizations in the nursing system, educational system, and the community). It is also a collaborative process that focuses on the knowledge-building among groups of people working together to solve problems.¹⁰⁻¹¹ There were two inclusion criteria: being a professional nurse in a government hospital, and willing to participate in this project. One hundred participants ($n = 100$) were recruited on a voluntary sampling (inclusion criteria) during the years 2004–2009. Participatory action research by: a nurse educator and five government health service organizations: a nursing education institutions ($n=17$), a university hospital ($n=28$), a regional central hospital ($n=10$), a provincial hospital ($n=35$), and a community hospital ($n=10$). Ethically, participants could withdraw from the research project if they did not want to participate in it; and the names of people involved in the project were kept confidential. This study was approved by the Human Research Ethics Committee of the organization. The data were collected through recording research report presentations, and satisfaction questions. The instrument was tested for content validity by 3 experts and reliability was tested using Cronbach's alpha method, which yielded overall values of 0.88 respectively. The quantity data were analyzed with frequency and percentage.

Conceptual framework and process of PSU Model

These approaches were applied to suit the context of nursing in the Thai bureaucratic system; this consists of a nursing administration section for which a top-down organizational approach is used, because building people's capacity requires policy, mission statements, planning and evaluation.⁹⁻¹¹ Six steps of building nursing research capacity. This is discussed in more detail below. The framework of this study (PSU Model) was summarized in Figure 1.

