A Practical Guide to RESEARCH PROJECTS

For students and apprentice researchers

Kalaya Boonsirijarungradh

Forward

A Practical Guide to Research Projects was written to provide students and novice researchers with a practical, logical, well-organized and easy-to-follow reference for consulting when conducting research and writing a research paper. It covers every step in the process of undertaking research and writing a report.

Kalaya Boonsirijarungradh is to be complimented on her perseverance in using her many years of teaching experience and observation to produce a clear, step-by-step, self-explanatory book. With its systematic style of presenting each lesson, its practical instructions, its vivid descriptions of easy-to-follow concepts, and its detailed narrative, it is evident that this book will become an invaluable resource ensuring success in writing research papers.

Associate Professor Unchalee Sermsongswad
October 2014

Preface

A Practical Guide to Research Projects is a self-explanatory book that aims to help university students, especially English majors or international program students, who have to write a research report in English. However, it is also suitable for general apprentice researchers, since the book provides the basic knowledge on how to complete a research project, including the research process, step-by-step, and suggestions on how to write a research report. The language patterns used for each chapter of a research report are also provided. Furthermore, all descriptions and explanations are transparent, with easy-to-follow concepts. The content of the book is divided into two main parts. The three units in Part I, Conducting Research, provide the basic knowledge about research, introduce the stages of conducting research, and suggest how to obtain secondary data for undertaking research. The two units in Part II, Writing a Research Report, provide guidelines on how to write the five chapters of a research report using the appropriate language patterns and how to complete a research report. An exercise at the end of each unit helps review and check the understanding of the readers.

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Part 1: CONDUCTING RESEARCH

Unit 1
INTRODUCTION TO RESEARCH

This unit will help you to be able to …..

- ➤ *define what research is*
- ➤ *identify the types of research*

BACKGROUND KNOWLEDGE ON RESEARCH

For a lot of apprentice researchers, the word 'research' may sound scary since they may have an impression that research is a task that is beyond their capacity. These people may not realize the fact that research conducting is actually all around us. Just figure it out what you will do if you would like to cook a dish of spaghetti with meatballs but you have no idea how to do it. You will probably surf the Internet or talk to other people to get the information you want. After that, you may try cooking it by following the instructions in the recipe you have got. If you find that your spaghetti is a bit too salty, you may note down that less salt should be put the next time you cook. If you do not eat beef, you may also try cooking your spaghetti with chicken instead. The whole process, started from searching for information, doing the cooking experiment, and noting down what you learned from your cooking, can be called "research."

Nevertheless, when it comes to an academic research, the process is not quite as simple as searching for a food recipe and noting down what you have learned from your cooking, but it is a lot more complicated and systematic. According to Moore (2000, p. vii), "Academic research is primarily concerned with developing a theoretical explanation or understanding of an issue." In other words, researchers of academic research need to acquire theoretical conception in their research undertaking. Moreover, Kaiwan and Palaprom (2010) mention

that, to undertake an academic research, researchers need to discover facts with certain objectives in a systematical way. This means that we conduct an academic research in order to find out some new knowledge, which is the answers to some questions, with a reliable and systematic process.

Furthermore, Phophueksanand (2013, p 31) introduces that research benefits people in eight different ways as follows:

1. to gain new knowledge, both for theoretical understandings and research findings applications
2. to prove the accuracy of criteria and theoretical explanations
3. to understand different situations, phenomenon, and behaviors
4. to accurately predict situations, phenomena, and behaviors
5. to figure out efficient solutions
6. to analyze situations and make right decisions
7. to develop working systems
8. to improve life quality

TYPES OF RESEARCH

There are many different ways to categorize research. Phophueksanand (2013, p. 44) suggests the following various types of research classified on the basis of the research methodology, the knowledge it creates, the fields of study, the period of time, the types of information gained, and the levels of variable manipulation.

Table 1.1 The Various Types of Research Classified on Different Factors

Categories	Types of research	Characteristics
The research methodology	1. Historical research	Research that systematically examines past events, such as a study on Thailand's economy during the World War II
	2. Descriptive research	Research that aims to discover present facts by describing characteristics of a population or phenomena via observations, case studies, or surveys, such as an investigation of cultural hybridity

