CHAPTER 3

Research Methodology

Development of career education model for highland and remote area schools consisted of research and development. It started with the study of documentation and research, the synthesis of relevant knowledge to sustainable education, participatory education, and career education as the guidelines for the development of career education model for highland and remote area schools. Then, mixed method research was applied. The research process was as follows.

3.1 Step 1: Study general conditions, problems, methods, and model of career education for highland and remote area schools

The research applied a mixed method, triangulation design, which consisted of both the qualitative and quantitative research methods, or the one-phase design, which gave parallel importance to obtaining different information for complements.

a) Quantitative Study

Population

The population of this research consisted of the administrators of educational institutes, academic teachers, and career and technology teachers totaling 4,302 persons from 1,431 highland and remote area schools under the Office of the Basic Education Commission of Thailand in 11 provinces and 24 educational service areas.

Sample Group

The sample group of this research comprised of the administrators of educational institutes, academic teachers, and career and technology teachers of highland and remote area schools. The sample size was defined based on Yamane (1973) with a 95% confidence interval from the population. 369 persons from 123 schools were gathered by multi-stage sampling as follows.

1) Randomized one educational service area from each of the 11 provinces to obtain 11 educational service areas.

2) Obtained 123 schools from a randomized sample of schools from 11 educational service areas based on the proportion of the number of schools in each area. Selected one of the administrators, academic teachers, career and technology teachers from each school. 369 persons were selected for the sample group as shown in Table 3.1

Table 3.1 Population and sample group of the research

Population			**Sample Group**		
Educational service area	**Amount**		**Educational service area**	**Amount**	
	School	**Persons**		**School**	**Persons**
1. Kanchanaburi Area 1	11	48	Kanchanaburi Area 3	9	27
2. Kanchanaburi Area 3	95	285			
3. Chiang Rai Area 1	13	75	Chiang Rai Area 3	8	24
4. Chiang Rai Area 2	14	270			
5. Chiang Rai Area 3	79	237			
6. Chiang Rai Area 4	12	147			
7. Chiang Mai Area 1	5	51	Chiang Mai Area 2	8	24
8. Chiang Mai Area 2	82	246			
9. Chiang Mai Area 3	37	588			
10. Chiang Mai Area 4	11	30			
11. Chiang Mai Area 5	16	138			
12. Chiang Mai Area 6	15	306			
13. Tak Area 1	124	372	Tak Area 1	12	36
14. Tak Area 2	11	402			
15. Nan Area 1	29	186	Nan Area 2	8	24
16. Nan Area 2	85	255			
17. Payao Area 2	133	399	Payao Area 2	13	39
18. Pitsanulok Area 2	4	258	Pitsanulok Area 3	10	30
19. Pitsanulok Area 3	99	297			
20. Petchabun Area 2	146	438	Petchabun Area 2	15	45
21. Mae Hong Son Area 1	149	447	Mae Hong Son Area 1	15	45
22. Mae Hong Son Area 2	27	531			
23. Lampang Area 1	93	279	Lampang Area 1	10	30
24. Uttaradit Area 2	144	432	Uttaradit Area 2	15	45
Total 11 Provinces	**1434**	**4,032**	**Total 11 Areas**	**123**	**369**

Instrument for Data Collection for Step 1

The instrument used for data collection in this step was the questionnaire on general conditions, problems, and the model of career education for highland and remote area schools. It consisted of a rating scale and open-ended questions. The steps and method for creating the instrument proceeded as follows.

1) Studied documents about concepts, theories, and research relevant to career education and problems of highland and remote area schools. Then, synthesized the obtained data with factors relevant to basic career education: potential of the area, participation, and educational procedure.

2) Created 3 parts of questions about general conditions, problems, and model of career education classified by the factors obtained from the document synthesis. The first part contained five questions about the basic information of correspondents. The second part contained five questions about basic information of career education of schools. The last part contained 55 questions about general conditions, problems, and model of career educational management in six aspects according to the scope of the research.

3) Had the questionnaire verified by the advisor and modified the questionnaire according to suggestions and recommendations.

4) The modified questionnaire was submitted to five experts for content validity. Examined the Index of Item Objective Congruence (IOC), selected the questions that had an IOC higher than 0.8, and modified the questions by applying the experts' recommendations. It was found that all questions had an IOC higher than 0.8.

5) Tried out the questionnaire on the administrators, academic teachers and career and technology teachers of highland and remote area schools in Mae Fah Luang District, Chiang Rai Province, and 90 persons in total who were not included in the sample group. Analyzing reliability discovered that the questionnaire had a reliability of questioning at an operating level and a problem level at 0.97 and 0.99 respectively.

6) Produced the complete questionnaire and used it to collect data from the sample group.

Data Collection

1) Requested a permission letter from the faculty for collecting data from the schools in the sample group.

