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ABSTRACT

This book discusses two major approaches to social science research: quantitative research, which involves converting observations to numbers and analyzing them statistically; and qualitative research, which looks at participants' opinions, behaviors, and experiences from their own points of view and in a more subjective way. In the book, particular emphasis is put on research related to communication and language teaching/learning. Following an Introduction, under Part I--Looking at Science--are these chapters: (1) What Is Science?; (2) Aims and Methods of Science; (3) Science, Common Sense, and Ways of Knowing; (4) Quantitative and Qualitative Research. Under Part II--Quantitative Research--are these chapters: (5) Variables and Hypotheses; (6) Constructs and Variables; (7) Getting Started and Choosing Your Approach; (8) Writing Questionnaires; (9) Doing Interviews; (10) Making Observations; (11) Variance, Control, and Threats to Validity; (12) Threats to Internal Validity; (13) Faulty Research Design; (14) Analyzing Results of Quantitative Research--Descriptive and Statistical Significance; (15) Analyzing Results of Quantitative Research--Comparative Statistics. Under Part III--Qualitative Research--are these chapters: (16) Designing Qualitative Research Studies; (17) Using Observation in Qualitative Research; (18) Practical Aspects of Observation in Qualitative Research; (19) Using Case Studies; (20) Analyzing Data in Qualitative Research: Word-Based and Scrutiny-Based Approaches; and (21) Analyzing Data in Qualitative Research: Linguistic Features and Tactile Approaches. Appendixes contain information about writing research papers; citing sources and avoiding plagiarism; sample research papers; doing a presentation on your research; titles, abstracts, and biodata; and answers for exercises. (NKA)

Approaches to Social Science Research: Communication and Language Teaching / Learning

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EICHOSHA

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Introduction

Science is not a subject that you may think about often, but it is part of our lives in many ways. Results of research studies are reported in the news. As a student or as part of your job, you may need to read research papers or research reports, and you need to understand what was done and why. You also need to be able to decide whether the conclusions of a study were supported by the results of the research. You may also do research yourself, either as an assignment for a class or as part of your job. You might need to be able to plan and carry out a research project. There are therefore a number of reasons that you might need to understand how research is done as well as how to evaluate the results of research.

Unfortunately, not all of the research that is published or reported is good research. There can be various problems with the ways that research is carried out. If you read research without being critical of it, you can be misled if the research is not done well.

Content and Purpose

In this book, we have discussed the ways in which we know what we believe we know, what science is, and what social science is. Social scientists use research in an effort to look objectively at the ways in which people behave, think, and interact. With this background, we discuss two major approaches to research: quantitative research, which involves converting observations to numbers and analyzing them statistically, and qualitative research, which looks at participants' opinions, behaviors and experiences from their own points of view and in a more subjective way. We have put particular emphasis on research related to communication and language teaching/learning. These are important areas of research, because the study of communi-

cation can potentially help people communicate more effectively and can ultimately improve human relationships, while the study of language teaching/learning can lead to improve methods for teachers and more effective use of strategies by learners.

Therefore, the purpose of this book is to help readers understand the characteristics of science in general and social science in particular and how these influence the ways research is done. This book is also intended to help readers understand and evaluate research they read and to know how to plan a research study, if they want to do so. We have tried to give a comprehensive view of social science research, beginning with its foundations in social science, continuing through practical discussions of quantitative and qualitative approaches, and concluding with advice on how to report on the results of research through papers and presentations.

Sections of the Book

In the first section, "Looking at Science," there are chapters on what science is, its purposes, how we know what we know, and how science is different from other ways of knowing. In this section, we bring up some of the issues and problems that researchers face, which are explained in more detail in later chapters. We also look at what research is and how qualitative and quantitative approaches to research are different.

In the next section, "Quantitative Research," we look at the basic concepts of quantitative research, including variables and hypotheses; and methods for collecting data, including questionnaires, interviews, and observation, which can be applied to both quantitative and qualitative research. We also look at validity and reliability in quantitative research and how the results of quantitative research are analyzed.

In the third section, "Qualitative Research," we discuss aspects of qualitative research, including case studies, how data is gathered in

qualitative research, and how to analyze the data gathered.

The sections on quantitative and qualitative research are intended to be useful both for readers who want to carry out research and those who want to understand how it is done, for example, in order to evaluate research that they read about.

If you do research, it is also important to report effectively on the results of your research. In the appendices, there is information on writing research papers, including how to avoid plagiarism; a sample research paper; and advice on doing presentations of research and on writing titles, abstracts, and biodata for a research paper or presentation.

Organization of the Chapters

Each chapter begins with a list of keywords that are used in the reading, introducing the main concepts of that chapter. The reading is followed by application questions. These questions give readers an opportunity to apply the concepts from the chapter to an area of social science that they are interested in. These questions can also be used to guide readers through the steps of doing a research project of their own, as they form hypotheses or research questions, write questionnaires and interview protocols, and analyze the results.

Many chapters also have discussion questions, in which readers consider the sample research paper found in Appendix III in terms of the concepts related to that chapter. These are intended to help readers see how the concepts were applied in a specific study. It may be useful to read the paper in Appendix III before reading Chapter 4 in order to be familiar with it, and then to refer back to it when answering the discussion questions through the rest of the book. Suggested answers for these questions are found in Appendix VI.

Other Resources

While this book deals to some extent with language teaching, it includes little information about language testing, which is often an important aspect of doing research related to language teaching and learning. If you are interested in language testing, we have written another book on that subject. It is:

Kitao, S. K. & Kitao, K. (1999). *Essentials of English language testing*. Tokyo: Eichosha.

Supplementary material, including a bibliography on social science research, and useful links related to this book can be found at:

http://ilc2.doshisha.ac.jp/users/kkitao/library/resource/research/

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Table of Contents

Part I
Looking at Science

Chapter 1

What is Science?

Keywords

natural science	generalizations
social science	measurement
laws	

In this chapter, we will discuss what science and the scientific method are. Science can be difficult to define, but we will discuss some of the purposes and characteristics of it. We will also compare natural science, with which you may be more familiar, with social science.

Natural and Social Sciences

Characteristics of Natural Sciences

You may be familiar with natural sciences like biology, medicine, chemistry, and astronomy. Natural science has made great contributions to our lives. It has improved our lives in many ways (though of course it has also caused problems). Natural science has found ways to cure diseases. Over the centuries, science has continued to develop, and it has corrected and built on previous knowledge. For example, centuries ago, people did not know what caused diseases or how they were spread. They had a variety of beliefs about where diseases came from. In some cultures, diseases were believed to be a punishment from God; in other cultures, they were believed to be caused by a curse from an enemy.

Eventually scientists learned that viruses and bacteria cause diseases. They learned how to keep disease from spreading, how to diag-

nose disease, how to cure many diseases, and how to prevent many diseases through vaccination. However, for some diseases there is no cure yet, or no way to prevent them. In addition, new diseases develop, and old ones change, so scientists still study diseases and how to prevent or cure them.

Natural scientists observe the natural world, whether it is the movement of the stars or the progress of diseases in the human body, and study and describe what they see. They find laws to describe the phenomena they are studying. An astronomer might study the movement of a planet and predict how it will move in the future. Following scientific laws, he/she can do so precisely.

Social Sciences and Their Relation to Natural Sciences

Social sciences are fields of study that deal with human behavior, thinking, and relationships. The social sciences are similar to natural sciences in some ways but different in others. In general, both social and natural scientists test theories. That is, they do research to find out whether certain theories are supported or not. They use these theories to explain why things happen and to try to predict what will happen in the future. That is the ultimate goal of science — to be able to explain and predict.

Laws vs. generalizations. Social scientists study human behavior and describe and try to understand what they see, just as natural scientists study natural phenomenon and also describe and try to understand what they see. However, it is difficult to develop laws to describe human behavior; human behavior is too unpredictable. A chemist, for example, knows that if you mix two chemicals, you will always get the same result. You do not get different results under the same conditions at different times, and a chemist can explain why such a reaction occurs. Social science, in contrast, is not so exact. It is much more difficult to explain human behavior and make predictions about it. Social scientists do try to understand human behavior, make

some generalizations about it, and use these generalizations to make predictions. However, social sciences are not as clear-cut or precise as natural sciences.

Measurement. Another difference between natural and social science is that there is often no precise way to measure the kinds of phenomena that social scientists study. Given the necessary instruments, a natural scientist can accurately measure or test the movement of the planets, how strong a muscle is, or the type of bacteria that is causing a disease. This is true for many of the phenomena that natural scientists study.

However, the types of phenomena that social scientists study are often more difficult to measure, because they are often inside the minds of the participants in the study. They cannot be seen or measured in any direct way, or with a scientific instrument. A social scientist might be studying the effectiveness of advertising for a new drink and want to measure the participants' reactions to different advertisements. That reaction is not something that can be measured with a scale, as weight is measured. The social scientist might ask the participants questions about their attitude is toward the drink or whether they plan to buy the drink.

One of the problems with this type of measure is that the scientist doing the research has to depend on what the participants say they think or how they say they will act. This is an indirect way to measure the effect. It may be that some of the participants will try to tell the researcher what he/she wants to hear rather than what they really think.

Also, the researcher might try to find out whether the participants really did buy the drink after seeing the advertisement. That would be a direct way to measure the effect, but there might also be practical problems. Is there any way for the scientist to find out whether the participants bought the new drink, other than just to ask them?

In designing research, the researcher must plan the best way to

gather the information. This, however, might involve some compromise, because the best way might be too expensive, too time-consuming, or impractical in other ways. For example, the researcher might be thinking about whether to gather the information through a questionnaire or an interview. The researcher might think that an interview is better, because in an interview, it is easier to get more information if the participant does not give enough information. However, interviews take much more time than questionnaires, which can be used to gather a lot of data in a short time. Therefore, the interviewer might compromise and use questionnaires instead.

There might be other practical problems. As mentioned above, sometimes participants only say what the researcher wants to hear, or they might answer in a way they think makes them look better. For example, if you ask people whether they wash their hands after using the toilet, they might say that they do, even though they do not, because they might be embarrassed to tell the truth.

In order to find out what people really do, a researcher might want to observe people in a public restroom. However, it is unlikely that a researcher could get permission to put a hidden camera in a public restroom. The researcher might stand in the restroom and watch people to see whether they wash their hands. The problem with this is that people might behave differently if they know they are being observed. Another problem is whether the behavior of people in a public restroom can be generalized to their behavior at home. If the researcher does figure out a way to observe people in a public restroom, does their behavior only apply to the public restroom, or do they behave the same way at home?

Therefore, one of the most important issues in doing scientific research is in evaluating the strengths and weaknesses of different ways of gathering information and deciding which one is most appropriate for the practical, financial and time constraints of a study. Among the

questions a researcher must ask is whether people will tell the truth about what they do or think, and what kinds of questions can best get the information that the researcher wants. The researcher also needs to consider what kind of observation might help get the information and if observation is possible, how to do it. In addition, the researcher needs to recognize any weaknesses in the chosen method and consider the effects they might have.

Conclusion

The purpose of science is to explain phenomena and to try to predict them. Natural science has a long history. Social science developed using natural science as a model, because at the time it was the only model for science. Though they are similar, there are differences as well, for example, in that social science typically deals with generalizations rather than laws, and in the difficulty of measuring phenomena in social science.

Application Questions

Think of a field of natural science. What does it try to understand, explain, or predict? In what ways, if any, has it influenced the lives of people? For example, among the things that biology tries to understand is how plants grow, and how they can be grown better by providing fertilizer, killing insects that eat them, etc. This has benefited people in that it allows more food to be produced from a smaller land area.

As mentioned in this chapter, measurement in the fields of social science can be difficult, because many of the concepts that social scientists study are inside the mind. Think about the following concepts. How do you think you could measure them?

1. the closeness of a friendship
2. the effectiveness of an advertisement
3. what viewers like about a television show

For example, you might measure the closeness of a friendship by making a questionnaire based on the characteristics of friendships. Since a characteristic of friendship is trust, you might ask if the participant would tell the friend a secret or lend the friend a large sum of money.

Chapter 2

Aims and Methods of Science

Keywords

theory	prediction
explanation	scientific method

The purpose of science is to explain various phenomena. In order to do that, scientists use what has come to be called the scientific method. The scientific method is a series of steps that scientists use to test their ideas. In this chapter, we will discuss the purpose of what scientists do and how they go about doing it.

The Aims of Science

Whether natural or social, the ultimate aim of science is to develop theories to try to understand how phenomena in the world work and to make predictions based on this understanding. A theory is a series of interrelated ideas that specify the relationships among the ideas and which can be used to explain and predict. For example, an intercultural communication scientist might be interested in friendships between Americans and Japanese and how cultural differences influence the development of friendships. A scientist interested in political communication might wonder why one speech by a politician causes voters to vote for him/her, and another does not. A scientist interested in persuasion might want to know what kinds of persuasive messages are most effective in different situations or with different groups of people and why.

Scientists develop theories in order to try to explain the relationships among two or more factors and to make predictions about what

will happen in different situations. For example, a social scientist might be interested in education and what factors lead to success in school. The scientist might be interested in such factors at intelligence, verbal ability, anxiety, motivation, family background, and social class. He/she would look at that the relationships among those six factors and how they contribute to success or failure in school. These explanations would be used to try to predict, to some extent, success or failure in school. Sometimes scientists may look at only a very small part of a theory. For example, one scientist may look just at the relationships between motivation and success or failure in school.

One important characteristic of this type of work is that it is general. Scientists who are looking at success or failure in school look for explanations as to why children in general do well or poorly in school. They are not looking just at why one specific child does well or poorly. The aim of science is to develop a theory that applies generally to many, if not all, children, rather than only to one specific child.

The Scientific Method

One of the basics of science is the use of the scientific method. It is a process that scientists go through when they do research.

Problem/Obstacle/Idea

A scientist starts by wondering about something. The scientist may wonder about a problem, for example, why do some language students learn the language better than others? The scientist may be trying to explain or understand a phenomenon. Why do some interpersonal friendships grow closer than others?

Forming a Hypothesis

Next, a scientist forms a hypothesis about the relationship between two or more ideas. For example, a hypothesis might be that students with high motivation do better in school than students who have low

motivation. A political speech that includes references to voters' economic problems will convince more voters than a speech that does not. Forming a hypothesis may require reading about the research that other scientists have done and the theories they have developed. This process emphasizes the cumulative nature of science. No scientist works completely alone. All scientists look at the work that other scientists have done and build on it.

Wondering about a problem or an idea and forming a hypothesis are activities that are not limited to science. People do these things informally in everyday life as well. A teacher might wonder how to help students learn better and form a hypothesis that praising students helps them learn better.

Observation/Test/Experiment

In social science, the next step is to test the relationships between the concepts stated in the hypothesis, that is, to do research to find out whether the hypothesis is supported or not. In order to test the hypothesis, the researcher needs to decide how to measure the concepts. For example, the scientist might be testing the hypothesis that students who are more motivated, that is, students who have a greater desire to learn, do better in school.

In that case, the researcher needs to figure out a way to measure motivation. Motivation might be measured by giving students a questionnaire with questions about how much they want to learn or how much time they spend on homework. It might be measured by observation, that is, the researcher might watch the children and rate them according to how much they participate in the class, assuming that the students who participate most are the most motivated. The researcher might ask the students' teacher to rate the students according to their motivation.

The researcher also has to decide how to measure the students' achievement, that is, how well they do in school. This might be

measured by grades or by an achievement test. Then the researcher would look at the relationship between motivation and achievement, based on the results of the measurements.

A difference between scientists doing research and individuals considering the world around them in everyday situations is that scientists test their hypotheses in a systematic, controlled way. That is scientific research. This topic will be discussed in more detail in the next chapter.

Evaluation/Feedback/Accumulation

Finally, the researcher evaluates the results and thinks about what they mean and how they might relate to other ideas or lead to new ideas. Perhaps the researcher would find that there is a relationship between motivation and achievement in school but not a strong one. Motivation alone does not explain achievement in school.

The researcher's next step might be to look at other factors. The researcher would be interested not only in what other factors might influence achievement but also in how those other factors are related to motivation. What role does intelligence play? Does motivation have more effect for less intelligent students than for more intelligent students? And what role does family background play? Are students whose parents place a high value on education more motivated?

Some researchers are also interested in practical application of their research results. If students who are more motivated learn better, what can be done to increase the motivation of the less motivated students? If teachers praise students, does that increase their motivation? Are certain types of teaching materials more motivating than others?

The researcher publishes the study and other researchers read it. They may look for weaknesses in the study and try to design better studies. They may agree with the results but wonder whether the same results would be obtained from a different group of students. Does motivation work in the same way with 18-year-olds as it does with

six-year-olds? Does it work the same way in a language class as it does in a literature class? A science class? Another scientist might also study these questions. In this way, the results of research studies build on one another, and knowledge grows.

The scientific method is therefore a circular process. Each research project will hopefully answer some questions — but the results of the research might raise other questions. The researcher, or other researchers involved in researching the same subject, then start the process again. What kinds of relationships or questions are suggested by the results of research? How might they be tested?

Conclusion

The purpose of science is to explain phenomena and try to predict what will happen. In order to do this, researchers go to through the steps of the scientific method. The researcher begins by wondering how something works, or why something happens, and then forms a hypothesis or research questions about it. The researcher then carries out a study to test the hypothesis. Using the results of the research, the researcher, or others who read the results, form new questions and knowledge is accumulated.

Application Questions

Think of a social science-related question that you would be interested in. If you were a social scientist, how do you think you could do a study to find an answer to it? What might be the advantages and disadvantages of doing the study that way?

For example, you might be interested in how people choose their level of politeness when they make a request. Do speakers choose much more polite strategies when they make a large request than when they make a small request? In order to study the answers to these questions, you might observe people making requests in natural situ-

ations and compare how people make large and small requests. The biggest advantage of this approach is that you would be able to see how people make requests, rather than how they say they make requests on a questionnaire. However, there are several disadvantages. In natural situations, it might be easy to find many small requests, but it might be difficult to find large requests. Also, you would only be able to observe requests that are made in public situations, but not in private situations. In addition, you might make judgments about the size of the request (large or small), but you might not be able to find out what the speaker her/himself thought about the size of the request.

Chapter 3

Science, Common Sense and Ways of Knowing

Keywords

ways of knowing
the method of tenacity
the method of experience
the method of authority
the method of reason
the method of science
selection
control
avoiding the metaphysical

In this chapter, we will discuss different types of knowledge, based on how we know what we believe we know. We will also discuss how scientific knowledge is different from and similar to what most people think of as common sense and how scientists approach research.

Ways of Knowing

The ways or methods by which we know things can be divided into five categories.

The Method of Tenacity

The first method is the "method of tenacity." This means that we tend to hold firmly to something we believe to be true, just because we have always believed it. Some religious beliefs are like this. Some people believe in God this way. There is no way to prove scientifically that God does or does not exist, but people choose to believe in God, and some people just continue to believe in God because that is what they have always believed.

Superstition often involves this method of knowing. Some people believe that going to a shrine on New Year's Day will bring them good luck that year. They might visit a shrine every year, and some

years they have good luck, and some years they have bad luck. In spite of this, they may continue to "know" that going to a shrine brings them luck.

Experience can often lead to knowing by the method of tenacity. For example, you may read one science fiction book and find that you do not like it. You may conclude that you do not like science fiction. Even if your friends try to convince you to read science fiction books, you may refuse, because you do not believe that you like science fiction, based on your one experience with it.

The Method of Experience

Another method of knowing is the "method of experience." Through our experiences, we learn various things about relationships among people and how the world works. For example, when you are talking with a friend, you might find that if you share some personal information about yourself, the other person also shares personal information about him/herself. You might notice this experience once, and then you might pay attention to see if it happens again. You might even purposely give personal information to a friend to see if she/he responds by giving personal information. Based on your experiences, you might revise what you know.

One problem with the method of experience is that it is difficult to know whether your experiences are typical. You may have one type of experience, but if you talk to another person, you may find that the other person has completely different experiences.

The Method of Authority

The third method is the "method of authority." This means that we believe something because someone in authority tells us it is true. When people express their opinions, they often refer to authorities to back them up.

A great deal of what we know, we know because an expert or some-

one we trust has told us that it is true. We might know that the Battle of Sekigahara was fought in 1600 because a teacher said so. We might know that fog is formed by cold air and warm air coming together because we read it in a textbook. We might know that a law will soon be changed because a government official told us so. Often the fact that information is found in a book or on the Internet or is broadcast on TV gives it a great deal of authority. However, the fact that something is in print or on TV does not make it true.

Printed materials seem to carry particular authority. Books, magazines, and newspapers and now the Internet are thought by some people to be especially believable. However, we need to keep in mind that just because something is in print, this does not necessarily make it true. This is especially true in the case of the Internet, where anyone who wants can put up information. It is therefore important to critically evaluate information that we read.

We need to make use of the method of authority in many areas of our lives. This is necessary, because we cannot test every fact personally or check the original sources in all cases. However, as mentioned above, not everything we read or hear is true, and even experts can disagree, so knowing on whom to depend can be difficult. We may depend on what someone else says, but often we do not know where they got the information, or whether their information is reliable.

The Method of Reason

The fourth method is the "method of reason." This method is based on reason, that is, on what seems "reasonable." This might also be called "common sense." It may seem reasonable that if the government provides more money for education, education will improve.

The problem with this method is that if two people using reason might come to different conclusions. For example, suppose Joe and Sandra are talking about education. Joe might think it is reasonable that the more money is spent on education, the better education will be.

Therefore, the only way to improve education is to spend money on it.

Sandra might argue that education can be improved without spending very much money. She might reason that money spent on salaries for administrators might not necessarily improve education. In addition, she might believe that the most effective methods of improving education require little money. Getting parents more involved in their children's education need not be expensive, but it can be an effective way to improve education. Joe might respond that spending money on administrators' salaries will improve education, because it will attract well-qualified people. In addition, it is hard to say how effective it would be to get parents more involved in education. Joe and Sarah cannot agree, and by reason alone, there is really no way to know who is right.

The Method of Science

The fifth method of knowing is the "method of science." The method of science is a way of looking objectively at knowledge, so that anyone who looks at it will see it in the same way. The basic, underlying belief of this method of knowing is that we need to test what we believe we know. Scientists make studies to test what they believe is true. This is research. We have to do research, because reason alone can bring two people to different conclusions, with no way of knowing who is right.

One advantage of the method of science is that it is self-correcting. One researcher does a study and learns something and publishes the information in a journal. Other researchers read the paper, and one might disagree with the first researcher's explanation. The second researcher might do another study and show that the first researcher's explanation was wrong. Therefore, an important characteristic of the method of science is that when one researcher makes a mistake, other researchers have a chance to find the mistake and correct it. As a reader of research papers, you should read critically, that is, you should consider how the research was done and whether its results support the

explanation the researcher gives.

Science may come to the same conclusion as reason or common sense. In fact, hypotheses that scientists use in their research are often based, at least in part, on reason, so scientific learning can be built on reason. The difference between these two methods of knowing is that the conclusions of science are based on research, that is, they are tested.

Research could be performed to find out whether Joe or Sandra is right in their disagreement about spending money on education. For example, a study could be done to test whether spending more money on administrators' salaries really attracts better administrators and therefore improves education. Another study could test whether involving parents in their children's education really improves education without increasing the cost. In these ways, science could be used to test the conclusions arrived at by reason.

The research that scientists do might start out in the library. A researcher interested in ways to improve education would start out by reading about previous studies of education and about theories of education. He/she would use that reading to find out what other researchers have studied and what they have learned, as well as what theorists believe about education. However, this "research" (sometimes called "secondary research") is not the kind of research we are discussing here. After reading what others have done, the researcher decides what he/she wants to study and designs research. ("Designing research" refers to planning a way of doing a research project, including deciding how to collect information, how to choose participants in the study, etc.)

Research can be divided into two basic types, experimental and non-experimental research. In non-experimental research, the researcher studies a situation as it is, either at one point in time or over time. For example, the researcher studying how involvement of parents improves education might interview parents about how they are involved in their children's education and then compare the children

of highly involved and uninvolved parents to see if they are different. If children whose parents were more involved did better in school, the researcher might conclude that parental involvement can improve education. In non-experimental research, the researcher does not do anything to change the situation; he/she just examines the situation as it is.

In the case of experimental research, the researcher makes some change and then studies the effects of the change. For example, the researcher might train some parents at one school on how to most effectively help their children with their homework, but other parents would not receive any training. The researcher would then look at the differences between students whose parents have been trained to help with homework and those whose parents have not been trained. If the students whose parents had been trained did better in school after their parents were trained, but the other students did not, the researcher might conclude that training parents to help students with their homework effectively could improve education.

Differences Between Common Sense and Science

As mentioned above, science and reason may come to the same conclusions. However, they are different in that science involves testing conclusions in a systematic and controlled way. Every day, we make common-sense assumptions about the world. Science has some differences with our common-sense view of the world.

Selecting

One of the differences between common sense and science is how they test what they believe. It might seem to be common sense that many people disapprove of the government, because a lot of your friends disapprove of the government. However, your friends might not be typical of all the people in the country. This evidence is selective. In science, however, researchers are careful about how they choose

the people they use as evidence. Rather than selecting examples of people that they know, researchers would ideally choose people at random and ask them what they think of the government. That way, the researcher is able to find out what people in general think, rather than what a certain group of people thinks.

Scientists distinguish between what they call a population and a sample. A population is all of the people that the researcher is interested in, that is, for example, all Americans, all Japanese, all American university students, etc. The population is all the people to whom the researcher wants to generalize the study. Of course, it is impossible to study all Americans or all Japanese. A sample is the people that the researcher actually studies, that is, the ones who fill out the questionnaire or the ones he/she observes. One of the problems in science is choosing people to participate in the study, that is, to choose people for the sample that are not different from the population as a whole. For example, if a researcher is interested in how Americans behave when they shop, the researcher might study this by observing how people make purchases in an expensive store. However, the results might be different from what they would have been at a discount store.