	3. Experimental research	Research that uses manipulation and controlled testing to determine the effects of one or more variables on a dependent variable, such as a study on the effectiveness of a performance-enhancing herbal supplement on athletes
The knowledge it creates	1. Pure research (also called basic research or fundamental research)	Research that aims to discover factual data in order to gain a better understanding of fundamental principles without any particular plan in applications, such as a study on anatomy of some kinds of animals
	2. Applied research	Research that involves the practical application in a particular situation, such as a study which aims to find out how to improve cyber security
	3. Action research	Research undertaken to find out a solution to an immediate problem, such as a study on using the Internet to supplement a history class
The fields of study	1. Social science research	Research on society, politics, government, education, economic, etc.
	2. Humanities research	Research initiated to investigate the value of human being in the areas like linguistics, music, religions, archaeology, philosophy, etc.
	3. Science research	Research on biology, chemistry, physics, engineering, medicine, etc.
The period of time	1. Historical research	Research conducted to find out factual data in the past, such as a study on Burmese-Siamese war during 1765-1767
	2. Contemporaneous research	Research that focuses on present phenomena, such as a study on the political unrest in Thailand at the moment

	3. Futuristic research	Research that aims at a vision of the future in order to help make a future plan or anticipate events, such as advance aeronautics research
The types of information gained	1. Quantitative research	Research associated with numerical data and, therefore, needs statistical calculation for data analysis, such as a study that aims to find out the number of people who have developed a particular disease in the last ten years
	2. Qualitative research	Research that emphasizes the understanding of qualitative data which needs logical analysis and theory generation, such as a study on the internationalization of Thai ethnic food industry
The levels of variable manipulation	1. Experimental research	Research that allows the researcher to manipulate most variables to explore the relationship between them, such as a study that investigates the effectiveness of a performance-enhancing herbal supplement on athletes
	2. Quasi experimental research	Research that the researcher has control over some variables and, therefore, can estimate the casual impacts of something on only a specific population, such as a study on the effects of an intervention on fourth grade students of a particular school
	3. Naturalistic research	Research that the researcher observe subjects in their natural environment without any manipulation, such as a naturalistic observation of gender differences in politeness when having daily conversation with friends

Exercise

Answer the following questions to check your understanding.

1. Write your own definition of research.

2. According to Table 1, which type(s) of research seem to be difficult to conduct? Why?

Unit 2
STAGES OF CONDUCTING RESEARCH

This unit will help you to be able to …..

- ➤ *identify stages of conducting research*
- ➤ *specify research topics, research questions and purposes*
- ➤ *select theories and related studies to explore*
- ➤ *plan research methods*
- ➤ *prepare research proposals*
- ➤ *collect and analyze data*
- ➤ *identify components of a research report*

Although the research process is complicated and has many details, conducting research is not too difficult if you understand all the stages clearly. Generally, there are six stages of research conducting.

1. Specifying the research topic, research questions, and purposes
2. Exploring theories and related studies
3. Planning the research method
4. Writing a proposal (if needed)
5. Collecting and analyzing data
6. Reporting findings

STEP 1: SPECIFYING THE RESEARCH TOPIC, RESEARCH QUESTIONS, AND PURPOSES

The first stage of undertaking a research is to settle on the research issue or what exactly you want to study. Should you find it difficult, you can start by asking yourself the following basic questions.

1. What is your field of study or work?
2. In which academic area do you have experience?
3. What are the problems or questions related to the answers to the two questions above that you want to find out the solutions or answers?

By answering these three questions, you should be able to identify the area of your research. For example, say that you study business as your minor and you were once a trainee in an advertising company which causes you to question the efficiency of social network advertisements. Therefore, your research area should be related to the efficiency of social network advertisements.

Nevertheless, there might be a chance where you feel like you come to a dead end because you do not have the answer to the last question. If this is the case, just focus on any theories that are related to the answers to your first two questions. Try to explore as many information sources as possible in order to survey the theories that can enlighten you to gain some ideas about what you want to study for your research.

To get a research topic, you need to narrow down what you have got for your research area. This can be done by asking yourself what exactly you want to know about it and what you need to do in order to find out the answer. As from the example above, what you want to know is whether social network advertisements are efficient, so one thing that you could do in order to find out the answer is to compare them with television advertisements which are the traditional advertising that has been proven very efficient. Here comes your research topic: "The Comparison of the Efficiency of Social Network and Television Advertisements."