2) Submitted the letter and a copy of the questionnaire to the schools in the sample group for cooperation in completing the questionnaire through the educational networks in highland and remote areas by sending the questionnaire to the sample group (the amount of questionnaires was more than the actual number of the sample group), and 280 complete questionnaires were returned. Then, collected additional data from the workshop and academic presentation of highland and remote areas schools in "Sood Khob Far Khun Khao Rao Pai Thueng Fair" at Lotus Pang Suan Kaew Hotel, Chiang Mai, and 40 complete questionnaires were obtained. To achieve the set number of questionnaire sets, it had to be distributed again to highland and remote areas schools strategic in a meeting at the Mae Salong Flower Hills in Mae Salong Nai Sub-district, Mae Fah Luang District, Chiang Rai Province, and the complete questionnaires were obtained.

3) Analyzed the collected questionnaires.

Data Analysis

Quantitative analysis and software were applied in this step as follows.

1) Preliminary data obtained from the sample group was analyzed by a percentage method.

2) Data of general conditions, problems, and model of career education for highland and remote area schools was analyzed by mean ($\overline{X}$) and standard deviation (S.D.). Then, the analyzed data was compared to the criteria. Interpreted data with a 5 level rating scale was based on the criteria of Prakhong Kannasoot (2538) as follows.

Extreme problem	mean	4.51 – 5.00
High problem	mean	3.51 – 4.50
Moderate problem	mean	2.51 – 3.50
Slight problem	mean	1.51 – 2.50
Low problem	mean	1.00 – 1.50

3) Content analysis was applied to analyze data obtained from the open-ended questionnaire.

b) Qualitative Study

The case-study method was applied with two objectives:

1) To obtain qualitative data to explain and enhance the understanding of general conditions, problems, and model for career education.

2. To study the model of career education of the schools that had good performance of concepts, principles, objectives, relevant factors, strategies, career education method, and assessment.

The proceeding's details were as follows:

Selecting the Case Study

To select the case study to find the method for developing career education model for highland and remote area schools, the researcher considered the following criteria.

1) To be a school that provided career education and be located in a highland and remote area.

2) To be a school that was selected to be a leading school for career education by the Office of The Basic Education Commission (OBEC). The five schools that had good performance were:

2.1) Udomsitthisuksa School under Secondary Educational Service Area Office 8 Sangklaburi District, Kanchanaburi Province, operated from Matthayomsuksa 1 to 6. Most of its 1,180 students were Karen, Karan, and Mon. There were 46 personnel. The school was known for career education by applying community culture and local wisdom from development in local weaving, wickerwork, broom making, and service and hotel business as complementary subjects for promoting careers to students. The school was selected by OBEC to present the results of career education in the exhibition "No Matter How Far, We'll Reach" organized at Lotus Pang Suan Kaew Hotel Chiang Mai in 2012 and to present career accomplishment at the National Student Art and Crafts Fair in 2012.

2.2) Baan Huay Rai Samakkhi Secondary School under Chiang Rai Secondary Educational Service Area Office 3, Mae Fah Luang District, Chiang Rai Province operated from kindergarten to Matthayomsuksa 6. Most of the 496 students were Akha, Tai Yai, and Chinese Yunnan. There were 21 personnel. The school was known for

career education in applying potential of the area and careers in the community to promote careers to students as complementary subjects to the curriculum. Moreover, the school provided teaching and learning as a study plan, such as an agriculture study plan, a home economics plan, an industry plan, and a Chinese business computer plan. The school was selected by OBEC to present the results of career education in the exhibition "No Matter How Far, We'll Reach" organized at Lotus Pang Suan Kaew Hotel, Chiang Mai in 2012 and to present career accomplishment at the National Student Art and Crafts Fair in 2011 and 2012.

2.3) Ban Muang Kued School under the Chiang Mai Primary Educational Service Area Office 2, Mae Tang District, Chiang Mai, operated from kindergarten to Matthayomsuksa 3. Most of the students from 198 in total were Akha, Lahu, and Karen. There were 15 personnel. The school was known for career education in applying the potential of the area as a tourist attraction and careers in the community to promote careers to students as complementary subjects at the junior high school level according to the school curriculum, which were the subjects of wickerwork, Thai massage, and youth guidance. Additionally, there were activities that promoted earnings while studying. The school was selected by OBEC to present the results of career education in the exhibition "No Matter How Far, We'll Reach" organized at Lotus Pang Suan Kaew Hotel, Chiang Mai in 2012 and to present career accomplishment at the National Student Art and Crafts Fair in 2011.

2.4) Ban Mueng Karn School under Chiang Rai Primary Educational Service Area Office 4, Chiang Khong District, Chiang Rai Province, was operated from kindergarten to Matthayomsuksa 3. Most of students from 515 in total were Hmong, Lahu, and Khamu. There were 33 personnel. The school was known for career education in using seaweed from the Khong River, which was the main natural resource in the area, to promote careers to students as compulsory subjects of Khong River seaweed products and line art. The school was selected from OBEC to present the results of career education at the exhibition "No Matter How Far, We'll Reach" organized at Lotus Pang Suan Kaew Hotel, Chiang Mai in 2011 and 2012.

2.5) Ban Namphuron School under Nan Primary Educational Service Area Office 2, Tha Wang Pha District, Nan Province, operated from kindergarten to Matthayomsuksa 3. Most of the students from 113 in total were Yao (or Mien). There were

12 personnel. The school was known for career education in applying local wisdom to promote careers to students as the compulsory subjects of wickerwork, woodworking, plaster work, embroidery, and food. In addition, there were career activities provided for students. The school was selected by OBEC to present the results of career education in the exhibition "No Matter How Far, We'll Reach" organized at Lotus Pang Suan Kaew Hotel, Chiang Mai in 2011 and 2012.

