Applied linguistics:

Research Methods and Thesis Writing

应用语言学研究方法与论文写作

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外语教学与研究出版社

Preface

" Give a man a fish and he eats for a day. Teach him how to fish and he eats for a lifetime."

Doing research is a mystery to many graduate students and second language teachers in China. This book aims to demystify the process of carrying out research in the field of applied linguistics, particularly in the area of second language acquisition and teaching. This book is written for those who have no previous research experience at all or those who have done some research without formal training. It is particularly useful for graduate students of applied linguistics, second language teachers and teacher-trainers.

This book is concerned with both how to conduct research and how to write a thesis or a dissertation. Graduate students, I have found, face difficulties not only in actual research but also in writing up their theses/dissertations. This book addresses questions that have actually been experienced by me and my students, e.g. How can I select a suitable topic? Which research design should I employ? What is the best time for me to collect data and in which way? Should I analyze the data quantitatively or qualitatively? What is the difference between reporting a result and discussing a result? What should be covered by a literature review?

In response to these challenges, this book provides the readers with solutions, and with suggestions if there is no definite answer. Part I serves as a general introduction in which some basic concepts are explained; Part II focuses on the research process and covers different phases of a single

study. Part III describes the overall structure of a thesis/dissertation and what is expected to be included or not included in different chapters.

This book is written in an accessible style and interactive manner so that the readers can follow the text without too much difficulty. The book has cited various examples from theses and papers written by Chinese scholars and graduate students in order to facilitate the understanding of abstract terms and the research process. Moreover, unlike books on research methodology published in the western context, this book has particularly focused on Chinese graduate students' difficulties and problems in their research and thesis writing. Therefore, this book can be used as a textbook for a course on research methods as part of postgraduate program as well as a reference book for completing a master's thesis or a doctoral dissertation.

A book such as this cannot be produced without the assistance of many people. First of all, I would like to extend my thanks to the students in Nanjing University who have survived the course in which early versions of this text were used. Their responses to the much of this text help me identify which part was well-written and which part needed clarification and elaboration.

I would also like to give my special thanks to Joanna Radwanska-Williams, Professor from the Chinese University of Hong Kong who carefully edited from Chapter One to Chapter 11 and offered many invaluable comments as well as suggestions; Nancy Pine, Professor from Mount St. Mary's College, Los Angeles, who patiently read the first six chapters of the manuscript and corrected a number of non-native expressions; and Kate Parry, Professor from Hunter College, New York, who skillfully copyedited the first five chapters of the manuscript and made constructive suggestions on improvement. Their kind and timely help has made the book better than it would have been otherwise.

I am most indebted to R.K. Johnson, my former supervisor as well as my lifelong friend, who took great pain to proof-read the whole manuscript and provide insightful comments as well as suggestions.

I am very grateful to Ling Wang who helped me check the references and produce some figures; to Qi Chen, Zhihong Qin, Qihong Mao, Yeqiu Zhu and Qin Liu who helped proof-read earlier versions of the text.

Thanks should also be extended to my husband who relieved me from daily housework, and endured late nights and lost weekends. Furthermore, he helped produce some figures and the table of contents.

Finally, I would like to acknowledge the support of the United Board and Harvard-Yenching Institute that provided me with a grant in the academic year of 2000 when I was revising the manuscript for the book as a visiting scholar at Harvard University. I would also like to acknowledge Nanjing Unviersity for granting me a sabbatical leave during this period.

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Part I

Introduction

Part I is an introduction consisting of two chapters. Chapter One addresses the questions "What is research?" and “How are different types of research classified?” Chapter Two introduces fundamental concepts involved in research. By studying this part, you will be able to:

- Understand the basic criteria for good research.
- Have an overview of the research process.
- Differentiate different types of research.
- Grasp the fundamental concepts involved in research.