One thing that you need to bear in mind at all times is that your research topic must not be too narrow or too broad. A research that is too narrow or too specific can cause difficulties in finding information. For example, you may have

a lot of trouble finding enough information if your research topic is "How the English Major Students of Chiang Mai University Interact with Their Alcoholic Parents" since there may not be many English major students whose parents are alcoholic. On the other hand, it might not be practical to carry out a study on a research topic that is too broad. For instance, the topic "The Change in Tourists' Behaviors" is not researchable as it is too broad. Imagine how much time and budget you will need in order to study all kinds of behaviors of all groups of tourists. The problem of a too broad research topic can be easily fixed by focusing on the variable[1] and asking yourself the question 'which' or 'what kind' -- "Which group of tourists do I want to study?" "What kind of behaviors do I want to focus on in my research?" The answers to these questions can help make your topic more specific. As a result, you will get a new topic which may be "The Change in Buying Behaviors of Foreign Tourists in Phuket." Furthermore, Phophueksanand (2013, p. 98) suggests that, apart from not being too narrow or too broad, a good research topic must also identify the scope of the research and variables.

As for research questions, they can be easily obtained by considering the research topic and figuring out what you want to know about it. You can also focus on what you want to study or the variable. Therefore, suppose that your research topic is "The Comparison of the Efficiency of Social Network and Television Advertisements," it means you want to know which is more efficient between the two variables which are social network advertisement and television one. As a result, your main research question should be "Is social network advertisement more efficient than television advertisement?" This question is used instead of the question "Is television advertisement more efficient than social network advertisement?" because the type of advertisements you want to focus on and prove the efficiency is the social network advertisement, not the television one. The process that you specify research question by considering research topic

[1] Variable means a characteristic or quantity that can be changed in different situations. The two main types of variables are independent variable, which is the variable that can affect changes in other variables, and dependent variable, which is the variable that can be affected by the independent variable. Another common variable is intervening variable, which is a non-study variable that also affects the dependent variable (Phophueksanand, 2013).

can also be done in the other way round. For instance, you may write down a question that you want to know about your research area first, which will become your main research question, and then specify the research topic by considering the research question.

After getting your main research question, it should not be difficult to identify your sub-research questions. Just ask yourself what you need to know in order to get the answer to the main research question. As for the example above, before you can judge whether the social network advertisement is more efficient than the television one, you need to know how both of them work and what are their advantages, disadvantages, and limitations, so that you can compare their efficiency. Hence, your sub-research questions should be as follows:

1. How does a social network advertisement work?
2. How does a television advertisement work?
3. What are the advantages and disadvantages of social network advertisements?
4. What are the advantages and disadvantages of television advertisements?
5. What are the limitations of social network advertisements?
6. What are the limitations of television advertisements?

There are some points that you need to be aware of when making a decision on your research topic and research questions.

1. Research topic must be concise. This can be done by using compound words. For example, you should use 'Chiang Mai university students' instead of 'the students of Chiang Mai University.'
2. Research topic must be neutral. Do not include your hypothesis[2] in your topic. For example, the research topic "The Effects of Social Network on the Relationship Among Family Members," should be used instead of "The Negative Effects of Social Network on the Relationship Among Family Members."

[2] A statement that anticipates the research findings

3. Research issue must be somehow useful for someone. It must be practical to apply the findings of your research in improving some situations or solving some problems.
4. Research issue must not be out of date or be studied in exactly the same way you want to do (Phanpinij 2004, pp. 67-68).
5. Research questions must be answerable and the answers must be gained by conducting a research only. If the answers to the questions are generally known by most people or can be obtained by just reading or surfing the Internet, then there is no use to conduct a research to find out the answers.
6. The scope of your research must not be beyond your time, your budget and your knowledge. It must be researchable under all of your conditions. (Naiyapatana 2011, p. 35).

After you settle on your research topic and research questions, it is the time to consider the purposes of your research. Locke, Spirduso, and Silverman. (2000, p. 9) define the word purpose that it is a statement explaining the reasons why you want to undertake the research and what you planned to achieve. Moore (2001) says that having clear purposes when carrying out a research can help you in making a right decision on the scope of the research, the research method, and how to analyze the data (p. 3). To identify the purposes of your research, you need to think of the benefits that can be gained from the findings of your study by considering your research questions. Furthermore, there must be some extra purposes regarding the applications of the findings and the further studies related to your issue that can be done.

The following table shows the examples of how the purposes of a research can be extracted from the research questions of the study on "The Comparison of the Efficiency of Social Network and Television Advertisements" as well as the extra purpose concerning the application of the findings and the possible further studies.

