

Researching people problems: some advice to a student

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In any research project, many decisions have to be taken by the researcher, all of which influence the way the project is set up, the data collected and analysed, and the final results presented. Students are often unsure how to make these decisions and the purpose of this paper is to give them some advice. Research that includes people's attitudes and behaviour is generally more complex and difficult to control than traditional scientific research in which experiments can take place in a laboratory environment. Many different approaches, tools and techniques are available and a student has to be aware of these and make a careful choice among them. His or her results will almost certainly be influenced by this choice.

DEFINING THE PROBLEM

The first, and frequently most difficult, decision for you, if you are a student, is deciding on the subject for study – the questions which you want to try and answer. This can be a small research project in its own right. Should, for example, students take subjects which they are particularly interested in, but few other people seem to be? Should they take an already well-researched area and try to add something to this, or take an area which is new and about which there are few publications? How large or small should the problem be? None of these questions is easy to answer and perhaps the best suggestion is for you to adopt the strategy which is likely to produce the most advantageous results from your point of view. Interest in a subject is of critical importance as is your ability to complete the research in the time available. Ideally students should choose subjects for study which they find interesting and challenging, but should ensure that they are not defining the problem area too broadly so that it becomes difficult, if not impossible, to complete the research within the required period. It is best not to take a subject that is too well-researched. Students who do this find that they have very large numbers of books and articles to read, and at the end of the research may feel that they have not really contributed anything new to the subject. At the same time, a totally new research area may prove too demanding and working at the frontiers of knowledge is, for most people, best left to a later stage in their careers. A good subject is one in which some research has already been carried out and so there is something for the student to build on. At the same time, this previous research has raised questions that still need answering, so that the student can tackle

one or more of these. If possible, the subject selected should be one that not only interests you, but also interests a large number of other people. This means that you will have a group which you can contact for help and discussion. It also means that when the research is completed, it may not be difficult to get it published.

Once the research subject has been chosen, then you need to be able to state very clearly what it is, preferably in a single sentence. For example, 'A study of why computer systems fail.' 'A study of the design values and principles of systems analysts.' There is also a need to place a boundary around the subject area so that time is not spent pursuing interesting sidetracks which are not really contributing to the main subject of study. Once the subject has been decided on, you should write on half a page of paper the title of the project and a brief description of the area you are proposing to study, together with the main hypotheses that are being tested or questions that are being asked.

CHOOSING APPROPRIATE METHODS

When research is being carried out on people problems, then the most important question to be asked is 'which method or methods will be most effective in enabling me to collect the data I need to test my hypotheses and answer my questions?'. If you are carrying out research for a thesis and working alone, without research colleagues, another important question is 'which methods can I as a lone researcher use, given my time constraints and the number of people I shall require information from?'. The choice of research methods will depend on the answers to these questions. Available methods include: (1) Large-scale surveys with self-completion questionnaires. Good for collecting information quickly from a large number of people, but often difficult to interpret, superficial and providing some facts about attitudes and behaviour but few explanations. (2) Face-to-face interviews, with the researcher asking the questions. Good for providing comprehensive information and understanding of individual attitudes, but time specific in that answers are given at one moment in time only, and the same questions asked 6 months later may produce quite different replies. It is also not easy for the lone researcher to carry out many of these kinds of interviews and so research evidence may be thin. (3) Observational techniques, which may range from observing and recording people's behaviour to what is called participant observation. This requires the researcher to become a member of the group he or she is studying, either in an open way by saying 'I want to study you, can I come and work as a clerk in your office in order to do this?', or in a hidden way by merely getting a job, studying the group but saying nothing to them about the research. These observational methods have the advantage of enabling a researcher to spend considerable time with a group, which survey techniques do not. Participant observation, with the researcher actually taking a job, enables the researcher to live and work with the group that is being studied, and it becomes possible to gain a really good understanding of how they think and act, and the reasons for their attitudes and behaviour. This kind of information is not readily turned into statistics, however, and hidden participation presents the researcher with the ethical problem of effectively becoming a 'spy'.

Another kind of research method that is attracting considerable attention at present is (4) action research. With this approach, the researcher not only collects information for his or her own use, but also makes some positive intervention in the research situation. The researcher does not define the research role as being detached and objective. In contrast, there is an attempt to provide help and guidance with some problem or process that is taking place, for example, the introduction of a new computer system. This approach again has the advantage of providing the researcher with an intimate knowledge of the situation that is being studied. It also has the psychological advantage of enabling some assistance to be given. The researcher does not stand and watch passively while the group he or she is studying encounters problems that perhaps could have been avoided. It has the disadvantage of causing the researcher to influence and change the research situation.