Control

Another difference between research and common sense is that researchers try to exercise "control." Control involves a situation where other possible causes can be eliminated. In everyday situations, we may not try to eliminate other possible causes. For example, you might notice that when you want to talk, your friend always seems to be busy and does not have time to talk with you. Perhaps you would assume that the person did not like you any more. However, if you were looking at it from a scientist's point of view, you would try to eliminate other explanations. Perhaps the friend is particularly busy at school this year. Perhaps she is having family problems and just

does not feel like talking.

Avoiding the Metaphysical

Another difference in the way that scientists look at the world is that they do not look at "metaphysical" explanations. Metaphysical explanations are ones that cannot be tested. You may believe, for example, that if someone dies, that is fate. However, fate is something that cannot be proven or disproven. Therefore, a scientist does not use that explanation. The scientist might personally believe in fate, or some other metaphysical explanation such as God's will, but he or she does not use those in scientific explanations. Science is about what can be observed, not about faith in things that cannot be seen.

Conclusion

We know what we know through various ways, including the method of tenacity, the method of experience, the method of authority, the method of reason, and the method of science. While science and reason are related, they are different in that science is based on testing conclusions, while there is no way to test the conclusions of reason.

Application Questions

Think of five things that you know. Which method of knowing does each of them fit into?

For example, you know that if you do not water plants, they will die. You may have learned this from your own experience, so you know that by the method of experience. You know that in English, the plural is formed by adding -s to a word. You may have learned this from a textbook, so you know it by the method of authority.

Chapter 4

Quantitative and Qualitative Research

Keywords

quantitative research qualitative research

Research can be divided into two major approaches — quantitative research and qualitative research. In this book, we will first look at quantitative research and then at qualitative research. In this chapter, we will look at the differences.

In quantitative research, the researcher studies a subject by making observations as objectively as possible and converting those observations to numbers and then using statistics to analyze the numbers. Qualitative research is more subjective, and it is more closely related to the subjects' own understanding and experiences. This difference may seem difficult to understand, but an example might help.

Two Sample Studies

Suppose two researchers, Dr. Stiff and Dr. Miller, are doing studies on close friends and the personal information that they discuss. They are both looking at the research question "How is the discussion of personal information in close friendships different for men and women?" Dr. Stiff will use a quantitative approach, and Dr. Miller will use a qualitative approach. Even though they are looking at the same subject, their approaches are different. In this example, they both decide to use questionnaires. Below are parts of their questionnaires, with the answers of some participants in the studies.

Dr. Stiff uses a Lickert scale. Part of his questionnaire would look like this:

Think of a close friend and answer the following questions about him/her. Circle 5 if you strongly agree, 4 if you agree, three if you are neutral, 2 if you disagree, and 1 if you strongly disagree.

	strongly disagree				strongly agree
1. There is nothing that I cannot tell my friend.	1	2	3	(4)	5
2. My friend tells me all her/his secrets.	1	2	(3)	4	5
3. If I have a problem, I tell my friend about it.	1	2	3	(4)	5

Dr. Stiff would take the average response for each of the questions, as well as the average score for all questions, and compare them for males and females. He would then draw conclusions about how men and women are different in the personal information that they share with close friends.

When he wrote about this part of the questionnaire, he might write, "The average score for self-disclosure for female participants was 4.3 and for male subjects was 2.5, indicating that women are more likely to discuss personal information with a close friend than men."

Dr. Miller uses open-ended questions, that is, questions that do not have a "right" or "wrong" answer, which the participant can answer any way he/she wants. An example of an open-ended question would be, "How do you think friendships between men are different from friendships between women?" (Closed-ended questions, in contrast, would be questions like "How old are you?" and "Where are you from?" which have a definite answer.) Part of Dr. Miller's questionnaire would look like this:

Write about a close friend. How much do you confide in this friend? What kind of personal information do you give this friend? Do you talk to this friend about personal problems?

(answer from a woman)
My best friend's name is Sherry. I feel as if there is nothing that I can't tell her. We talk about our plans with the future, our relationships with our boyfriends, the problems we have with our parents, and so on. Whenever I have a problem, she is the first one I want to talk to. Sherry doesn't necessarily offer solutions, but talking to her always makes my problems feel smaller, even though nothing has really changed. For example, ...

(answer from a man)
I have a good friend at work named Bob. Sometimes after work we go out for a drink, and we talk about sports mainly. We don't talk too much about personal problems, though once I asked him for advice about a problem with my girlfriend. He gave me good advice, and it helped solve the problem....

Dr. Miller would read all of the answers and look for patterns, particularly patterns of differences between men and women. For example, she might notice that many of the women said that just talking about their problems with their friend helped them, while many of the men seemed more interested in practical help from their friends.

When Dr. Miller wrote up her study, she might write, "For women, talking about the problem appeared to have a comforting effect, even if the friend did not offer practical help. As one subject wrote, 'Talking to Sherry about my problems always makes them feel smaller, even though nothing has really changed.' Men, in contrast, seemed more interested in getting practical help, such as advice to help solve a problem."

Differences Between These Two Approaches

As you can see from these examples, quantitative studies involve converting observations into numbers and comparing those numbers.

Even if quantitative researchers use open-ended questions, they analyze them by counting different types of responses. (For example, how many times did subjects say that just talking about problems helped them? How many times did subjects say that they wanted practical help with their problem?) Qualitative studies, in contrast, involve trying to find patterns in the subjects' responses, and the results are often reported using the subjects' own words.

An important difference between quantitative and qualitative approaches is that, in quantitative approaches, the researcher sets the categories and decides what will be important to study. In qualitative research, the subjects have more opportunity to "influence" the direction of the research by bringing up aspects of their own experience that the researcher might not have considered. Dr. Stiff, the quantitative researcher, may begin a study knowing that he wants to see whether talking about personal problems is more important in relationships between men than in relationships between women. He designs the study, in part, to learn about this, perhaps by asking questions about how much subjects talk about personal problems with friends. Dr. Miller, the qualitative researcher, on the other hand, might not be looking for that aspect of friendships, but she might find that many women mention this aspect, while few men do.

In a sense, quantitative research is like taking one or more "photographs" of a situation at one or more points in time. A quantitative researcher who is studying how friendships change over time may have participants who are starting a friendship fill out a questionnaire, and then have them fill out the questionnaire again after six months. Therefore, the researcher sees what the relationships are like at the beginning and again what they are like after six months. In this way, the researcher can see how the relationships are different at those two points in time, although it is difficult to see the process that the friendship goes through. However, the advantage of quantitative re-

search is that it can include many people. Qualitative research, on the other hand, is able to look in more depth at the process that a relationship goes through, though a qualitative study would use fewer people. A qualitative researcher might interview people in detail over the first six months of their relationship to learn how the relationship is changing. In that way, a qualitative study is more like a video tape than a photograph. However, because qualitative research involves fewer people, it is more difficult to say how much the results can be generalized to people other than the ones who were interviewed.

Quantitative researchers make an effort to be objective, while in qualitative research, objectivity is not as important. In quantitative research, if subjective judgements are involved, the researcher tries to make sure that all of the judgements are made according to the same standard. Also, the researcher might have two people make the ratings and compare their ratings. For example, a researcher studying group discussion might include a rating on a scale of 1 to 5 of how good or poor the group discussion leader was. For a group leader to be rated 1, he/she might "allow one or two group members to dominate the discussion" and "frequently allow the group discussion to get off the topic." For a group leader to be rated 5, he/she might "make certain all the group members participate" and "make certain the group discussion stays on the topic." Descriptions like these help different raters use the same standard and makes the ratings more objective.

Because quantitative research uses statistics, it is important to use a large number of participants in the study. In contrast, qualitative research generally uses relatively few participants — sometimes only one — and looks at them in a deeper way.

Finally, quantitative research tends to involve some comparison, while qualitative may not. Researchers who take this approach might compare two groups of people or compare the same group of people at different times. For example, a quantitative researcher might com-

pare the English language test scores of Japanese and Chinese students, or he/she might compare the English language test scores of a group of Japanese students at the beginning and end of their first year of college. Qualitative researchers, on the other hand, sometimes just describe the characteristics of one group, without reference to another group.

Quantitative and qualitative researchers can be very critical of one another. Quantitative researchers sometimes say that qualitative research is not real science. Qualitative research just looks at one person or one group of people, and it is not clear how the findings apply to other people or groups. Qualitative researchers, on the other hand, often say that quantitative researchers only look at the surface of what they are studying. Because they work with numbers, they cannot look at deeper meanings, and they cannot look from the participants' viewpoint.

Conclusion

Qualitative and quantitative research are two approaches to doing research. They are each appropriate for different purposes and may even be combined. For example, researchers might use a qualitative approach first to identify some of the interesting concepts. They then might use a quantitative approach to take a closer look at those concepts.

Application Questions

Decide on a research question and write a brief sample of the kinds of questions you would write for a quantitative study and a qualitative study.

For example, if your research question is "How are Japanese and Americans different in questions they ask when they first meet someone?" If you are using a qualitative approach, you might ask Japanese

and Americans questions like these:

"What kinds of questions do you ask when you first meet someone?"
"What questions are too personal to ask the first time you meet someone?"

If you are using a quantitative approach, you might use questions like this:

Rate the questions on whether you would be likely or unlikely to ask them the first time you met a new person.

	very likely				very unlikely
Are you married?	1	2	3	4	5
When are you going to get married?	1	2	3	4	5

Discussion Questions

Read the paper in Appendix III. Does it use qualitative research, quantitative research, or both? Give examples of the approach(es) that you find.

Part II
Quantitative Research

Chapter 5

Variables and Hypotheses

Keywords

variable
hypothesis
independent variable

In order to talk about research, you need to understand certain terms and expressions that researchers use. These include variables (including independent variables, dependent variables), and hypotheses.

Variables

The most basic part of a quantitative study is its variables. A variable is something that can be different in different people or in different circumstances. That is, it is something that can vary. For example, in some studies, sex — that is, whether a person is a male or female — is a variable. Those studies look at the differences between men and women.

In a study of persuasion, for example, researchers might look at whether men and women find different kinds of arguments effective. In that case, sex is a variable. English proficiency can be a variable as well. It is measured in different ways. For example, a score on a test like the TOEFL, TOEIC, or Eiken can be used as a measure of English proficiency. Some examples of variables are income, nationality, and IQ scores. Variables are important, because in quantitative research, they are what the researchers measure. Researchers in quantitative studies look at how variables are different in different groups, or how variables change over time, or how a change in circumstances can change the variable.

Some variables have only a limited number of values, while others have a range of values. Sex has to be either male or female — it has only two values. A single study would probably only use a few nationalities, say, English, American, Australian, French, and German. A test of English proficiency, however, might have values ranging from zero points to 100 points. Even for values with a range, however, the researcher can specify a limited number of values. For example, if an English proficiency test has 100 points, the researcher might specify that participants with scores from 0-33 points have low proficiency, 34-66 points have intermediate proficiency, and 67-100 points have high proficiency.

Variables are basic to quantitative research. What a researcher wants to know is why a variable is different in different people. For example, why do some students learn English better than other students.

Hypotheses

Variables are used to form hypotheses. A hypothesis states the relationship between two or more variables. For example, the following are hypotheses:

1. "Americans find rational arguments more persuasive, while Japanese find emotional arguments more persuasive." In this hypothesis, nationality (Japanese or American) is one variable, and the type or argument (emotional or rational) is the other.

2. "Friends in Internet relationships exchange more personal information than friends in face-to-face relationships." In this hypothesis, type of friendship (internet friendship vs. face-to-face friendship) is one variable, and amount of personal information exchanged is the other.

3. "A woman wearing a suit will be judged as more intelligent than one who is wearing jeans and a t-shirt." Judgments about intelligence are one variable, and type of clothing is the other.

The purpose of a research study is to test hypotheses or answer research questions. You make a hypothesis based on what is known about the subject from previous research. You can also make a hypothesis based on what seems logical. In some cases, however, you do not have enough information to make a hypothesis. In that case you make a research question, for example, "How is the amount of personal information exchanged in Internet and personal relationships different?" or "How do people judge a woman wearing a suit and a woman wearing a t-shirt differently?"

Dependent and Independent Variables

An important difference among variables is between independent and dependent variables. Independent variables are variables that, according to the hypothesis, are a cause of, or have an influence on, another variable. Dependent variables are variables that, according to the hypothesis, are an effect of, or are affected by, another variable.

Variables are not inherently dependent or independent, that is, most variables can be either dependent or independent, depending on how they are linked to other variables in a hypothesis. For example, look at the following hypotheses:

1. "Females reveal more personal information about themselves than males." In this hypothesis, sex is the independent variable and how much personal information is revealed is the dependent variable.

2. "People who reveal more personal information form closer friendships." The independent variable is how much personal information is revealed, and closeness of friendships is the dependent variable.

In the first case, the amount of personal information revealed is a dependent variable, and in the second case, the amount of personal information revealed is the independent variable. Therefore, a particular variable can be either independent or dependent, depending on the hypothesis.

Look back at the three examples of hypotheses in the previous section. Which variables are dependent and which are independent?

Control Variables

Another type of variable is called a control variable. Control variables are variables that the researcher is not studying, but which might affect the dependent variable. Control variables must be kept the same, or controlled, since they may have an effect on the dependent variable. For example, if the hypothesis states that students with higher language proficiency scores will attain a higher grade point average (GPA), it might be necessary to control for intelligence, since intelligence might also influence GPA.

Control variables are used in different ways. One way is to use statistical methods to compare the language proficiency scores and GPA of students with the same IQ scores. Another way is to choose only one value for the variable. For example, if you think men and women will be different, you might want to do your study on only women.

When you read a research paper, you should consider whether the research took other variables into account, and whether there were other variables that might have had an influence.

Conclusion

Among the important concepts in research are variables and hypotheses. A variable is anything that can vary; a hypothesis is a statement of the relationship between variables. When variables are put together into a hypothesis, one of the variables is independent, and the other is dependent. The dependent variable is caused or influenced by the independent variable.

Application Questions

Write three hypotheses. What are their dependent and independent

variables? Can you think of any variables that might need to be controlled in studies testing these hypotheses?

Discussion Questions

Read the paper in Appendix III. What variables did the researcher consider? What hypotheses did she test, or what research questions did she try to answer?

Chapter 6

Constructs and Variables

Keywords

construct	operationalization
variable	operational definition

In quantitative research, one of the important issues is the relationship between the actual characteristic the researchers are looking at and how it is measured. For example, English proficiency is not something we can observe directly. It must be measured somehow. But there are many ways of measuring English proficiency. Researchers can use the TOEFL, the TOEIC, the Eiken, or can write a test of their own. How is it best to measure English proficiency? In this chapter, we will look at some of the terms related to this issue.

Differences Between Constructs and Variables

In considering research, it is important to understand the relationship between a construct and a variable. A variable is essentially what we can observe or measure of a characteristic or ability, while a construct is the underlying characteristic or ability itself. Some constructs, like a person's height or weight, can be measured directly, and there are established ways of measuring them. However, some constructs, like the closeness of a friendship or an attitude toward another culture, cannot be observed directly. A researcher must measure closeness of friendship indirectly using various measurement instruments, such as questionnaires, interviews, or observations, and the results of these instruments are variables.

The variable for the construct of closeness of friendship, for ex-

ample, might be a questionnaire in which participants agree or disagree with these and other statements:

1. I spend as much time with my friend as possible.
2. If my friend needed $100, and I had the money, I would give it to her.
3. I can trust my friend with a secret.

It is important to keep in mind, however, that though the results of such a questionnaire are intended to reflect the closeness of a friendship, the results are not themselves the closeness of a friendship. In doing or evaluating research, you must think about how well the measures used for the variables actually reflect the underlying construct they are intended to reflect.

Operationalization

Therefore, an important issue related to the difference between a construct and a variable is operationalization. Operationalization is the link between the construct and the way it is measured; the operational definition of a variable is the way that it is measured or quantified. For example, English proficiency might be operationalized as a TOEFL score, a rating of a person's ability to carry on a conversation in English under certain conditions, or the results of a reading test.

Requirements of an Operational Definition

There are two requirements for an operational definition.

1. It must be conceptually linked to the construct that it is intended to represent, that is, it must measure the characteristics that the concept actually has. In the questions about the closeness of a friendship above, the three questions could be intended to measure desire to spend time together, willingness to sacrifice for the friend, and trust. It is assumed that these are some of the characteristics that a close friendship would have. In measuring closeness of friendships, you should

think about the characteristics of friendship and ask questions about those characteristics.

In addition, the questions should not measure any characteristics that should not be included in the construct. For example, the question, "My friend is rich" would not be an appropriate as part of the above questionnaire, if the amount of money the friend has is not a characteristic of closeness of friendship.

If you are measuring English proficiency, you need to think about what kind of proficiency you want to measure. Imagine that your hypothesis is that the higher speaking proficiency is, the better chance a nonnative speaker has of forming friendships with Americans. For the purpose of your research, you need to measure speaking. What is the best way of measuring speaking? You could ask subjects of the research to prepare a speech. But that type of speaking is not related to forming friendships. In this case, a better way to measure speaking ability would be to have the subject carry on a conversation and rate speaking ability based on that conversation.

2. Secondly, an operational definition must be unique to that concept, that is, it must measure that concept and no other. For example, a test of listening proficiency that requires some reading of instructions, questions, etc., may also be measuring reading proficiency as well as listening proficiency. That is, the score for listening proficiency may be influenced by the participant's ability to read. In that case, the operational definition includes a concept that the researcher did not intend to measure.

The Importance of Operational Definitions

Operational definitions are important for three reasons. A clear operational definition allows researchers to be consistent throughout the research; it allows readers of the research to clearly understand the findings; and it allows other researchers to do the same research to see if they get the same results.

Clear definitions of constructs are important. In considering the relationship between variables and constructs when you read a research paper or do research yourself, it is necessary to consider the definitions that the researcher uses for the construct, if they are specified. Whether a variable truly reflects a construct is, in part, dependent on how that construct is defined. For example, if the definition of English proficiency is related to fluency in speaking English, then a TOEFL score is not a good operationalization, because the TOEFL emphasizes a knowledge of grammar, reading comprehension, and other factors that are not be related to the ability to fluency in speaking.

Conclusion

Social scientists study many phenomena that cannot be measured directly, as height and weight can be measured. The actual phenomenon is called a construct; the results of the measurement of that construct is called a variable. One of the most important issues in social science is the relationship between constructs and variables, and whether a particular variable accurately represents a construct.

Application Questions

Look at the hypotheses you wrote for Chapter 5. How might you operationalize the constructs? If you are going to use a questionnaire or an interview, write a few questions. If you are going to do an observation, describe exactly how you would do it.

For example, if you were studying the hypothesis "Friends in Internet relationships exchange more personal information than friends in face-to-face relationships," you might operationalize the variables this way:

1. Internet friends: people who originally met on the Internet and who have never met face-to-face

2. face-to-face friends: people who originally met in a face-to-face situation
3. personal information: information that the participants rate as being private

You might decide to use a questionnaire. You could ask participants who have Internet friends to think of three topics they have discussed with Internet friends in the past month and three topics they have discussed with face-to-face friends in the past month. Participants could be asked to rate the topics as follows:

very private 1 2 3 4 5 not at all private

Discussion Questions

Read the paper in Appendix III. How does the researcher operationalize the constructs?

Chapter 7

Getting Started and Choosing Your Approach

Keywords

library research	questionnaire
hypothesis	interview
research question	observation
research design	participants

Before you start your research project, you must go through several steps and make a number of decisions. You must do library research, decide on your hypotheses or research questions, design your study, decide how to gather data (interview, questionnaire, or observation), decide who to gather data from, etc.

Preparing for the Study

Doing Library Research

Your research project should begin with library research, that is, reading about the topic you are interested in. You need to read books and papers that researchers and theorists have written. You can search for papers on a particular topic using various online search services (see http://ilc2.doshisha.ac.jp/users/kkitao/online/other/search.htm). You should also check with the librarian at your university library about what kinds of search resources your library has, either on computers or in printed periodicals like *Linguistics and Language Behavior Abstracts* (LLBA). Another possible resource is the Educational Resources Information Center (ERIC). You can find information about it at http://ilc2.doshisha.ac.jp/users/kkitao/online/other/search.htm#eric.

When you do library research, you can read about what theorists

have written about the subject you are interested in and what other researchers have studied. What is already known about the subject? What are other researchers interested in? What hypotheses have they tested? What would you like to learn more about? Are there variables that previous studies have not considered, which you believe might have an influence?

Writing Your Hypotheses or Research Questions

Based on what you learned about the area you are interested in, you can write a hypothesis or research questions. You might look at variables that have not been considered before, or you might use the same hypothesis that another researcher has tested, but you can test it on another group of people to see if the results are different.

As mentioned in the previous chapter, if you have enough information about the subject, you write one or more hypotheses. If you do not have enough information, you write one or more research questions.

You should be as specific as you can about the hypothesis or research question. If it is too general, it is difficult to test. For example, rather than asking, "How do college students talk with their friends?" you should ask a more specific question, such as "How does self-disclosure between college-age friends change over the first month of their friendship?"

You should write down your hypotheses or research questions and keep them in front of you. As you plan the research, you need to keep them in mind. Every aspect of your research — every question you ask, every part of your procedure — should be related to testing the hypotheses or finding the answers to the questions.

Designing Your Research Project

How you design your research project depends on what you are trying to learn from your hypothesis. A hypothesis might be about

how two different groups are different. For example, if your hypothesis is that women reveal more personal information when they first meet than men do, then you design a study comparing men and women. You can write a questionnaire or do interviews, or you can do an observation where you put pairs of men and pairs of women together and record their conversations.

In other cases, you might have as your hypothesis that a persuasive message that uses both rational and emotional appeals is more effective than persuasive messages that include only rational or only emotional appeals. In that case, you would test the attitudes of your participants, present each of three groups of people with one of your three persuasive messages, and then test their attitudes again. You would compare the attitudes before and after the persuasive message and find out whether and how much their attitudes have been changed by each type of message.

There are various problems that you need to avoid when you design your research. In the chapters on threats to validity and faulty research design, you will learn more about these problems.

Questionnaires vs. Interviews vs. Observations

Once you have designed your research, you need to decide how you will collect the information you need. There are two basic approaches for gathering information indirectly — you can do interviews, or you can have participants fill out questionnaires. These methods are referred to as being indirect, because you are asking participants about their behavior or their opinions, rather than actually seeing what they do. You can also gather information directly by doing observations, that is, by actually seeing what people do in different situations. Each approach has advantages and disadvantages, and you should carefully consider how you can best gather the information that you are looking for.

Questionnaires. The main advantage of questionnaires is that you

can use them to gather information in exactly the same way from a large number of people in a short time. However, questionnaires are not flexible. You can only gather the information you have asked for. If you do not get enough information from a particular subject, or if you do not understand an answer, you can probably not go back to that person and ask more questions.

A greater disadvantage of questionnaires (except those that are for the purpose of measuring language proficiency) are that you are depending on what the participants tell you about their attitudes or behavior, not on what you can see and observe for yourself. You are required to depend on the truthfulness and self-understanding of the participants, and on their willingness to tell you the truth. It is well known that people are often not aware of, or are reluctant to truthfully report, their own behavior.

Interviews. Compared to questionnaires, interviews take much more time. Also, it is difficult to do the interviews in exactly the same way. If the interviewer asks questions in different ways to different people, it may change the ways they respond. If different people do the interviews, you have to train them so that they do them in the same way. However, interviews are more flexible than questionnaires. If you do not get enough information from a particular subject, you can ask more questions. If one subject says something interesting, you can get more information from him/her.

As with questionnaires, when you do interviews, you are dependent on the participants to tell you the truth. You cannot directly observe what they do; you only know what they say they do.

Observation. To overcome the disadvantage of having to believe what participants say, you might try to do direct observations. However, observations also have disadvantages. One problem is that some of the constructs you are interested in might be impossible to observe. For example, if you want to measure the participants' attitude toward

the death penalty, you probably cannot plan any observation that tells you what their attitude is. You need to get the person to express their attitudes, to ask questions, either by an interview or questionnaire.

In addition, there are some activities that participants might not want you to observe. If they do allow you to observe them, participants may behave differently, knowing that they are being observed. For example, if you are interested in self-disclosure, you might want to observe how two close friends talk to each other about personal problems. However, the friends might be reluctant to allow you to listen to such a conversation, or, if they did allow it, might be reluctant to talk as they would normally talk.

Finally, it is difficult to observe behavior in a way that is consistent for different participants. For example, you may be interested in observing how close people stand when they talk to other people. You will find it difficult, in a natural situation, to control such differences as the relationships between the people who are talking (strangers, acquaintances, and friends) and the type of subject that they are talking about. It might be possible for you to try to control the situation, for example, by choosing two strangers and giving them a particular topic to talk about.

The following chart shows some of the similarities and differences among these three methods of gathering information.

	Questionnaire	Interview	Observation
Direct way to gather info.	x	x	o
Can gather large amount of info. quickly	o	x/o	x
Flexible	x	o	x/o
Consistent	o	x/o	x/o
Depends on willingness to tell truth	o	o	x

o = yes
x = no
x/o = maybe

When you read a research paper, you should consider how the researcher chose to gather information, and what the problems may have been with that method.

Choosing Participants

As mentioned in Chapter 3, a population is all of the people to whom your study can be generalized; a sample is the people that you actually study. The ideal in quantitative research is to choose members of the sample at random. However, this is not often possible, and you should be aware of the limitations of the ways that you choose your participants. For example, suppose you are a student at Kyoto University, and you are doing a study where your population is Japanese university students. If you only use students from your own university, they may be different from other Japanese university students, so it may be difficult to generalize from your sample to the population. You should try to include other university students in your study.

As a practical matter, you can probably not choose your sample totally at random. However, you should try not to limit your sample to a particular group. For example, if you are doing an interview, do not just ask your friends to be interviewed. Your friends might be different from the population in general. Instead, try to choose a variety of people to be interviewed. Ask students in the library or the cafeteria to be interviewed, rather than just asking people you know.