Table 2.1 An Example of How to Identify the Purposes of Research

Research questions	Benefits	Purposes
1. How does a social network advertisement work? 2. How does a television advertisement work?	1. Gain knowledge on how social network and television advertisements work	1. To study how social network and television advertisement work
3. What are the advantages and disadvantages of social network advertisements? 4. What are the advantages and disadvantages of television advertisements? 5. What are the limitations of social network advertisements? 6. What are the limitations of television advertisements?	2. Develop the ideas about the advantages, disadvantages and limitations of both social network advertisement and television advertisement	2. To find out the advantages, disadvantages and limitations of both social network and television advertisement
7. Is social network advertisement more efficient than television advertisement?	3. Learn whether social network advertisement is more efficient than television advertisement	3. To analyze whether social network advertisement is more efficient than television advertisement
Extra purpose concerning the application of the findings		4. To be a guideline on what kind of advertisements should be chosen, between social network and the television one
The further studies related to the issue that can be done		5. To be a guideline for further studies on the efficiency of social network advertisement and/or television advertisement

STEP 2: EXPLORING THEORIES AND RELATED STUDIES

It is necessary to explore the theories and the previous studies which are related to your research topic before you actually plan your research method because you need to use the knowledge you will gain from your study in identifying your hypothesis, which is an important factor you need to consider when planning the research method. The hypothesis normally affects the decision on the research instrument[3] since you need to consider carefully which instrument should be used in order to help you obtain the data that can help you prove your hypothesis. Furthermore, exploring the literature will also help you in specifying variables, designing research method and analyzing your data as well as helping you learn whether the research topic is out of date. Another advantage of exploring theories and related studies before you actually start planning your research and collecting your data is that it allows you to learn whether there is enough information provided for your research. A lot of researchers come to a dead end and cannot finish their research only because of a lack of information sources.

To select which theories and studies you should explore, you need to consider your research topic, research questions and purposes of the research. The selected theories and studies must be involved with your research topic, enable you to answer your research questions, and help you to achieve your purposes. Check out the following table to learn how to select related theories and studies according to the research topic, research questions and purposes.

[3] The tools that are used for collecting data in research

Table 2.2 An Example of How to Select Which Theories and Studies to Explore

Research topic	Research questions	Purposes	Related theories and studies
The Comparison of the Efficiency of Social Network and Television Advertisements	1. How does a social network advertisement work? 2. How does a television advertisement work?	1. To study how social network and television advertisement work	1. Theories about social network and television advertisement
	3. What are the advantages and disadvantages of social network advertisements? 4. What are the advantages and disadvantages of television advertisements? 5. What are the limitations of social network advertisements? 6. What are the limitations of television advertisements?	2. To find out the advantages, disadvantages and limitations of both social network and television advertisement	2. Theories about the efficiency of social network and television advertisements 3. Studies related to the efficiency of social network advertisements 4. Studies related to the efficiency of television advertisements
	7. Is social network advertisement more efficient than television advertisement?	3. To analyze whether social network advertisement is more efficient than television advertisement	

More details about information evaluation, note taking and references can be found in Unit 3.

STEP 3: PLANNING THE RESEARCH METHOD

To plan the research method means to make a decision on population, samples, research instrument, data collecting and data analysis by considering your research questions, purposes and hypothesis. Study the table below to learn what you have to do regarding each item.

Table 2.3 How to Plan Research Methods

Items	What to do
Population and samples	1. Figure out whether you should use population[4] or samples[5] as the subjects of your research so that you get sufficient data for the answers to your research questions. 2. If you decide to use samples, make a decision on the number and the kind of sampling.
Research instrument	1. Make a decision on what kind of research instrument should be selected in order to get the answers to your research questions. 2. Consider whether you should use an existing instrument or design it by yourself.
Data collecting	Plan when and how you are going to collect your data.
Data analysis	Make a decision on the kind of statistics that should be used for your study.

It is a good idea to explore how things were planned in the previous studies which are related to your research topic to help you make a decision on your own research. Writing an outline of your research also helps you to see the overall picture of what you will have to do to complete your research.

Population and samples

Moore (2001, p. 104) explains the basic principle of sampling that researchers study the samples taken who are the representatives of the larger

[4] All individuals that have all the qualifications needed for the study
[5] Representatives of entire population that participate in the study

group called population in order to generalize that both groups have the same characteristics. However, Moore indicates that researchers need to be aware of the fact that this kind of inferences is not always 100 per cent correct since there is a possibility that their population do not have exactly the same characteristics as their sample.

To figure out whether population or samples should be used as the subjects in your research, you need to consider the number of people in your population. For example, if your population is a group of 20 English major Chiang Mai university students who are taking 001423 course in the current semester, you should use population, not samples, since 20 is not a big number and working on population will provide you the chance to get the results that are more valid than using samples. On the other hand, if you want to study the online buying behaviors of Thai teenagers, you will have to consider using samples for generalization as it is not practical to go hunting all teenagers in Thailand for your study. The time you have and the budget for your research conducting are two other factors that need to be considered too. You need to make sure that you have enough time and money to conduct your research if you decide to use population in your study.

