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The Conceptual Range of a Research Study

Chapter objectives

This chapter will help you to:

- Understand the nature of the terms used to discuss research data.
- Analyse the ways in which we substantiate data.
- Explore the variety of concepts which are typically used in a research study.

Terms used

The following terms are discussed in this chapter: analysis; assertion; belief; coherence; concept; conceptual analysis; conjecture; construct; contested; context; data; epistemology; facts; holism; information; knowledge; multi-method; norm; normative; paradigm; parameter; perspective; postulate; proof; proposition; reasoning; synthesis; truth; universal; verification.

The nature of data

In this chapter we will explore some of the ways of writing about the concepts used in a research study. First and foremost, if you are writing about your

proposed research you will at some stage need to discuss the kind of data you intend to collect. In everyday language we often tend to use the word **information** when expressing our intent to find out about something. We will speak of getting some information on train times, for example. However, in a research context we seldom use the word to refer to data, probably because it is perceived as being too much a part of everyday speech. And yet it is still used in a very general way when speaking of the background to a study. For example, one might say, 'Prior to the design of the questionnaire, some background information on the research setting was collected.'

One of the commonest errors when writing about data, is to speak about the collection of **facts**. This is inappropriate in most research contexts. The word 'fact' carries connotations of an element of information which is accepted as absolutely true and valid. However, it is part of the general approach to social science research that we do not consider any piece of information with this degree of certainty. Even after a long and detailed research study, a researcher will be very cautious about the certainty expressed when discussing results or conclusions. In educational and social science contexts, research is viewed as an activity which can give us provisional ideas about the world but with no sense of finality. The world is thus seen as evolving and changing, so that what may appear to be true and valid today may be different tomorrow. For these reasons, it is definitely better to avoid using the word 'fact'.

Points to consider

It is sometimes thought acceptable to apply the term 'facts' to statistics. Although statistical data may seem certain, statistics are collected by human beings and will reflect the preconceptions of those collecting them. It is therefore much better to avoid the term 'facts'.

The normal word employed to discuss information collected in a research context is **data**. Before going any further however, there is a small grammatical point which needs to be mentioned. As the word comes directly from the Latin, the singular word is **datum**, while the plural is data. However, in most writing about research, this distinction may appear a little too pedantic for most writers. In any case, it is perhaps difficult to imagine exactly what a datum might be in terms of research. In an interview transcript for example, it might be considered to be a single word or phrase, but that may not be a very

meaningful distinction. For all practical purposes then, the plural form is used. It is also worth noting that it seems more common to treat data as a collective noun in terms of agreement with a verb. Hence it is more usual to write, 'Interview data was collected immediately after the staff meeting,' rather than 'Interview data were collected'. However, the latter form is still in use.

One important factor concerning the word data is that it is a completely value-neutral word. In other words, we can speak of valid or invalid data, accurate or inaccurate data, relevant or irrelevant data. Using the term does not in any way imply, anything about the status of the research. It is a word which can be utilized in any research context, whether speaking about statistical research for example, or about interview research.

There is an interesting connection between the term 'data', and the idea of **knowledge**. The two are not at all the same. We may possess data about a phenomenon, without necessarily wishing to claim knowledge of it. For example, we may have distributed a questionnaire to collect data about the criteria used by sixth form students in selecting a university course. However, we may not feel confident in claiming that we have knowledge of the process. Alternatively, we may have collected data on social class, but we may not feel we can analyse the data sufficiently to gain an understanding or knowledge of the phenomenon. The word 'knowledge', rather like the word 'fact', implies a certain finality and completion in the process of trying to understand something. For that reason it is a rather problematic term to use in the social sciences.

Points to consider

Consider the following sentence:
  'In this study of pop culture and the spending habits of young people, it is the intention to acquire knowledge of the use of disposable income, and the factors which influence the young.'
  The phrase 'acquire knowledge' might be better replaced by 'to develop an understanding of the use of disposable income'. This would be a slightly more limited claim, but perhaps more realistic.