How does the researcher choose between these very different kinds of approaches? The answer is by deciding very firmly the kind of data that is going to be most useful in providing an answer to the principal research question. Often a mix of methods produces the best results. The researcher may decide to provide a self-completion questionnaire, carry out some face-to-face interviews and also spend a period of time as a participant observer in the research area that is being studied. As every researcher knows, there are also political factors that have to be taken into account. You, as a research student, may believe that you need in-depth information to understand a particular problem; therefore, an approach based on participant observation may seem to be the best. However, the academic staff where you work are suspicious of these kinds of methods but find survey data relevant and acceptable. There are now two strategies available to you. First, to persuade your teachers that there is value in using other methods, or to design your research so that survey methods can play a prominent part. At this stage in your career, there is no point in becoming a martyr on the altar of progress, particularly if the sacrifice required is your PhD. You will have to go for a solution that tries to cater for all interests, yours as a researcher, your teachers and, most important, those of the examiners that your teachers will choose.

Just as it was important to think very carefully and clearly about the problem which you have chosen to study, so it is very important to take great care with the research methods which you are going to use. Whenever possible get advice, both from teachers and colleagues who are experienced researchers and from those who have already investigated the subject which you want to study.

COLLECTING THE DATA

You should now have a clear, short statement of the problem you want to study, a brief description of the area or topic of your research, a set of precise hypotheses which you wish to test or, if you are unfamiliar with hypotheses, a set of specific questions for which you wish to obtain answers, and a methodology. This methodology may be either a single technique, such as a self-completion questionnaire or, preferably, a blend of techniques all of which reinforce each other by providing you with different but complementary data. You have probably taken several

weeks getting to where you are now and you are anxious to start collecting data and really getting into the research. The unwise researcher will now spend one or two evenings designing a questionnaire and rush out into the field to get it completed. The wise researcher will take things more slowly.

Now is the time to set the scene for your research, to obtain as much background information as you can so that when you begin to use the methods and tools which you have chosen you are asking appropriate and meaningful questions and understanding the answers which you are receiving. If you have not already started reading the articles and books that have been written on your research subject, then now is the time to do so. At the end of your project, you do not want to find that you have unintentionally replicated a piece of research that someone has already done. If your research situation is an office or a factory, or some other kind of institution, then now is the time to get as much background information about it as you can. What is known about its culture, its background, the kinds of people it chooses to become managers, its personnel policies, etc.? This kind of information will help you to make sense of answers that may be difficult to understand and easily misinterpreted. A strategy worth considering, and one that has been used by the author of this paper on a number of occasions, is to recognize that you may be unable to interpret correctly the answers you are getting and it may be advisable to create a small group of people in the firm who help you interpret the research results. If you are carrying out action research, then this group will exist already.

Once you have collected this background information, have a feel for the culture and climate of your research situation and some knowledge of the research that has already been done in your problem area, you can begin to collect your data. If you are using a questionnaire, then it must be designed to test your hypotheses and answer your questions. Do not put questions in just because they may be of interest. There should be a specific hypothesis, or question you wish to answer, behind every question in the questionnaire and you should have a record of these. If you are using observation, then you need to create a document on which your observations can be recorded. If you are a participant observer, then you need to keep a detailed diary of all the events which you and your group have experienced during each day. This should be written up each evening while the material is still fresh in your mind.

This brings us to the question of theory. The fact that you have a set of hypotheses which can be turned into a questionnaire implies that you have an intellectual theory that you are investigating. It is important to recognize that this theory exists in your mind and to find out whether other researchers have investigated the same theory. For example, your theory may be that 'the successful design and implementation of computer systems require user participation', or it may be that 'the costs of error correction represent a high percentage of systems design costs'. Some behavioural scientists use what they call 'grounded theory'. By this, they mean that they start a research project without a precise theory to test, hoping that such a theory will emerge from their research data. This approach can produce very creative results, but it is a high-risk strategy for a student working for a higher degree. You may find that your data do not produce any new theory. It is safer to start with a theory, recognize that you have this and that you are going to test it, and make it quite clear and explicit.

During data collection, you must recognize that you are a stranger in an environment which is not your normal one. People will be wondering what you are doing and why you are there. It is very important that you tell them this in advance and make sure that they really do understand. It is also important that, while you are working in the research situation, you keep on good terms with everyone with whom you come into contact. This includes management, their subordinates, trade unions, technical specialists, personnel staff, etc. Some of these groups may be on bad terms with each other but you must be on good terms with them all.

ANALYSING THE DATA

The methods you use for data analysis will largely depend on those you chose for data collection. Large-scale surveys require statistical analysis by computer, small-scale face-to-face interviewing programmes will also require some kind of statistical analysis, but the most valuable data may come from the descriptive comments and explanations of the people interviewed. Some years ago, a piece of research that was not based on careful statistical analysis would be regarded as unscientific by certain academics. Today, when it is increasingly recognized that good statistics can be applied to very poor research data, and that the purpose of research is understanding, explanation and prediction, less formal methods are increasingly recognized as respectable, and as often superior in the quality of information they provide. Observational techniques tend to look for patterns of behaviour and for insights into why this kind of behaviour is taking place. It is not easy to apply statistics to this kind of data and they may be less useful than written descriptions of what has taken place and why.