1. What is Research?

If someone asks you to make a cake, you should know what kind of cake s/he wants. To look for a key, you must know what a key looks like. Without a good understanding of the outcome you intend to obtain, you will experience a lot of frustrations and even failures. The extreme case is that you might have spent your lifelong time and efforts doing a piece of work but the eventual results you have obtained are not what you desired at all. Similarly, once you make up your mind to make a commitment to research, the first legitimate question you should ask is "What is research?" The importance of such a question is well illustrated in the following parable:

A MAN LOOKING FOR FRUITS

There was once a man who lived in a country that had no fruit trees. This man was a scholar and spent a great deal of time reading. In his readings he often came across references to fruit. The descriptions of fruit were so enticing that he decided to undertake a journey to experience fruit for himself.

He went to the market and asked everyone he met if they knew where he could find fruit. After much searching he located a man who knew the directions to the country and place where he could find fruit. The man drew out elaborate directions for the scholar to follow.

With his map in hand, the scholar carefully followed all of the directions. He was very careful to make all of the right turns and to check out all of the landmarks that he was supposed to observe. Finally, he came to the end of the directions and found himself at the entrance to a large apple orchard. It was springtime and the apple trees were in blossom.

> The scholar entered the orchard and proceeded immediately to take one of the blossoms and taste it. He liked neither the texture of the flower nor the taste. He went to another tree and sampled another blossom, and then another blossom, and another. Each blossom, though quite beautiful, was distasteful to him. He left the orchard and returned to his home country, reporting to his fellow villagers that fruit was a much overrated food.
>
> Being unable to recognize the difference between the spring blossom and the summer fruit, the scholar never realized that he had not experienced what he was looking for.
>
> —From Halcom's Evaluation Parables

The scholar mistook a blossom for the fruit simply because he did not know at the beginning what fruit was. We hope you can bear this parable in mind as you learn about the nature of research.

DEFINITION OF RESEARCH

In Collins English Language Dictionary, "research" is defined as "a detailed study of a subject or an aspect of a subject. If you do research, you collect data and analyze facts and information and try to gain new knowledge or new understanding" (p. 1231). Although this is not a technical explanation, it gives readers a general picture about what research is. By this definition, you may know that research activities include data-collection and data-analysis, and their purpose is to obtain a better understanding of something. Now let us look at a technical definition offered by Hatch and Farhady (1982): Research is "a systematic approach to finding answers to questions" (p. 1). This definition is shorter than the one provided by the dictionary, yet it touches the nature of research. It implicitly tells us three essential elements of research: questions, a systematic approach, and answers. You may use "PPP" to stand for **Purpose** (questions), **Process** (a systematic approach) and **Product** (answers) (See Figure 1.1).

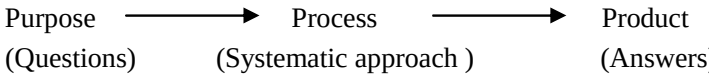

Figure 1.1: A simplified model of research

The above three elements are interrelated to one another. All research starts with questions. Without questions in the first place, there will be no research. Does a good question guarantee a systematic approach used in the research? No way. The selection and construction of an approach needs another set of skills which are different from those required by developing good questions. Without them, the methods chosen are most likely inappropriate, and can never find valid answers. Even if researchers have good research questions and follow the procedures without errors, valid answers may not be natural results since the interpretation of the findings could be illogical or untenable. Therefore, each of the three elements in the definition should be paid equal attention to. If there is any flaw in one element, the whole piece of research will be ruined. The following sections will describe each of the three elements.

Having Good Questions

Good questions ensure the research goes in the right direction, delimit the research boundary and keep you focused on what you intend to do. To have questions may not be that difficult but to have good questions is not easy at all. What kind of questions can be qualified as good questions? The qualifying features can be illustrated by three adjectives: **significant**, **original**, and **answerable**.