If researchers in the social sciences are perhaps a little nervous about making claims to achieving knowledge in a precise sense, the word is used more generally to discuss the way in which we can come to understand the world. We would certainly want to know more about the world, and some

might say that the achievement of knowledge is the prime purpose of research. The difficulty for social scientists is often being able to estimate how certain we are about the validity of the knowledge we acquire.

The validity of data

In relation to this problem, there are a number of concepts which are used in social science research. A **postulate** is a suggested statement about the world which we believe to be accurate. The term does not have a strict technical meaning in research, but is sometimes used as a verb in a sentence such as 'it was postulated that family income was a major variable in this context'. Related terms are **conjecture** and **assertion**, which are used in research writing in much the same way as in everyday language. A further term which is connected to these concepts is **proposition**. This does however have a specialist use, in that it is employed in philosophy to indicate a statement which links two or more concepts. For example, 'God is good', is a proposition linking the concepts 'God' and 'goodness'. The term has thus passed into social science research as a term for any general statement linking ideas.

Concepts such as these are used to express **beliefs** about the world. One of the most important functions of research is to evaluate the evidence for such beliefs, assertions or conjectures, and to judge whether there are sufficient data to **verify** them. Verification is the process whereby we will seek to establish the **truth** or otherwise of a proposition. The concept 'truth' is related to the concept **proof**, and both are problematic in the context of research.

Points to consider

It is not uncommon to find people writing, for example, that 'statistical analysis proves that religious observance is declining in the population'. The term 'prove' is too strong a claim here. Religious observance can be expressed in a variety of ways, including some which might be hidden from a researcher. Hence, to claim definitely and absolutely that it is declining is too sweeping a claim. The same would apply to any claim that 'it is therefore true that religious observance is declining'.

The words 'proof' and 'truth' are generally better avoided in research writing. It is easy to find alternatives such as:

'Evidence suggests that religious observance may be declining'.

UNDERSTANDING THE RESEARCH PROCESS

The study of knowledge as a separate philosophical question, and the extent to which we are certain about it, is termed **epistemology**. The study of epistemology has been described as 'how we know things and what we can regard as acceptable knowledge in a discipline' (Walliman, 2006: 15). We can also think of epistemology as an evaluation of the basis on which we actually know the things we think we know! Knowledge is sometimes spoken of as being '**contested**'.

Points to consider

In everyday language a contest is a competition or battle between opposing people, and the word has been borrowed by social science to indicate that there exist different views or ideas about a concept. We might say, for example, that 'social class is a contested concept', meaning that there are many different shades of opinion about the nature and origins of class. This might indicate that the concept is difficult to define precisely.

Since the whole basis of how we know something is contested, it is very necessary in research to explain the basis on which you are operating. You will need to explain the assumptions you have chosen to make when stating that you believe you know something. In fact, it is an important skill to be able to recognize terms and concepts which are contested. It is probably a good idea when writing about research to ask these kind of questions about every new concept you use in your writing.

Questions to ask

In terms of potentially contested concepts, these are some questions you could ask yourself:

Do writers on the subject seem to use the concept or word in different ways?
Am I confused by the way a writer has explained an idea?
Are there clearly different definitions of a term?
Can I think of different ways in which I could employ a concept?

If the answer to some or all of these questions is 'yes', then you are probably dealing with a contested concept!

Once you have realized that you are employing such an idea, you must define it. However, this does not mean that you have to attempt to construct the one perfect definition of a concept. What it does mean, however, is that you need to try to analyse clearly in your mind the particular definition you have chosen to use in your research. This will make your research clearer to your readership, because they will understand the limits or **parameters** of your thinking. I have highlighted the word parameter here, not because it has a particularly technical use in research writing, but because it is a useful word to include to indicate the scope or range of something.