As for the size of the samples, Moore (p. 104) emphasizes that it needs to be big enough to represent the population. Besides, Kaiwan and Palaprom (2010, p. 118) suggest that the size of the samples must depend on the number of people in population as shown in the following table.

Table 2.4 The Appropriate Sizes of the Samples

Number of people in population	Size of the samples
hundreds	15 – 30%
thousands	10 – 15%
more than tens of thousands	5 – 10%

According to Coombes (2001, p. 34) and Fink (2010 p. 94), sampling can be done in several different ways. The following are some common types of sampling.

1. Convenience sampling -- Convenience sampling is a sampling method that the researchers select the representatives of their population according to the researchers' own convenience.
2. Quota sampling -- Quota sampling can be done by selecting the representatives of the population from a specific subgroup. For instance, a researcher wants 30 females, aged between 25 and 35 years, to be their samples.
3. Random sampling -- With random sampling, all the individuals that meet the criteria of being population have an equal opportunity of being chosen without any conditions.
4. Stratified sampling -- Stratified sampling can be done by grouping people in population and then randomly select the representatives of each group to be samples.
5. Volunteer sampling -- Volunteer sampling is done by asking people who meet the criteria for being samples to volunteer to participate in the research.
6. Snowball sampling -- Snowing sampling is done by asking a participant to suggest other people who also meet the criteria of being the representatives of population to the researcher. This type of sampling is very useful in the situation where it is difficult to find the participants of the research, such as when your samples are drug addicts or girls who had an abortion.

There are no exact rules of what type of sampling should be used for each kind of research. Therefore, just go ahead with the type that you think is appropriate for your research.

Research instrument

Research instruments mean the tools that are used in research for collecting data. Fongsri (2011, pp. 19-22) suggests the qualifications of good research instruments as follows.

1. Validity -- Research instrument must have validity or the ability to measure.

2. Reliability -- Research instrument must be reliable.
3. Difficulty -- The difficulty of research instrument, especially a test, must be appropriate to the participants.
4. Discrimination power -- Research instrument must be able to differentiate participants.
5. Objectivity -- Research instrument must be interpreted similarly, no matters who does it.
6. Fair -- Research instrument must not create advantages or disadvantages to anyone.
7. Specificity -- Research instrument must be able to help researchers to measure a particular factor specifically.
8. Searching -- Research instrument must enable researchers to obtain data.
9. Efficiency -- Research instrument must be efficient.
10. Exemplary -- Research instrument must be able to encourage participants to give out information.

It is necessary to consider your research questions and the purposes of your study carefully when designing your research instruments to make sure that your research instruments can help you get all the answers to your research questions and can help you achieve the purposes of your research. For instance, the research instruments that should be used for a research that aims to find out whether social network advertisements are more efficient than television ones are the instruments that can help evaluate the efficiency of advertisements. Therefore, it depends on how you define the term 'efficiency of advertisements' in your research. If you define it as the quality of advertisements that helps the consumers to remember the advertisement, the questionnaire and interview form should be used to collect the data since they can be used to check whether the consumers could remember social network advertisements better than television advertisements. It is strongly recommended that you consult an expert to get advice on your instrument and try it on someone who meet the criteria for a group of people that you want to study before using them with your subjects.

The following chart shows the suggested five stages of developing research instrument.