In general, when you are doing quantitative research, the more participants you can use, the better. The more participants you can include in your study, the more likely it is that your sample will represent the population as a whole. If you have a small number of participants, a few participants who are not typical can have a big influence on the outcome of the study. However, if you have a large number of participants, some participants who are not typical will not have a great influence on the results.

When you write your paper, you should discuss how you chose the participants and how that might have influenced your study. Think about how the sample you chose might be different from the population as a whole.

When you read a research paper, you should consider how the researcher chose the participants and what effect that might have had on the results of the research.

Conclusion

Once you decide what you would like to research, you do library research and design a study to test the hypotheses or answer the research questions that you have formulated. You also decide how you will gather the information, depending on what kind of information you want and what your practical limitations are. You also choose the participants in your study, as much as possible, to be typical of your population as a whole.

Application Questions

Write three related hypotheses that you would like to test or research questions that you would like to answer. (If you are carrying out a study as you read this book, you will do a study using these hypotheses or research questions. If you are not doing a study, you will use these to answer Application Questions in the rest of the Quantitative Research section.) How would you test the hypotheses or try to answer the research questions? How would you gather information? How would you choose the participants for your study?

Discussion Questions

Read the paper in Appendix III. What method(s) did the researcher choose for gathering data? What advantages and disadvantages did that method have?

Chapter 8

Writing Questionnaires

Keywords

true/false questions	fill-in-the-blank questions
short answer questions	Lickert scale
multiple choice questions	semantic differential
essay questions	pre-testing

Questionnaires have the advantages that they can be used to gather information from a large number of people in a short time in the same way. However, a good questionnaire is not necessarily easy to write.

Types of Questions

There are various types of questions you can use in questionnaires. Which type you choose depends on the subject you are studying and what type of response you are trying to get. Whichever type of question you use, you should keep your research questions or hypotheses in mind. Be certain that each question is related to what you are trying to learn.

Traditional Types of Questions

You are probably familiar with some types of questions. The following are some common ones:

1. true/false questions (a statement which the participant decides is true or false)
2. short answer questions (a question that can be answered briefly)
3. multiple choice questions (a question where the participant is given several possible answer to choose from)
4. essay questions (questions that require the participant to write a

long answer)

5. fill-in-the-blank questions (sentences with blanks for the participants to fill in)

One common use of these types of questions is to try to find out how much subjects know about a particular topic. For example, if one of your variables is knowledge of American culture, then you can use these types of questions.

You can also use multiple-choice questions when where you want to limit the number of possible answers. For example:

Imagine that you told your friend Sarah a secret, and you found out later that she told someone else. What would you do?

a. Get angry with her, but forgive her later
b. Get angry with her, and end the relationship
c. Get angry with myself for having trusted her
d. Never speak to her again

The type of question is quick and easy to score, but the problem is that there may be other alternatives. One possibility is to include a blank for another alternative:

e. other (please specify_____)

True/false questions and multiple-choice questions are easy to score, and subjects can answer a lot of questions quickly. However, it can be very difficult to write good questions. Short answer and fill-in-the-blank questions take longer to answer and to score. You have to make judgements about whether an answer is right or wrong, and you may have to make a system of categories to classify answers. However, they give subjects more flexibility in how they answer. Essay questions are particularly difficult to score, because they give participants so much flexibility in their answers that they may be difficult to classify.

Multiple choice questions. If you are using multiple-choice questions to test comprehension or knowledge, they are more difficult to write than they may first appear. Some participants can figure out how to answer them not because they know the correct answer but because they can figure out which answer is the most likely. For example, the following question is based on a reading passage.

Jane did not like her bedroom, because it was too _____.

a. large
b. small
c. dark
d. noisy

Without even seeing the reading passage this is based on, you could probably guess that the answer is either a or b. Writers of multiple choice questions often use the opposite of the correct answer for one of the other alternatives. Good test-takers realize this, so they would be likely to guess a or b, even if they did not know the correct answer. Therefore you should avoid using the opposite of the correct answer.

The following are some guidelines that will help you avoid problems.

1. Do not use an alternative that is the opposite of the right answer (because when there are opposites, one of them is often right).

2. Do not use two incorrect alternatives that have similar meanings (because they are often both wrong).

3. The alternatives should all be about the same length (because alternatives that are much longer or much shorter than the others tend to be right).

4. Make sure that all of the alternatives are easily understandable (because the person answering the questionnaire cannot choose the correct answer if he/she cannot understand it).

As a general rule, the correct alternatives should be clearly correct, though they should not stand out; the incorrect alternatives should be clearly incorrect, but they should seem as if they could be correct. This is what makes writing multiple choice questions particularly difficult.

True/False questions. Writing true/false questions is similar to writing correct and incorrect alternatives for multiple-choice questions. True statements should be clearly true. False statements should be clearly false, but they should sound reasonable.

Essay questions. Essay questions are more commonly used in qualitative research, but you can also sometimes use them in quantitative research. You can use them to ask participants about their opinions or experiences. If you are doing a quantitative study, you form categories for the responses and count the responses in each category. You might use essay questions if you are not sure what categories there might be. For example, if you are doing a study of communication within an organization, you might ask essay questions about who participants communicate with and what they communicate about. You could then divide the answers into categories according to whether the communication was with people who were higher, equal or lower in the organization and what the content of the communication was.

Short answer questions. Using short answer questions in quantitative research requires you to make categories for the answers. You should be certain that the kind of answer you want is clear.

Fill-in-the-blank questions. Fill-in-the-blank questions can also be difficult to write, because it may not be clear what information you are looking for. When you write this type of question, you should be certain that it is clear what you want the respondent to write in the blank. Pre-testing (see below) is helpful to make certain your intention is clear.

Scales

Two more types of questions are used to get at the attitudes or opinions of subjects. One is a Lickert scale, and the other is a semantic differential.

Lickert scale. A Lickert scale makes use of a list of statements. The subject indicates whether he/she agrees or disagrees with the statement. For example:

If you strongly agree with the statement, circle 5. If you agree, circle 4. If you are neutral, circle 3. If you disagree, circle 2. If you strongly disagree, circle 1.

	strongly disagree				strongly agree
1. In my organization, I communicate with people above me more than with people below me.	1	2	3	4	5
2. My communication with people at the same level with me in my organization is mostly social.	1	2	3	4	5

The subjects circle the number that indicates how strongly they agree or disagree.

In some cases, you may want to ask more than one question about the same construct. For example, you might have another statement that says, "I mostly talk about social topics with people at the same level with me," which would be similar in meaning to No. 2. This is a way of checking to make certain that you are getting an accurate response. (When you do this, you should try not to put the two questions close together, so their purpose is not obvious.)

The researcher averages the responses to questions about the same construct and compare different constructs or different groups.

Semantic differential. In a semantic differential, the subjects are

given two opposite nouns or adjectives, and subjects choose from a range of numbers. For example:

Look at the picture of the woman and circle the number that represents your impression of her.

I think the woman is:

intelligent	1	2	3	4	5	unintelligent
hard-working	1	2	3	4	5	lazy
friendly	1	2	3	4	5	cold
attractive	1	2	3	4	5	unattractive

If you were using a semantic differential, you would average the responses for each item and compare different groups.

Pre-Testing

You should always pre-test any questionnaire that you write, that is, you should have a few people answer it and analyze their answers to make sure that they understand what to do, and that you are getting the kind of answers that you want. Because you may think that there is no problem with your questionnaire, you may feel that it is not necessary to do a pre-test, but this step is very important, so do not skip it. If you give your questionnaire to a hundred people, and then find that there is a serious problem, it will be too late.

If possible, the people who pre-test the questionnaire should be from the same group of people who will eventually answer your questionnaire, and they should fill out the questionnaire under the same conditions. For example, if the people who answer the questionnaire will be high school students, do not ask adults to answer it for your pre-test. Also, do not ask people to just look over the questionnaire to see if they see any problems. Have them actually answer the questions, as you will expect your participants to do. If you have a chance,

in addition to having them fill out the questionnaire, ask the respondents whether they had any problems responding to the questionnaire.

As you analyze the results, there are several things you should consider. One issue is how long it takes to fill out the questionnaire. If it takes too long, you might have difficulty getting participants to agree to fill out the questionnaire. In addition, participants might get tired of filling out the questionnaire, and they might not be careful in their answers, especially in answering the latter questions.

It is also very important to make sure that the participants understand the questions. Do their responses, or their answers to your questions after they have taken the questionnaire, indicate that there are items that they do not understand? In the case of multiple choice questions, you should look at the wrong answers. If there is one wrong answer that is chosen by many of the people taking the pretest, you should try to find out why. Is that alternative correct under some circumstances? Is there an interpretation of the question or the response that you did not consider?

In the case of short answer or essay questions, you should look at the kind of responses you are getting. If you are getting only very brief answers when you expect long answers, you might re-word the question so that the participants give more information, for example, by asking for reasons for opinions.

Conclusion

Questionnaires are very useful for gathering information from a large number of people. In addition, there are a variety of different types of questions you can use, depending on what kind of information you are gathering. However, it is difficult to write a good questionnaire. It is therefore very important to pretest the questionnaire to find any problems before you begin to gather data.

Application Questions

Look at the hypotheses or research questions that you wrote for Chapter 7. Write true/false, fill-in-the-blank, short answer, multiple choice and/or essay questions that might be used to test your hypotheses or answer your research questions.

Write examples of a Lickert scale and a semantic differential with at least four items each.

Have two people answer your questions, and consider their answers. Did you get the kind of answers you expected? Do you need to revise your questions?

Discussion Questions

Read the paper in Appendix III. What kind of questions does the researcher use? How might the questionnaire have been improved?

Chapter 9

Doing Interviews

Keywords

closed-ended question
open-ended question
mirror question
probing question
leading questions
loaded questions
pre-testing

One of the ways to get information for your research is to interview people. You use interviews to get opinions on possible solutions for a problem, learn about people's experiences in and feelings about relationships, find out their reactions to a political event, etc. Knowing how to do interviews effectively is an important skill.

Preparing for the Interview

When you interview someone, you ask questions with a particular purpose in mind. If you hope to achieve your purpose, your preparation is almost as important as the interview itself. There are three steps that you should go through to prepare for an interview.

1) Determine what specific information is needed. In the case of doing interviews to gather information for a research project, this information is determined by your hypothesis or research question. Be as specific as possible about what you need to know. This allows you to do four things: a) decide who would be appropriate to interview, b) find out more about the subject from other sources, so you can ask intelligent questions, c) plan the specific questions and the overall strategy, and d) assess when you have achieved your goals.

2) Select the interviewee(s). Who you interview is determined to some extent by step 1. Given what you want to know, who can give you that information? In the case of doing quantitative research, you choose your interviewees from the group of people that you are studying. That is, if you are studying the interpersonal relationships of Japanese college students, you would interview Japanese college students.
3) Prepare questions. Based on whom you are interviewing and what information you want to get from them, make a list of the questions you want to ask. You should realize that you will not necessarily follow your list of questions exactly, but you should have a basic list of questions that will help you achieve your purposes.

Types of Questions

Types of questions you should use. There are four types of questions that you can use in interviews. Some are questions that you write in advance for the interview; others are ones that you will ask in response to your interviewee's answers. As you write your questions, you should think about whether the kind of questions you are writing will get the kinds of responses that you want. Both types are important.

1) Closed-ended questions. These are questions requiring a direct response, a "yes" or "no" answer or one or two sentences. They have clear "right" answers. These are related to a fact rather than an opinion, speculation, etc. "How old are you?" "Have you ever been overseas?" and "How and when did you and your best friend meet?" are examples of closed-ended questions.
2) Open-ended questions. These are questions that do not have a definite answer and that allow the interviewee to answer in any direction. These may ask for an opinion, ask the interviewee to speculate about something, etc. Examples of open-ended questions include, "How do you think Internet friendships are different from

face-to-face friendships?" "How do you think getting married will affect your career?" and "Do you think that your small group makes decisions more effectively when there is a strong leader? Why or why not?"

3) Mirror questions. These questions are used to reflect back to the interviewee what you believe she/he said in order to check to make sure you understood correctly. It might also be used to get her/him to elaborate on or clarify a point. A mirror question might use an expression like, "If I understand what you are saying, you agree with the school's new policy, because it will allow students to take a wider variety of classes." This type of question both allows you to check your comprehension and gives you a chance to show the interviewee that you are listening carefully and are interested in what he/she is saying.
4) Probing questions. These are questions used to get an interviewee to elaborate on or clarify a response. You use these when you do not understand what the interviewee meant. You also use them when the interviewee says something unexpected or interesting and you want to learn more. For example, you might ask, "Why do you say...?" or "What do you mean when you say...?" You cannot plan these question in advance, but if you use them well as you are interviewing, you will often get interesting information.

As you are writing your questions, you should keep your hypotheses or research questions in front of you, and you should compare each question you write with them. Will that question help you answer the question or test the hypothesis? If the answer is "no," then you should not ask the question.

Types of questions you should avoid. When you are writing questions for your interview, there are also two types of questions that you should not ask. They will not result in good responses, and they may make the interviewee distrust you.

1) Leading questions. These are questions worded in a way that encourages a particular answer. For example, in English, negative questions about an opinion encourage a positive answer. The question "Don't you think that face-to-face friendships are more "real" than Internet friendships?" prompts the interviewee to answer "yes." This type of question should be avoided. The purpose of your interview is to find out about the interviewee and his/her opinions, not to urge the interviewee to give a certain response.
2) Loaded questions. These are questions that assume something that may or may not be true. For example, "Why is it difficult for a small group to make a decision when it does not have a strong leader?" would be a loaded question. What it really means is, "It is difficult for a small group to make a decision when it does not have a strong leader. Why do you think this is true?" The assumption that the question is based on is that small groups do have difficulty making decisions without a strong leader. Your interviewee may not agree with this assumption, and that makes it a difficult question to answer. It may also lead the interviewee to a specific type of answer, and again, that is not what you want. You want to know what the interviewee thinks and has experienced.

Deciding the Order of the Questions

As you prepare for the interview, you should also think about the order in which to ask your questions. One method is to start with broad questions and move to specific ones. Another is to start with specific questions and move to broad ones. You may need to adjust your questions according to the responses you get. If your interviewee is getting off the subject answering open-ended questions, you might need to switch to closed-ended questions. If the interviewee is answering only "yes" or "no" to closed-ended questions, you might switch to open-ended questions.

However, if you are doing interviews for a quantitative research

project, you must be careful not to vary too much from the interview script. If the interviews are done too differently, it makes them difficult to compare from a quantitative point of view. Therefore, if you are doing interviews for a quantitative study, you should make certain you are getting the information you are asking for, without getting too far from the main point.

Preserving the Results of the Interview

You also need to decide how you will preserve the results of the interview. In some cases, you may want to make an audio or video tape of the interview. This would preserve the information, and you could always go back and listen to it, but it might make the interviewee self-conscious. Also, equipment does sometimes malfunction, and video equipment in particular may be difficult to set up and handle.

The alternative is to take notes. If this is what you decide to do, it is probably best to have a form to record the responses. If there are a limited number of possible responses, you can put them on the form and then just circle the one the interviewee indicates. If you ask, "Where did you meet your best friend?" you can put possible responses such as "at school," "in my neighborhood," "through a mutual friend." Then you can just circle the interviewee's response. Whatever you can do to make it easier to record the response, you should include on the form. For example, if one question is "How long have you known your best friend?" you can put "____ years, ____ months" on the form and just fill in the numbers. However, if you are asking questions that may have long answers, or an unlimited variety of answers, it may be difficult for you to write down everything.

Pre-Testing

As with questionnaires, you should pre-test the interview script. Try it out by actually interviewing the kind of people for whom the interview is intended. Find out whether the interviewees understand

the questions and whether you are getting the kinds of responses you need. This will also help you refine the response form, if you are using one, so that you can make it more effective by finding out what types of responses you actually get.

Carrying Out the Interview

Once you are ready to start interviewing, you need to go through several steps.

1) Arrange for the interview. Identify yourself and the purpose of the interview. Try to do the interview at a time and place that is convenient for the interviewee.
2) Opening the interview. Before you start the interview itself, try to put the interviewee at ease, if necessary, and build rapport. In a general way, you can explain what the interview is about, though you do not want to give too much information, since that might influence the interviewee's responses. For example, you might say, "I'm doing interviews to learn about how people communicate with co-workers." You might also thank the interviewee for taking the time to be interviewed.
3) Doing the interview. Ask the questions that you have prepared but adjust the questions according to the responses that you are getting. Use probing questions and mirror questions to follow up on answers given during the interview. Throughout the interview, you should evaluate the answers you are getting. Do you understand them? If not, ask the interviewee to repeat the answer, or ask mirror questions. Are you getting the specific information you need? If not, ask probing questions. If the interviewee says something particularly interesting, use probing questions to get him/her to elaborate on that point.
4) Closing the interview. You should not just stop the interview. You can finish by emphasizing important points or summarizing. You

should definitely thank the interviewee, and mention that the interview has been helpful.

5) Evaluating the interview. After the interview, ask yourself whether you got the information you wanted. If not, why not? In any case, ask yourself how the interview could have been improved.

6) Analyzing information. The last step is to synthesize the information into report or whatever your final product is. In the case of using an interview in a quantitative research study, you need to count the responses that fall into particular categories.

Checklist

As you are preparing for and doing an interview, you can use the following list.

Preparing for the Interview

1. Decide what specific information you need.
2. Decide who you will interview.
3. Prepare your questions.
   a. Combine open-ended and closed-ended questions as appropriate.
   b. Be certain that you are avoiding both leading and loaded questions.
4. Decide on the order of your questions.
5. Decide how you will record the results of the interview.
6. Pre-test your interview script and adjust it as necessary.

Doing the Interview

1. Contact the interviewees and arrange for the interviews.
2. Open the interview by putting the interviewee at ease, if necessary.
3. Briefly explain the purpose of the interview.
4. As you do the interview, evaluate the answers you are getting.

a. Adjust the order of the questions as necessary.
b. Use mirror questions and probing questions as appropriate.

5. Close the interview by summarizing the content or emphasizing an important point.
6. Express your appreciation to the interviewee.

After the Interview

1. Evaluate the interview to decide if you got the information you wanted.
2. Analyze the information from the interview.

Conclusion

Interviews have the advantage that they are more flexible than questionnaires, though it is more difficult to gather large amounts of information. To do successful interviews, the preparation is very important. You need to write good questions. As you are carrying out the interview, you need to be flexible both about the order of the questions and in asking mirror and probing questions.

Application Questions

Look again at the hypotheses or research questions that you wrote for Chapter 7. Write a few interview questions for those hypotheses or research questions.

Make a form for answers to the interview questions that you wrote and interview two people. Use mirror and probing questions as appropriate. Based on the results of these interviews, analyze your questions and see if they need to be rewritten.

Discussion Questions

Read the paper in Appendix III. How could the researcher have used interviews?

Chapter 10

Making Observations

Keywords

everyday observations
similar conditions
coding
specific behaviors
general behaviors
rating scales
recording observations

As mentioned in a previous chapter, interviews and questionnaires are an indirect way of finding out about how people communicate. However, when using questionnaires or interviews, researchers depend on participants to tell what they do. Participants may not be aware of what they do, or they may not be willing to tell the truth about what they do. In contrast, observation is a direct way to find out about the behavior of participants.

Making Observations for Research

Everyone observes the behavior of other people at one time or another. In these ordinary, daily observations, you notice who is good at expressing their ideas and who is not. You observe who talks a lot about themselves and who is a good listener. You may come to realize, for example, that if you give a friend personal information, they are likely to give you personal information in return. If you are rude to other people, they are rude in return.

Researchers sometimes also observe communication behavior. However, their observations must be different from observation in everyday life. In general, their observations must be more organized than ordinary, daily observations.

Observing in Similar Conditions

One way that researchers observe behaviors differently than people in everyday life is that researchers may make an effort to observe behaviors by different people under the same, or at least similar, conditions. If behavior is observed under different conditions, there might be different influences. Therefore, the researcher may try to create situations where the conditions are the same or similar for different people. Since refusals of requests may be influenced by a variety of factors such as the form of the request, the relationship between the two people, and the size of the request, it is difficult to compare them when they occur naturally.

In addition, the behaviors may not occur often enough for the researcher to find enough examples of the behavior. If the researcher is studying refusing of requests, the researcher may not be able to find many that occur naturally. In addition, the behavior that the researcher is interested in may occur in private, so it is difficult for the researcher to observe.

One way to solve these problems is to use a confederate. A confederate is a person who is helping the researcher and whose behavior or words are decided by the researcher. The subjects of the research may not know that the confederate is helping the researcher. For example, a confederate might make requests of various people and record the results. The confederate could make the same request in the same way to various people. Also, the researcher could choose a request that would be likely to be refused so that there would be many examples of refusals.

Another way to solve these problems is to use role play. Rather than gathering naturally occurring refusals, the researcher might ask pairs or groups of subjects to imagine they are in a certain situation and to say and do the things they would in that situation. For example, Subject A and Subject B might be told that they are classmates at a

university who do not know each other well. Subject A might be given instructions to ask to borrow Subject B's dictionary, and Subject B might be given instructions to refuse. The two subjects then say what they think they would say in that situation. Role plays allow the researcher to have a lot of control over the situation and to gather many examples of the speech or behavior, but they may not be as realistic as naturally occurring situations.

When you read a research paper, you should consider how the researcher did the observations and whether they were done in similar conditions. If they were not done in similar conditions, you should consider how that might have influenced the results.

Making Lists of Behaviors

Another way that researchers do observations in a more organized way is that they look for a list of general or specific behaviors. As a researcher, you cannot just watch what people do. You have to look for specific things. Before starting your observation, you make a list of the behaviors that you are looking for. For example, if you are studying gestures by observation, you have a list of gestures. Your list might include pointing, nodding for "yes," shaking the head for "no," waving for "hello," waving for "goodbye," and so on. Each time you saw the people you were observing making one of the gestures on your list, you would count that gesture, and record it on your list. Watching behaviors and counting them or rating them is called "coding."

There are two major approaches to making a list of behaviors to look for. One approach is to make a list of very specific behaviors for the observer to look for. The researcher only looks for the exact behaviors on the list and does not need to interpret the behaviors. For example, if the researcher is interested in exchanges of opinion in group discussions, a list of specific behaviors may have such items as

"Asks for an opinion from another group member" or "Agrees with the opinion of another group member." If one of the group members says, "So what do you think, Joe?" or "I think so, too, Sarah," the observer marks the appropriate items on the list.

However, sometimes the list has more general behaviors, and the observer needs to make inferences about or judge how to interpret the behavior. For example, an item on a more general list might be, "Shows support for other group members' expressions of opinion." In that case, the behaviors that are to be counted might not be as clear, and the observer might have to do some interpretation. If a group member says, "Thank you for that contribution, Jean" or pats Len on the shoulder after he expresses an opinion, then these might be interpreted as giving support for expressions of opinions. However, if a group member smiles at the person who expresses an opinion, should this be counted as showing support? The observer has to decide, and different observers might make different decisions.

A researcher has to decide which kind of list — general or specific — to use. The more specific the list, the easier it is for observers to find the behaviors that are described on the list. A specific list also makes it easy for all of the observers to agree on what they see when they are observing. On the other hand, a specific list cannot possibly cover all of the possible behaviors. The research might try to list all of the behaviors that could be considered to be "showing support for other group members' expressions of opinion," but he/she would probably not think of all of them.

When you read a research paper, you should consider the list that the researcher used. Did it involve general or specific behaviors? Were the observers consistent in their observations?

Using Rating Scales

When you count behaviors, the behavior is either there or it is not. If you are counting gestures, you might find that the participant waves

good-bye once or five times or ten times. In addition to making observations by counting behaviors, researchers can make observations using scales. When you use a scale, you rate the behavior according to how strong or intense it is. For example, if you are looking at a small group discussion, you may want to rate how attentive to the discussion each group member seems to be. Some of the group members may seem to be paying a lot of attention to the discussion, and others may seem to be paying little or no attention. For your observations, you might make a scale to rate how involved each member of the group is. One way to make such a scale is to make a semantic differential. For example, you might have a scale like this for each of the group members:

Group member A is:
Not at all attentive 1 2 3 4 Very attentive

You may also list the possibilities.

Group member A is:
1 Not at all attentive
2 A little attentive
3 Somewhat attentive
4 Very attentive

Another way to make a rating scale is to describe the behaviors at each level. For example:

Group member A is:
Not at all attentive. Leans back, does not make eye contact with other group members, does not contribute to the discussion.
A little attentive. Spends most of the time leaning back, but occasionally leans forward, makes eye contact once in a while, makes rare contributions.
Somewhat attentive. Makes some eye contact with other group mem-

bers, occasionally makes contributions.

Very attentive. Leans forward, makes eye contact with other group members most of the time, makes many contributions to the discussion.

Rating scales are useful in some cases, but they are difficult to use, because different observers may interpret the behaviors in different ways. Observers need to be well trained, and even then, there might be problems. Some observers will always tend to rate too high; others will always tend to rate too low. In addition, if raters know and like or dislike the participants, they may rate them more or less strictly. In some cases, rating scales may be necessary or useful, but you need to train observers very carefully and compare their results to make certain that they are reliable. (This is true of any system of observation, but it is especially true of scales.)

Other Types of Observation

Though when we think about observation, we generally think about watching or listening to what people do or say. However, it is also possible to "observe" written material. If you are studying a relationship carried on by e-mail, for example, you might use the e-mails themselves as the material that you observe. You might count the number of times each correspondent discusses his/her feelings about the relationship. You can use students' compositions and count the types of support they provide for their opinions in the compositions.

Recording Observations

When observing behaviors, the researcher needs a way to record the behaviors. The observer can take notes, record the words on audio tape, or record words and behaviors on video tape.