Data Collection

Data collection was conducted for four months, from June 2014 to September of the same year, as the following details.

Preparation before fieldwork

1) The researcher studied concepts, theories, documents, and research relevant to career education for highland and remote area schools.

2) Defined the group of informants, planned fieldwork, and prepared instruments for data collection, which were the interview questions, the document analysis of results record form, the observation method, and the preparation of recording devices, which were a notebook and tape recorder.

3) Issued the letter from the Faculty of Education, Chiang Mai University to ask for permission to collect data from the target schools, to inform the study methods, and to schedule a time to collect data from the schools.

Rapport

To collect data in the schools that were in the government sector, the researcher should reveal the actual location. Moreover, to create a natural rapport with the case study school, the researcher should apply for the position of officer of highland and remote area schools under OBEC as same as the informant's position. The researcher met the school's director to submit the letter and asked for permission to obtain the data by explaining, in an informal form, the reason why the school was selected. The researcher praised the school and mentioned that the school was selected by OBEC for its good performance to impress the director and make him feel proud and allow the researcher to speak intimately. For the teachers, the researcher met and had a chat with them when there was a chance, such as in a library, living room, board room, academic room, or operation room.

Data Collection Method

The researcher had a plan to collect data as the following details in Table 3.2.

Table 3.2 Fieldwork study plan

Schools/Period of Time	Activities	Source of Data
1. Udomsitthisuksa School Kanchanaburi PEASO 8 2. Baan Huay Rai Samakkhi Secondary School Chiang Rai PEASO 3 3. Ban Muang Kued School Chiang Mai PEASO 2 4. Ban Mueng Karn School Chiang Rai PEASO 4 5. Ban Namphuron School, Nan PEASO 2 June – September 2014	1. Meet with school director to inform of the objectives of the research and ask for permission to collect data. 2. Create rapport and collect general information of the school. 3. Collect data about general conditions, problems, and model for career education of the school. 4. Collect data about concepts, principles, objectives, relevant factors, strategies, procedures, and methods of career education.	- Director - Deputy Director - Head of Academic - Head of Career and Technology Department -Teachers -The Basic Education Commission -School documents, such as strategic plan, annual operation plan, minutes, and other relevant documents.

The details of each method were as follows.

1. Interview

The researcher conducted a structured interview to the director, the Head of academic, the head of career and technology department, teachers, and the Basic Education Commission to study the general conditions, problems, operation method, and the career education model of the schools that had good performance of concepts, principles, objectives, relevant factors, strategies, career education methods, and assessment. The researcher conducted an informal interview to allow the informants to answer questions freely under the required questions' structure, an in-depth interview to investigate the information the researcher was specifically interested in and needed more clarity for, and to allow the informants to reveal as much as information they could.

2. Observation

In observation of career education of the school, the researcher observed the general conditions of the school, learning resources, career operation room, behavior of the administrators and teachers, activities of relevant persons organized by the school to develop career education in using the potential of the area for career education, the participation and educational development network, curriculum and teaching and learning development, and supervision by using the observation form.

3. Document Analysis

The researcher studied important documents of the school: strategic plan, annual operation plan, school information, internal and external education quality assessment, minutes of teacher meetings and the Basic Education Commission meeting, school notifications, school curriculum, and school journals. The researcher categorized all these documents as a complement to data obtained from interviews and observations.

Scrutinizing Data and Data Analysis

The researcher determined the method of data analysis by scrutinizing the obtained data by reducing, validating, and analyzing the data. All three processes would be done simultaneously with data collection. Lastly, the research result was written from the analyzed data. The details of the processes were follows.

1. Data Reduction: the researcher analyzed field notes on interesting aspects relevant to the study: using potential of the area for education, participation and

creating a network for educational development, resources and learning resources management, curriculum development, teaching and learning plan, supervision assistance, and problems and solutions.

2. Data verification: the researcher verified the data considering its accuracy, adequacy, verification and reliability by applying a triangulation method. Various methods and instruments were utilized to collect personnel data on the same topic. Verified data was obtained from many sections by inquiring for information from the informants, including the director, the head of academics, the head of the career and technology department, teachers, and the Basic Education Commission, about the same aspect by observing groups in interaction with the case study school. In terms of time, validating the data was done for the same aspects that were collected from the same sources but at different times to obtain clear opinions about that aspect.

3. Data analysis: the researcher applied various data collection methods and studied data in a constant process. Therefore, the analysis had to be done simultaneously. The researcher utilized typological analysis and analytical induction. After obtaining data from a quantitative and qualitative study, the researcher interpreted the obtained data to find a clear conclusion, which concluded process is shown in Figure 3.1 below.