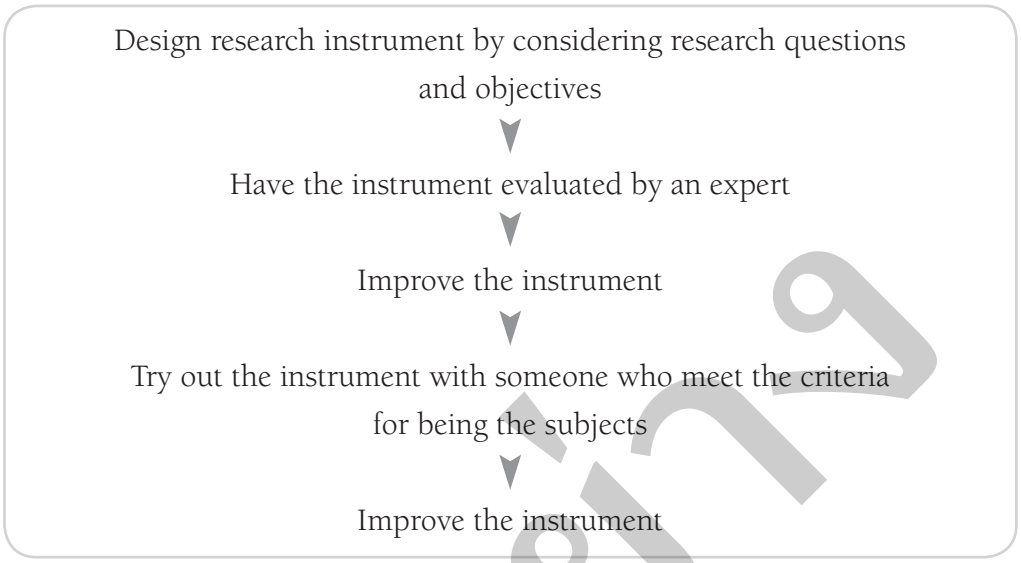

Figure 2.1 The Suggested Five Stages of Developing Research Instrument

The common types of research instruments are questionnaire, interview form, and observation form. It is important that you select the proper instrument for your research so that it can help you get the answers to your research questions and also help you achieve the purpose of your study.

Questionnaire

Questionnaire is an instrument consisting of a set of questions or statements that aim to collect particular kinds of information (Malhotra & Peterson, 2004, p. 176). Among all kinds of research instruments, questionnaire seems to be the tool that can most easily collect the data since researchers just distribute them and wait for them to be returned. However, there is also a chance that they might not get all the questionnaires back. Therefore, it is always a good idea to distribute your questionnaires to your participants and then wait for them to finish and return the questionnaires to you, rather than mailing them to the participants.

The questions used in a questionnaire are usually survey questions which aim to explore both facts about the questionnaire respondents and their opinions. According to Malhotra and Peterson (2004), there are two main kinds of survey questions: closed format question and open format question.

1. Closed format question provides all the possible answers for the respondents to select. It can be done in various ways, such as multiple choices, rating scale or rank order.

Examples of multiple choices:

How do you go to university?

❑ motorcycle ❑ car ❑ bus
❑ bicycle ❑ foot ❑ taxi

What foreign language are you interested in taking a course here?

❑ English ❑ Chinese ❑ Japanese
❑ French ❑ others _____

An example of rating scale:

Please indicate the extent to how much you agree with the following statements by choosing the corresponding number using the following scale:

4 = strongly agree 3 = agree 2 = disagree 1 = strongly disagree

	4	3	2	1
1. Online shopping is convenient for me.				

An example of rank order:

Of the following, please rank in order of most important (4) to least important (1) the reason why you think people come to Thailand.

❑ travelling ❑ business ❑ visit friends / relatives ❑ study

2. Open format question provides the opportunities for the respondents to answer questions freely.

   Example:
   What is your opinion towards social network advertisements?

   _____

   _____

It is necessary to consider the expected answers to the research questions in order to make a decision what types of survey questions should be used. Researchers also need to consider the appropriate portion since too many closed format questions may not give them enough detailed information. On the contrary, researchers may find it difficult to analyze data if they include too many open format questions.

According to Naiyapatana (2011), an effective questionnaire normally consists of three main parts.

1. The first part of a questionnaire usually includes the title, which tells the respondents what the questionnaire is about; the introduction, which identifies the purposes of the questionnaire and the study; and the instruction, which provides the information on what exactly the researcher wants the respondents to do regarding the questionnaire.
2. The second part of a questionnaire usually focuses on general information about the respondents, such as gender, age, educational level, occupation, nationality, etc. It is necessary to bear in mind that what you should include in this part must be useful for your study. For instance, do not include gender in your questionnaire if you do not need to know whether there are any differences between the answers of female respondents and those of male respondents. Moreover, never ask for the respondents' name. You should allow them to remain anonymous since most people are likely to respond to questionnaires more frankly if they do not have to reveal who they are. The items in this part of a questionnaire are normally either multiple-choice items or rank order items. These two kinds of items can help make it easier for the respondents to complete the questionnaire.

3. The third part of a questionnaire normally includes the statements with the rating scales, which the researchers expect the respondents to indicate the extent of agreement or disagreement with the statements by ranging their opinions from totally agree or strongly agree to totally disagree or strongly disagree. The responses to all the statements should be able to help you answer your research questions.

Apart from these three parts, a lot of questionnaires also provide space for the respondents to share their additional opinions or suggestions at the end of the questionnaire.

The following are some suggestions on how to develop an effective questionnaire.