If the observer takes notes or counts behaviors as they actually occur (as opposed to watching a video or listening to a recording), it may be difficult for him/her to both observe and take notes at the

same time. In addition, if the behavior is not recorded in any way, there is no way to check the observations to make sure that the counting is accurate. Because of this, taking notes is more common for qualitative research than for quantitative research.

There are ethical problems with recording someone without their knowledge. In the US, it is considered unethical to record someone without their knowledge, and journals will not publish research papers based on such recordings. One way to handle this is to elicit the behavior that you want to observe, record it, and then explain that you are doing a research project and ask permission to use the recording. If you are refused permission, you must erase the recording. If the researcher uses role plays, the participants can be told that the role play is being recorded.

Doing a video recording has similar problems to doing an audio recording, plus some additional problems. However, if you are observing behaviors as well as words, a video recording may be necessary. It is difficult to videotape in a natural situation, and, as with an audio recording, permission is necessary. In addition, participants may be self-conscious about being videotaped, though they may become accustomed to it. Also, it may be difficult to find the most useful angles. You need to be certain that you can see the things you need to be able to see. You may need to be certain, for example, that you can see the facial expressions of participants.

To allow observers to count or rate behaviors easily, it is useful to make a form. The form has the lists of behaviors or rating scales, and the observers can count or rate the behaviors. You should have at least two observers counting or rating the behaviors, and you should compare their results. If their results are very different, you will need to do more training, make a clearer system of counting or rating, etc.

Conclusion

Doing observations has the advantage of allowing the researcher to directly see what people do, rather than depend on what they say they do or would do. However, there are many limitations. The researcher may be interested in behaviors that people do not want to have observed. For the purpose of quantitative research, it is often difficult to do observations in similar ways. In addition, it is important to have an organized, consistent way to record and count the behaviors that the researcher is interested in.

Application Questions

Using the hypotheses or research questions that you wrote for Chapter 7, design an observation that would test those hypotheses or answer those research questions. What would you observe? How would you try to make sure that you were observing different people in similar situations?

What behaviors would you count, and how would you count them?

Would you use a rating scale? If so, what kind? What kind of form would you use to code the behaviors?

How would you record the observations (note-taking, audio tape, video tape)? Why?

Discussion Questions

Read the paper in Appendix III. Did the researcher use observation? If so, how?

Chapter 11

Variance, Control, and Threats to Validity

Keywords

- variance
- systematic experimental variance
- extraneous variance
- error variance
- control
- external validity
- internal validity
- self-selection
- intact groups
- mortality

The goal of research is testing hypotheses. To test hypotheses, two things are necessary—variance and control. Variance means having different values for the dependent variables. That is, imagine you are studying differences in judgments about the intelligence of women, depending on their clothing. You show people pictures of the same women wearing a suit in one picture and jeans and a t-shirt in another picture. Variance occurs if the ratings for a woman dressed in a suit are different from those for a woman dressed in jeans and t-shirt.

There are three types of variance, and you need to make certain that any variance you find is not caused by errors or by lack of control. Control is the ability to explain as much of the variance as possible. The more variance there is that cannot be explained, the less control there has been in the study. Lack of control allows for rival explanations for the results.

Types of Variance

Variance can be divided into three types: systematic experimental variance, extraneous variance, and error variance. Systematic experimental variance is differences in dependent variables caused or influ-

enced by the independent variable. For example, if you are studying how people judge a woman wearing a suit and one wearing jeans and a t-shirt differently, you might show participants pictures of a woman dressed those types of clothing (but exactly the same in every other way) and ask them to rate her on a semantic differential as to whether she is friendly, serious, intelligent, etc. If you find that she is judged as more friendly when she is seen wearing jeans and a t-shirt, you assume that the difference is due to the way she is dressed. This is the type of variance that researchers want to maximize.

Extraneous variance is caused by unspecified and unidentified variables. Imagine that the woman is smiling in the picture with the t-shirt and jeans and has a serious expression in the picture with the suit. She might be judged as being more friendly in the picture where she is wearing a t-shirt and jeans. However, you would not know whether this was due to clothing or due to the expression on her face. This type of error should be minimized. When you design your research, you should try to be certain that there are no differences other than the ones you are studying. If you are studying the differences in judgments about a woman based on two pictures, you should make certain that, except for her clothing, the pictures are as similar as possible — the same expression, on her face, the same position, etc. Otherwise, you will not know why there are differences in the participants responses.

Error variance is variance caused by sloppy experimental procedures, errors in measurement, coding errors, key punching errors, etc. This type of variance should also be minimized.

In quantitative research, the purpose of research design is to achieve control—to minimize the extraneous variance. Researchers must try, as much as possible, to either keep variables (other than the independent variables) that might influence the dependent variables the same or to measure them and control their influence statistically (control

variables).

Threats to Validity

Internal and External Validity

Threats to validity of research are factors that may influence the outcome, other than the independent variables that you are studying. They are factors that might cause extraneous error.

In general, threats to validity can be divided into two categories—threats to internal validity and threats to external validity. Internal validity is the degree to which we can attribute variance to the independent variable. That is, the better the internal validity, the more certain we can be that differences in the dependent variables were influenced by differences in the independent variable. This concept is related to control, discussed in the previous section, in that threats to internal validity are factors that reduce systematic experimental variance and increase extraneous variance. In other words, threats to internal validity cause the dependent variable to change for reasons that the researcher cannot explain or account for. If the woman is smiling in the picture where she is wearing the t-shirt and jeans and has a serious expression in the picture where she is wearing a suit, that is a threat to internal validity.

External validity, on the other hand, is the extent to which the results of the study can be generalized, that is, it's relationship to situations outside of the study itself. In a sense, it is how realistic the situation used in the research is.

Threats to External Validity

In considering the external validity, the reader of a study must consider whether the conditions found in the study actually occur in the "real world." For example, a study of the effectiveness of a language

teaching method may involve using the method only once or over a short period of time. Since, for the most part, language classes use a method over a much longer period of time—possibly several weeks or months—there have to be questions about the external validity of such a study. Also, in a study using pictures of a woman and making judgments about her characteristics might not have good external validity. It is not often that people make judgements about a person based on pictures rather than face-to-face.

The selection of participants in the study may also have an influence on the extent to which the results of a study can be generalized. If the participants in a study are selected from non-native speakers studying English in the United States, it is difficult to generalize the findings to students of English who live in countries where English is a foreign language.

Threats to Internal Validity

Threats to internal validity can be divided into several categories according to the issues that they are related to. In this section, you will learn about threats to validity related to how research participants are chosen and grouped, as well as their continued participation, and how these influence the results of the study.

Selection-Related Effects

In quantitative research, it is ideal to select participants at random. This helps make sure that the members of the sample reflect the population that they are intended to represent. (The members of the sample are the actual participants in the study; the population is the group of people that the study is generalized to. For example, the sample may be a group of randomly chosen students at a Japanese university.) However, it is not always possible to randomly select participants, and so researchers often use other ways of choosing participants, in-

cluding self-selection and using intact groups. Each of these represents a threat to internal validity.

Self-selection. Self-selection means that the participants themselves choose to participate in the study, that is, the common practice of having participants volunteer to join the study. Participants who volunteer for a study may be different from people who do not. This is particularly a problem when participants who volunteered are compared to participants who did not (for example, who participate in the study as part of a class). In a study of a language learning method, if volunteers are used to try the method in question, the volunteers are likely to be more motivated, be better at or more interested in learning language, and have higher language proficiency than non-volunteers. Therefore, you should avoid comparing volunteer and non-volunteer groups if you can, and you should be careful about generalizing from volunteers to the general population. While it is a good idea to avoid self-selection, it is not always practical—you are not always able to get randomly chosen participants to participate in a study. Therefore, if self-selection is used, you should describe the self-selection and its possible effects on the results. Also, you should take particular care in comparing volunteer and non-volunteer groups and generalizing from a volunteer sample to the general population.

Intact groups. The use of intact groups is also a potential problem. Intact groups are groups that are already together before the research, such as students in a class or members of a club. There are two major problems with this practice. One problem is that the group may differ in some variable, since they have not been randomly assigned to the groups. One group might, on average, have higher language proficiency or might have spent more time in English-speaking countries. If so, the groups are not necessarily comparable, and differences between them may be explained by differences in the two groups rather than the influence of the independent variables. Also, the different

intact groups may have already established ways of interacting among themselves, and this may influence the dependent variable as well. If you are studying how small groups make decisions, an intact group may already have a leader. Group members already know each other. These and other factors might affect how they make decisions and therefore influence the results of the study.

You should avoid intact groups if possible and instead assign participants to groups randomly. However, in many cases, this is not possible. In those cases, there are ways to reduce the problems. You can identify other variables that might influence the dependent variable, measure them, and use statistical procedures to determine whether they have influenced the outcome and to control them. For example, in studying the effectiveness of a language teaching method with two intact groups, the language proficiency of the two groups needs to be measured and controlled.

Mortality. Another issue related to the participants is mortality. Mortality is the dropping out of participants from the study for any reason. This is a problem because the participants who drop out may be different on one or more variables than those who do not. In addition, mortality can change the average of the group on one or more characteristics. You should specify how many participants dropped out of the study and why. If possible, you should try to find out whether these participants were different on any important variables from participants who did not drop out.

Conclusion

As you design your research, you should do it in a way that allows you to explain why the results for different groups are different. In order to do that, you control the people that you choose and the conditions under which you do the study. You try to maximize the external validity, that is, the degree to which your results can be generalized to

the "real world," and the internal validity, the degree to which you can explain the differences among groups. As a reader of a research paper, you should consider what threats there might be to internal and external validity.

Application Questions

How can you maximize systematic experimental variance and minimize extraneous variance in your research project? For example, if you are testing the hypothesis that a woman wearing a t-shirt and jeans would be

What are the problems with the external validity of your study? Who will be the participants of your study? How does that influence its external validity?

How will you choose the participants for your study? Will you use intact groups or self-selected participants? If so, how can you avoid the problems with these?

Discussion Questions

Read the paper in Appendix III. What threats to internal and external validity are there?

Chapter 12

Threats to Internal Validity

Keywords

internal validity	researcher/coder expectancy
history effect	reliability
maturation effect	validity
The Hawthorne Effect	practice effect
participant expectancy	

In doing research, you need to consider factors that might allow different interpretations for your results. In the previous chapter, we discussed threats related to the way that participants are selected. Two other types of threat to internal validity are time-related effects and people-related effects.

Time-Related Effects

A category of threats to validity is time-related effects. These are related to the passage of time between the beginning and end of a study.

History Effects

One type of time-related threat to validity is a history effect. History effects are the effects of incidents not related to the study that take place between the beginning and end of the study and which may affect the results of the study. For example, you might be studying the effects of persuasive messages on Americans' attitudes on gun control. You measure the attitudes of your sample toward gun control, have them listen to a persuasive message, and measure their attitudes again two weeks later. However, there might be a story in the news

related to gun control between the first measurement and the second measurement. If so, you will not know if the change in attitude was due to the news story or to the persuasive message.

One way that you can find out about history effects is to talk to research participants about anything that might have influenced their opinion. You should also have a control group. The control group takes the pre-test and the posttest, but it does not have the same treatment (that is, in this case, the persuasive message). If the group that heard the persuasive message changes their attitudes and the group that did not hear the persuasive message does not, it is more likely that the persuasive message influenced or caused the change.

In addition, you should have the second test as soon as possible after the first test. This will reduce the possibility that there will be a history effect in between the first and second test. (On the other hand, you might be interested in how long changes in attitude last, so you might have reasons to have a longer time between the first and second tests.)

Maturation Effects

Another type of time-related effect is a maturation effect. Maturation effects are normal changes in participants over time. These changes are probably most obvious in children, since their muscle control, their competence in their own language, etc., are still maturing, but maturation can be a factor in studies with adults, too. In a study done with non-native English speakers living in an English-speaking country, the fact that participants are in an English-speaking environment will certainly influence their language proficiency, independent of the manipulation in the study. Again, having a control group and keeping the study short help limit the effects of maturation or at least allow researchers to recognize them. In addition, researchers may use two pretests, a treatment, and then a posttest, and then compare the two pretests to find out if there is maturation occurring. If there is no

difference between the two pretests, maturation is probably not a factor.

People-Related Effects

Another category of threat to validity is people-related issues. This category is related to the attitudes of those involved in the study, both participants and researchers.

The Hawthorne Effect

One people-related effect is called the Hawthorne Effect. In some cases, just the fact of being involved in a study and/or the novelty of the treatment itself can cause participants to perform better than they normally would. Therefore, when researching the effectiveness of a new language teaching method, you have to take into account that the very newness of the new method might have an effect on the results, apart from the characteristics of the method itself. Carrying on the treatment for a longer period of time allows the participants to get accustomed to the new conditions.

Participant Expectancy

Another type of people-related effect is participant expectancy. If participants understand what the study is about or what you expect of them, they may consciously or unconsciously try to give you the results that you are looking for. To the extent possible, subjects should be unaware of the purpose of the study and the hypotheses being tested.

Researcher/Coder Expectancy

Another type of people-related effect is researcher/coder expectancy. If the people administering the treatment or rating the results are aware of the purpose or hypothesis of the study, this may have an effect on the results. You might be studying how pairs of people interact. As part of your study, you might have observers watching the

pairs and rating how well each person is communicating. If the observers know which participant you expect to get better ratings, the observers might unconsciously try to give that participant good ratings.

Similarly, if the observers are aware of the hypotheses, they may, even without intending to, influence the responses of the participants. In studies comparing different language teaching methods, the researchers themselves often teach the classes that are intended to show that one method is more effective than another, and they may influence the results. As with participant expectancy, these problems can be dealt with by having the people who code the results or administer the treatments blind to (that is, unaware of) the hypotheses and to the group assignments.

Measurement Issues

Another type of threat to internal validity is measurement issues. This includes issues related to the instruments used to measure the constructs in the study (tests, questionnaires, rating systems, lists of questions for interviews, etc.) and the ways they are administered.

Validity and Reliability

In the area of measurement issues, there are two components where there may be threats to the validity of the results of the research. The validity and reliability of the measures themselves may affect the validity of the conclusions drawn. In addition, procedures for administering the measures may affect the results. These can all influence the validity of a study.

Validity. Measurement validity is the extent to which the instrument measures what it is supposed to measure. There are three types of measurement validity. Face validity is the extent to which a measure "looks" like it measures what it is supposed to measure. This is

the logical connection between the construct and the instrument that is intended to measure it. A measurement instrument's having face validity means that if you show someone the measurement instrument, they will understand what it is trying to measure.

The second type of measurement validity is content validity, which is the extent to which an instrument measures all the facets of the construct. This is a conceptual problem, not a statistical problem, and it depends to a great extent on how the construct is defined. If a measure that is supposed to measure communicative ability in a second language only tests listening ability, it does not measure all facets of communicative ability.

The third type of measurement validity is construct validity. It is related to correlations between the variable in question and other variables. There are two types of construct validity. The first is convergent validity, which means that the variable is correlated with variables that it should be correlated with. The second is discriminant validity, which means that the variable is not correlated with constructs that it should not be correlated with. For example, measures of vocabulary knowledge and reading proficiency might be expected to be correlated (convergent validity), but measures of reading proficiency and communication anxiety would not be correlated (discriminant validity).

Reliability. Reliability, the second aspect of measurement, has two aspects. One is stability, that is, consistency over time. For a construct that has not changed, there should be a high correlation between a participant's scores at two points in time. One problem related to the assessment of the stability of a measure is separating true change from lack of reliability. Stability is also evaluated by comparing the results of alternate forms of a measure.

A second aspect of reliability is equivalence, which is the extent to which all of the questions in the questionnaire reflect the same con-

struct. For example, if a researcher is measuring attitude toward the target language, responses to all of the questions should reflect a similar attitude. If the answer to one question seems to reflect a different attitude, it may be measuring some other construct. Cronbach's alpha is a statistic used to measure equivalence, and if the alpha values reported for the questions in a measure are low, the researcher should consider removing or revising one or more questions.

The Practice Effect

The practice effect is another measurement issue. If more than one measurement instrument is used in a study, or if the same instrument is used more than once, the results of the instruments administered later may be affected. For example, if the same test is administered at the beginning and end of a study, having taken the test once already may help the participants to do better on it a second time. Using equivalent rather than identical measures helps to some degree. That is, rather than giving the same test twice, you can give two similar tests, one at the beginning of the study and a different one at the end of the study. However, this does not eliminate the problem entirely. Taking the first measure may make participants aware of issues related to the concept. A control group can be used to identify the practice effect. The control group takes the pretest and posttest but does not receive the treatment that the other group does. If there is a difference in the results of the pretest and posttest for the control group, this might indicate a practice effect.

In addition, if you use more than one questionnaire at the same time, the results of the first questionnaire might influence the second questionnaire. It is therefore a good idea to counterbalance the measures, which means that you administer one questionnaire to half the participants first and have the other half take the other measure first.

Conclusion

In designing your research, it is vital to limit the factors that might influence your results. Among the threats to validity you must consider are history and maturation effects, the Hawthorne effect, participant and coder or researcher expectancy, and measurement issues related to reliability and validity.

It is impossible to avoid threats to validity entirely. Often in avoiding one threat to validity, you open up another. For example, in order to avoid history effects, you would want to make the study as short as possible. However, that might cause a problem with the practice effect for your posttest, since the memory of the pretest may still be fresh in the subjects' minds.

Application Questions

Consider the design of your research. Which threats to validity might be a problem? Is there any way that you can reduce these threats?

Discussion Questions

Read the paper in Appendix III. What threats to internal validity are there?

Chapter 13

Faulty Research Design

Keywords

one-group posttest only design	analyzing data
one-group pretest/posttest design	summarizing
two-group, no control design	drawing conclusions

Sometimes the design of the research can threaten the internal validity of a study. The research design might lead to unintentionally different treatment of the groups. Some research designs are inherently faulty because they do not eliminate alternative explanations for the results.

Uncontrolled Differences in the Treatment of Groups

The first category of design issues is uncontrolled differences in the treatment of the groups, that is, situations where the groups involved in the study are treated in a different way. There are many ways in which members of different groups in a research study might be treated differently. There are too many to list here, but we will give examples of how different participants or groups might be treated differently.

For example, if you are studying persuasion, and one group hears the persuasive message read by one reader, and the other group hears it read by a different reader, the groups are being treated differently. If you find differences in the effects of the persuasive messages, you cannot know whether those differences are due to differences in the readers or differences in the messages. This problem should be avoided, if possible, by having all the messages read by the same person.

Every effort should be made to make the messages identical, except for the characteristic of the message that the researcher is studying. The messages should be about the same length, and they should be read at about the same rate of speaking and with the same intonation and emphasis. In fact, it might be best to have the message recorded so that each group hears the message read in exactly the same way. If one message is longer, or if it is read with greater emphasis on certain words, then this might influence the persuasiveness of the message.

Another type of problem in which groups are treated differently would be in a study of language teaching methods in which participants in the study meet outside of regular classes for instruction using a different method. If they are compared with a class that does not have any extra instruction, they are receiving more instruction time. Both classes have regular classroom instruction, and one class has an extra class taught using the method being studied. Therefore there must be questions about the validity of the results. In addition to self-selection problems (if you are comparing volunteers and non-volunteers), participants who meet outside of regular class time are receiving more hours of instruction than those who are only in regular classes. If you find that the group using the new method improves more in their language proficiency, the difference in the number of hours of instruction alone may account for any differences in the improvement of their language proficiency.

If you are using interviews to gather data, you should do the interviews under similar circumstances every time. You should not take some interviewees to a quiet room for the interview, and do other interviews in a noisy cafeteria. These different settings might result in different outcomes for the interviews.

Faulty Research Design

Some research designs are faulty, that is, the research cannot draw conclusions from them about the sources of the variance.

One-group Posttest Only Design

One faulty design is called a one-group posttest only design. In this design, only one group is used, and there is a manipulation or series of manipulations followed by a posttest. For example, if a group listens to a persuasive message and then their attitude is measured, there is no way of knowing whether their attitudes were influenced by the message, because nothing was known about their attitudes before the message. Based on the results of such a study, no claims can be made about the effect of the manipulation. Since nothing is known about the levels of the variables before the manipulation, it cannot even be claimed that they changed, much less that they changed in a particular direction or as a result of the manipulation.

One-group Pretest/Posttest Design

A second faulty design is the one-group pretest/posttest design. In this design, again, only one group is used, and there is a pretest, a manipulation, and a posttest. In this case, the results of the pretest and the posttest can be compared, so it can be determined whether there were changes in the values of the variables. However, it is not possible to draw conclusions about the source of the changes. It may have been the treatment. It is also possible that there were history effects, maturation effects, or practice effects that explain any differences that were found. Again, in a study of persuasive messages, if a group's attitude is measured, and they hear a persuasive message, and then they are tested again, no conclusions can be drawn. While their attitudes in the second test might be different, there may be other explanations for the change.

Two-group, No Control Design

The third type of faulty design is a two-group, no control design. In this type of study, there is an experimental group (which experiences the manipulation) and a nonequivalent control group, with a posttest. For example, if one group that hears the persuasive message is a group of college students, and the other group is a group of businesspeople, the differences might be due to the message, but it might also be due to the differences in the people in the groups. Therefore, you cannot draw the conclusion that the different persuasive messages had different effects.

Conclusion

It is important to design a study so that the groups you are studying are treated as similarly as possible. In addition, it is important to design studies in a way that you can eliminate other explanations for differences between the groups. While it may not be possible to entirely eliminate all differences between the groups or the way that they are treated, you should consider these problems and minimize them in designing your study.

Application Questions

Consider the threats to validity discussed in this chapter. Are they a problem for the study you have designed? Can you change the design of your study to eliminate these problems?

Discussion Questions

Read the paper in Appendix III. What problems do you see in research design?

Chapter 14

Analyzing Results of Quantitative Research — Descriptive Statistics and Statistical Significance

Keywords

descriptive statistics	mean
range	standard deviation
average	statistical significance

Doing quantitative research involves gathering data that can be converted into numbers and analyzed. Researchers use statistics to analyze the numbers in order to describe the numbers that have been collected and find out what the relations are between the numbers. Statistics is a complicated subject, and we cannot cover it thoroughly in this book. However, in this chapter and the next one, we will introduce a few basic statistical procedures and statistical terms that you might find useful. If you are doing more quantitative research, you should learn more about statistics in the future.

Calculating Statistics

In order to better understand what statistical calculations mean and how they work, you might sometimes find it useful to do at least some of the simple calculations by hand. Some of the simpler statistical formulas will be provided here. However, you will probably usually use statistics programs to calculate the results of most of your research.

Your school's computer center may have statistical programs available on computers for you to use. SPSS (Statistical Package for the Social Sciences) is one of the well-known programs. If your school

does not have such programs, you can use statistical programs that are available on web pages. One web page that has all the statistical calculations that are discussed in this chapter can be found at http://glass.ed.asu.edu/stats/analysis/basic.html.

Descriptive Statistics

Descriptive statistics are used to describe what a characteristic is like — how high or low the characteristic is, how strong or weak it is, what the highest and lowest values are, etc.

Range

The range is the distance from the lowest score to the highest score. You calculate the range by subtracting the lowest score from the highest score. If the highest score is 15, and the lowest score is 5, then the range is 10.

Average

There are three types of average, but one that is usually used in statistics is called the mean, which is what you probably think of when you think of an average. The mean ($\bar{x}$, which is pronounced "x bar") is calculated by adding up the scores and dividing the total by the number of scores. For example, imagine that your study involves measuring the heights of three people. One of the people is 160 centimeters tall, one is 170 centimeters tall, and one is 180. To get their average height, you add the three numbers, and then divide the total (510 centimeters) by the number of people (3), and you find that the mean is 170 centimeters.

Standard Deviation

The standard deviation is a statistic that is used to describe how much a characteristic differs within the group, that is, whether all the members of the group are fairly similar, or whether they are very dif-

ferent from one another. If the standard deviation is low, then most of the scores are near the mean, and the members of the group do not differ much; if it is high, then scores are spread out from the mean, and the members of the group are more different from each other.

Imagine that you are doing a study that includes asking participants to rate their ability in English on a scale from 0 to 10. Imagine that the mean is 5, and the standard deviation is 1. In that case, about 68% of the ratings would be within 1 point (one standard deviation) above or below the mean, that is, about 68% would be between 4 points and 6 points. In addition, about 95% of the scores would be within two points (two standard deviations) of the mean, that is, about 95% of the scores would between 3 and 7 points. If the standard deviation is 1 point on a measurement that has a range of 10 points, then the responses are fairly close to each other, that is, the participants' ratings of their ability in English are fairly similar to one another. If, on the other hand, the standard deviation is 2, then 68% of the participants rated their English between 3 and 7 (two points above or below the mean, or one standard deviation), and 95% between 1 and 9 (four points above or below the mean, or two standard deviations). The scores are more spread out, and the participants' scores are not as similar to each other.

Statistical Significance

You can also use statistics that compare different values. First, however, you have to understand statistical significance.

When you are comparing two values, you need to find out whether they are really different or not. For example, you have asked participants to rate their English ability on a scale of 0 to 10. The ratings of one group of participants have a mean of 5, and the mean of the other group is 6. Is this difference just the result of chance, or is there a real difference between these two groups? In technical terms, the question

is whether the difference in means is significant. Whether the difference is real depends on:

1) the size of the difference (that is, a difference of 5 points is more likely to be significant than a difference of one point)
2) the number of people in the groups (the larger the group, the more likely a difference is significant)
3) the size of the standard deviation (if there is a small standard deviation, it is more likely that the difference is significant)

Significance is reported in terms of probability (p), that is, the likelihood that two groups or two scores are different as a result of chance. The value of p is between 0.00 and 1.00. Generally, in social science, a p of less than .05 is considered significant, which means that the difference can be considered real rather than a result of chance. If p is equal to or less than .05, it means that in 5 or fewer out of 100 cases, the results would have been different — but in 95 out of 100 cases, this difference would have been found between the two groups. If p is less than .01, then in less than one out of 100 cases, the difference would have been found. The lower p is, the more confidence you can have that that difference is real and did not happen by chance.