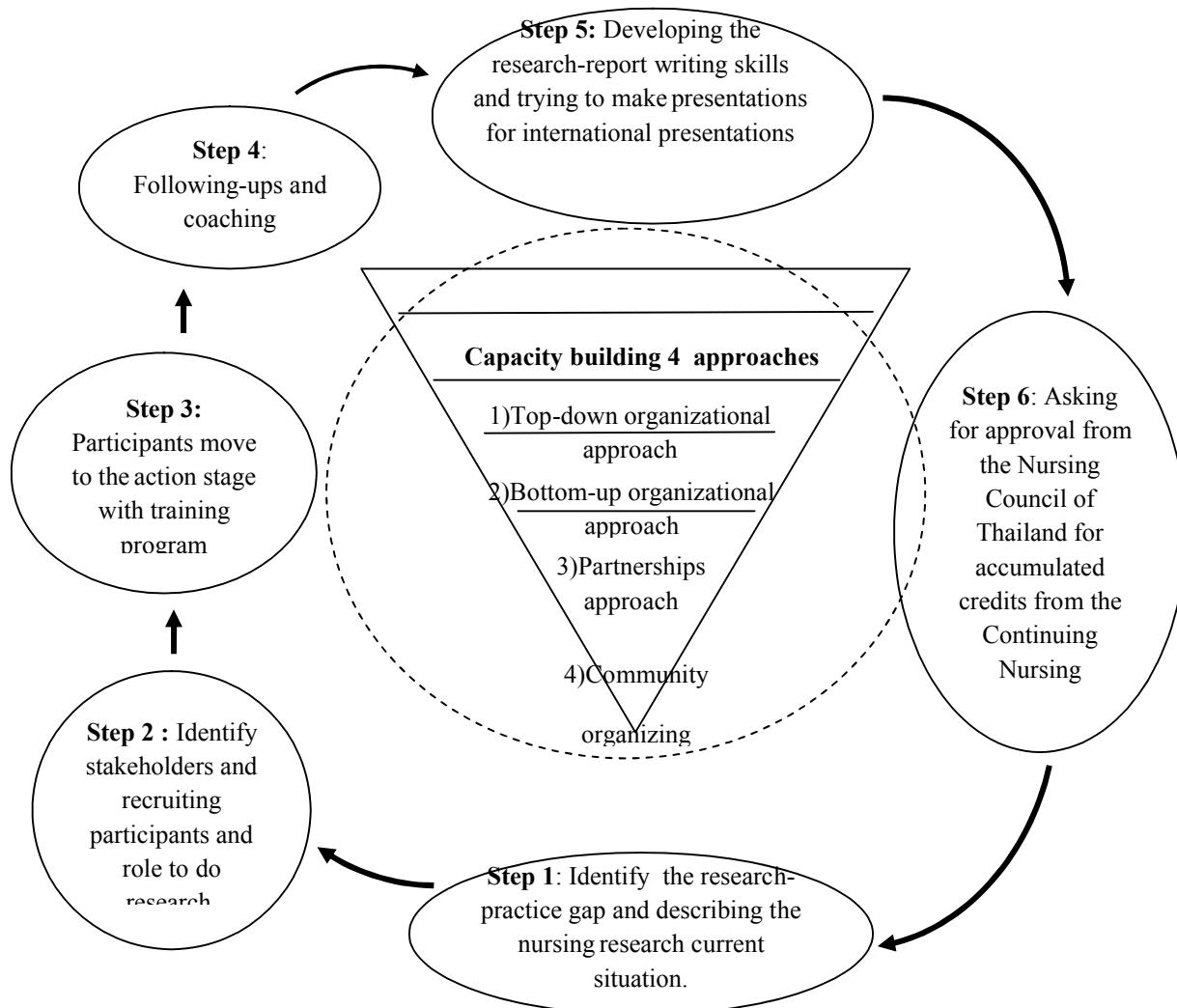


Figure 1 Prince of Songkla University Model to Building Nursing Research Capacity for Thai Nurses to the Asian Region

Step 1: Identifying the research-practice gap and describing the current nursing research situation

Participants analyzed the gap between nursing research and practice in caring for patients in the workplace. They found that, in the three years prior to the project, only three pieces of research (in the form of reports) had been carried out by the hospital nurses. These nurses also had no experience in presenting papers internationally. A needs assessment revealed that all these organizations needed to develop their members' ability to conduct high-level research. The empirical data showed that the nurses participating in the study had never presented their research work at any international conferences, due to a lack of university educators who could give them advice systematically and continually. The researcher saw the research gap and hence, began to do nursing research mapping and found that research that

would be relevant with missions of the related organizations were: nursing administration consisting of case management; discharge planning; nursing economics; health promotion; clinical nursing research; research on nursing practice development for chronic patients; continuing education for nurses of government health service centers; and nurse development for primary care units. Building and sustaining such skills and techniques requires organizational capacity as well as the expertise of individuals

Step 2: Identifying stakeholders and recruiting participants and role to conduct research

This approach is based on the assumption that providing possibilities for a two-way flow of knowledge can lead to partnerships for the successful planning and implementation of a nursing research program. Participating heads of

nursing sections constituted a team of speakers who gave lectures on the importance of doing research; quality development; managing a project according to official regulations; budgeting for training, and allocating funds for attending meetings abroad (for registration fees and traveling expenses); providing the meeting room, equipment and food when there were meetings; and taking the progress of research into consideration when giving a pay raise in accordance with official Thai regulations. Heads of the wards also participated, giving support in terms of research topic selection and allowing nurses time to conduct research. Senior nurses who had a master's degree served as mentors or coaches for participants. The nurse educator, who was responsible for coordination between administrators and nurse researchers, wrote the curriculum; acted as the main speaker to upgrade nurses' skills in doing nursing research; was the main advisor and editor for research reports written in Thai as well as English (with assistance from the PSU Department of Languages and Linguistics); and contacted and coordinated with people responsible for organizing international research conferences. Nurses who wanted to conduct research for presentation at an international conference were required to make a commitment to being responsible for the research, paying for their research expenses (and part of the expenses for traveling abroad), and conducting research for further development of the nursing work in their particular organization. This approach focuses on training members of the organization and providing them with skills and knowledge which are not only beneficial to the individuals concerned but, more importantly, to their patients and the wider community. It was noticeable that most of the nurses who participated in the project were those who wanted to improve their position, progressing in their careers from being a practical nurse to becoming a highly skilled nurse. This is because the regulations of the Thai Public Health Ministry require officials to do research when they apply for a position as a highly skilled official, and it also affects their career path in terms of their monthly wage, pay ceiling, and future position.