Using employees from the research situation to assist with data analysis and interpretation has already been referred to, and this does ensure that they see the results of the research. This is another ethical problem for the researcher. Is it right to interview, observe and assist people without letting them see any subsequent analysis of the research results? I believe that it is not. The results of research should be shared with those who have participated in it through interviewing programmes, etc. Their understanding should be helped as well as that of the researcher. He or she may receive a PhD as a result of the project. What benefits will those who took part in the research derive? They are entitled to some.

WRITING UP THE PROJECT

Many researchers find this the most difficult part of a research. They have designed a nice project and collected the data which they need to support or refute their hypotheses and have interesting results, but they have great difficulty in getting these down on paper.

If this is your problem, then you will find that writing up will be easier if you have followed this paper's earlier advice, carefully documenting your definition of the research problem, your underlying theoretical framework and the hypotheses which stemmed from this. As time

passes in a research project, it is easy to forget the ideas you had and the questions you were asking at the start. A record of these will make the writing of the introductory chapters much easier.

Most research theses follow a similar format in the way chapters are organized. Chapter one describes the nature of the research problem, the reasons this was selected by the researcher and the hypotheses that are going to be tested. Chapter two examines other work that has been already carried out and gives a description of relevant literature. Chapter three describes the methodology that will be used in the project and why certain techniques have been selected in preference to others. Chapter four describes and analyses the data that have been collected. Chapter five relates the research findings to the original hypotheses and draws conclusions. There will be a discussion of how the research findings match with previous work, an explanation of discrepancies and a description of any new results. The chapter will end with suggestions for further research.

A certain amount of ruthlessness is helpful in this final stage of the project. You will probably find that you have more data than you can handle. This should be rigorously sifted, and any that does not relate tightly to your hypotheses should be discarded or kept for another project or paper. You may also find that your first draft is much too long and complex. Uninhibited editing, either by yourself or your supervisor, is then required.

People approach the writing task in different ways, but a problem some students experience is the difficulty of writing at all. The author's suggestion here is just to sit down and write. Do not worry if you think you are not expressing yourself well, or even that you are writing rubbish, keep at it. You will find it becomes easier and easier. I would recommend continuing to write until you have produced a first draft. A thesis is then physically there, even if it is not a very good one. You can later look at it as a whole and start systematic revision. You will not experience the terrible problem of starting a thesis but never finishing it.

If you are good at writing, then write the thesis with an eye to subsequent publication. It is time-consuming, and often demoralizing, to produce a thesis and then have to totally rewrite it before it can be published.

RELATING TO YOUR SUPERVISOR

This can be one of the most delicate, difficult but rewarding relationships. If you are able to influence the choice of supervisor, then find someone who is strongly interested in your research subject, who is relatively open-minded about research methodology, who will keep you motivated and enthusiastic and who likes you and you like. If you are not in the fortunate position to find such a person, then make sure that you keep in constant touch with whoever takes the supervisory role. Check every stage of the research with him or her, make sure that your ideas are understood and also your reasons for taking one approach rather than another. In other words, make use of your supervisor, enrol him or her as an active participant in the research project. Do not permit any abdication of supervisory responsibilities nor enable your supervisor to tell the external examiner, 'Of course, I hardly saw this student.' A good super-

visor can make a research thesis a stimulating and enjoyable experience, and also one that does not take too long.

RELATING TO YOUR EXTERNAL EXAMINER

You may not meet your external examiner until the day of the viva, and if there is no viva, you may not meet him or her at all. However, it is usually not too difficult to find out who the external examiner is and you can make good use of this information. Remember examiners are usually chosen because they have some knowledge of the subject which the student is researching. This means that they will probably have written some books and articles on the subject. Make sure that these are in your bibliography and, if possible, referred to in the text of the thesis.

PUBLISHING YOUR THESIS

At present this is not easy. Journals have long waiting lists and publishers are not keen to take on unknown authors. Some research into this problem can be useful. First of all, spend some time in the library and identify those journals which are interested in the subject area of your thesis. Have a look at who is the editor and who is on the editorial board. You may find that there is someone there from your own university or even your own department. Write to the editors of the most appropriate journals and tell them about your thesis. Ask if they would be interested in an article and if they have any suggestions on how it should be written. You may find that they are about to bring out a specialist issue dedicated to your subject area.

A similar approach is useful with publishers. Check if any have a series into which the book of your thesis would fit. Write and offer to adjust your thesis to fit their series.

If all else fails, suggest to the Head of your department that an increasing number of universities and colleges are publishing their own books. Offer your thesis as the first publication.

Good luck.