If the statistical significance is greater than .05, then there you cannot say that there is a real difference between the two groups or values.

Conclusion

Once you have gathered information for your quantitative study, you need to use statistics to analyze your results. You use descriptive statistics such as the mean and the range to describe the characteristics of the sample. When you compare two sets of numbers, you also need to find out if the difference you see is significant.

Application Questions

Imagine that you have shown two groups of people a picture of a woman. One group (suit group) saw a picture of the woman wearing a suit. The other group (t-shirt group) saw a picture of the woman wearing a t-shirt. You asked the groups, among other questions, to rate how friendly the woman was. (In your scale, 1 = very unfriendly and 5 = very friendly.) There are ten people in each group, and you get the following results:

T-shirt group

4 5 3 3 4 5 4 3 4 5

Suit group

3 1 2 3 4 4 3 4 3 2

What is the range of each group? What is the mean? What is the standard deviation? What are the differences between the groups? (The answers can be found in Appendix VI.)

Which of these statistical procedures would you use for your study?

Chapter 15

Analyzing Results of Quantitative Research — Comparative Statistics

Keywords

t test
chi-square
Pearson correlation
partial correlation
ANOVA

Generally you design a quantitative study so that you can compare two or more sets of numbers. The following statistics are ones that you can use to compare different things. Using comparative (or inferential) statistics, you can compare the scores of two different groups on the same measure. For example, you can compare the English proficiency of two different groups. Also, you can compare two different scores for the same group of people. You can compare a group's scores on English proficiency and their grades at an American university. In this chapter, you will learn about some comparative statistics.

Comparative Statistics

T Test

In some cases, your hypothesis states that one group will be higher or lower than the other on a certain variable. For example, your hypothesis might be that participants who hear Message A will find it more persuasive than those who hear Message B. The t test is used to compare two means, that is, to see whether the means are significantly different. If you are comparing two groups, you can use a t test.

For example, one group hears a persuasive message that appeals to emotion, and the other group hears a persuasive message that ap-

peals to logic. You measure the persuasiveness of the message using a 5-point scale. You find that the former group had a mean of 4.5, and the latter group had a mean of 3.5. You use a t test to find out whether the difference is significant. T will be a positive number greater than one. If you use a computer program to calculate it, the printout you get will tell you what the probability (p) is, so that you can tell whether it is significant. As discussed in the previous chapter, if p is less than .05, then the difference is significant. That means that the effect of the persuasive message on the two groups was different.

You can calculate the t test at http://nimitz.mcs.kent.edu/~blewis/stat/tTest.html.

Chi-Square

Chi-square (χ^2) is a statistic that is used when you want to compare the number of items in different categories. For example, you might be doing a study comparing three advertisements. You ask 30 participants to decide which is the most persuasive advertisement. The following chart indicates how many participants thought each advertisement was most persuasive.

Advertisement A — 4
Advertisement B — 19
Advertisement C — 7

As with the t test, you would calculate chi-square and the statistics program would tell you whether the difference among the ratings was significant. If the chi-square tells you that there is a significant difference, then you will know that Advertisement B was the most persuasive.

You can also use chi-square when you divide the participants into groups. For example, if you were interested in whether there were differences among men and women in the way they rated the advertisements, you could also use chi-square. In this case, the number of male and female participants who liked each advertisement best might

look like this:

	Female	Male
Advertisement A —	1	3
Advertisement B —	12	7
Advertisement C —	2	5

Again, you would have calculate chi-square for these numbers to see if there is a difference among the ratings.

You can calculate the chi square at http://www.georgetown.edu/cball/webtools/web_chi.html.

Pearson Correlation

In some cases, your hypothesis states that the independent variable and the dependent variable will go up or down in relation to each other. That is, if the independent variable goes up, the dependent variable goes up, and if the independent variable goes down, the dependent variable goes down (a positive correlation). It can also mean that if the independent variable goes up, the dependent variable goes down (a negative correlation). For example, you might have a hypothesis that, among Japanese college students in the US, those who rate their English proficiency as being higher will have more American friends, and those who rate their English proficiency as being lower will have fewer friends.

In order to test that hypothesis, you might ask participants to rate their English proficiency and ask them how many American friends they have. Then you would calculate a Pearson correlation (r) for the two sets of numbers. A Pearson correlation would tell you whether it was true that students who think they speak English better have more friends. The value of r ranges from -1.00 to 1.00. If r is between .01 and 1.00, then people who rate their English higher have more friends, and the variables are said to be positively correlated. If p is .05 or less, then the difference you found is significant.

If, on the other hand, you find that the correlation between the two values is between -1.0 and -.01, this is called a negative correlation. It means that as the independent variable goes up, the dependent variable goes down and vice versa. That is (if p is .05 or less), this means that people who rate their English as being lower have more friends. (If the correlation is 0.00, there is no relationship at all between the variables, that is, the relationship is completely random.)

You have to keep in mind that even if two values are correlated, it does not mean that one is the cause of the other. Based on a positive correlation in this study, you cannot say that better English proficiency causes students to have more American friends. It is possible that they have greater confidence in their English proficiency as a result of making American friends and interacting with them.

You can calculate Pearson correlations at http://faculty.vassar.edu/lowry/corr_stats.html.

Partial correlation. In some cases, two variables will appear to be correlated with each other only because they are correlated with a third variable. For example, if you are studying Japanese students in American universities, you might find that their English proficiency and their grades are correlated, that is, students with good English proficiency also get good grades. However, it might be that both English proficiency and grades are correlated with intelligence, in which case, they are not really correlated with each other. If you believe this might be the case, you will calculate a partial correlation.

To calculate a partial correlation, you would measure the English proficiency, the grades, and the intelligence of the Japanese students. These values are used to calculate a partial correlation. Partial correlations are interpreted in the same ways as the Pearson correlation, that is, they are between -1.00 and 1.00. You may find, for example, that the correlation between English ability and grades is .78, between intelligence and grades is .83, and between English ability and intelli-

gence is .87, all very strong positive correlations. If you calculate the partial correlation for English ability and grades, you can find out if there is a real correlation between English ability and grades, or whether they are unrelated to each other, but both related to intelligence. If you find that the partial correlation for English ability and grades is .09 (and p is greater than .05, that is, the correlation is not significant), this indicates that there is no real correlation between English ability and grades. They only appear to be correlated, because they are both correlated with intelligence. However, if the partial correlation is .73 (and p is less than .05), this means that there is still a real correlation between English ability and grades, independent of both their correlations to intelligence.

You can calculate partial correlations at http://faculty.vassar.edu/lowry/par.html.

ANOVA

Sometimes you want to compare two variables for two groups. To do this, you use an analysis of variance (ANOVA). For example, if you are comparing the effectiveness of logical and emotional persuasive messages, you might state in your hypotheses that women will rate logical messages as being more persuasive and men will find emotional messages more persuasive.

	Logical message	Emotional message
Male	A	B
Female	C	D

In this situation, you have two variables (sex [male or female] and message [logical or emotional]). You also have four conditions:

A. males who listen to logical messages

B. males who listen to emotional messages

C. females who listen to logical messages

D. females who listen to emotional messages

ANOVA uses the mean for each variable and for each condition (males/logical messages, males/emotional messages, females/logical messages, females/emotional messages) and determines whether each variable has an effect. For example, if you did the calculations and found that the means for sex were significantly different (that is, if p was less than .05 for sex), that tells you that males and females were different in how they rated the persuasiveness of the messages. (You look at the means for males and females to see whether males or females rated the messages as being more persuasive.) If you find a significant difference in the ratings for message, then the messages were rated differently. (Similarly, you look at the means for the logical and emotional messages to see which was rated higher.)

In addition, you may find that the emotional message was rated higher, but only by males. This is called an interaction effect. This means that males found the emotional message more effective than females did, but there was no difference in their ratings of the logical message. Two things (being male and an emotional message) were necessary for the effect.

You can calculate ANOVA at http://faculty.vassar.edu/lowry/VassarStats.htm.

Reporting Scores

After you have calculated the statistics, you need to report them in a way that is clear to anyone who is reading about them. One way to report them is to use tables. For example, if you are reporting means and standard deviations for different groups or for different variables, a table might look like this.

Table 1.
Means and standard deviations

Variable	Mean	S.D.
A	5.23	1.12
B	10.21	3.31
C	4.43	0.34

When you are reporting Pearson correlations, you usually make a grid like this:

Table 2.
Pearson correlations

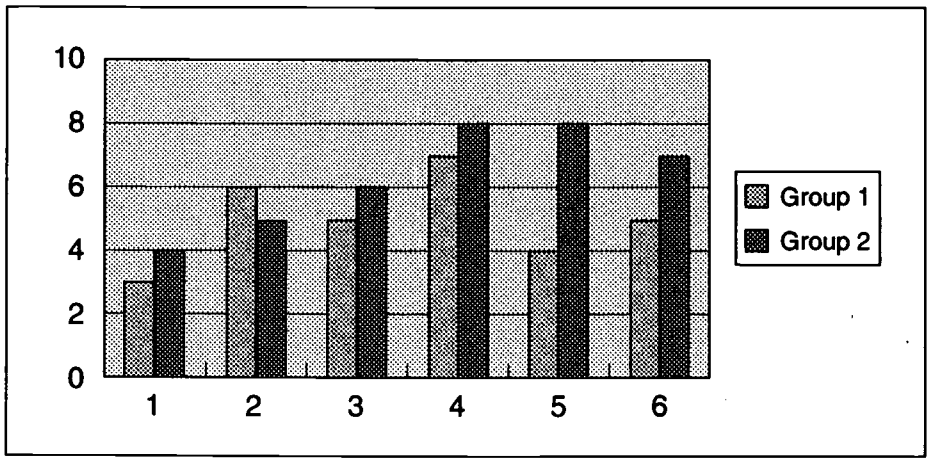
	A	B	C
A	1.00	.76	.02
		(p = .001)	(p = .36)
B	.76	1.00	-.09
	(p = .001)		(p = .22)
C	.02	-.09	1.00
	(p = .36)	(p = .22)	

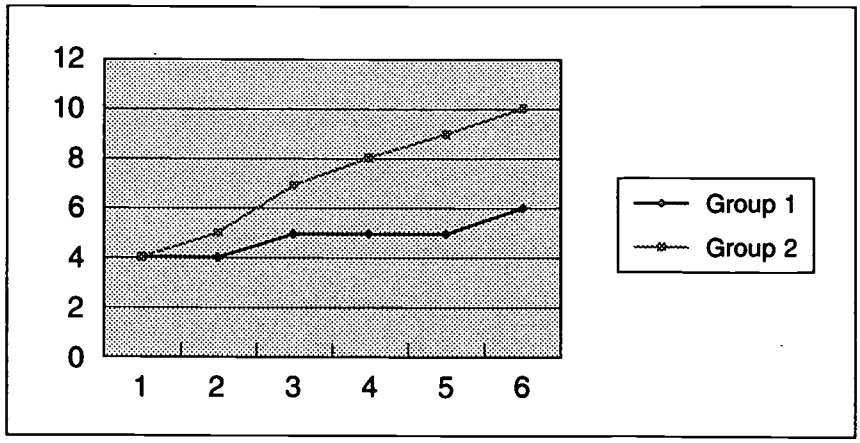
If you look at the intersection between A and B, you will see that the correlation between these two variables is .76, and the probability is .001, meaning that the correlation is significant.

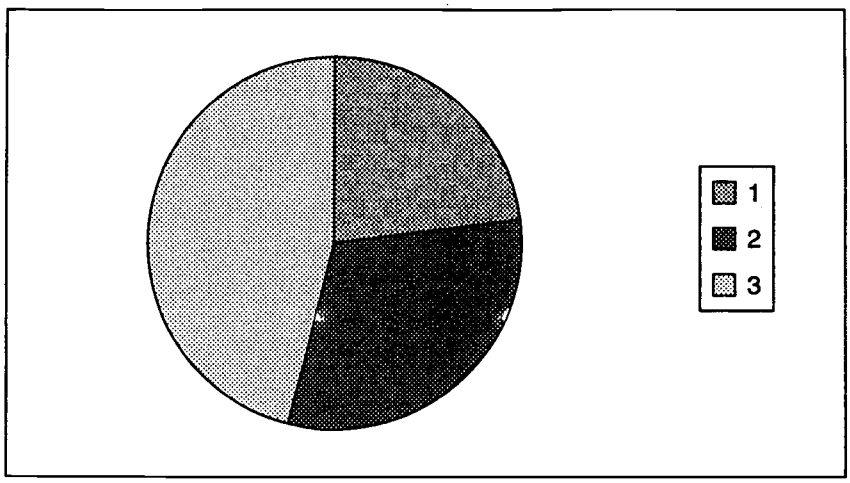
Another way to report your data is to use graphs. There are several types of graphs, including the bar graph and the line graph. They use bars or lines to show the relative size of the variables. A bar graph can be used, for example, to show how two groups compared on different variables. If you measured the English language proficiency, grades, and intelligence of two groups, you could show how they compare on a bar graph. A line graph is usually used to show changes over time.

For example, if you want to show how the groups' average score on the *TOEFL* changed over time, you might use a line graph. A pie chart can be used to show what percentage of participants fall into different categories. You can use Microsoft Excel to make graphs and pie charts.

The following are some examples of pie charts and bar graphs. The first graph, a bar graph shows the levels of six variables for two groups. The second graph shows the changes in two variables at six points in time on a line graph. The pie chart shows what percentage of the participants fall into each category.







Conclusion

In order to compare different groups or variables, you use such statistical tests as the t test, chi-square, a Pearson correlation, and ANOVA. When you report the results of the statistical tests, you need to use tables and possibly graphs to make their meaning clear to the reader.

Application Questions

Look again at the data from the application question for the previous chapter. Perform a t test to determine whether the difference between the means is significant. What does that result mean?

In the example in the reading, is there a significant difference in the effectiveness of Advertisements A, B, and C? Calculate chi-square to find out. What do the results mean?

You are doing a study of the relationship between listening skill and reading skill in a second language. You give 10 participants a listening test and a reading test. The following are the scores. Calculate the Pearson correlation to find out what the relationship is.

Participant	Listening	Reading
1	52	71
2	59	69
3	72	80
4	77	91
5	74	95
6	63	79
7	44	58
8	54	56
9	31	45
10	51	61

Participants 1-5 are from Germany, and participants 6-10 are Japanese. Perform an ANOVA to find out whether there are differences between the Japanese and German participants, whether there is a significant difference between reading and listening proficiency (assuming that the tests are equally difficult), and whether there is an interaction between the two.

(The answers can be found in Appendix VI.)

Which of these statistical procedures would you use for your study?

Discussion Questions

Read the paper in Appendix III. What statistics are used, and what do the results mean?

Part III
Qualitative Research

Chapter 16

Designing Qualitative Research Studies

Keywords

area of interest choosing participants

When you do quantitative research, control of the circumstances of gathering data is very important, and data is gathered in a way that allows the researcher to convert the information into numbers and statistically analyze them. When you do qualitative research, there are different priorities. It is more important to look in depth at what people do, how they communicate, etc. In this chapter, we will discuss how qualitative studies are designed.

Steps in Qualitative Research

Qualitative research methods are not as well established as quantitative research methods. However, there are some steps that qualitative researchers go through.

1. Decide on an area of interest. In quantitative research, you often start with a hypothesis or, at least, research questions. In qualitative research, hypotheses are rarely used. Researchers often just have an area of interest that they would like to pursue, such as how members of the tennis club at a Japanese university interact or how an American university admissions committee makes decisions. However, you might find it helpful in focusing your research to have research questions, such as "What factors are involved in admissions decisions and which ones are most important?"

2. Decide how to gather information and choose participants. Your next step is to decide how to gather information. As with quantitative

research, you can gather information through observation or through interviews or questionnaires. Observation and interviews are probably more common for qualitative research than questionnaires. Interviews are preferred to questionnaires, because they allow the researcher to ask for more information about interesting responses.

The procedures for doing interviews or questionnaires are similar to those described previously for quantitative research. (See chapters 8 and 9 for a discussion of using interviews and questionnaires.) However, the questions are generally open-ended, and it is not necessary for the responses to be able to be converted into numbers. Instead, the emphasis should be on forming open-ended questions that will elicit honest, extensive, and relevant responses.

Observation is a particularly important method of gathering information for qualitative research. There are important differences in how observation is done in quantitative and qualitative research. Procedures and related issues are discussed in chapters 17 and 18.

Quantitative researchers try to choose participants at random, so that they can study "typical" members of the population they are interested in. Qualitative researchers have a variety of ways to choose their participants. (This is not an exhaustive list of the possibilities; it is only some possibilities of how to choose participants.)

a. Maximum variation. Instead of studying "typical" members of the population, researchers might choose to study the most extreme members of the population and see how they are different from each other. For example, a researcher might study university students who were most involved in activities on campus (clubs, student government, volunteering, etc.) and the students who were not involved in any activities.
b. Networking. Participants are found by asking each participant to refer the researcher to other possible participants. This is sometimes the only way to find participants if you are studying a

group with rare characteristics, but who might know each other. For example, parents who teach their children at home generally know other parents who teach their children at home. If you are studying such families, the best way to find them might be to ask the families you are already studying. This approach is also sometimes used when researchers are interested in understanding how networks of people with similar interests fit together.

c. Extreme cases. Some researchers study only the most extreme cases, such as only university students who are the most involved in campus activities, or only students who participate in no campus activities at all.

d. Typical cases. Some researchers decide what is average or typical and then find some participants to fit those criteria. For example, a researcher might use a questionnaire to find out how many hours a week, on average, university students spend on campus activities outside the classroom and find students who fit that average.

e. Unique case. Sometimes a researcher will choose one case that is very unusual, perhaps one that he/she finds entirely by accident. For instance, the researcher might find a blind student who is active in clubs, student government, and doing volunteer work.

f. Ideal case. Another possibility is to use someone who is in a perfect situation, such as the interaction in the classroom of an award-winning teacher.

3. Observe/ask open-ended questions (interview or questionnaire). The next step is to carry out the observation or do the interviews or questionnaires.

4. Record observations/interview. If you are doing an observation or interviews, you need to record and/or transcribe your results. If you are not observing as a participant, you can take notes as you observe. However, you might want to read over your notes as soon as

possible after the observation to see whether you remember anything you did not have a chance to write down. If you are observing as a participant, you will probably not have an opportunity to take notes at the time you are observing, but you should do so as soon as possible afterwards.

If you are using interviews in your research, it is probably better to videotape or audiotape the interview. Videotaping may be technically more difficult than audiotaping, and being videotaped may make interviewees self-conscious. However, if you videotape the interview, you can look at such nonverbal aspects of the interview as facial expressions and gestures. In either case, you need to transcribe the questions and answers from your interviews.

5. Begin to analyze data. You can begin your analysis even before you finish gathering your data. This will allow you to know whether you are getting the type of information that you want. Analysis of the data in qualitative research is discussed in detail in chapters 20 and 21.

6. Return to observe or ask more questions. You may find something you want to learn more about, or you may not be getting the kind of information you were hoping for. You can go back to the interviewees again to ask more questions, or you can change the way you are doing the observation to get more information.

7. Repeat the cycle of observation/questions. Continue the process until you have as much information as you need.

8. Summarize the findings and draw conclusions. Based on the results of your analysis, what conclusions can you draw? What did you learn about the area you were interested in?

Conclusion

The procedures for qualitative research involve choosing an area of interest and doing observations, interviews or questionnaires to

learn about that area in an in-depth way from the point of view of those who are involved. Unlike quantitative research, it does not necessarily involve studying what is "typical." It may involve interviewing or observing more than once in order to gain a greater depth of understanding.

Application Questions

What topic do you think you would like to study, using a qualitative approach? What would be the most appropriate way to study it? (You might want to use more than one method.)

Write some questions for an interview and a questionnaire to study the topic you are interested in.

Discussion Questions

Read the paper in Appendix III. In what way does the researcher use qualitative approaches?

Chapter 17

Using Observation in Qualitative Research

Keywords

observation in quantitative research
observation in qualitative research
advantages of observation
disadvantages of observation

Observation is used in both quantitative and qualitative research. However, it is not used in the same way. In this chapter, we will discuss how observation is used differently in these two approaches and describe the use of observation in qualitative research.

Observation in Qualitative and Quantitative Research

Quantitative Research

As was discussed in Chapter 10, researchers using a quantitative approach use observations as a means to count behaviors. In addition, in quantitative research, the emphasis is on control. (For a discussion of control as it applies to quantitative research, see Chapter 11.) The researcher attempts to observe different people under as nearly as possible the same conditions.

In addition, the quantitative researcher generally observes from the "outside." The researcher tries to avoid influencing the situation being observed. Even if a confederate (a person who is helping the researcher) is used to create a particular situation, the confederate only acts in ways that are decided by the researcher. The purpose of using a confederate is to maintain better control. For example, if you were a quantitative researcher studying refusals, you might have a confederate make requests and observe the resulting refusals. However, you

would tell the confederate exactly what to say and exactly how to respond to the refusal. The confederate makes an effort to use the same words and the same vocal and facial expression every time he/she makes the request.

Finally, quantitative research needs a large number of observations, so emphasis is on making a large number of relatively brief observations.

Qualitative Research

There are many situations in which you might find observation useful as a researcher taking a qualitative approach. If you want to know about communication among club members at a university, you might use observation. If you want to study how decisions are made by a university admissions committee, you might use observation. If you want to see how children and their parents communicate about rules of behavior, you might use observation.

In contrast to a quantitative approach, a researcher using a qualitative approach does not attempt to exercise control in the sense of making observations under the same conditions every time. A qualitative researcher is more interested in observing a natural situation than in exercising control.

In addition, qualitative researchers believe that in many situations, in order to understand the dynamics of a group, a researcher must be part of that group. Therefore, a qualitative researcher may participate in the group to some extent, and may even become an active member of the group. For example, a researcher might want to try to understand the communication between supervisors and factory workers, and may therefore get a job as a worker in a factory in order to observe that communication from the point of view of a factory worker. As a participant, the researcher may influence the communication as well as observe it.

In contrast to quantitative research, a qualitative researcher may

only observe one situation, but will observe it in great depth. Observing and comparing a large number of situations is not necessary. Instead, the researcher spends a lot of time observing just one or two situations.

Advantages and Disadvantages of Observation

Advantages

Observing a group can give you greater insight into the interaction of that group than just asking members about how they interact. Often members do not have much awareness of the ways in which they interact. If you can actually observe them, you will learn much more.

Observation can also allow you to understand group members from their own point of view, particularly if you observe as a participant in the group.

Observation is particularly useful in understanding the non-verbal aspects of interaction, such as gestures and facial expression. These are aspects of communication that the participants themselves may not be aware of, so the only way to understand them is to observe them.

Finally, you can see how the group behaves in its natural setting. This will give you the most accurate impression of how groups interact.

Disadvantages

The main disadvantage of observation is that the presence of the observer may distort the interaction among the group members. The fact that there is an observer there may make people act differently than they otherwise would. This is especially true if the observer is a complete outsider, for example, if a Western anthropologist is studying a tribe in South America. It is less of a problem if a university student is studying interactions in a university club.

As in any research, the researcher brings his/her own preconcep-

tions and ideas to the research. These may affect what observers see and how they interpret what they see.

Coding the results of observational research can be very difficult. Observation, especially over a long period of time, produces a lot of data. Finding trends in the data and making sense of it can be difficult.

Finally, small sample sizes may be a problem in observational research. It is difficult to do in-depth observations on a large number of people, so observations are done on a small number of people. This raises the question of whether the people being observed are typical. One way of dealing with this disadvantage is to combine it with other methods. For example, you can do interviews with other people to find out how typical your observations were.

Conclusion

For qualitative researchers, observation is an important tool. In contrast to observation used for quantitative research, it is less controlled. While it has advantages, it also has difficulties, and in choosing to do observation for qualitative research, you need to be aware of both.

Application Questions

What kinds of observation might be useful for the qualitative research you are planning to do?

Chapter 18

Practical Aspects of Observation in Qualitative Research

Keywords

participant observation
non-participant observation
ethnography
covert observation
overt observation
gaining entry
gaining permission

Observational research is a useful and important tool in qualitative research. However, it can involve many practical problems. In this chapter, we will discuss what some of those problems are and how to solve them.

Types of Observation in Qualitative Research

When you are planning to do observational research, you need to make some decisions about the degree to which you will participate. You also need to decide whether the people you are observing will know whether you are observing them.

Observation in qualitative research can be divided into three types: participant observation, non-participant observation, and ethnography. Obviously, participant observation involves having the observer actually become a member of the group that is being observed. Non-participant observation, on the other hand, is a situation where the researcher observes a group as an outsider, without participating in any group activities. Ethnography is a form of research where the researcher investigates social interaction among members of little-known social groups.

Participant Observation

Participant observation is often used to study groups where not much is known about a group, and where group members may be reluctant to talk about the group. It is used to compile data related to nonverbal behavior, such as gestures or facial expression, as well as such topics as how groups of people interact or how communication is used among supervisors and their employees.

Participant observation is a very useful technique, because it allows researchers to see the group being studied from the point of view of an insider. This allows the researcher to gain insights and understandings that no outsider could have. However, one danger of participant observation is that the researcher might identify too closely with the group. In that case, the researcher can only see the group's viewpoint, not an outsider's viewpoint.

Covert and overt observation. Participant observation can be further divided into two types — covert and overt observation. In the case of covert observation, those being observed do not know that a person participating in the group is also a researcher. In the case of overt observation, the members of the group are aware of the researcher's dual role of participant and observer.

Both approaches have disadvantages. If you are using covert observation, there are ethical problems, that is, it might not be ethically acceptable to observe people without their knowledge. On the other hand, with overt observation, people might behave differently knowing that they are being observed. However, participants may become accustomed to being observed over time.