A **significant** question must be of practical and/or theoretical value. Consider, example, this question: "Do proficient writers make fewer grammatical mistakes in L2 compositions than less proficient writers?" Surely proficient writers should make fewer grammatical mistakes than less proficient writers. Otherwise they cannot be called proficient

writiers. Therefore, the question is trivial since the answer is self-evident and the findings can neither help improve teaching and learning nor contribute to theory-building. However, if you change the question into "How do proficient writers differ from non-proficient writers in grammatical accuracy?" the answer will be of importance. From the practical point of view, the findings might help teachers understand specific differences between proficient and less proficient writers and thus they can help both less proficient and proficient writers to improve their grammatical accuracy more effectively. For theory-builders, the findings might provide evidence to construct a model for L2 interlanguage development or in support of or against the existing model.

A research question is regarded as **original** when it is different from questions which have been asked by other researchers in one or more aspects, such as differing in learning contexts, or in types of learners, or in the methods used in data collection and in data analysis. In other words, an original question does not need to be totally new. In reality, originality can be a matter or degree.

An **answerable** question is one that can be tackled by the researcher within the time and resources available. This requirement may appear to be unnecessary or the easiest to follow. However, almost all beginning research students fail to meet it because they tend to be over-ambitious and they lack the experience to anticipate difficulties.

To satisfy the above three criteria is invariably the most difficult part of research. Nevertheless, the importance of choosing appropriate questions is often under-estimated and the difficulty in doing so is usually not fully recognized. Research is like taking a long journey. Asking an ill-formulated question is the same as traveling in the wrong direction and can result only in wasted time and effort. In this sense, "it is worth spending as much time as is necessary to get the question right"(Nunan, 1992: 211). How you can develop good research questions will be further discussed in Chapter Three "Developing research questions".

Employing a systematic approach

By using a **systematic approach**, we mean that research should follow a set of procedures which are clearly described and can be fully justified. The research procedures in some cases are predetermined in the sense that they are decided before the data-collection while in other cases they are developed during the research process. In either case, the procedures used for selecting subjects, data-collection and data-analysis should be recorded and reported to other researchers. Furthermore, the reasons why certain procedures are adopted should be explained in terms of established principles in the discipline. Being transparent and justifiable, the procedures thus can be easily replicated by other researchers.

One thing is worth mentioning here: no approach is perfect, particularly when the research is to study human beings. Thus a systematic approach should not be understood as an impeccable approach. Actually, it is common for researchers to admit there are limitations in their studies.

Obtaining valid answers

The answer to a question, the last element in the definition but not the least important, must be of high **validity**. Validity is an essential yet difficult concept that cannot be explained in one or two sentences. You will understand it gradually through reading this book. At this initial stage, I will explain it in a very simple way. When an answer is said to be valid, it means that the claimed answer is the only answer we can obtain. If there is any alternative answer, the validity of the study will be called into question. For example, one study attempted to find out whether there is a relation between L2 learners' vocabulary size and their reading amount under the assumption that the more L2 learners read, the bigger vocabulary size they have. The finding from this study said that the amount of reading did affect the size of vocabulary as expected, which

appears to be reasonable and logical. However, an experienced researcher read the report very carefully and found that the vocabulary test was not scientifically designed. In this case, it is not sure the found relation was caused by the reading amount or due to the poorly-designed test. In this case, there are two competing explanations for the said relation. Therefore, people have the reason to say that the answer is not valid. Another study aimed to find out whether there was any gender difference in L2 learning. The study revealed that female English majors outperformed male English majors in an English proficiency test and thus it was concluded that females are more talented than males in L2 learning. Obviously we can find a dozen alternative answers to account for this fact, such as females spending more time learning than males; males being less serious about testing than females; the most talented males usually going to the science stream rather than majoring in foreign languages. Since all these alternative explanations are plausible, the validity of the answer is thus doubtful.