Step 3: Participants move to the action stage with a training program

Training programs must be facilitated within organizations through decision-making processes which ensure that staff members are able to participate. For this step, the mentor given by the senior participants holding a master's degree were chosen by the advised, but the contents of the training were reviewed with the researcher. After that the researcher developed the abilities of nurses participating in the project to do research from the beginning to the end of the process, at which time

all research projects were completed and research reports were written. All the research projects were approved by the Prince of Songkla University and hospital internal ethics committee.

Step 4: Follow-up and coaching

In a bottom-up organizational approach, the development of technical expertise is often considered to be essential so that organizations can plan, implement and evaluate outcomes of programs and measures. This step involves follow-up and coaching. In the workplace, the administrators participated in planning for the mentors to supervise and provide consultation both formally and informally; the administrators then monitored and followed up the research project periodically. In cases when the participants faced problems in conducting their research, or if the mentors could not provide advice, the participants could telephone or e-mail to the nurse educator at any time. During this step, the nurse educator and the mentors monitored the project according to the coaching plan.

Step 5: Developing skills for writing research reports and for making presentations at international conferences

In this step, the nurse educator developed the research-report writing skills of the participants in three different forms for three different purposes: poster presentation, oral presentation, and journal publication. Meanwhile, the nurse educator provided advice on research-report writing and kept the participants informed about international nursing research conferences at least 6 months in advance in order to select research projects that were almost completed to get them ready for presentation by checking them and having them translated into English. After that, a request was made to the Department of Languages and Linguistics, Prince of Songkla University, to check the English language usage. The nurse educator was also responsible for applying for presentations at international conferences, contacting the Ministry of Foreign Affairs and making arrangements for accommodations and travelling abroad so that researchers could travel abroad in accordance with the steps required for government officials.

Step 6: Asking for approval from the Nursing Council of Thailand for accumulated credits from the Continuing Nursing Education Center

Conducting research has been required as a component of career development for nurses in organizations attached to the Thai Ministry of University Affairs and Ministry of Public Health,

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so that nurses can demonstrate their academic competence in developing their work. Thus, this study focused on the benefit that the participants should receive in accordance with the principles of building human resources competency through partnership management for making requests to the Center for Nursing and Midwifery Educational Promotion and Quality Assurance of the Nursing Council for credit transfer.

RESULTS

As a result, an evaluation of outcomes (the number of research reports and nurses' satisfaction) of the study included presenting research reports at the international level revealed and nurse researchers satisfaction for building nursing capacity. It was found that 61% of nurses were able to complete their research work and present their research reports at international conferences, and 39% of nurses who were still working on their research

projects and had not yet presented their research results.

The nurses who participated in the project presented their work at the international level in three countries (Table 1) as follows:

1. International conferences in Seoul, South Korea, during 2005–2009. There were three conferences where 31 topics (54.10%) were presented: "Healthier Life with Nursing Leadership," the Korean Academy of Nursing 5th International Nursing Conference (October 19–21, 2005); "Building a Network through Nursing Research," the 6th International Nursing Conference (November 6–8, 2008); and the 7th International Nursing Conference (October 29–30, 2009).

Table 1 Number and Percentage of researchers classified according to the Asian Region where research reports were presented during 2005-2009

Country	Number (n=61)	Percentage
Korea	31	50.81
Japan	27	44.26
Indonesia	3	4.92

2. An international conference in Japan in 2009. The 1st International Nursing Research Conference entitled "World Academy of Nursing Science Towards Creating a New Domain of Nursing Knowledge," (September 19–20, 2009, at Kobe International Hall) was the venue where 27 research reports were presented (44.26%).
3. An international conference in Indonesia in 2009. Three research reports (4.92%) were presented at the 9th International Congress on AIDS in Asia and the Pacific (9–13 August, 2009) in Bali, Indonesia.