Influences on participant observation. In doing participant observation, the researcher should be aware of outside influences that might have an effect on what is being observed. One such influence is the season or time of year. For example, if the researcher observes an accounting firm just before the deadline for turning in tax forms, the

observations are likely to be different than they would be at a different time of year.

The researcher her/himself may also have an influence on the observations. As mentioned above, in the case of overt observation, some people might behave differently knowing that they are being observed. In the case of covert observation, the researcher's behavior as a member of the group might influence the way other members act.

Non-Participant Observation

In some cases, researchers observe behavior without taking part in it. Like participant observation, this can be done either covertly or overtly. It allows the researcher to observe the group interaction in a natural setting, but only as an outsider.

Ethnography

Ethnography combines participant observation with interviews as a researcher lives with and observes a social group. It is traditionally used by anthropologists on isolated groups of people, such as Indians in the rain forests of South America or tribes on islands in the South Pacific. Margaret Mead was an anthropologist who is well known for studying and writing about such groups. Ethnography has also sometimes been used with such groups as gang members in inner cities.

The emphasis in ethnography is understanding a culture, including what the people do (cultural behavior), what they know (cultural knowledge), and what they make and use (cultural artifacts).

Choosing the Degree of Participation

When planning your research, you need to decide whether you will be a participant. In some cases, participation is not possible. For example, if you are observing interaction among students in a kindergarten, you will not be able to participate. However, if you are a college student, and you want to observe the interactions of a club, you can join the club and be a participant. If participation is possible, you

need to decide whether you can observe more effectively if you act as a participant or as a non-participant.

Gaining Access

Once you have decided what and whom you are going to observe, you need to gain access to that group so you can do your observations. There are two aspects to this step in your research — entry and permission.

Gaining Entry

Depending on the type of group you are planning to observe, you have to find a way to see them in their natural setting. Some groups can be observed in public. For example, if you want to observe fan behavior at high school baseball tournaments, you can easily watch fans just by going to the stadium. Some groups, however, meet in private, and you have to find a way to observe them. If you want to study the decision-making in a university club, you can join the club. If you want to study interaction between supervisors and workers in a fast food restaurant, you can get a job at a fast food restaurant. If you want to study interaction between teachers and students in a classroom, you can ask permission of the teacher to sit in on the class and observe.

Getting Permission

If you are observing a group in public, such as baseball fans at a baseball game, you do not need to get permission. However, if you are doing observation in an overt way of a closed group, you need to ask permission. If you want to observe in a classroom, you need to ask permission of both the principal of the school and the teacher whose class you want to observe.

If you are going to do covert observation, you might not be able to ask permission of anyone you will be observing. However, if you are

observing people in the organization, it might be best to ask permission of someone higher in the organization. For example, if you are observing interaction among employees at a business, you might ask permission of the manager.

When you ask permission to do observation, you should explain briefly what kind of study you are doing, what you want to observe, and how you will use your observations. You may need to promise that the organization will be anonymous and real names will not be used.

In some cases, it may be impossible to get permission to observe the group you are interested in. A company might not want to give you access to their decision-making process.

Combining Research Techniques

It is often useful to combine observation with other research techniques. Observation can be used either before or after such techniques as interviews or questionnaires. On one hand, you can use interviews or questionnaires before observations to help you understand what to look for when you do your observations. Alternatively, you can use questionnaires or observations after the observations to help you understand the meanings of your observations.

For example, if you are studying how a university admissions committee makes decisions, you might first give them a questionnaire about the basis on which they make their decisions. You might use this information to help you when you are analyzing the results of your observations. However, you should be careful not to be limited by the results of the questionnaire. You might find from your observations that members of the committee used factors that they did not mention in the questionnaire.

On the other hand, after you have made your observations, you might want to interview the committee members to find out more

about why they made the decisions that they did, or ask one committee member what he/she meant by a particular comment.

Conclusion

There are three ways of gathering data through observation — participant observation, non-participant observation, and ethnography. Participant and non-participant observation can be done either overtly or covertly. A researcher needs to make decisions about these, as well as to decide how to gain entry and to get permission to do the observations.

Application Questions

What kind of observation would you use for your study, participant observation, non-participant observation, or an ethnographic approach? Would you observe overtly or covertly? Why?

How would you ask permission? Who would you ask for permission?

Discussion Questions

Read the paper in Appendix III. How could the researcher have used qualitative approaches to observation?

Chapter 19

Using Case Studies

Keywords

case study
illustrative case studies
exploratory case studies
cumulative case studies
critical instance case studies

Sometimes a researcher is interested in a particular situation. In that case, the researcher may do a case study, that is, combine various techniques of gathering data to look at that particular situation in depth. In this chapter, we will discuss case studies and how they are done.

Definition of a Case Study

The case study approach involves gathering and presenting as much information as possible about a particular situation, small group, or individual. For example, a qualitative researcher using a case study approach might study the students who live in a dormitory to find out how they relate to each other. Another type of case study might look at a particular situation. One famous case study about a situation was done in the 1970s. When someone put poison in a certain type of medicine, the company that manufactured the medicine did a good job of reassuring the public. A case study was done about how the company reacted to the crisis.

The emphasis of case studies is on describing in detail that one individual or group, rather than on making generalizations that apply to other groups or contexts. They do not usually look for cause-and-effect relationships; rather, the case study approach emphasizes describing, exploring, and understanding the person or group under study.

Case studies are similar to ethnography in that they involve collecting information mainly through interviews, observation, etc., but ethnography usually involves gathering information about a culture, while a case study is usually about one or more small groups, situations, or individuals.

Case studies have the advantage of being able to look into the research questions in great depth. They can provide a great deal of information about the context. However, their disadvantage is that they involve one particular situation and do not generalize beyond that particular situation. Also, they are also criticized as being subjective. However, the validity of a study can be maximized by using two or more methods of gathering data and getting feedback from the participants about the accuracy of the results.

Case studies can look at an individual and their language development, learning, and interpersonal interactions. One Japanese linguist did a study of how her daughter learned English request forms while they were on sabbatical in Australia. This would be an example of a case study on an individual. They can also look at organizations, their communication networks, structure, etc. For example, a qualitative researcher might do a case study about how decisions are made in a company. Or they may look at a group and its communication patterns, decision-making processes, and so on.

Types of Case Studies

There are four basic types of case studies.

Illustrative Case Studies

An illustrative case study is a basic kind of case study used to show what a group or situation is like.

Exploratory Case Studies

Exploratory case studies are small studies that are done as a first

step before a larger study. They are used to help the researcher find out what kinds of issues and questions she/he wants to look at in more detail in the larger study. For example, a researcher looking at Americans living in Japan and the social networks that they form might not be certain what sorts of issues will be raised in the study and might want to do a brief case study to find out more about what kinds of questions to ask or what to observe.

Cumulative Case Studies

Cumulative case studies put together information from different studies. In cumulative case studies, a researcher reads several studies done on similar groups of people, or similar situations. This allows greater generalization than just one study will allow. For example, a researcher might look for all of the studies on the social networks of people who live in foreign countries and summarize them.

Critical Instance Case Studies

Critical instance case studies are case studies of situations that are unique and not able to be generalized to other situations or groups of people. For example, if a researcher is studying the language development of a child whose mother is a native Chinese speaker, whose father is a native Japanese speaker, and who lives in Germany and attends an English-medium school, this would be a critical instance case study, because this is an unusual situation.

Designing a Case Study

There are so many different kinds of case studies that it is difficult to make general guidelines about them. However, when planning a case study, there are typically three things to decide:

1. Decide what questions to study. As with other qualitative approaches, researchers who use case studies usually do not make hypotheses. However, research questions are generally formed to guide

the study.

2. Decide:

a. how to collect data to answer the questions. There are various ways that data is collected for case studies. A researcher can use documents or other records, interviews, questionnaires, observation (participant or non-participant), protocol analysis (that is, analysis of transcripts of participants talking about how they do a task as they are doing the task), etc. Qualitative researchers generally prefer to use at least two methods to gather data for a case study, and sometimes more. Part of the analysis of the data can include comparing the information gathered in different ways.

b. what person, group, or organization to collect it from. Case studies can use one participant or a limited group of participants, but they do generally not use many participants, usually fewer than ten. Participants can come from a cross section or they can all be similar to each other. Researchers often do a brief "case history" of the participants in order to better understand their background and how it might affect the outcome of the study.

3. Decide how to analyze the data. Methods described in Chapters 20 and 21 can be used to analyze the data for case studies. One difference between case studies and other forms of qualitative research is that a case study is often told as a narrative, that is, a story in time order.

Writing Up Case Studies

Whatever form a case study takes, an important part of the writing up of a case study is description. Case studies generally use what is called "thick description," that is, very detailed description of a person or group, the context, the situation, and every possible relevant detail. It may also include the participants' reactions to the results of

the study and suggestions for future research.

Conclusion

Case studies are a useful approach when you want to describe in detail a person, group, or situation. When you do a case study, you gather information through interviews, protocol analysis, observation, etc. When you analyze and write up a case study, you use "thick description" of the context, the participants, etc.

Application Questions

How would you use a case study approach to answer your research questions? Who would you do your case study on? How would you gather your information?

Chapter 20

Analyzing Data in Qualitative Research: Word-Based and Scrutiny-Based Approaches

Keywords

themes
word repetitions
indigenous categories
keyword-in-context
compare and contrast method
social science queries
searching for missing information

Once you have gathered your data for your study you need to analyze it. Qualitative research often involves the analysis of texts. Texts can be many different things — written answers to a questionnaire a transcription of interviews, a transcription of a conversation among members of a group, or a researcher's notes on participant or non-participant observations. In this chapter, we will discuss six techniques for analyzing texts, and in the next chapter, we will discuss six more.

The major emphasis in qualitative analysis of data is finding "themes," that is, ideas that occur over and over in the data. There are four categories of approaches — word-based techniques, scrutiny-based techniques, techniques based on linguistic features, and tactile or manipulative techniques. You can use different ways to analyze data, depending on what the researcher is interested in. In this chapter, we will discuss word-based techniques and scrutiny-based techniques. In the next chapter, we will discuss the latter two.

Word-Based Techniques

One approach to data analysis is to look at the words themselves. These word-based techniques can identify recurrent themes. They are

mainly used as a way to start looking at the data and identify some themes that the researcher will then look into in more detail.

Word Repetitions

One simple way of analyzing texts (that is, what people have written or said in response to interview or questionnaire questions) is to look at words that people use frequently. This technique is based on the assumption that people repeat words that express ideas that are important to them. Therefore, if you can find the words that people repeat frequently, you will be able to find out what is on their minds.

For example, in one study, researchers asked parents to describe their children. They found that mothers frequently used such words as "friends," "creative," and "honest." Fathers, on the other hand, frequently used such words as "school," "good," and "student." Using these different sets of words, the researchers identified different themes in the ways mothers and fathers talked about their children.

Indigenous Categories

Another way to find themes is to look for words that are unfamiliar or for familiar words that are used in an unusual way. This is a useful technique when studying texts produced by a particular group that may have its own vocabulary or may use common words in unusual ways. These can point to themes that indicate how people in the particular group are different from other people. This method of analysis has been used on studies of medical students, drug addicts, and homeless people. In the study of homeless people who were talking about their experiences, the researcher found many references to "making a flop." "Flop" is a noun that the homeless people use for "bed" or a verb that they use for "sleep." The researchers analyzed the various ways that "flop" was used (kinds of flops, ways to make flops, people who bothered them when they flopped, etc.) to learn about the way homeless people talk about how and where they sleep — an impor-

tant issue for someone who does not have a home.

Key-words-in-context (KWIC)

The key-words-in-context method, the researcher chooses key words and then does a systematic search to find all of the examples of those key words in the text. (This is done with a computer word search of a file.) The words are sorted according to how they are used, whether the word is used in a positive or negative way, etc.

Scrutiny-Based Techniques

Scrutiny-based techniques involve not just looking at the words themselves but at the meanings that re-occur in the texts. The researcher can find some themes that were suggested by one or more of the word-based techniques, plus additional ones.

Compare and Contrast Method

When using the compare and contrast method, the researcher reads the texts and looks for similarities and differences between different texts or between texts written by different kinds of people. The researcher might look at transcriptions of interviews with men and women who are talking about relationships and try to find ways that they talk about the relationships differently.

Social Science Queries

In this approach, researchers look for answers to social science questions. The researcher might be interested in how people deal with conflict in social relationships, how friendships develop between people who meet in chat rooms on the Internet, what communication is like between bosses and employees in a company, or how small groups make decisions.

This technique has the advantage that the researcher can be guided, to some degree, by what other researchers and theorists have done.

For example, theorists on small group interactions have made categories for different types of status in groups. Some people in a small group will have high status because they are experts on the subject the group is discussing. Other people will have status in the group because they have a position in the group, such as the elected leader of the group. A researcher who is studying small group decision-making might look for evidence of these types of status and how they affect decision making. This approach can be both good and bad. The theories might guide the researcher to find things that he/she might not otherwise notice. On the other hand, the researcher might have a hard time seeing new things, because he/she is only looking for types of status that had already been identified.

Searching for Missing Information

Sometimes what people do not say can be as revealing as what they do say. Therefore, a researcher might learn something from paying attention to what people leave out. For example, in one study, a researcher was interviewing Chinese people about birth control in China. The researcher found that there were certain aspects of the government's birth control policy that people would not comment on or discuss. She felt that interviewees were using this silence to protest those aspects of the policies.

Interpreting missing information is a risky strategy, because there can be a variety of reasons for silence on a particular aspect of a subject. Participants might be silent because they assume that the researcher already knows the information or is not interested in it. It might be a sensitive or embarrassing topic. The participant might not trust the interviewer, or might not want to talk about the subject with others present. It is even possible that the participant did not fully understand the questions. Therefore, the researcher needs a good familiarity with both the topic and the participants to make inferences about the reasons for silence.

Conclusion

Word-based techniques are ones which involve looking at the actual words that participants in a study use. This is often a good way to begin looking at data. Scrutiny-based techniques involve looking at meanings that re-occur (or, in the case of missing information, expected meanings which do not appear).

Application Questions

Think about the word-based and scrutiny-based techniques that you have learned in this chapter. How could you apply them to your data?

Chapter 21

Analyzing Data in Qualitative Research: Linguistic Features and Tactile Approaches

Keywords

metaphors, similes, and analogies
transitions
connectors
pawing
unmarked texts
cutting and sorting

There are two other ways to approach data analysis in a qualitative approach. One involves looking at the linguistic features of the data. Another involves physically manipulating the data, by marking it, cutting it up and moving it around, etc.

Techniques Based on Linguistic Features

Sometimes the linguistic features that people use to describe their experiences are revealing, and one way of analyzing data is to look at these features.

Metaphors, Similes, and Analogies

Metaphors, similes, and analogies are figures of speech where two things that are different are compared to each other. Though the things that are being compared are different, they have some characteristics in common. If you say, "Life is like a journey," life is being compared to a journey. Even though these two things are not really similar, they do have some qualities in common. Both life and a journey have a beginning and an end, for example. You can look at metaphors to try to understand the characteristics people believe something has.

One researcher studied attitudes toward marriage by looking at the metaphors Americans used to talk about marriage. She found that many

of the interviewees used metaphors related to marriages being strong or weak. They talked about marriages being "as solid as a rock," which means that the marriage was strong and solid, or about a marriage being "built on sand," which means that the marriage was not strong.

Transitions

Another way to study the linguistic features of a language is to look at the changes in the content. For example, in a written text, starting a new paragraph can signal a change in the theme. In speech, pauses, changes in tone, or phrases like "on the other hand" or "to return to the main point" can be used to signal changes in theme.

One area in which researchers have looked at transitions is in turn-taking in conversation. As two people talk, there are certain signals that one speaker is finished and the other speaker can begin speaking. For example, rising intonation, as in a question, can indicate that it is the hearer's turn to begin speaking.

Connectors

Connectors are words or phrases that indicate the relationship between two ideas. For example, in the sentence "I was late for class because I slept late," what comes before "because" (being late for class) is caused by what comes after (sleeping late).

Some relationships that might indicate themes include the following:

1. attributes (A is B)
2. contingencies (if A, then B)
3. functions (A is a means of causing B)
4. spatial orientations (A is close to/far from B)
5. operational definitions (A is a tool for doing B)
6. examples (A is an example of B)
7. comparisons/contrasts (A is similar to/different from B)
8. class inclusions (A is a member of category B)

9. synonyms (A is equivalent of B)
10. antonyms (A is opposite of B)
11. provenience (A is the source of B)

Looking at how these connectors are used can help researchers identify themes.

Tactile or Manipulative Techniques

The last category is techniques that involve doing something physical with the texts, such as marking them or moving them around.

Pawing

"Pawing" involves reading through the texts and marking key words and themes that seem obvious. You might use different colors for each theme that you notice. As part of this process, you might sort the pages, put them in file folders, put them in different orders, etc. You should probably read entirely through all the texts at least twice, and possibly more often.

Unmarked Texts

After you finish marking the texts with different colors for different themes, you will probably find that you have parts of the texts that are still not marked. You should look at the unmarked parts of the text. What themes do you see in the unmarked parts? You can look in the unmarked parts of the text to find themes that were not immediately obvious to you.

Cutting and Sorting

Another way to manipulate the texts physically is to cut out what you consider the important parts of each text and put them on a card, along with identifying information about where the quote came from. Then you can sort the cards into different piles, with similar quotes together. You can name each of the piles of cards according to the

theme that they represent. You can divide themes that you find into sub-themes. If you are working with other researchers, you might each sort the cards independently. This might help you identify more themes.

Choosing Analysis Techniques

No one analysis technique is "best" for all situations. In most cases, it is best to combine two or more techniques. For example, you might begin with one of the word-based techniques to begin identifying themes. Once you have identified some themes, you might begin "pawing," reading through the texts and marking these and other obvious themes. Next, you might use the comparison/contrast method by dividing the texts between, for example, those produced by men and those produced by women, and see if you find different themes. Once you have identified the major themes, you might try cutting and sorting to find sub-themes of the themes you have identified.

The type of text has some influence on the techniques that you use. For example, you can use word-based techniques for short answers to questions on a questionnaire, but you might not have enough material to use scrutiny-based techniques. The techniques that use linguistic features such as metaphor are best used when you have longer narrative texts.

Conclusion

There are a variety of techniques that you can use to analyze the data that you gather using qualitative approaches. You can use one technique to identify themes and then use other methods to identify more themes, or to find sub-themes within your themes.

Application Questions

How could you apply these techniques based on the linguistic features of the text or on physically manipulating the text?

Of the 12 techniques that you have learned about, which do you think you could combine to evaluate your data? In what order would you do them?

Part IV
Appendices

Appendix I

Writing Research Papers

Research papers are usually divided into five major sections: Introduction, Literature Review, Methods, Results, and Discussion/Conclusions. These are usually the headings given to these sections, though sometimes they are different. As a writer, you must know what belongs in each section. In addition, if you read research papers, it is helpful to know what to look for in each section and how it fits in with the paper and the study as a whole.

Parts of the Research Paper

Introduction

The introduction briefly informs the reader of what the study is about and why it is important. It should not go into great detail, but it should give the reader an idea of what to expect. The introduction should tell in a few sentences what is covered in the literature review and what the research deals with.

The introduction is not necessarily labeled with a subheading, because it comes first, and so it is obvious that it is the introduction. It may be combined with the literature review.

Literature Review

A literature review is a section which summarizes what other scholars have said about your subject. (In this meaning "literature" does not mean novels. It means writings about research, theory, etc., related to a specific topic.) The literature review provides information about research and theory related to the research being reported in the paper. You need to read books and papers about the subject you are interested in and briefly summarize the ones that are related to the

research you are doing. The literature review also presents the specific problem that the study deals with, either in the form of hypotheses or research questions. In this section, you include answers to some of the following questions:

Why is this topic important?
What have theorists said about it?
Has there been any other research in this or related areas? If so, what were the results?

For example, if you want to do a study on the development of relationships between people who meet on the Internet, you should read books and research papers about the development of relationships in general and anything you can find about how relationships develop on the Internet. When you write your literature review, you include some general information as background, and also some specific information about the particular area that you are interested in.

This information helps the reader understand why your study is important and where it fits into research that has already been done or theories that have been developed. In some cases, you may feel that a previous study had problems. If so, you should discusses the problems and how they may have influenced the results of that study. For example, imagine that you read a study on the development of Internet friendships which only used subjects who were teenage girls. You might argue that these friendships were not necessarily typical of all Internet friendships. They may be different from relationships formed by teenage boys or people of other ages. You would particularly do this if you were going to report on a study which included subjects of different ages.

If you are using terms with specific meanings, you should also define them in the literature review. Some expressions have been defined in different ways, and you need to explain which definition you

are using. You might use a definition that some other researcher or theorist has used, or you might use your own definition. If you use your own, you might need to explain why yours is different from, and better than, previous ones. For example, if you are doing a study of "Internet friends," you might define Internet friends as "people who had their first contact through the Internet, who self-describe themselves as friends, and who have never meet face-to-face."

At or near the end, you express the hypotheses (statement of the relationships between variables) that are being tested or the research questions that you are attempting to answer in the study. The information in the literature review should provide arguments based on theory, results of previous studies, or logical arguments, for the hypotheses that are being studied, or background for the research questions if the study is exploratory.

Methods Section

In the methods section, you describe what you did in the study. Ideally, you should provide enough information for a reader to carry out the same study. Due to space limitations, this may be difficult, but you should still include enough information that the reader can analyze your method and decide whether the results of a study done with that method are valid. The section includes information about who participated in the study, what materials, measures, etc., were used, what the participants were asked to do, and what analyses were performed on the data. The methods section is divided into several subsections, depending on what information is necessary.

Overview/Research Design. In the overview or research design subsection, you briefly describe the method used. Included is information about what is being compared in the study, what materials or measures are used, and so on. This section should be short, not more than a paragraph or two. Its purpose is to give the reader just a brief overview of the study so that the significance of the rest of the infor-

mation in the methods section is easier to understand.

Subjects/Participants. In the subjects or participants subsection, information should be included about subjects in the study, including who they were, how they were chosen, how many were involved (both the total number and the number assigned to each experimental condition; if males and females are considered separately, their numbers should be reported separately as well), and under what circumstances they were studied. Any other information that is relevant to the study should also be included, such as age, sex, level in school, language proficiency (for non-native English speakers), and socio-economic status. A characteristic that is a variable in the study should be described in detail. Information about whether any participants dropped out of the study and why they dropped out should also be included.

It is particularly important that you explain how the subjects were chosen. In some cases, the subjects in a study were asked to volunteer. In other studies, an intact group, such as an existing class, is used. In other cases, the subjects are chosen randomly from a larger group. Each of these situations has the potential to have an effect on the outcome of the research. Therefore, readers need to know about them.

Materials/Measures/Equipment. In the materials or measures subsection, you describe any materials that you used in the study, including stimulus materials (for example, if you have subjects read a reading passage and respond to it, this is stimulus material) and measurement instruments (for example, a questionnaire). You should briefly describe the stimulus materials, measurement instruments, etc., in the materials section and explain how they were written and developed. If you used persuasive messages, a description of the messages and how they were different should be included in the materials section. If you use a questionnaire, interview protocols, rating scales, and so on, you should describe what kinds of questions or other measurements

you used and what you are attempting to measure with those questions.

If you used materials that were originally developed by someone else, or if you modified someone else's materials, you should credit that person and include a reference to the publication where you found those materials. (Unless you are using a well known measurement instrument, you should include the measurement instrument in the appendix of your paper.)

In addition, if any equipment is used for the study, the equipment and its function in the experiment should be described in the equipment subsection.

Procedures. In the procedures subsection, each step in the study is described. You should specify what instructions were given to the participants, how groups were formed, and what the manipulations were. Procedures such as randomization (assigning participants to groups at random) and blind coding (keeping the assistants who rate participants, etc., from knowing what the hypotheses were or which group the participants were in) should also be included.

Analyses. The statistical procedures that you used are described in the analyses section.

Importance of the methods section. The methods section often does not seem to be very important, and readers may skip it or skim over it very quickly. However, this section is crucial, because it allows readers to evaluate whether there are problems with the methods used, that is, whether the methods used allow threats to validity. You can find out the results of the study by reading the results section, but you cannot evaluate what the results really mean without understanding how the information was gathered.

Results

In the results section, the data is summarized and the results of the analyses are reported. These may be in prose form or in the form of

tables and figures. The amount of detail that is provided in this section should be enough to show why the hypotheses were either accepted or rejected, or to show how the research questions should be answered.

Discussion/Conclusion

The final section of the paper itself is the discussion or conclusions. There is usually a summary of the results in non-technical terms and an explanation of what those results mean and the conclusions that the research draws from them. As a writer, you should be careful that the conclusions that you draw can actually be supported by your results. This section should include the answers to the original questions raised in the introduction/literature review. The broader implications of the results may also be discussed and perhaps further questions that may be raised by the results of the study.

There may be a subsection on the limitations of the study in this section. In this subsection, the research explains limitations on the generalizablity of the study. For example, if all of the participants were college students, the writer might point out that other age groups may be different. The writer should also point out threats to internal and external validity of the study and how these threats might have influenced the results.

Other Sections

In addition, to the body of the paper, there are a few other sections.

List of References. The sources that are cited are listed in the list of references.

Appendices. The appendices include information that does not fit into the main body of the paper. It may include detailed descriptions of a procedure or a questionnaire.

Notes. Notes are brief explanations, such as expressions of appreciation, notices of support from grants, etc.