The range of concepts

The particular view that we have of knowledge and the way in which we assume knowledge can be established has a number of consequences in social science research. As Clough and Nutbrown (2002: 28) point out, '… the choice of method will itself depend on much earlier, often tacit, decision-making processes about the nature of knowledge itself'. For example, we may be investigating the decision-making processes of young people in relation to marriage. We might wish to explore the factors which will determine whether they will decide on the one hand to live with a partner, or on the other hand to get married. If it is our assumption that the relevant factors are fairly clearly delineated, such as economic factors, or clearly-understood social norms, then we may decide to use a questionnaire to collect data. In this case we would be working on the basis that there are agreed assumptions out there in society about the nature of these factors, and that in a sense, the data are just waiting to be collected. On the other hand, if we decide that the context within which decisions about marriage are taken is very complex, and that the factors concerned are interrelated, difficult to clarify, and subject to continual redefinition among the people concerned, then we may decide that a different form of data collection would be appropriate. In this case, it may be necessary to conduct a series of interviews with participants in order to clarify their views. It is important therefore to reflect carefully at the beginning of a research study on the assumptions you are making about the nature of knowledge. Having done this, the language you use to discuss issues of knowledge and methodology should then reflect those assumptions.

Some time ago Berger and Luckmann (1967) in a well-known book pointed out that knowledge is very often 'socially-constructed'. When we are forming

a view about a recent political initiative by the government for example, we may form an initial judgement but we will then often discuss the issue with others. We are exposed to a range of views in the media. Our own ideas about issues will often pass through a process of evolution, and while this is happening we will probably also influence other people. In other words, knowledge about the world is literally being 'constructed' through a process of social interaction. The job of social research then is very often to try to expose the mechanisms by which knowledge is created in this way.

Points to consider

The word **construct** is a useful term in research writing. Just as in everyday language the word indicates the building or creation of something, in academic writing it signifies the creation of an idea or concept. Thus in an educational context, we might write about the curriculum as a social construct. This would suggest that we view the curriculum not as a pre-determined set of subject disciplines but as a combination of subject areas, the composition of which is negotiated between individuals and organizations.

It is interesting to apply these ideas to the full range of **concepts** we use. A concept is a mental representation of something which we use to communicate with others. If I ask someone if I may borrow a chair, we will both know what we are talking about because we share the same concept of 'chair'. If I asked to borrow a three-legged chair, the person would probably look at me strangely, because such an object would not be part of his concept of a chair. It would probably be part of his concept of 'stool'. If I asked to borrow a two-legged chair, I would probably receive very strange looks! One of the reasons we can communicate effectively with each other is because we share the meanings of a range of concepts. We can therefore have meaningful communication.

It has been argued that it is possible to generate knowledge about the world entirely through the process of **reasoning**. This entails thinking and reflecting logically about the world, and deriving understanding about it purely through the use of thought processes. For instance, it might be argued that it is possible to sit down in an armchair and by reasoning alone conclude that it would be impossible to have a two-legged chair. It might also be argued that we do not need to search the world for a two-legged chair which might be hidden away in an obscure corner of someone's home! We have only

to think about the idea of a chair, and of its purpose, to realize by reasoning alone that a two-legged chair is a conceptual impossibility. Philosophers have long debated whether reasoning alone can really generate knowledge or whether it is observation that lies at the heart of all knowledge of the world. In research terms, however, we do use the term 'reasoning' to reflect the logical thought processes which are part of the process of understanding and making sense of data.

Some philosophers have suggested that there exist concepts which have a single precise meaning, and which are true for all situations and for all time. Such concepts can be described as **universals**. Plato, for example, thought that there were concepts such as justice and truth that remain valid in all times and in all places. In contemporary social science research, however, we tend to think more of concepts as being socially constructed. A concept such as 'freedom' for example, may be defined by different individuals or societies in very different ways. Two people could probably have a very long debate about the meaning of the concept 'freedom' without ever arriving at a firm conclusion, and a dictionary would not help here.