When classified according to organizational category, it was found that the research reports presented at international conferences were carried out by 3 nurses (4.92%)

from the primary care unit, 24 nurses (39.34%) from the provincial hospital, 4 nurses (6.56%) from the regional central hospital, 18 nurses (19.67%) from the university hospital, and 12 (19.67%) from nursing education institutions (Table 2). Most of the research reports (44, or 72.13%) were presented in the form of poster presentations (Table 3). The majority of the studies (28, or 45.90%) were in a non-experimental research design, followed by 17 studies (27.87%) in a quasi-experimental design, 9 studies (14.75%) in a qualitative research design, and 7 studies (11.48%) in an action research design (Table 4). Most of the studies (14, or 22.95%) were on topics related to adult nursing, followed by 11 studies (18.03%) on nursing administration and management, and 10 studies (16.38%) on nursing education (Table 5).

Table 2 Number and percentage of nursing research reports presented at international conferences classified according to the categories of the organizations

Category of Organization	Number (n= 61)	Percentage
Primary care unit	3	4.92
Provincial hospital	24	39.34
Regional central hospital	4	6.56
University hospital	18	29.51
Nursing education institution	12	19.67

Table 3 Number and percentage of nursing research reports presented at international conferences classified according to presentation methods

Presentation method	Number (n=61)	Percentage
Oral presentation	17	27.87
Poster presentation	44	72.13

Table 4 Number and percentage of nursing research reports presented at international conferences classified according to research designs

Research design	Number (n=61)	Percentage
Quasi-experimental	17	27.87
Descriptive study (Non-experimental)	28	45.90
Action	7	11.48
Qualitative	9	14.75

Table 5 Number and percentage of nursing research reports presented at international conferences classified according to research themes

Research theme	Number (N=61)	Percentage
Community practice	7	11.48
Occupational health and nursing	3	4.92
Disaster nursing	1	1.64
Adult nursing	14	22.95
Infection control	4	6.56
Nurse profession	5	8.20
Nursing administration and management	11	18.03
Nursing information	2	3.28
Pediatrics nursing	2	3.28
Mother and child	2	3.28
Nursing education	10	16.38
Total	61	100.00

The results of the satisfaction evaluation revealed that the nurses were satisfied with the project "Nursing Research Capacity Development using the Prince of Songkla University Model" was that 85% were satisfied at a high level while 15 percent were satisfied at a moderate level.

DISCUSSION

The results of the building nursing research capacity for presentations at the international level could be deemed a success in doing participatory action research jointly conducted by the Faculty of Nursing, Prince of Songkla University and the network. The empirical evidence consisted of 61 studies that could be discussed according to the concepts of capacity building of four strategies.⁸ One strategy was a top-down organizational approach. The administrators of the health service provider had a good vision on research and provided opportunities for staff of the organization to do research. As an organization, the hospital must see the importance of research; needs to have a clear policy on doing research and be ready to promote nurses to do research.¹²⁻¹⁶ However, the structural context of hospitals in Thailand is still

with the command chain in the bureaucratic control. Hence, the first important factor in research potential development for nurses is the administrators of the organization (the director and head of the Nursing Group) who must provide opportunities, support and approvals for research potential development for nurses. This is because for training to be organized, financial support, time allotment, and other facilities are needed, and the administrators must acknowledge and give importance to them.¹⁷⁻²⁰ In this study, the administrators were ready to adapt and join the ASEAN Economic Community (AEC) as specified in the Ministry of Public Health policy.²¹ This is in accordance with many studies related to increasing research potential in nurses in that organization leaders need to see the importance and provide facilities at the personal and the organizational levels along with building good environments and conveniences for training; and there has to be good cooperation, too.²² In addition to this, there were studies that reviewed study reports about ways to promote clinical researchers' competence and found that the component of strong leadership in the organization with vision in doing research

could result in the organization's readiness to support the management of researcher development.²³ Hubbard & Walker & Clancy & Stryer emphasized that research quality is health service quality.²⁴ Increasing the outcomes or amount of research does not depend only on researchers; an increase of potential in doing research also requires the principles of the bottom-up organizational approach.²⁵ Good communication in keeping those people involved in the project informed about the progress of the development of researchers' potential can satisfy administrators in knowing that resources are utilized cost-effectively according to economic principles.²⁶⁻²⁷