Checklist

As you write your paper, keep the following points in mind for each section:

1. Introduction
   a. Inform readers what study is about and why it is important
   b. Should be brief
2. Literature Review
   a. Summarize what other scholars have said about the subject
   b. Include information about why topic is important, what theorists have said, what research has been done
   c. Show how your study fits in the topic area
   d. Define terms with specific meanings
   e. Include hypotheses or research questions
3. Methods
   a. Describe what you did in the study
   b. Give enough detail that someone else could carry out the study, if possible
   c. Include overview, and information on subjects/participants, materials/measures/equipment, procedures, and analyses,
4. Results
   a. Summarize the results
   b. Provide enough detail to justify conclusions
5. Discussion/Conclusion
   a. Summarize results in non-technical terms
   b. Be certain that the conclusions are supported by the results
   c. Include limits on generalizibility and threats to internal and external validity
6. Other sections
   a. List of References

b. Appendices
c. Notes

Discussion Questions

According to this chapter, there are five sections in a research paper. Read the research paper in Appendix III. Identify each of the sections and subsections described in this chapter. What characteristics of each section described in this appendix do you see in the paper?

Appendix II

Citing Sources and Avoiding Plagiarism

If you use someone else's ideas or work in your paper, and particularly if you quote someone else directly, you need to acknowledge that person. In this chapter we will discuss what you need to make references for, how to make references, and how you can avoid plagiarism.

What is Plagiarism?

Plagiarism is using someone else's words, ideas or other kinds of work without permission or acknowledgement. For example, if you discuss someone else's theory in your literature review, you need to give credit to the person who developed the theory. If you do not give credit to that person, the theory appears to be your own, and you are committing plagiarism. Another example would be if you copied the exact words from someone else's paper and used it in your own paper, without putting quotation marks around the words and indicating where the words came from.

Plagiarism may not be taken seriously in some cultures, but it is taken very seriously in Western cultures. Plagiarism involves stealing someone else's ideas, expressions and work. If you do it for a class in a British or American university and your teacher finds out, you will almost certainly fail the class, and you may be expelled from the university, as you would if you cheated on an exam. If you use plagiarism in a paper which you submit to a US or European journal, you will also be in serious trouble.

In addition to using someone else's ideas, work, or words without giving them credit, plagiarism includes buying, stealing or borrowing

someone else's paper, or hiring someone to write your paper.

Since it is very easy to copy from the Internet resources, plagiarism has become a more serious problem in recent years. For non-native speakers of English, it is not easy to paraphrase passages, and they sometimes violate plagiarism rules without intending to. Students who write academic English should know what plagiarism is and how to avoid it.

How to Avoid Plagiarism

It is obvious that you should not use someone else's pictures, photos, charts, drawings, tables, etc., as they are, as part of your own work. If you want to do that, you need to receive permission to do so from the owner, and also you need to indicate that you received permission and from whom you received the permission. If you just, for example, quote some figures from a table or chart in your review of literature or discussion, you do not need to receive permission to do so, but you need to cite which source you used.

If you are directly quoting from someone else's work, or if you are referring to someone else's ideas or theories, you need to include a citation that tells whose ideas or words they are, and where they came from. You do that by putting their name(s), the year of publication, and the page number in parentheses within the paper. At the end of the paper, you have a "References." In the References, in alphabetical order by the author's last name, you provide information about the publication or oral presentation where you got the words or the idea. In the social sciences, teachers generally require you to use the format from the American Psychological Association (APA), which tells you how to make citations. Most journals in the social science use this format, or a similar format based on it.

If you use any direct quotes — that is, the exact words in the original source — from a magazine, book, paper, newspaper, song, TV

program, movie, Web page, computer program, letter, advertisement, or any other medium, you need to put the quote in quotation marks (if it is less than three lines long) and cite the source. If the direct quotation is more than three lines long, you should leave blank lines before and after the quotation and indent the lines five spaces. In that case, you do not need quotation marks. You should not quote more than a short paragraph from the copyrighted material without permission.

For example, if you were writing about intercultural communication, you might write the following:

As Kitao & Kitao (1995) have explained,

> To a great extent, our perception is influenced by our culture. For example, the characteristics that determine beauty vary in different cultures. Centuries ago in Japan, women blackened their teeth, and this was considered beautiful. Today, perceptions of beauty have changed, and that is not considered beautiful. (p. 91)

In the list of references at the end of the paper, you would see:

Kitao, S. K. & Kitao, K. (1995). *Communication Theory*. Tokyo: Gakushobo.

(You can find more information about how to cite sources at web pages linked to:

http://ilc2.doshisha.ac.jp/users/kkitao/online/www/referenc.htm#apa.)

If you use ideas from another writer, you need to cite the source. You cannot present someone else's ideas as if they were yours. Even if you get ideas from others through conversations or personal letters, you need to cite the source.

If you were to paraphrase an idea, you would write:

"Rules of use" tell us, of all the sentences that are grammatically acceptable, what sentences are socially acceptable (Hymes, 1974). For example, the sentence "How old are you?" is grammatical, but it is not polite in most social situations in the US.

In this case, Hymes, not the author of this paper, developed the idea of "rules of use." Therefore, this author cites the source of the idea of rules of use in the list of references.

Hymes, D. (1974). *Foundations of sociolinguistics: An ethnographic approach.* Philadelphia: University of Pennsylvania Press.

If you paraphrase a passage, you do not need to put quotation marks, but you still need to cite the source. Plagiarism involves not only copying wording but also stealing ideas.

Exceptions to Rules about Plagiarism

When you write your own experiences, thoughts, ideas, observations, opinions, etc., you do not need to cite anything since they are your own.

When you use common knowledge, that is, shared information or beliefs in your field of study or culture, you do not need to cite the source. When you mention some facts that many people already know, you do not need the citation.

How can you judge whether the information is common knowledge or not? If you find such information in various sources without a citation, it is probably common knowledge. If your readers are already likely to know it, or if they can find such information in general reference books, you can assume it is common knowledge.

Even if what you are writing is common knowledge, if you quote someone else's wording, you need quotation marks and a citation, of course.

When you write about the results of your observations or experiments, you do not need to cite anything, though you need to explain clearly how you arrived at the results. They are your own information.

How to Make Sure to Avoid Plagiarism

When you are taking notes from sources, including conversations with people or lectures by professors, make a distinction between that which is quoted and that which is your own idea. This is very important when you take notes for writing academic papers. In writing a paper, you need to put quotation marks around direct quotations, or a reference and a note if you just refer to the information. In either case, you need to put the source in the list of references.

As you paraphrase or summarize, do not read directly from the original source. Read the source, write the ideas from memory, and then check your writing against the original for the accuracy of the content and to make certain you did not use the wording of the original passage. Cite the source, if the information is not common knowledge.

When you quote something directly, you should put it in quotation marks. You should not include direct quotations very often, except when the original source has particular impact. In many cases, indirect quotations are better because they are smoother to read. In either case, you need to cite the source.

Conclusion

It is very important to know the rules under which you use information in a paper. It is easy to copy someone else's ideas, words, or work, and it is possible to do so by accident. This is considered stealing, and it is serious. You have to be very careful to avoid it in your

academic work. It does not make your work less valuable if you give credit for the ideas and words. In fact, that makes your writing more objective and reliable. Be sure to include citations and avoid plagiarism in your academic writing.

Note: You can find more information about plagiarism and how to avoid it on web pages linked to http://ilc2.doshisha.ac.jp/users/ kkitao/ class/material/academic.htm.

Discussion Questions

Look at the paper in Appendix III and answer the following questions:

1. Does the paper include any direct quotations? If so, how does the author give credit for the quotations?

2. Does the writer refer to anyone else's research, information, ideas, or theories? If so, how does she give that person credit?

3. Look at the list of references. What does the writer include (books, articles, etc.)?

Appendix III

Preparation for and Results of a Short-Term Overseas Study Program in the United States

S. Kathleen Kitao
Doshisha Women's College

Abstract

In the summer of 1992, Doshisha Women's Junior College students went to Mary Baldwin College for a short-term overseas program for the first time. The students had an orientation class in Japan and spent five weeks in the US, where they attended classes, traveled and had homestays.

In this paper, I looked briefly at other studies of students going overseas and how the experiences affected their views of the country they went to. Before and after going to the US, the students filled out a questionnaire about their English proficiency, their opinions of the US, and their opinions of the orientation. The results indicated that they felt that their English proficiency had improved. Their opinions of the US became generally more positive, and more detailed. I discussed these results and the students' own impressions from their journals. The appendices include a detailed description of the orientation program.

Doshisha Women's College has been sending students overseas for a summer program since 1982. At that time, students of the four-year college went to Mary Baldwin College in Staunton, Virginia, and traveled in the United States. After the junior college was established in 1986, a summer program was established for junior college

students with Warwick University in Britain. In 1992, junior college students went to both Mary Baldwin College and Warwick University for the first time.

In this paper, I look briefly at other studies of students going overseas. I discuss the Mary Baldwin College program for the junior college students in 1992 and a study of the effects of the program on students' language proficiency and their image of the United States, and the students' comments about their experiences. Finally, I discuss suggestions for future programs from the students.

Literature Review

Overseas Study

Although many Japanese students go overseas for study, either short term or long term, there has been relatively little study of these students, their preparation, or the results of the students' experience overseas (Yashima and Viswat, 1991).

It is difficult to compare the studies that have been done of Japanese students going overseas, because of the widely different populations and situations that they involve. Studies that have been done include Yashima and Viswat (1991), which looked at changes in the image of the United States for Japanese high school students who spent a year studying in the United States; and Higuchi, Saito, Lamarche, Shelangouski, and Kikuchi (1982) which looked at junior college students who were in Canada for a homestay experience. In both cases, the image that the students had of the host country deteriorated, and after their experience, they considered the people of the host country less friendly, less warm, less polite, less reliable, less kind, etc. However, in spite of being somewhat less positive, the participants' images of the host countries were still relatively positive, and the researchers concluded that the students' images had become somewhat more realistic through their experiences.

A study of a short-term program by Nozaki (1987) indicated that students' image of Americans became significantly more positive after a short stay in the United States on 14 out of 28 items: honesty, generosity, intellectual curiosity, sense of responsibility, warmheartedness, impartiality, diligence, kindness, prudence, politeness, cleanliness, morality, trustworthiness, and peaceableness. Students' images did not become more significantly negative on any item. Nozaki also looked at changes in the students' images of Japan, but found no significant differences.

Overseas Orientation Courses

In sending students overseas, no matter what their country of origin and host country, orientation is extremely valuable. Studying overseas is "potentially one of the most broadening and maturing educational experiences that a young person can have." However, "merely sending young people to live abroad for a while does not guarantee that they will learn a great deal more than if they remained at home" (Grove, 1989, p. xi). While Grove was referring to long-term programs, orientation is also important to the success of short-term programs.

The orientation that students received and the program at Mary Baldwin College are described in Appendix A.

Research Questions

1. What kinds of preparation are useful for students planning to go overseas?

2. How did a short-term overseas program in the US affect Japanese students' English language proficiency?

3. How did a sort-term overseas program in the US affect Japanese students' impressions of the US?

Methods

Overview/Research Design

In this study, I looked at the effects of a short-term overseas program on students' language proficiency and impressions of the United States. This was done using a questionnaire administered at the end of the 3-month orientation and again after the students' return to Japan, and also through an analysis of students' journals.

Subjects/Participants

The participants in this study were 33 Japanese female junior college students in a short-term overseas program. All of the students took part in the study as a requirement for the orientation class. They were chosen by interview from among 115 applicants for the class, based on their English language proficiency and the attitudes they expressed toward overseas study. They were all 18 or 19 years old.

Materials/Measurement Instrument

Students filled out a questionnaire (see Appendix B) in either English or Japanese at the beginning of the orientation program in May 1992 and in October 1992, after they had returned to Japan. Students were asked about their previous experience overseas and about how they prepared for the overseas program. They were also asked to rate their English proficiency on a scale of 0 to 10.

Students were asked to provide five positive and five negative adjectives to describe the US. This method has both advantages and disadvantages in comparison to the method used by Yashima and Viswat (1991), Nozaki (1987), and others, in which participants rated their host country on a semantic differential, using adjective pairs such as friendly/unfriendly, kind/unkind, and dependent/independent. While this method provides clear and easily quantifiable results, the results are in terms of what the researcher, not the participant, considers most

important. Asking students to provide their own adjectives makes the results more difficult to analyze, but it does provide more access to what is uppermost in the minds of the participants themselves. In addition, this instrument was more sensitive to some qualitative rather than quantitative changes. The students' image of the United States as a dangerous country before and after the trip, described below, would be an example of this advantage of this instrument.

In the post-program questionnaire, they were asked for suggestions for future programs.

Procedures

In addition to answering the questionnaires, the students were required to keep a journal about their experiences during the orientation program and while they were in the US. They wrote a minimum of one page per week during the orientation and two pages per week during the five weeks in the US. Students were instructed to write about their preparation, their experiences in the program, and how they reacted to their experiences.

In addition, Americans who worked with the students were interviewed about the students' proficiency.

Journals were kept by the students and turned in in October, after they had returned to Japan.

Analyses

In order to answer the question about improvement in language proficiency, students self-ratings before and after the program were compared. A t test was performed to compare the pre-program and post-program ratings.

The researcher read all of the students' journals, paying particular attention to the students' impressions of the US and Americans and their emotional reactions to their experiences. Students' journals are quoted in the paper to illustrate or explain the results of the study.

Results

Reasons for Joining the Program

When asked for their reasons for wanting to enter the MBC program, students answers included a desire to: 1) speak to foreigners, 2) learn English (abroad) or improve English proficiency, 3) participate in a homestay program, 4) communicate/exchange views with Americans, 5) experience American education, 6) prepare for future study at an American university, 7) teach Americans about Japan, 8) learn about American culture and life, 9) see how Americans live, 10) expand their world, and 11) learn American pronunciation. The most frequently mentioned reason was a desire to participate in the homestay program.

Students' Perceptions of Their Preparation

Students were asked on the questionnaire which types of preparation they had found most and least useful. (Descriptions of the texts and other preparations and how they were used are included in the description of the program in Appendix A.) The students' responses indicated that learning about functions (e.g., requests, apologies, complaints; *Communicating with Americans*) was the most useful. Seventeen students responded that it was the most useful type of preparation. Learning about traveling and using English (*Communicating in the U.S.*) was listed by ten students. Presentations by other students (5 students) and learning about American culture (*Background to the USA*) (2 students) were also mentioned. As for the least useful preparation, Reading about American culture (*Background to the USA*) was perceived as being the least useful. It was mentioned by the largest number of students (15). Presentations were mentioned by eight students. *Kanko kara business made: Travel eikaiwa* (4 students) and *Communicating with Americans* (1 student) were also mentioned. Five

students specified that they did not consider any of the types of preparation "least useful."

Increase in Students' English Proficiency

In the questionnaire, students were asked to rate their English proficiency on a scale of zero to ten when they began the program in May and again after they returned from the United States. Before the program, the mean rating of their proficiency was 3.56, with a standard deviation of 1.16. After the program, the mean was 5.74, with a standard deviation of 0.93. I did a one-tailed t test comparing the two values, which indicated that the increase was significant ($t = -10.73$; $p < .05$).

In addition to asking the students to rate their proficiency, I interviewed the five counselors about their qualitative perceptions of the increase in the students' English proficiency. This interview was conducted ten days after the students arrived at MBC. The counselors were all able to see clear improvements in the students' English proficiency. Specifically, they said that they had gone from speaking in one- to two-word utterances to full sentences. Students' comprehension also improved in that the students were capable of understanding English spoken at a nearly natural speed. When the students had first arrived, the counselors had felt it necessary to slow their rate of speaking considerably. The counselors felt that the relaxed atmosphere of the program was conducive to building confidence.

Changes in Students' Image of the United States

In order to assess changes in the students' images of the United States and Americans during the orientation and their time abroad, students were asked to list five positive and five negative adjectives describing the United States on the pretest and posttest. Students responded with up to five adjectives (or frequently nouns or phrases) for the positive and negative lists. One student on the posttest did not

provide any negative response.

Positive images. The most common adjective used to describe Americans or the United States was "friendly," and this was an image that became stronger during the period of the study. Seventeen of the students described Americans as "friendly" in the posttest, up from seven on the pretest. Related adjectives were "kind", which appeared on 14 posttests but only three pretests; large- or big-hearted (three each on the pretest and posttest); generous (twice in the posttest and once in the pretest); and gentle (once on the posttest). Three students on the posttest, but none on the pretest, noticed politeness to women. Americans were also described as being active (five on the pretest and five on the posttest) and cheerful (eight on the pretest and eight on the posttest) and people who express their opinions openly (3 students in the posttest and one in the pretest). Some students perceived Americans' lifestyle as being leisurely (three students in the posttest), though this was sometimes perceived as being negative in that clerks were slow (four students in the posttest).

As for the country itself, the image of the United States as being large seems to be the strongest image, both on the pretest (19 students) and posttest (26 students). It was also described as beautiful (4 students in the posttest) and with a lot of greenery and natural scenery, even in cities (4 students on the posttest).

Negative images. In the pretest, students' negative images of the United States were largely related to broad social problems. These were listed less often in the posttest. For example, the social problems that were listed included racial discrimination (13 in the pretest and 1 in the posttest), crime and violence (8 in the pretest and 4 in the posttest), and AIDS (3 in the pretest and 1 in the posttest).

Students saw the United States as dangerous both before and after the program (13 in the pretest and 15 in the posttest). Interestingly, however, the adjective "dangerous" was never qualified in the pre-

test, but in the posttest, it was usually qualified by such phrases as, "in some places," "mainly New York," and "large cities."

How students felt their images had changed. The students were also asked directly how their image of the United States had changed as a result of the time they spent there. The replies of all the students indicated that their images were more positive than or the same as they were before the trip. None of the students indicated that their image was more negative. Thirteen of the students indicated that the United States was safer or less dangerous then they had expected. Four of the students indicated that they felt "closer" to the United States or Americans than they had before the trip.

Discussion and Conclusions

Students' Perceptions of Their Preparation

Many of the students clearly felt that learning about functions in English was useful to them during their time in the United States. Learning about the situations they would be in as travelers was also considered beneficial. Probably these were considered useful because they were very specific and concrete, so students could clearly see their usefulness.

Learning specific expressions for travel situations (*Communicating in the U.S.*) was not considered the most useful preparation by any student and five students considered it the least useful preparation. However, because little emphasis was placed on this (there was no specific homework, other than to read the expressions, and they were only used in role plays at the end of the course), students may not have spent sufficient time on this type of preparation to benefit from it.

Learning about American culture, at least from *Background to the USA*, was not perceived as being particularly helpful. However, it is well known that a knowledge of culture is necessary to effective communication (Kitao, 1977), and that background knowledge influences

comprehension (Anderson, 1978; Kitao, 1989). For example, one student mentioned that she wished she had known more about American government, since her host mother talked about it, and a few other students mentioned that it would have been helpful to know more about various aspects of American culture, including daily life. It may be that because the students can see a direct use for functions or explanations of situations they will be in as travelers, they can easily recognize the usefulness of such information. However, many of the students may not have been as aware of the usefulness of background knowledge in communicating with English speakers. Since this type of preparation is not as concrete or obviously useful as learning about functions or situations, students may not have been aware of its usefulness.

Increase in Students' English Proficiency

Clearly, the students perceived that their English had improved noticeably, and this was supported by the results of the interviews with their counselors. It is unlikely, however, that in three weeks of classes and two weeks of travel and homestay they learned a great deal more about English grammar or vocabulary. It is more likely that what actually improved was their ability to make use of the knowledge of English that they already had.

In addition to gaining confidence in their English, many of the students seemed to have gained more motivation to further improve their English. Many of them commented in their journals that when they returned to Japan, they wanted to work on their English proficiency so that they could communicate better when they returned to the United States.

Changes in Students' Image of the United States

The students' image of Americans was made more positive by their experience in the US. They found Americans kind and friendly. This

may have been, in part, because they spent the most of their time in the States in a small town (Staunton, Virginia, population 20,000). Also, they were only in the US for five weeks. Previous studies of longer-term overseas students indicate that students' view becomes less positive and more realistic over a longer period of time. Students may have still been in a sort of "honeymoon" period at the end of five weeks.

The reduction in the number of students who listed racial discrimination as a factor in their negative image of the United States was particularly noticeable. Though students had heard about discrimination through the media before going to the United States, and some expressed concern about "Japan bashing," they experienced little or none of it themselves, so this image changed. In fact, to my knowledge, only one student may have experienced any racism. While at Disneyland, she thought (but was not certain) that she overheard someone say, "Jap."

Students appeared to have learned that different places in the United States varied in how dangerous they were. In her journal, one student wrote, "I came to like America after this program. I changed my thought about America. Before I visited America I thought that America was only dangerous, but it is not true. Some places are dangerous, but there are a lot of nice places. And people were very kind and friendly."

Most of the students, either in this questionnaire or in conversation with me, their teachers or their counselors, expressed interest in returning to the United States, possibly even to live or study. Three of the students indicated that they had not been particularly interested in the United States before this trip, but now they were very interested in it. (One of them wrote, "At first I wanted to go to England, but I think I'm lucky girl, I couldn't go to England. My favorite country is America.") Clearly, the image of the students was more positive than it had been before the trip.

Students' Advice for Future Programs

The students were also asked about their advice for the directors of future programs and what they wished they had known before going to the United States. No single suggestion was made by more than four students, and most suggestions were made by only one student.

Suggestions for the preparation before going to the United States included: learning more about American culture, including lifestyle, customs, and history (particularly related to places students visited, perhaps in Japanese); learning more about MBC (for example, how many students are there, what majors are offered, etc.); more opportunity to speak to foreigners before going to the United States; more study of English language, particularly conversation, vocabulary, and pronunciation; and more emphasis on explaining Japanese culture in English.

Suggestions for the portion of the program at MBC included more free time for rest, class preparation, or writing in journals; more time for preparation for Japan Night; a longer time spent in classes, perhaps after homestay; more counselors, perhaps one counselor per three to four students, because students speak English most with counselors; and more opportunity to talk with teachers and other Americans.

Students were also asked about their favorite and least favorite city. Of the cities the students visited after leaving MBC, New York and Los Angeles were the most popular, though all of the cities were mentioned as a favorite by at least one student. Most of the students said that there was no city that they did not enjoy visiting. A few students, however, mentioned that the schedule had been difficult.

Conclusion

The students obviously felt that they had benefited from their experience of studying overseas. They felt that they had been broadened by the experience. As one student wrote (after having commented

that she had gained weight in the United States), "I may be overweight, but I not only my body grew but also my heart. I never forget my American life." Another wrote, "I could know American idea, American history and American culture, and we could tell Japanese history and culture in return. I could feel close to America. I love America and I want to visit America again." Another student felt that the experience had had an especially profound effect on her. She wrote after the time at Mary Baldwin College, "In this three weeks I found my mind changed. I found there was nothing I can't do. I want to challenge everything without fearing. I'm sure if I hold out, my dream will come true." Another student wrote, "Through this trip, I feel I grew up.... I learned many things. Probably I come to be able to speak English better than before I went to America.... I'll never forget this trip." They perceived that their English had improved, they had more motivation to study English, their image of the United States and of Americans was more positive, and they had more confidence in themselves.

Future studies of these topics would be worthwhile. For example, more in-depth studies of what students found useful and, perhaps more important, why they found it useful, would help in the future preparation of students for overseas study. (Studying what students found useful might be more effectively done with a Likert scale or a semantic differential.) In addition, studies on the lasting effects of the experience and how much changes in students' attitudes toward and images of the host country persist would be valuable.

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Appendix A

Preparation for Going Overseas

Choosing Participants

Students were chosen in late April 1992 for the Mary Baldwin College program from a pool of 115 applicants from Doshisha Women's Junior College for the MBC program and the program at Warwick University. Students were chosen based on questions in English and Japanese about themselves and their goals for going overseas, a multiple-choice quiz about American history and culture, and an interview. In the interview, which was conducted in both English and Japanese, students were rated according to their English proficiency, their goals for the program, and how responsible they seemed to be.

Thirty-four students were chosen by this process. All of the students were first-year students in the junior college, ranging in age from eighteen to twenty years old. Six were Japanese majors and the remainder were English majors. One student had lived in Malaysia for three years, one had been in the United States for a 25-day homestay, and three had been overseas on vacation for less than one week. One student dropped out of the program in June and was not replaced, so thirty-three students participated in the program and made the trip.

The Overseas Orientation Course

The orientation class met twelve times between early May and late July, including an overnight session at a hotel. It was taught by one full-time faculty member, with the assistance of a staff member. The importance of attendance was stressed, and there were only two absences during the course. Several types of preparation were combined in the orientation.

Textbooks. There were two textbooks, *Communicating with Americans: Functions in English* (Kitao and Kitao, 1991) and *Background to the USA* (Musman, 1982). In addition, two books, *Communicating in the U.S.: English for Situations* (Kitao, S.K. and Kitao, K., 1993) and *Kanko kara business made: Travel eikaiwa* [From Sightseeing to Business: Travel English Conversation](Kitao, K. and Kitao, S.K., 1993), were used. I will discuss each of these textbooks individually and how they were used.

Communicating with Americans takes a functional approach to the teaching of English. There are chapters on such functions as greeting, complimenting, agreeing and disagreeing, requesting, complaining, and expressing appreciation. Students prepared chapters in advance and did role plays with classmates in class. *Background to the USA* is a general book on American culture. Students were assigned to read and answer short answer questions about two chapters a week. *Communicating in the U.S.* and *Kanko kara business made: Travel eikaiwa* organized around situations that travelers in the United States face. These situations include being on an airplane, in a post office, or at a hotel. In *Communicating in the U.S.*, each of these situations is explained along with the behaviors expected in them. *Kanko kara business made: Travel eikaiwa* addresses the same situations as *Communicating in the U.S.*, providing expressions and sample dialogues related to those situations. Students were assigned to read through the expressions and dialogues, though these were not used directly in class until role plays were done in the last class.

Student group presentations. Groups of students did presentations on various useful topics—packing and traveling, health and safety, talking about Japanese culture in English, American education, homestay, and so on. The groups also did presentations on each of the places they would be visiting—Virginia, New York, Boston, Niagara Falls, Los Angeles, and Washington, D.C.