1. Always consider the purposes of your research when designing your questionnaire. Do not ask any questions or mention any statements that are irrelevant to your research objectives although they are interesting or you are really curious to know the answers (Fongsri, 2011, p. 187).
2. Always confirm with the respondents the confidentiality of the questionnaire results to help make the respondents feel more comfortable to give honest answers.
3. Make sure that all your questions or statements are easy to understand. Therefore, avoid using complicated language and ambiguous words or phrases as well as anything that can be interpreted differently by different people, such as the word 'almost', 'a few', 'often', or 'sometimes'. Also, put all questions or statements in a logical order to make it easier for the respondents to follow your ideas (Phanpinij, 2004, p. 162).
4. Do not include more than two ideas in one statement. For example, the statement "I like going to a cinema with my friends when I have free time." should not be put in the questionnaire since the respondents may not be sure whether they should agree with it if they like going to cinema alone, not with their friends, when they have free time (Phanpinij, 2004, p. 162).
5. Avoid the questions that can lead the respondents to give out the answers you expected (Phanpinij, 2004, p. 162).

6. Avoid using an odd number for the rating scales that ask the respondents to express the extent of agreement or disagreement. In other words, ask your respondents to make a decision whether to give a positive or negative opinion, not the neutral one, since the neutral answers are no use for your data collection (Fongsri, 2011, p. 192).
7. Include both favorable statements and unfavorable statements equally. An example of favorable statements is "I always enjoy English classes." and an example of unfavorable statements is "I dislike studying English." The questionnaire that contains only or too many of either favorable statements or unfavorable statements in a row can cause the respondents to have bias (Srisa-ard, 2000, p. 70).
8. Make your questionnaire short and to the point. Do not include more than 15 items in your questionnaire and try to squeeze all the items in only one or two pages, which should take them a couple of minutes to complete. Too long questionnaire can make the respondents feel bored and, as a result, they are unlikely to give honest answers (Phanpinij, 2004, p. 162).
9. It is a good idea to include an extra item that asks the respondents to add their additional suggestions or opinions (Fongsri, 2011, p. 183).
10. Always add a statement to say thank you to the respondents either at the beginning or at the end of your questionnaire (Fongsri, 2011, p. 182).

The following example of a questionnaire was adapted and extracted from an actual questionnaire used in a research that aims to explore the attitudes of the Science and Technology students of Chiang Mai University towards fundamental English courses (Wongsri & Boonsirijarungradh, 2007).

The Attitudes of the Science and Technology Students of Chiang Mai University Towards Fundamental English Courses → *Title*

This questionnaire aims to survey the attitude of the Science and Technology students of Chiang Mai University towards fundamental English courses. There is no right or wrong answer for each item since it is only an opinion. All the answers will not affect your English grades. Therefore, please give the honest answers.

Thank you for your cooperation.

Introduction

Part I: General Information

Please fill in the blank and check ✓ in front of the statement that is true for you. → *Instructions*

1. Gender: ❑ female ❑ male
2. Faculty: _____ Major: _____ Year: _____
3. English Courses taken:
   001103: Grade received = _____ Studied with ❑ Thai teacher ❑ Foreign teacher
   001104: Grade received = _____ Studied with ❑ Thai teacher ❑ Foreign teacher
   001203: Grade received = _____ Studied with ❑ Thai teacher ❑ Foreign teacher

Part II: The attitudes towards fundamental English courses

Please indicate the extent to how much you agree with the following statements by choosing the corresponding number using the following scale.

4 = strongly agree 3 = agree 2 = disagree 1 = strongly disagree

Statements	4	3	2	1
1. Taking four fundamental English courses is necessary for graduate students.				
2. The average price of fundamental English textbooks is too high.				
3. Task based approach can help me improve my English.				
4. Doing task analysis can help me understand better what I have to do to complete my task.				
5. Listening strategies learned in fundamental English courses are too difficult for me to understand.				
6. Note taking on the grammar rules which are provided in the textbook is no use for the students.				
7. Pair work can help me get better grades				
8. Studying English with native speakers is better than studying with Thai teachers.				

Other comments: _____

_____

Interview form

Interview is normally considered when researchers want some in-depth information that can help support or expand the data obtained from their questionnaire. The number of interviewees depends on the number of people in the population but it is usually a lot smaller than that of samples. Researchers can question interviewees either one by one or in group. If the interview is done in group, researchers may be able to get more information since there is a discussion among interviewees. However, the answers of some interviewees may be influenced by others.

Fongsri (2011) states that there are three kinds of interviews: structured interview, semi-structured interview and unstructured interview.