In this participatory action research, the research team continually communicates about the progress of the research with the administrators. Moreover, research issues were driven to serve the needs and to tackle the problems in the organization that are in line with the national policy.²⁵ The move was made to search for research issues that met the needs of nurses working in patient wards and that corresponded to the hospital's vision in emphasizing an increase of research quantitatively and qualitatively in order to improve health service quality. The progress of the research development plan was reported monthly in order to place the plan in the process for financial support. Alleyne & Jumaa also conducted action research on this and found that good management and communication with leaders had influence on an increase of research capacity of project participants and nursing quality that resulted in nurses' confidence and satisfaction as administrators supported them.²⁸ All staff related to the project could conduct research according to their needs which contributed to research progress. Having a project administrative map also contributed to the increase of potential in doing research. In addition, Condell & Begley analyzed the concept of research capacity building and found that a management program to increase the amount of research should be flexible and with good bottom-up communication that would facilitate organization administrators to provide support continuously because it would also increase the outcome in terms of satisfaction for doing nursing research or increase the demand for nursing research.¹⁵ This is because an increase in the amount of research could increase benefits to the organization as a whole, to service recipients, to professional nurses as well as nursing organizations.

In addition to this, the research team believes that development of potential in doing research in nursing to present at the international level by using the partnership approach between the Faculty of Nursing and a hospital is important for the teaching and learning of nursing students. This is because a hospital or a health service

provider taking part in the project is a place for nursing students to practice with health personnel who can be their mentors and supervisors who transfer knowledge, skills and attitude towards the nursing profession to them. Furthermore, nursing educators and nursing lecturers can also help reinforce doing research among nurses working in hospitals. Owing to insufficient number of nursing lecturers,²⁹ cooperation in developing service quality through participatory action research can benefit full use of limited resources that is considered a concept of nursing economics.²⁶ Many studies found that cooperation from nurse educators is a factor that could enable nurses to do research.³⁰⁻³² Singchungchai & Chalermwanna found that success in building researchers in educational institutions was important for determining research issues, research publication, financial support, and the number of doctoral students producing research reports.¹⁹ Therefore, the role of nursing researchers in supporting or facilitating capacity building in doing clinical research should be promoted by educational institutions. Educational institutions should also support building capacity of nurses in doing research by investigating types of clinical research and supporting nurses in doing literature reviews through nursing educators because they have more skills than practical nurses; and educational institutions must build a research network in their own organizations.³¹ Since the health service context in Thailand consists of primary care, secondary care, and tertiary care. It was found that in addition to clinical research, there were seven studies related to community health services. This is because of the connectedness between community health services and research capacity building, especially community health promotion is of crucial importance. This is also in congruence with health policy of the Thai government that places emphasis on prevention and health promotion in order for people to have better health, and to reduce the needs for treatment as resources are limited in terms of health personnel and health budget. Thus, the results of this study may have benefits for people in the community to have better health.

CONCLUSIONS

The results of the study present the outcomes in the form of empirical data on an increase of amount of research presented at an international level through the use of PSU Model. Therefore, the effectiveness of human capital and cost sharing of the two institutions were measured: the educational institution and the government health service provider. This study could be a prototype for other organizations in preparing personnel in health or other fields so that they have potential to present themselves in the ASEAN Economic Community

and live in it and in the world as a whole with dignity as they can contribute to the body of knowledge of their profession through participatory action research.

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