Other. In addition, students saw videos in class about two of the places they would be visiting during their time in the US. They were also given handouts with information about various practical aspects of the trip, for example, how to act during their homestay. There was also an opportunity to see a video from last year's program at MBC and to ask questions of last year's participants.

Journals. Students were required to keep journals during the orientation and to continue to keep them during the trip. They were asked to write about how they were preparing for the trip, what their impressions of the United States were before they left and after they had been there, and what they did in the United States. Though they were assigned to write one page per week during the orientation and two pages per week during the trip, most students wrote much more. Direct quotations in this paper are from students' journal entries.

Students' Preparation Outside of Class

According to their responses to the questionnaire described below, most students did additional preparation for their overseas trip. The types of preparation they listed included: 1) reading books or magazine articles (about the United States, homestay, and so on), 2) listening to radio or television English conversation programs, 3) watching foreign television programs or movies, 4) listening to English tapes, 5) attending conversation classes, and 6) watching television news in English. Only one student responded that she did not do any preparation outside of the orientation class.

The Mary Baldwin College Program

Classes

The students are at Mary Baldwin College three weeks, during which time they take American culture classes (in 1992, American children's culture, religions in America, and American history) and

English language classes (reading, writing and speaking/listening). The culture classes emphasize student participation and discussion rather than lecture. Among other assignments, students did a short independent study project for the culture classes, made journal entries in class for the composition class, interviewed local businesspeople and college employees for the listening/speaking class, and wrote a report on that experience for their composition class. Fables, myths, and poems written by students for the composition class were gathered in a book that the students were given at the end of the course.

Students found the classes interesting and enjoyable. One student wrote, "We have our first class yesterday. I felt that an hour was very short, because every class was interesting for me." Another student wrote, "In Japan, most classes which I have in college are passive classes except for English classes. I only write down what a teacher writes on blackboard, but in America, I can speak in class, so I can feel that I am taking part in class."

Living Situation

During the time they were at MBC, students lived in a dormitory. They were divided into four groups, and there was a counselor, an American college student or recent graduate, assigned to each group. Students ate meals with their counselors and spent time with them outside of class. Though there were other Japanese students on campus at the same time, the Doshisha students had little contact with them.

Field Trips

In addition to classes, there were a number of field trips. Students visited a local organ factory, Richmond (including an art museum and a history museum), Williamsburg, Jamestown, Woodrow Wilson's Birthplace, a local dairy farm and poultry farm, Monticello, and the Museum of American Frontier Culture (where they could see farms

from the 18th-century United States and three European countries), and attended Jazz in the Park and the Oak Grove Music Festival.

Homestay

After three weeks at MBC, students had a homestay experience with local families. Students were assigned to homestay families in pairs. They first met their families at a dinner and then spent four and a half days with them. With the homestay families, students engaged in a wide variety of activities, including camping, hiking, swimming, horseback riding, visiting museums, attending church services and other church activities, and visiting the host families' relatives or neighbors.

Entries in the students' journals indicated that the homestay experience was a universally positive one, and that all of the students formed good relationships with their host families and felt that, as a result of the experience, they learned a great deal about American daily life, particularly family life. One student wrote of the experience, "Though I stayed with them for only five days, it was the most wonderful time for me. They were very sweet and treated us as treasures. I could touch American daily life directly. I discovered many things." Another wrote, "They were all very kind and treated us as members of their family. I was very glad to stay with them a week. I won't forget them."

Appendix B

Overseas Orientation Survey (May 1992)

Answer the following questions. If you have difficulty answering in English, please answer in Japanese.

Name: _____Age: ____Years ____Months

1. Have you ever been to the United States? If so, how long were you there? What did you do while you were there?

2. Have you ever been to any other foreign country? If so, how long were you there? What did you do while you were there?

3. Rate your English proficiency on a scale of 0-10. (10 means as proficient as a native English speaker; 0 means no ability at all.) Circle the number.

0 1 2 3 4 5 6 7 8 9 10

4. What is your image of the United States, both negative and positive? Write five positive (good) adjectives and five negative (bad) adjectives. Briefly explain with what you mean by each.

Positive:

1.
2.
3.
4.
5.

Negative:

1.
2.
3.

4.
5.

Overseas Orientation Survey (October 1992)

Answer the following questions. If you have difficulty answering in English, please answer in Japanese.

Name: _____

1. In addition to attending the overseas orientation class, how did you prepare for the trip to the United States? (for example, radio or TV English conversation programs; conversation classes; reading books)?

2. Rate your English proficiency after the trip on a scale of 0-10. (10 means as proficient as a native English speaker; 0 means no ability at all.) Circle the number.

0 1 2 3 4 5 6 7 8 9 10

3. What is your image of the United States, both negative and positive? Write five positive (good) adjectives and five negative (bad) adjectives. Briefly explain with what you mean by each.

Positive:

1.
2.
3.
4.
5.

Negative:

1.
2.
3.

4.
5.

4. How did your image of the United States change as a result of your time there?

5. What was your image of American families before your homestay? How did your image of American families change as a result of your homestay?

6. In this class you prepared for the trip to the United States in various ways.

1) learning about functions (requests, greetings, apologies, etc.) — *Communicating with Americans*
2) learning about American culture—*Background to the USA*
3) learning about traveling and using English—*Communicating in the U.S.*
4) presentations—about traveling, American culture and the places that we would visit
5) learning about English expressions—*Kanko kara business made: Travel eikaiwa*
6) Other (please specify)

Which did you find most useful (write in the number)? ____

Which did you find least useful (write in the number)? ____

7. What advice would you give to next year's director for the MBC program? What kinds of preparation did you find especially useful? What kinds did not help? What did you wish you had known?

8. Which city did you enjoy visiting most? Which city did you not enjoy visiting?

Appendix IV

Doing a Presentation on Your Research

Aside from writing your research as a research paper or report, you might have to report on it orally. You might do a report of your research for a committee of your co-workers. You might do a presentation at a conference. You might explain the results of your research to your supervisor. We will discuss some of the issues you need to think about before you prepare for the presentation, how to prepare for your presentation, and as you give your presentation.

Preparation

Before You Prepare for Your Presentation

Before you even start to prepare for your presentation, there are some questions that you need to consider. You need to keep these in mind as you prepare for the presentation.

The purpose of your presentation. Before you even start to prepare your presentation, you need to think about its purpose. When you are planning a presentation, the first thing you need to do is to make the purpose of the presentation clear in your own mind. This is very obvious, but it is sometimes neglected. It is useful to write down in a single sentence what you plan to accomplish with your presentation. You may or may not actually use this sentence in your presentation, but you should keep it in front of you as you work on your presentation.

In presenting a research paper, the purpose is usually to report the results of the research. Which of the results should you emphasize? How can you present them most clearly? How much theoretical background is necessary to understand the results? (This depends, in part

on the audience, discussed below.)

Considering the audience. You need to consider the audience for the presentation. As much as possible, you need to know your audience. How old are they? Are they men or women? What do they already know about the topic? What are their beliefs? Their social and economic backgrounds? Why have they come to listen to you? You should have as much information as possible about your audience, and you should keep it in mind as you prepare your presentation. This is called audience analysis.

If your audience does not know much about the subject, you will have to explain the background. If they are very familiar with the subject, you will not have to explain it.

You also need to consider how the audience will use the information. If you are doing a presentation on an aspect of language to a group of language teachers, you will probably want to emphasize aspects of your research that will be useful in their classrooms. If you are giving the presentation to a group of linguists, they will probably be most interested in how your results support or contradict a theory of linguistics.

In some cases, you may speak to an audience whose composition you do not know. If the setting is not too formal, you might want to start by asking them how familiar they are with the topic, what their backgrounds are, etc. This will allow you to adapt your presentation to some degree.

Preparing Your Presentation

Written and spoken communication. As you prepare your presentation, you should keep in mind that written and spoken communication have differences. One of the most important is that a reader can go back and re-read a sentence or a paragraph several times if the meaning is not clear. However, a listener does not have that luxury. Therefore, it is not a good idea just to read the written version of your

paper out loud. You should use shorter, simpler sentences when you speak. You should choose a few points that you want to make and concentrate on those points. You should make certain that everything included in your talk contributes to making those points. Also, do not be afraid to repeat your important points more than once. It is easier for listeners to miss them than for readers to miss them.

Organizing your presentation. Because of this difference, it is particularly important that your presentation be well organized. A general principle of public speaking is that first you tell the audience what you are going to tell them (introduction); then you tell them (discussion or body); then you tell them what you told them (conclusion). That is, first, you let the audience know what the presentation will be about — what the main sections of the presentation will be and what topic areas you will cover. Second, you present the background and research results. Finally, you explain your conclusions and summarize the main ideas. You can use this organization for the presentation as a whole and also for each major section of the presentation.

Generally you will write the body of the presentation first. After you write the body of your presentation, you write the conclusion and then the introduction. The conclusion should summarize the main points and emphasize what you hope to accomplish with your presentation. Your audience is likely to remember the points that you make last. Finally, you need to write your introduction. In the introduction, you need to capture the attention of your audience and make the topic and scope of your presentation clear.

It will also make your presentation clearer if you include examples or quotations. Consider your audience and what kinds of examples and quotation they are likely to find easy to understand and which will help make your points clearer to them.

Do not try to present all of your research results. Choose the most

interesting results, and the ones that are most relevant to your audience. Also, do not try to show the audience detailed charts with many numbers. You can put emphasis on what your results mean (the conclusion of your research paper) rather than the numbers themselves.

Using Visuals. Even though you are giving an oral presentation, you do not have to depend entirely on oral communication. You can use an overhead projector, a handout, or a computer program called Power Point. You can include an outline of your presentation, phrases expressing your main ideas, charts or graphs presenting your statistics, etc. However, you should design this visual part of your presentation carefully, so that each page or slide is not too crowded, and it is easy for the audience to pick out the important points. The print should be large enough that it is easy to read, even in the back of the room. In some cases, you might also use videos or other types of audio or visual aids.

You should make certain that the visuals that you use help support the main points you want to make. If you overuse them, or if you use them only for the sake of using them, they will be ineffective and distracting. Your time is usually limited, and using audio-visual aids takes time. You will have to be well prepared in advance and make it sure that any equipment you are using works properly before your presentation.

Using appropriate language. As you write your presentation, you need to choose appropriate language. Based on the occasion at which you are speaking and on your analysis of the audience, you need to decide how formal the language you use should be, whether you can include technical terms, what sorts of illustrations and data you can use, etc. If the presentation is at a meeting of professional people, or if it is done for your co-workers, you can and should use technical terms, because they will help you get your message across accurately and clearly. However, if your audience is made up of non-professionals

who are not likely to be familiar with technical terms, you should avoid them. At a presentation that is informal, for example, one for a group of colleagues or at a small conference, you can speak casually and include jokes.

Involving the audience. In some cases, you may be speaking in an informal situation where you can involve the audience. You can plan questions to ask the audience to help them see how your topic applies to them. This is especially useful if you are speaking to people who are not specialists.

Practicing. When you have finished writing your presentation, you need to practice in order to be well prepared — though you should not practice so much that you sound stiff. First you can practice by yourself. Speak at the speed you will use for your presentation and time yourself. (Keep in mind that you may get behind and need to cut parts of your presentation; think about what might be able to be cut.) If you have a large audience, your rate of speaking needs to be slower. You need to make certain that you can finish your presentation within the time allowed, but that you do not have too much time left over. (Depending on the setting where you are speaking, you may need to allow time for questions or discussion at the end.) Ask a friend to listen to your presentation and comment on it. Practice gives you confidence, helps control stage fright, and increases your source credibility by allowing you to sound confident.

Doing Your Presentation

Establishing Your Credibility

As you deliver your presentation, you need to establish yourself as a credible source. Source credibility is related to whether the source seems believable and trustworthy. Source credibility can be demonstrated in a wide variety of ways. Showing that you are familiar with the topic, showing that you are a trustworthy and concerned person,

wearing appropriate clothes, referring to your qualifications to speak about the topic, and speaking in a self-confident and self-assured manner can add to your source credibility.

Audience Feedback

Pay attention to the response of the audience. Watch their faces as you speak. Do they seem to understand? If not, you may need to slow down, explain a point in a different way, etc. Are they getting restless? Maybe you should go on to the next point.

Although the audience cannot "re-read," they may have the opportunity to give feedback. Unless you are doing a presentation in a very formal situation, or to a very large audience, invite your audience members to ask questions. As you begin your presentation, you might invite the audience members to ask questions whenever they have any. During natural breaks in the presentation — for example, at the end of a section — you can ask if anyone has any questions.

Delivery

The way you deliver your presentation is almost as important as the content. As you deliver the presentation, you need to speak slowly but fluently and clearly enough that your audience can understand you. Be aware that if you are nervous when you are delivering your presentation, you are likely to speak faster than normal. As you are giving your presentation, you may need to make a conscious effort to slow down. You need to speak loudly enough that the entire audience can hear you, but not too loudly. You can use changes in the loudness of your voice to emphasize your important points. You should vary the tone of your voice to help keep your audience's attention. You should stand in a relaxed posture, except in the most formal situations, and your gestures should be natural and support the content of your presentation, for example, by using hand gestures to emphasize important points. You should maintain eye contact with members of

your audience as you speak, rather than looking at the wall in the back of the room or the floor in front of you.

You should also watch the time as you speak. If you seem to be getting behind, you may need to cut parts of the presentation. If you are going more quickly than you expected, you may need to slow down, give additional examples, ask if anyone has any questions, etc.

Checklist

As you are preparing for and doing the presentation, keep in mind the following:

I. Preparation
  A. Before you begin
    1. Consider the purpose
    2. Consider the audience
  B. Doing the preparation
    1. Keep in mind the differences between written and spoken communication
      a. Keep sentences short and simple
      b. Concentrate on a few points
      c. Repeat the most important points
    2. Organize your presentation
      a. Include an introduction, discussion and conclusion
      b. Write the body first, then the conclusion, and finally the introduction
    3. Consider how to make the presentation clearer by using visuals
      a. Visuals should be easy to read and uncrowded
      b. Choose your visuals carefully and do not overuse them
    4. Consider the language you are going to use
      a. Decide how formal to be
      b. Decide how technical to be

c. Plan ways to involve your audience, if appropriate

5. Practice
   a. Consider the pace of your speaking
   b. Consider the amount of time you have
   c. Ask a friend to listen and give you comments

III. Doing the presentation
1. Establish source credibility
2. Pay attention to the audience response
3. Invite the audience to ask questions, if appropriate
4. Consider your delivery
   a. Be aware of your pace; consciously slow down, if necessary
   b. Vary the tone of your voice and loudness
   c. Stand in a relaxed posture
   d. Use natural gestures
   e. Maintain eye contact
5. Be aware of the time

Conclusion

Many people are nervous about giving presentations, especially if they do not have much experience. However, if you think carefully about your audience, consider what you want to communicate to them, organize your presentation well, practice, and pay attention to the audience's feedback, you can give a good presentation.

Application Questions

Imagine that you are presenting your research results in a 20-minute presentation at a conference. What kind of audience would you have? What aspects of your presentation should you emphasize? What kinds of visuals will you use?

Appendix V

Titles, Abstracts, and Biodata

When you write a paper, you also must give it a title and often write an abstract (a brief summary) of the paper and biodata (information about yourself). The title and abstract help others find out what the paper is about and whether they are interested in reading it, or, in the case of an abstract that is part of a conference proposal, it helps the program committee decide whether to accept the presentation. Therefore, it is important to write them effectively. The biodata helps establish your credibility as a source and lets others know what your background and qualifications are.

Titles

The title obviously gives information about what your paper will be about. In a very few words, it needs to let the reader know what the study is about. The title should:

1. give the topic of the study
2. indicate the scope of the study (may include the type of participants in the study [for example, Japanese, American university students], the type of setting where you did the study [a medium-sized company, an elementary school], etc.)
3. the type of study it is (experiment, case study, preliminary study, etc.) (optional)

Titles should not give the results of the study, just tell what the study was about. Some examples of titles are:

Reducing University Students' Test Anxiety

Japanese Students' Errors in the Use of the Present Tense

The Use of Sentence Connectors in Academic English

"Sorry, I'm Busy": Refusals of Invitations in British English and Japanese English

Horizontal Communication in a Medium-Sized Company: A Case Study

Abstracts

When you write a research paper or a proposal for a presentation at a conference, you may need to write an abstract of your paper. An abstract is a short summary (usually between 100 and 300 words) of the paper you have written or plan to present. Your abstract is very important. If it is for a published paper, it may be the only part of the paper many people read. If the abstract interests them, they may read the entire article. If it is part of a proposal for a presentation, it will be used to decide whether your presentation is accepted.

Whenever you write an abstract, whatever its purpose, you should check to find out how long it should be. The instructions for the proposal or paper should tell you how long the abstract should be, and you should be careful to stay within the stated limit. (Use the word counter under "tools" in Microsoft Word to check the number of words.) On the other hand, the abstract should not be significantly shorter than the stated limit. For example, if the limit is 200 words, a 100-word abstract is too short. It should be at least 175 words.

Research Paper Abstracts

Depending on the format of the journal where your paper is published, or your teacher or supervisor's assignment, you will often need to write an abstract for a research paper Research paper abstracts are generally short, rarely longer than 200 words and usually four to ten sentences.

An abstract for a research paper should have one to three sentences for each of the sections of the paper (literature review, methods, re-

sults, discussion/conclusion). The abstract should include briefly:

1. information about the context of the research and what the purpose of the research was (that is, what the researcher was trying to learn)
2. how the researcher did the research (whether information was gathered by questionnaire, interview, or observation; who the participants were; etc.)
3. what the most important results were
4. what the results mean

Abstracts usually use the impersonal passive. For example, in an abstract, you would use "A questionnaire was administered" rather than "We/The researchers administered a questionnaire." However, some writers use expressions like "We discussed...," "I showed...," "We argued...," and "I concluded...."

Conference Proposal Abstracts

If you want to do a presentation at a conference, you will probably need to write an abstract as part of the proposal. The abstract is read by the program committee of the conference in order to decide whether to accept the proposal.

A conference abstract is in generally the same format as a research paper abstract. However, there are a few differences. A conference proposal abstract may be longer than one for a research paper, so you can make some parts of the abstract longer. However, you do not necessarily have to report your specific results or conclusions as part of the abstract for a conference proposal. (Conference proposals are often submitted six months or more before the conference, and your research might not be complete.)

The emphasis of a conference proposal should be in three areas. You want to:

1. show the program committee that you know the subject area

that you are proposing to give a presentation on
2. make it clear what your presentation will be about, particularly what hypotheses or research questions you are working on
3. show that your presentation will be interesting to the audience at the conference you are submitting the proposal for (Before you even write the abstract, of course, it is important to consider what type of conference you are submitting your proposal for and how your paper is appropriate for the people who will attend that conference.)

One way to show in a conference proposal abstract that you are familiar with the research or theory in your subject area is to include a carefully chosen reference to one or two important papers in the subject area. For example, you might write, "As Smith and Jones (2000) have shown...." Then at the end of your abstract, you include the citation for the paper by Smith and Jones, using the style of citations discussed in Appendix II. However, this should not be a major part of your abstract.

Biodata

If your paper is accepted for presentation at a conference or publication in a journal, you may be asked to provide information about yourself. The number of words will be specified (generally less than 30 words), and some journals and conferences ask for specific information, or ask you not to include certain information. Generally, you include your full name, your relevant educational background, your employer and position, books published, if any, and your interests. Biodata is written in the third person.

For example:

Alan Smith received his Ph.D. in communication from Michigan State University in 1989. He is a professor at the University of Kansas and does research in and teaches interpersonal communication.

Conclusion

While the title, abstract, and biodata may be among the last parts of paper that you write, they are still very important. The title and abstract let readers know what your paper is about and helps them know whether they would like to learn more. The biodata provides information about your background and lets the reader know whether you are a believable source.

Application Exercise

Reduce your literature review, methods section, results, and discussion/conclusion each to one or two sentences. Put them together and write connectors so the sentences read smoothly to make an abstract for your paper.

What is the topic of your study? What is its scope? What type of study is it? Using this information, what title are you going to give your paper?

Discussion Questions

Look at the abstract of the paper in Appendix III. What information does it have about the background and literature review, the methods, the results, and the conclusion?

Appendix VI

Answers for Exercises

Application Questions

Chapter 14

	t-shirt group	suit group
range	2	3
mean	4.0	2.9
s.d.	0.82	0.99

The range is greater for the suit group; the mean is higher for the t-shirt group, which means that they rated the woman as more friendly than the suit group did. The standard deviation is larger for the suit group, which means that their responses were more spread out.

Chapter 15

T Test

The t value is 2.70, and the P = .007. Therefore, the difference is significant. The woman is judged as significantly more friendly when she is wearing jeans and a t-shirt than when she is wearing a suit.

Chi Square

	Cases		
Category	Observed	Expected	Residual
A	4	10.00	-6.00
B	19	10.00	9.00
C	7	10.00	-3.00
Total	30		

Chi-Square	D.F.	Significance
12.6000	2	.0018

Advertisement B was judged as being significantly more effective than the others.

Pearson Correlation

The correlation is .94, and $p > .0001$, so there is a significant correlation between vocabulary knowledge and reading proficiency.

ANOVA

Source of Variation	Sum of Squares	DF	Mean Square	F	Sig of F
Main Effects	2779.400	2	1389.700	10.183	.001
NATIONALITY	1960.200	1	1960.200	14.363	.002
TEST	819.200	1	819.200	6.003	.026
2-Way Interactions	12.800	1	12.800	.094	.763
NATIONAL TEST	12.800	1	12.800	.094	.763
Explained	2792.200	3	930.733	6.820	.004
Residual	2183.600	16	136.475		
Total	4975.800	19	261.884		

There are significant effects for both the nationality and the test (listening and speaking ability). There is no interaction effect. The German speakers did significantly better on the tests, and reading scores were significantly higher than the listening scores.

Discussion Questions

Chapter 4

The paper has elements of both quantitative and qualitative research. For example, the writer uses statistics to compare the students' ratings of their English proficiency before and after the study. The analysis of the students' journals made use of qualitative methods, discussing the students' experience of the program.

Chapter 5

The researcher considers the variables of the students' English proficiency and their impressions of the US.

The research questions are:
1. What kinds of preparation are useful for students planning to go overseas?
2. How did a short-term overseas program in the US affect Japanese students' English language proficiency?
3. How did a short-term overseas program in the US affect Japanese students' impressions of the US?

Chapter 6

She operationalizes the construct of English proficiency as the student's rating of her English proficiency and the counselors' observations about the students' English proficiency.

She operationalizes the students' perception of the US as the positive and negative adjectives listed by the students.

Chapter 7

She uses a questionnaire, students' journals, and observations by the counselors. The questions about the students' perceptions of the US allow the students to write about what is uppermost in their mind, rather than just responding to the researcher's adjectives (for example, in a semantic differential). The students' journals similarly allow students to express their experiences in their own way, but they are very time consuming to analyze. The counselors have opportunities to observe the students using their English in a variety of circumstances. However, the students may react differently to different counselors, and the counselors are not observing in any organized way.

Chapter 8

The questionnaire used short-answer questions, a semantic differ-

ential, and essay questions. Using a semantic differential instead of multiple choice for the most useful preparation might have yielded more useful information.

Chapter 9

The researcher could have interviewed the students about their impressions of American culture. This would have provided more information about their impressions before and after the trip and how those impressions had changed as a result of their time in the US.

Chapter 10

The researcher used the informal observations of the counselors to find out how the students' English proficiency improved.

Chapter 11

The study has good external validity for short-term trips overseas, because it is using students who are actually experiencing an overseas trip. However, it might not generalize well to a long-term experience overseas. Also, all of the students were female, so it might not generalize well to males. As for internal validity, the students were chosen for the course, but they might be considered an intact group, and they might have influenced each other. Since the students volunteered for the trip, they were self-selected, and they might react differently than students who were chosen at random.

Chapter 12

The study has good external validity for short-term trips overseas, because it is using students who are actually experiencing an overseas trip. However, it might not generalize well to a long-term experience overseas. Also, all of the students were female, so it might not generalize well to males. As for internal validity, the students were chosen for the course, but they might be considered an intact group, and they might have influenced each other. Since the students vol-

unteered for the trip, they were self-selected, and they might react differently than students who were chosen at random.

Chapter 13

The researcher does not use a control group, and therefore, there is no comparison for changes in attitudes or improvement of English proficiency.

Chapter 15

The researcher uses a t test to compare the students' ratings of their English proficiency before and after the program. The results indicated that the students felt that their English proficiency had improved during the program.

Chapter 16

The researcher uses the students' journals to try to understand how the students understood and thought about their experiences in the US.

Chapter 18

The researcher could have observed the students' interactions with their counselors, teachers, and with other people in the community during their stay at Mary Baldwin College to see whether and how their English proficiency and confidence improved.

Appendix I

In the introduction, the writer gives a little background about the overseas program and explains what will be included in the paper. In the literature review, the writer describes the results of a few other studies of overseas programs. She also justifies the importance of orientation programs before going overseas. Finally, she lists three research questions.

In the methods section, the writer gives an overview; describes the participants and how they were chosen; describes the measure-

ment instrument (which appears in full in the appendix), and describes the procedures and the analyses.

In the results section, the writer reports on the results, based on the questionnaire, and interviews with the counselors.

In the discussion and conclusion, the writer discusses these results and added information about the students' thoughts and experiences from their journals.

The appendices include a description of the program and materials used and reproduce the questionnaires.

Appendix II

1. The writer has a direct quotation on p. 154. She gives the author, year, and page number, which refer to the list of references.

2. The writer quotes Yashima and Viswat in saying that there has been little study of overseas experiences. She also quotes the results of three studies. She quotes Grove to justify the importance of orientation courses.

3. The author quotes both book and articles. There are also references for the textbooks used in the orientation course.

Appendix V

The writer describes the overseas program briefly, explains what the literature review covered, describes the methods of data gathering, gives two of the results, and mentions what is in the discussion and the appendices.

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