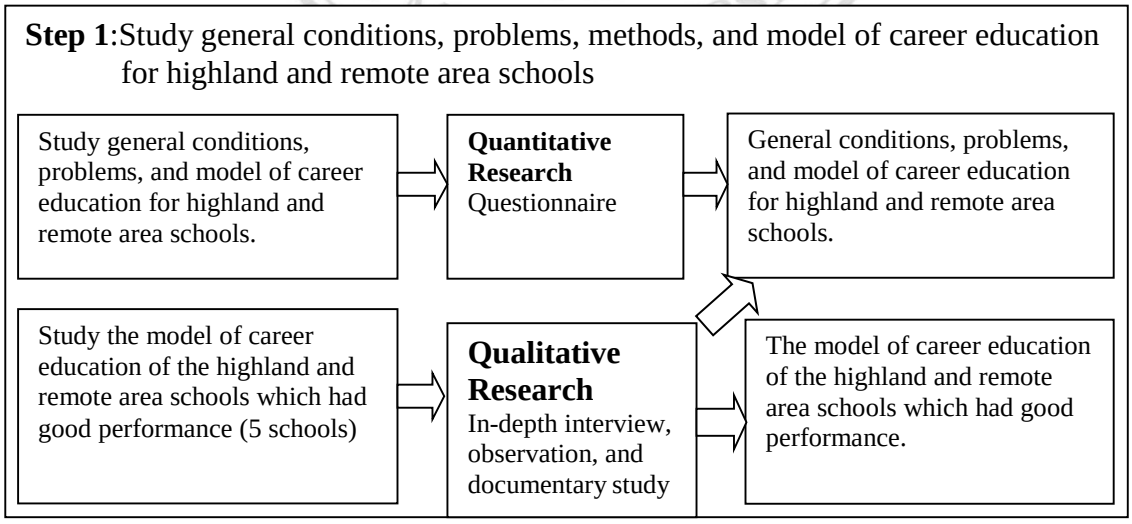

Figure 3.1 Research process step 1: study general conditions, problems, and model of career education for highland and remote area schools.

3.2 Step 2: Design, create, and verify the quality of model of career education for highland and remote area schools

There were sub-steps to design, create, and verify the model of career education for highland and remote area schools.

Step 1: design and draft the model of career education for highland and remote area schools

1) Drafted and created the model of career education for highland and remote area schools from the results of document and relevant documents synthesis, results of the study on current conditions, problems, and methods of career education for highland and remote area schools in step 1 and from the results of the study on the model of career education for highland and remote area schools from those which had good performance. The draft was based on the factors of the model: concepts, principles, relevant factors, strategies, procedures and methods of career education, and assessment.

2) Submitted the created model to the advisor to verify the completeness of important factors and modified the model according to suggestions and recommendations.

Step 2: verification of the quality of the model of career education for highland and remote area schools by the experts as the following details.

Population

The population used for validating the quality of the model of career education for highland and remote area schools were experts in educational development for highland and remote area schools and career education.

Sample Group

The sample group of the verification of quality of the model of career education for highland and remote area schools by selection from purposive sampling were experts in education for highland and remote area schools, educational administrators, academic teachers, career and technology teachers of the schools that had career education, which resulted in 50 persons in total. The selection criteria were:

1) Having experience in career education of more than 5 years

2) Having experience in education for highland and remote areas schools of more than 5 years

Instrument for Data Collection

The instrument used for data collection was a questionnaire to verify the quality of the model of career education for highland and remote area schools. It was a rating scale questionnaire comprised of questions to verify feasibility, appropriateness, adequacy, utility, agreement, and propriety.

Steps and Methods of Creating the Instrument

The steps and methods to create the questionnaire to verify the quality of the model of career education for highland and remote area schools were as follows.

1) Studied documents and research relevant to the quality of verification of the model of career education for highland and remote area schools in the aspects of feasibility, appropriateness, adequacy, utility, agreement, and propriety.

2) Created questions for measuring each aspect and consulted with the advisor.

3) Submitted the completed and modified questionnaire to 5 experts to verify the contents' validity. Then, examined the IOC of the questions and the study aspects and selected only the questions that had an IOC from 0.8, in which the IOC value of all questions was found to be 1. Modified the questions according to suggestions and recommendations of experts.

4) Tried out the questionnaire on the administrators, academic teachers, and career and technology teachers of the schools in Mae Fah Luang District, 45 persons in total who were not included in the sample group. Analyzed the results to find out their reliability. It was found that the questionnaire had a 0.90 reliability.

5) Once the qualified questionnaire was ready, it was printed in the complete version.

Data Collection

The researcher collected data by taking the following steps.

1) Requested a letter from the university to ask for the cooperation from experts to verify the model.

2) Submitted the draft and verification form to the experts and provided more information in order to get verified the model of career education created during the conference of the leaders of the schools in highland and remote area schools.

Data Analysis

Mean and standard variation were applied to analyze data obtained from the rating scale questionnaire and to compare it to the criteria. Data was interpreted with a 5 level rating scale based on the criteria of Prakhong Kannasoot (2538) as follows.

Best quality	mean	4.51 – 5.00
High quality	mean	3.51 – 4.50
Medium quality	mean	2.51 – 3.50
Low quality	mean	1.51 – 2.50
Worst quality	mean	1.00 – 1.50

Data obtained from the open-ended questionnaire was analyzed by content synthesis and concluded with the co-aspects as information was used to modify the model. The summary of the process for creating and validating the quality of career education for highland and remote area schools is shown in Table 3.2 below.