VISUALIZING THE RESEARCH PROCESS

Very often, people visualize the research process in various ways and from different perspectives. In this section, two alternative views are described. The first one is proposed by Rudestam and Newton (1992) who visualize the research process as a wheel. The second one is suggested by the author who depicts a research process as a flow chart in which a series of tasks are presented in a sequence.

The research wheel

According to Rudestam and Newton (1992), we may use a wheel as a metaphor to describe the stages of the research process. The metaphor indicates that a series of steps are repeated recursively over time. To be simplistic, the research process consists of at least two cycles and each cycle contains four stages (See Figure 1.2). The sequential activities within the first cycle include: empirical observation, developing a

proposition, constructing a theoretical framework and generating specific research questions. Those within the second cycle are data collection, data analysis, referring the results back to the conceptual framework and generating further research questions for additional studies.

Rudestam and Newton maintain that both induction and deduction are essential for the whole research process. The activities on the left-hand side involve a process of inductive logic and the activities on the right-hand side, a process of deductive logic.

The first cycle

The first cycle starts with "empirical observation" through which the researcher chooses a topic. The next stage of the research wheel is to formulate a proposition which describes an established relationship in the form of a statement (e.g. Learning purposes are related to the choice of learning strategies). For the third stage, the researcher should relate the proposition to a conceptual framework. In other words, the researcher at this stage needs to propose a theoretical framework, based on relevant theories and previous studies, in which the proposition can be placed. The novice researcher usually finds this task the most demanding and taxing aspect of the thesis process. Moving forward around the wheel, the researcher is to generate specific research questions. Once the questions are specified and stated, the first cycle is finished.

The second cycle

The second cycle begins with collecting data that directly addresses the research questions. The data-collection process can also be regarded as a form of empirical observation. Once the data are gathered, the researcher needs to analyze the data according to the research purposes. Results yielded from the analysis are generalizations made through induction. Then the generalizations are linked to the conceptual framework and further research questions and implications for additional studies are recommended.

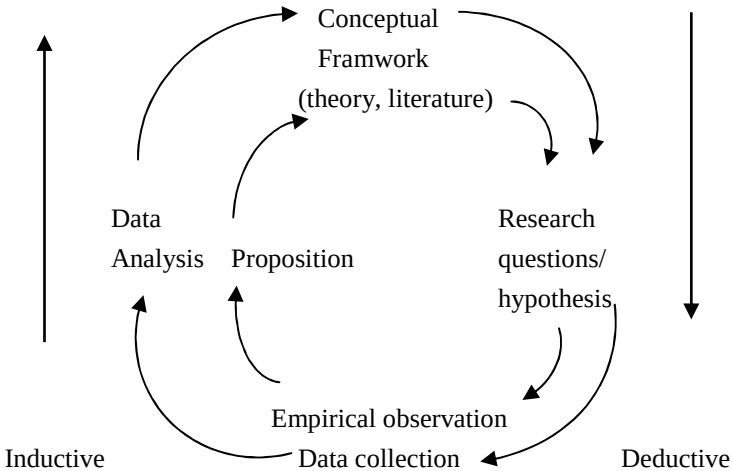

Figure 1.2: The research wheel

The wheel metaphor can successfully capture the dynamic aspect of research. However, it has been built up on only one type of research, that is quantitative in nature aiming at testing hypotheses. If a study is qualitative, the sequence is not the same as the one described above. This issue will be clarified later.

The flow chart

Compared with the research wheel described above, the flow chart (See Figure 1.3) is much simpler and less technical. It focuses on the activities a researcher must undertake rather than on how these activities interact in the process of research. It is particularly suitable for helping novice researchers understand what they are supposed to do in their research.

According to Figure 1.3, research involves six tasks: developing research questions, reviewing the literature, selecting a research design, collecting data, analyzing the data and writing up a thesis. The arrow that links the last task with the first one means that once you finish your thesis, you may develop new questions for further research.