? Questions to ask

When writing about research, it is generally viewed as inappropriate to cite a dictionary definition of a term or concept in order to explain its meaning. Some people will be tempted to do this near the beginning of a dissertation, for example.

Why is it inappropriate to use a dictionary definition for a concept (even if it is a major, highly-respected dictionary)?
What would be the consequences if we only employed dictionary definitions?

As many of the concepts which we employ in research are very complex and contested, it is important to try to clarify them. This is particularly the case near the beginning of a research study, where we need to be very clear about the way in which we are using a term. To take the concept 'freedom' which was mentioned above, we might be conducting a study on the nature of pupil freedom in the classroom, or student freedom in a university. In such research it would be necessary to start with at least a working definition of the term. However, as there are many different ways in which freedom

can be understood, we would need to examine the scope of the concept. This would involve a process termed **conceptual analysis**. This process can perhaps be best explained by using an analogy from geography. Imagine a concept occupying a geographical territory. Within that territory will lie a variety of other ideas which are related to freedom, such as 'autonomy' or 'democracy' for example. Outside the borders of the conceptual territory will lie unrelated or even opposed concepts, such as 'autocracy'. The job of conceptual analysis is to identify those ideas which are within those territorial boundaries, and which are embraced within the overall concept of freedom.

When we carry out conceptual analysis we will normally try to think about the ways in which people use concepts. If we can think of actual sentences which include an idea, then the conceptual territory of a term will usually start to become clearer.

? Questions to ask

If we are trying to clarify the concepts 'education' and 'training' for example, we might think of the sentence, 'I educated him in the method of changing a fuse'. This might not seem the best use of the concept education, and so we might change the sentence to, 'I trained him in the method of changing a fuse'.

In the second sentence, the concept 'train' might seem more appropriate.

What do these two sentences tell us about the relative meanings of the concepts 'education' and 'training'? Think of other sentences using the two concepts, and ask yourself what it reveals about the meaning of the concepts.

The term '**analysis**' is also used very widely in research writing in such phrases as 'data analysis', 'textual analysis', or 'conversational analysis'. Perhaps unfortunately, however, the word itself is seldom explained. It is used on the apparent assumption that everyone knows what it means. However, as with many other concepts in research, it embraces a range of meanings.

In everyday language, we tend to use the word 'analyse' to describe the process of breaking something down into its constituent parts. For example, if our car will not start, we might say, 'Let us try to analyse the reason for this'. In other words, we are suggesting that we think of all the possible

related factors in the car not starting, and then gradually eliminate some of them until we have unearthed the actual reason. In research terms, however, the concept 'analysis' is used to signify a range of processes, all concerned with what we do to data once they have been collected.

Points to consider

Data analysis can include the following processes:

- The grouping together of data into categories.
- The allocation of names to those categories to develop new research concepts.
- The exploration of possible relationships between groups of data.
- The search for possible causes for observed events.
- The comparison of data from different contexts.
- The use of data to test a hypothesis.
- The creation of a new theory.

Based on your reading of research, try to think of other activities which are embraced under the concept of data analysis.

It is interesting perhaps, that such a widely-used term as analysis is not clarified more frequently. It is sometimes the case with language that the most widely-used terms are those which we seldom take time to think about. We just use them in the tacit assumption that they are universally under-stood. In fact, as we can see from the list of activities above, the term 'analysis' is used for a very wide variety of processes. Indeed you have probably been able to add to that list.