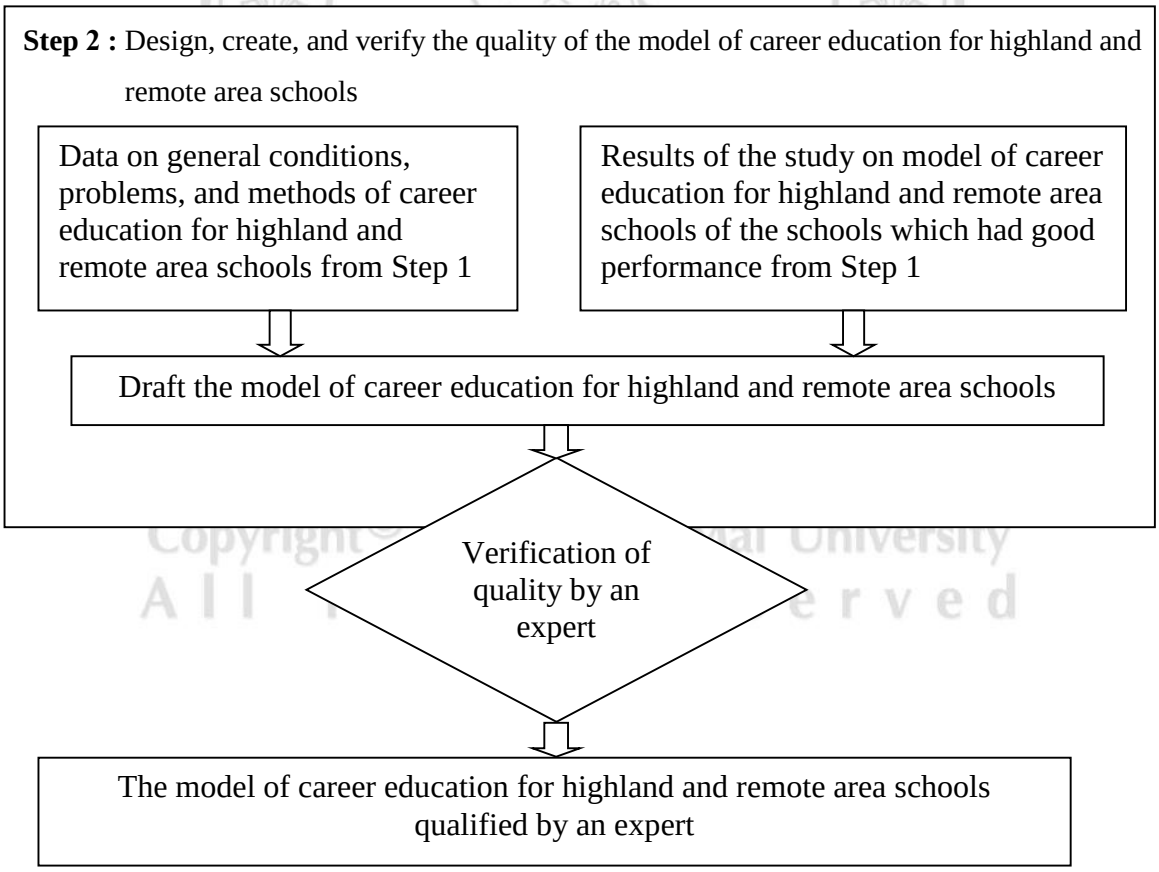

Figure 3.2 Research process Step 2: design, create, and verify the quality of model of career education for highland and remote area schools

3.3 Step 3: try out and visualize lesson plans which applying the model of career education to highland and remote area schools

The researcher tried out the developed model on Banpayaprai School, Mae Fah Luang District. The school was selected because it was a school in highland and remote area in which the administrators and teachers were willing to try out the model for 4 months. The details of the process were as follows.

Population

Population of the trial, and the study of the results applying model of career education to highland and remote area schools, was the administrators, teachers, personnel, and the school board members of Banpayaprai School, Mae Fah Luang District, Chiang Rai Province, 24 persons in total, and 15 of the board members of the education commission.

Instruments for Data Collection in Step 3

The instruments used to collect data in Step 3 were:

1) Questionnaire on proceedings and satisfaction with career education for highland and remote area schools of the administrators and teachers who had tried out the model.

2) Interview the board members of the school about satisfaction with career education for highland and remote area schools.

3) The checking form of students' accomplishment which were the results of career education for highland and remote area schools.

4) Group lessons that reflected the lessons resulted from the trial of the model of career education for highland and remote area schools.

Steps and Methods for Creating Instruments

1) The steps and methods to create the questionnaire of the study of the proceedings and satisfaction of the administrators and teachers of career education for highland and remote area schools were as follows.

1.1) Studied documents and research relevant to the indicators of career teaching and learning and of those related to the career education for highland and remote area schools.

1.2) Drafted questions based on objectives and content: the proceedings' conditions and satisfaction with career education for highland and remote area schools for each aspect, including 6 questions on using the potential of the area for

education, 11 questions on participation and educational development networks, 41 questions on the process of career educational development in the school, and 23 questions on the appraisal of opinion of administrators and teachers on the quality of the learners in terms of knowledge, skills, and attitude, which were the results from career education.