1. Structured interview is the interview that has a fixed format, which means that all the questions in the interview are prepared in advance including the order of the questions. This kind of interview may not provide the friendly atmosphere for the interviewees, but the interviewer will certainly get the information they want since everything was planned beforehand.
2. Semi-structured interview means that the interviewer sets up a series of themes that needs to be explored without planning about the exact questions. It is more flexible than the structured interview since the interviewer could ask any questions that come to his or her mind during the interview.
3. Unstructured interview refers to the interview that has no format set ahead. All questions in the interview are totally based on the interviewees' responses. However, in some situations the interviewer may plan some key questions before the interview. Although the interviewees who join this kind of interview may feel more relaxed than those of other kinds of interview, the information the interviewer gets may not be as good because each interviewee is asked different questions.

What you are going to ask in your interview must be related to your research questions. The interview questions must enable you to get the answers to your research questions in details. The following table shows the main

research question and the interview questions used in the research titled *"The Effects of Using Streaming Video in Teaching a Fundamental English Course"* (Boonsirijarungradh 2013, p. 94). The research question aims to explore the students' attitudes towards Fundamental English II (001102) learning after being taught with streaming video; therefore, the interview questions aim to find out the students' opinions regarding the use of streaming video in teaching Fundamental English II (001102), the efficiency of English class taught with streaming video, the atmosphere in the streaming-video English class compared with that in the traditional class, and the possibility of using streaming video in a large class. All the answers to these questions can help the researcher make a conclusion on the students' attitudes towards the effectiveness of using streaming video in teaching Fundamental English II (001102) according to various aspects.

Table 2.5 An Example of How to Design Interview Questions

Research question	Interview questions
What are the students' attitudes towards the effectiveness of using streaming video in teaching Fundamental English II (001102)?	1. What is your opinion towards the use of streaming video in teaching Fundamental English II (001102)? 2. Do you think an English class taught with streaming video is as efficient as that taught by teachers? Why or why not? 3. Are there any differences between the atmosphere in the streaming-video English class and that in the traditional class? If so, what are they? 4. In your opinion, is there any possibility of using streaming video in a large class? If so, what should be the appropriate number of the students? 5. What is your opinion towards the use of streaming video in teaching fundamental English courses for the whole semester?

The characteristics of good questions used in interviews are the same as those of good questions used for questionnaires.

Apart from preparing questions that will be used in the interview, the interviewer also needs to plan about how to record the information the interviewees give. Normally, a recorder is used as well as jotting. However when taking notes, write down only key points, not every single detail, or the interviewees will feel like they are ignored and, in return, may not focus on what they are talking.

Observation form

Observation seems to be the best way to get very in-depth information since the researchers immerse themselves in the situation and actually see what is going on whereas interviews only provide the information that is the word of mouth from the interviewees which might be only sugar-coated statements. Nonetheless, the information obtained from observation may distort because of the observer's bias or misinterpretation. Therefore, it is unusual for researchers to collect data by observation only. It is normally conducted along with other data collection methods like interview.

Planning the points to be observed for your observation is quite similar to designing the questions for an interview as you need to consider your research questions and the purposes of your study to make sure that the results obtained from your observation can help you answer the research questions and achieve the purposes of your study.

The following is an example of an observation form designed for the research titled *"The Effects of Integrating Game-Based Learning in Teaching English Reading Skills of Undergraduate Students with Positive Attitudes Towards Games"* (Na Nan & Boonsirijarungradh 2011, p. 105)

Observation Form for Students' Learning Behaviors in Game-based Learning

Observer: _____

Date: _____ Time: _____ Length of time: _____

Group observed: _____ Place: _____

The activities the students spent most time on during the study:

_____

_____

_____

The students' participation:

_____

_____

_____

The students' emotions expressed:

_____

_____

_____

The interaction among the students:

_____

_____

_____

The interaction between the teacher and the students:

_____

_____

_____

The students' enthusiasm, attempt, responses, determination, and reactions to GBL:

_____

_____

_____

The students' readiness for GBL:

_____

_____

_____

Consent form

When conducting a research that involves interview and observation, it is necessary to ask the participants to sign a consent form. A consent form is a form asking for permission of participants of a research for sharing information with public. It normally includes six components as follows.

1. Introduction
   - 1.1 Invitation
   - 1.2 Research title
   - 1.3 Researcher's institute or organization
   - 1.4 Purpose of the study
2. Benefits of participating
3. Protection of confidentiality
4. Voluntary participation
5. Contact information
6. Consent of participant

The following example is a consent form used for participation in a research.