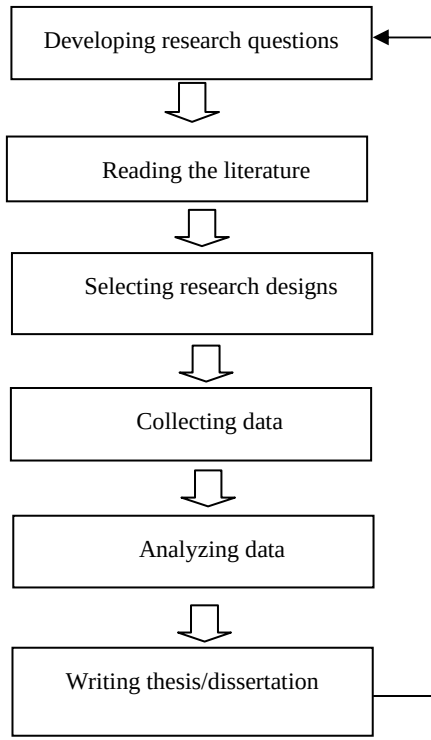

Figure 1.3: The flow chart for research

The six tasks each have their own role to play in the research process and none of them can be overlooked. If one task is not undertaken adequately, the whole study will be put in jeopardy. Furthermore, the tasks are logically interrelated and the sequential order cannot be changed in many cases. For example, data collection cannot be undertaken before

the development of research questions. Similarly, a thesis cannot be written before the analysis of the data. However, the sequence is not always rigidly fixed. In some cases, there may be options. For example, developing research questions, reading the literature and selecting research designs are not necessary sequential in practice as presented in the flow chart. You may have a rough idea about your research interest and then go to read the relevant literature. Based on the existing literature, you specify your research topic and narrow down the scope. Then you go to read the relevant literature again to develop general as well as specific research questions. The selection of research designs is determined not only by research questions but also by the methods used in previous studies. Therefore, at the stage of constructing your research design, you also need to read the literature. The above description clear shows that the three activities presented in the flow chart are not happening in a linear fashion and always in a fixed order.

As a would-be researcher, you had better follow the sequence first. Once the cycle is on the track, you are encouraged to be flexible and move back and forth within the sequence. Remember that "real research is inevitably going to be a rather messy process" (Blaxter et al., 1996: 7). In other words, these six tasks are recursive in nature. However, this recursiveness cannot be captured by this two-dimentional flow chart. One obvious advantage of the chart is its simplicity: it enables the reader to remember the tasks without much effort. Furthermore, the tasks described can be applied to both quantitative and qualitative studies.

CLASSIFICATIONS OF RESEARCH

When you read books on research methods, you may come across various kinds of terms designating research. In this section, I will define some commonly-used terms along two classifying features: aims of research and source of data (See Table 1.1).

Classifying features	Types of research
Aims of research	Theoretical /practical
Source of data	Primary/secondary

Table 1.1: Classifications of research

Theoretical and practical

In terms of different aims, two types of research can be identified: theoretical and practical. Theoretical research is primarily concerned with constructing theories or testing existing theories. Practical research is usually conducted by people who are directly involved in L2 teaching, such as L2 language teachers, L2 textbook compilers or L2 test designers. The major aim of practical research is to seek a practical solution to a problem in our daily life. In the following section, theoretical and practical research will be discussed one by one.

Theoretical research

Theoretical research aims at developing or testing theories rather than at resolving practical issues. For example, the work undertaken by Krashen (1985) for constructing the "Monitor" theory can be regarded as theoretical research. His model consists of five hypotheses as follows:

The acquisition-learning hypothesis
The natural order hypothesis
The monitor hypothesis
The input hypothesis
The affective filter hypothesis

The above theory was not invented by Krashen himself. For example, the Input Hypothesis was first proposed by Macnamara in 1972 (Krashen, 1985) and the Natural Order Hypothesis, by Corder (1967). Krashen