1.3) Brought it to 5 experts to verify content validity to find out the IOC and to verify the language appropriateness. All questions were found to have an IOC of 0.8. The experts made suggestions about the clearness of the language, so the researcher modified them accordingly. Finally, the qualified questionnaire containing 75 questions was completed.

1.4) Tried out the questionnaire on the administrators and teachers, 60 persons in total, of Ban Huay Phueng School and Ban Thoet Thai School, Mae Fah Luang District, Chiang Rai, which were schools located in highland and remote areas and were not included in the sample group, to find out the reliability of the instrument using Cronbach's Alpha Coefficient and to analyze data with software. The reliability of the questionnaire in terms of proceedings and satisfaction were found to be 0.93 and 0.95 respectively. Thus, the final version of the questionnaire was printed.

2) The steps and methods to interview the board members of the schools about satisfaction with career education for highland and remote area schools were as follows.

2.1) Studied documents and research relevant to career education for highland and remote area schools.

2.2) Created questions to use in the interview about the overall opinion on career education of the school, appropriateness, consistency of learners and community requirements, benefits for career skills development of learners, and satisfaction with the career education of the school.

2.3) Brought it to experts to verify the content validity and modify the questions according to the experts' suggestions and recommendations.

2.4) Tried out the interview on 3 of the board members of Ban Huay Rai Samakkhi School, Mae Fah Luang District, Chiang Rai Province, for which the target was not to find language errors.

2.5) Once the qualified questionnaire was ready, the complete version was printed.

3) The methods to create the students' accomplishment form, which were the results of career education for highland and remote area schools, proceeded as follows.

3.1) Studied documents and research relevant to standard and indicators of career teaching and learning.

3.2) Created the form for checking students' accomplishment, which resulted from career education following the study's aspects: name of accomplishment, grade level and subject, and the opinions of teachers and students on the accomplishment.

3.3) Brought the form to 5 experts to verify the appropriateness and modified the form according to the experts' suggestion and recommendations.

3.4) Brought it to the teachers in the career department of Ban Huay Rai Smmakkhi Secondary School, Mae Fah Luang District, Chiang Rai Province, in which the target was not to try out or find out adjustments. It was found that the instrument was applicable and achieved the objective, so the researcher would apply it to the research.

4) The methods to create group lessons to reflect the lessons which resulted from the trial of model of career education proceeded as follows.

4.1) Studied documents and research relevant to career education for highland and remote area schools and the process of visualization lessons.

4.2) Created group lessons to reflect the lessons which resulted from the trial of model of career education according to the study aspects, which were review the objectives and the results of proceedings from the model trial, process or activities, which were the strengths and weaknesses, requirements, and support mechanisms in order to improve career education in terms of change and development.

4.3) Brought the model of group lessons to reflect the lessons which resulted from the trial of model of career education with 5 experts to verify the content validity and language appropriateness.

4.4) Revised the language according to suggestions from the experts. Then, printed out the complete draft.

Try Out the Model of Career Education for Highland and Remote Area Schools

The researcher tried out the model of career education for highland and remote area schools followed as the following details.

1) Pre-study

1.1) The researcher coordinated with Banpayaprai School, Mae Fah Luang District, Chiang Rai Province to come to an understanding with administrators and personnel and ask for cooperation in trying out the developed model.

1.2) Collected data before the trial by studying the condition of career education of the school and the satisfaction of the administrators and the teachers in using the defined instrument.

1.3) Analyzed the data.

2) The trial of the model of career education for highland and remote area schools was conducted for 4 months. The researcher gave advice for proceeding with the model according to the following steps.

2.1) Analyzed the strengths, weaknesses, opportunities, and threats of the proceedings by applying SWOT analysis, set up a workshop for teachers to analyze the school's status according to the model's factors in the aspects of using the potential of the area for education, participation and educational network creation, and the procedure of the school.

2.2) Plan: the researcher, the administrators, and the head of Banpayaprai School planned a participation plan, resources and learning resources management, personnel and budget, curriculum development plan and teaching and learning plan, and supervision plan and personnel development. During this time, the researcher studied the opinions of relevant persons to examine, develop, and improve the model of career for highland and remote area schools to be more complete.

2.3) Do: the researcher suggested the method of operating the plan, met, gave advice, and developed the personnel of Banpayaprai School in order to enhance the efficient operation of resources and learning resource management, curriculum development, teaching and learning plan, and supervision assistance.

2.4) Check: the researcher encouraged the administrator and the head of Banpayaprai School to examine the proceedings of the teaching and learning plan as defined by setting up informal meetings.

2.5) Act: the researcher, the administrators, and the head of Banpayaprai School considered the results of the verification and improved teaching and learning plan to enhance the quality of career education of the school.

3) Post-study was conducted according to the following steps.

3.1) Set up a workshop to visualize the lessons resulting from the trial of the model of career education for highland and remote area schools by using the After Action Review Technique (AAR). The participants, which comprised of teachers and the administrators of Banpayaprai School, 24 persons in total, reviewed the results of career education for which the school had taken action, why they were that way, and if the results were good, how could the strengths be maintained and the weaknesses improved.

To process AAR, the researcher set up an informal meeting and created a friendly atmosphere to allow the participants to be open and straightforward. In addition, the researcher encouraged the participants to think about and analyze the picture of cooperation and relationships between each section that would help them learn from successes and failures at the same time. The researcher asked the participants to discuss and determine the answers to important points from the group lesson by reflecting on the lessons that resulted from the trial of the model as follows.

(1) Discuss and review the objectives and results of the action from the trial of model.

(2) Discuss procedures or activities that are the strengths of the model.

(3) Discuss procedure or activities that are the weaknesses of the model.

(4) Discuss the requirements and support mechanisms that enhance career education in terms of change and improvement.

Recorded results of discussions of the administration officer of Banpayaprai School, who was also the assistant of the researcher.

3.2) Gathered the data of proceeding condition and satisfaction on career education for highland and remote area schools of the administrators and teachers after the model trial.

3.3) Interviewed and studied the opinions of and satisfaction with of the boards of the school career education of the school.

3.4) Recorded the students' accomplishment checking results from career education of the school.

Data Analysis

1) Data of proceedings' conditions and satisfaction with career education for highland and remote area schools of the administrators, teachers, and the board members of the school before and after the model trial was analyzed by mean (μ) and standard deviation (σ) to compare the proceedings and the satisfaction with career education for highland and remote area schools before and after the model trial by using a percent change (Russell, 2000 cited in Puangpayom Chidthong, 2552) as follows.

$$PC = 100(X_2 - X_1)/ X_1$$

PC = percentage of percent change

X = score before the model trial

X= score after the model trial

2. Data from the interviews, opinions, and satisfaction of the board members of the school of career education was analyzed by content synthesis and summarized by aspect to be the data for confirming the results of the model trial.

3. Data from the check form of the students' accomplishment resulting from career education for highland and remote area schools was analyzed by content analysis.

4. Data from group lessons was analyzed by content analysis and summarized by aspect from the lessons reflecting the personnel of Banpayaprai School participating in meetings.

Step 3 was showed in Figure 3.3

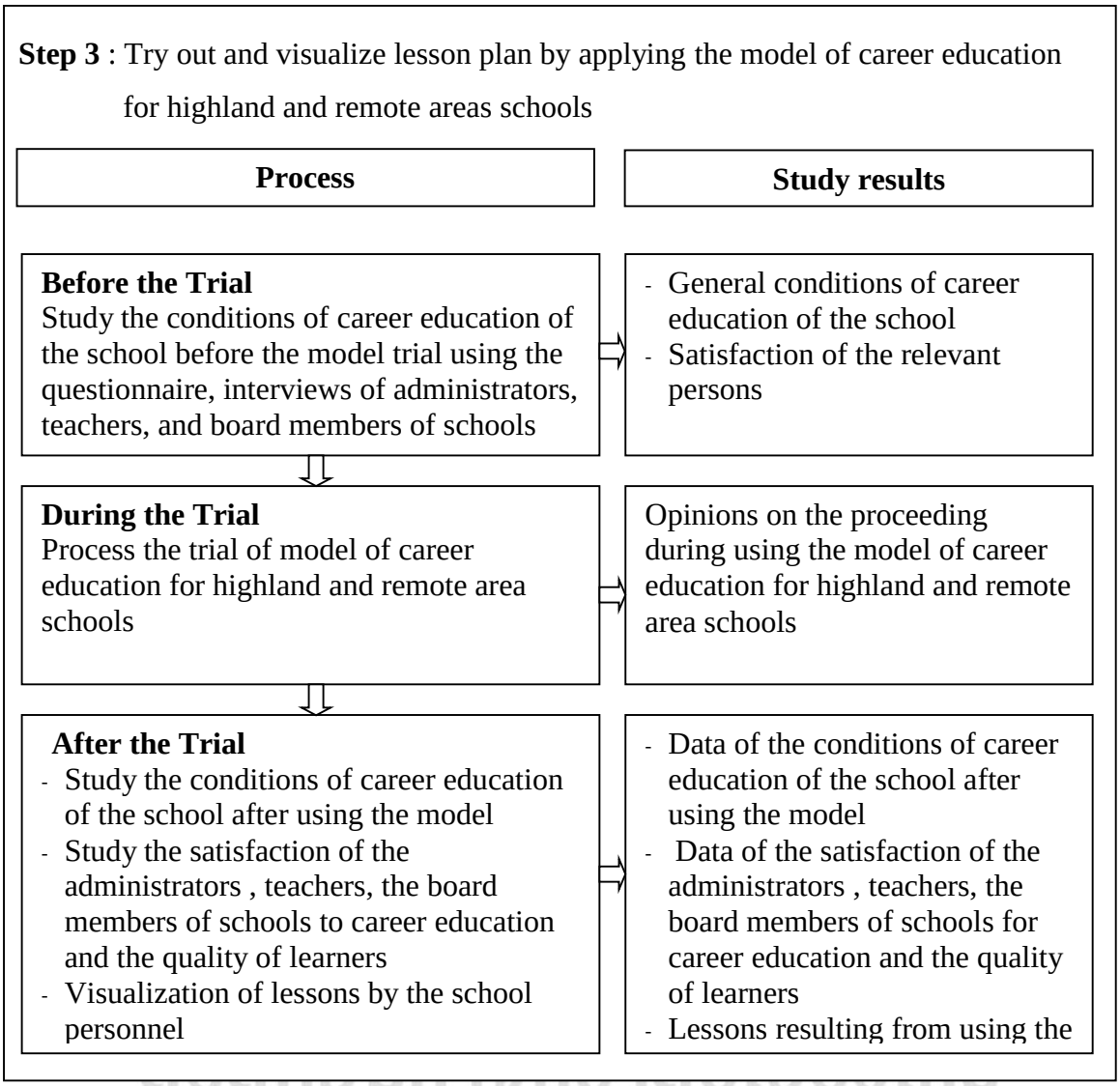

Figure 3.3 Research process Step 3: try out and visualize lesson plan from applying the model of career education for highland and remote area schools

The overall process is displayed in Figure 3.4 below

Step 1: Study general conditions, problems, methods and model of career education for highland and remote area schools

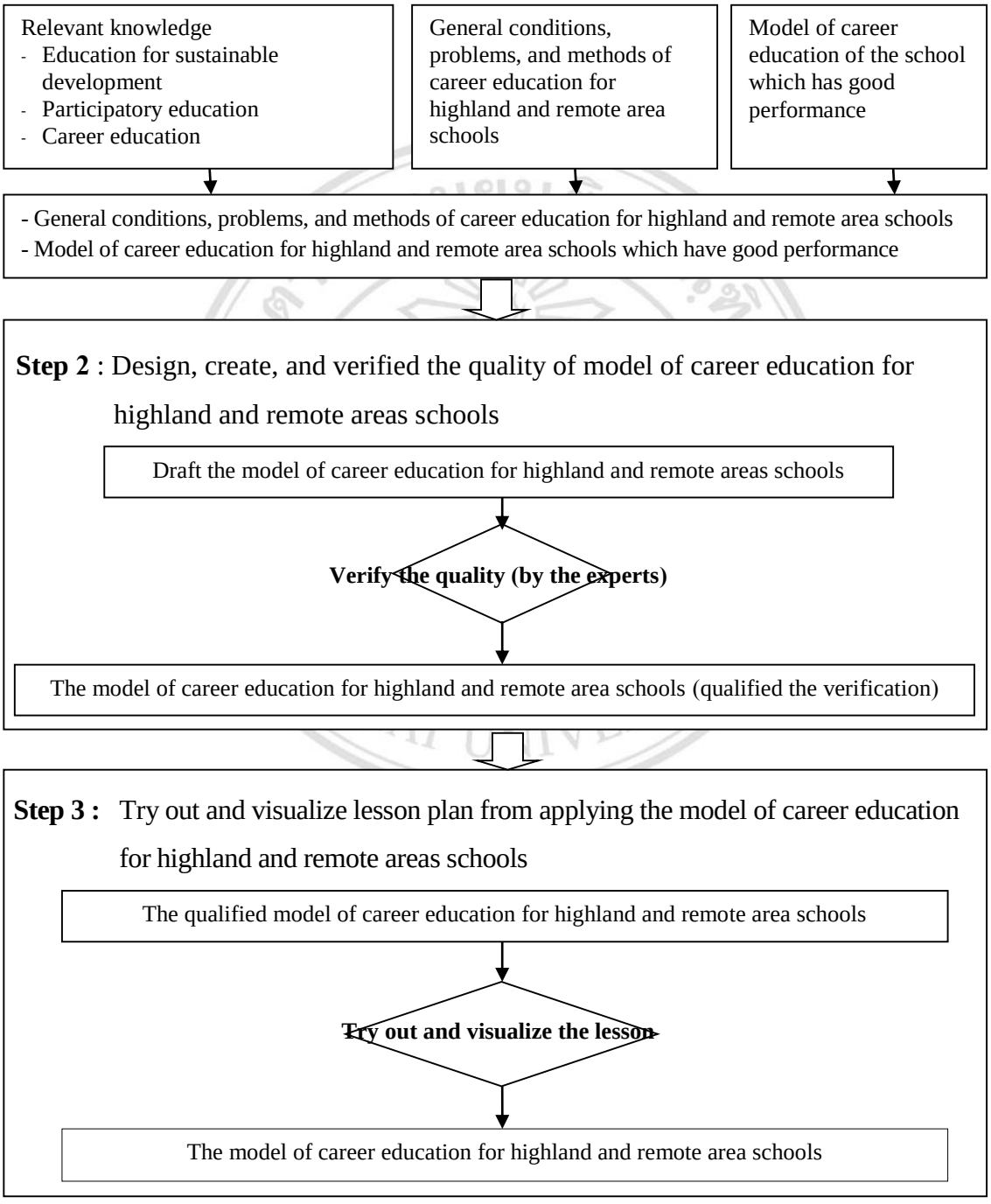

Figure 3.4 Process of the development of career education model for highland and remote area schools