The concept **synthesis** is the opposite of analysis. In everyday language, it tends to indicate a combination of things to form a whole. It is used in sci-ence, and particularly in chemistry, to indicate the formation of a more complex molecule from a number of simpler ones. We might speak of the synthesis of a new drug for example. In social science research it tends to be less-frequently used, although some of the processes often described as data analysis might be more accurately described as data synthesis. However, when theoretical ideas are being discussed, the term is some-times used to speak of a number of ideas being synthesized to construct a theory. In a related context, Voils et al. (2008) examined the degree to

which it was feasible to synthesize results from different research studies within the medical sector. They were particularly interested in the combination of qualitative and quantitative data. They examined a number of research studies, some qualitative and some quantitative, and evaluated the extent to which the findings could realistically be synthesized into an overall conclusion.

Within education and the social sciences it is worth remembering that research questions and problems are often very complex, involving the inter-relationship of a number of problematic concepts. The process of analysis is sometimes used to break down a research question into its constituent parts. However, this can sometimes overlook the very complexity of the study of human beings and human interaction. **Holism** is the philosophical theory that we often need to consider an issue in its entirety, rather than as a series of separate entities. In writing it is often used as an adjective, 'holistic' – for example, in the phrase 'adopting a holistic approach'. Alternatively it is employed as an adverb – as in the phrase 'the research was conducted holistically'. A holistic approach to research may involve the use of a range of data collection processes or more than one method of analysis. In other words, a **multi-method** approach would be used, in order to examine the different facets of the question, and the way in which they related to each other. The use of such a range of methods in the same study is a popular strategy in social research.

Bryman (2006), for example, conducted a comprehensive review of over 200 social science research articles which employed a combination of qualitative and quantitative methods. Darbyshire et al. (2005) found the approach very useful in their study of a group of Australian children. This particular article analyses the effectiveness of the multi-method approach. Multi-method approaches were also used by McMurray (2006) in a study of action research to initiate a change process; by Eskelinen and Caswell (2006) in a study of social worker teams and their evaluation of a client; and by Duckett et al. (2008) in a study of school pupil well-being.

Another way of looking at this issue is that one of the criteria often applied when a research report is being evaluated is that of **coherence**. In other words, research is assessed in terms of the extent to which the range of concepts used will fit together into a unified framework, or whether the data collection and analysis procedures constitute a logical whole. In order to achieve such coherence, researchers will often try to conduct their research by using a framework of ideas which links together all the different aspects of their approach. Such a framework of ideas is often referred to as a **perspective**.

> ### Points to consider
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> In everyday language, the term 'perspective' is used in a variety of ways. In art, it indicates the way a landscape is represented in order to indicate the particular field of view. In discussing a problem in everyday language, we might talk about 'our own particular perspective on it' to indicate the way we would address a problem.
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> The term has been borrowed for use in research, to indicate a broad and coherent framework of concepts and ways of approaching research. Thus a researcher may write of having adopted a 'perspective of feminist research' or 'an ethnographic perspective' in their work, to indicate the theoretical framework they have used. Thus Mason (2002: 57) writes that 'Conversation analysis is grounded within an ethnomethodological perspective ...'.

The word 'perspective' is very widely used in the social sciences and in research. Often employed in conjunction with 'theoretical', as in the phrase 'the particular theoretical perspective adopted was ....', it has come to indicate the broad framework of concepts within which a research study is conducted.

A term which is sometimes employed as an alternative to perspective is that of **paradigm**. This concept was employed particularly by Kuhn (1996) to indicate a broad conceptual framework within which we can conduct research and analyse issues. For example, we might consider the scientific method, involving the testing of propositions using experiments or quantitative data, as a paradigm. In such a case, when we work within a scientific paradigm, we will be aware of a shared range of assumptions about how research should be carried out, and about how any conclusions should be drawn.

The term has been fairly widely adopted within the social sciences, although in this area it has come to indicate a framework of ideas and methods, rather as a synonym for 'perspective'. Hence it is quite common for writers to claim that they 'have adopted an interpretive paradigm within which to conduct their research'. It is rare that one finds writers defining the terms 'perspective' and 'paradigm', although their usage perhaps indicates a slight difference in the terms. The concept 'paradigm' tends to be used for a broader and more all-encompassing approach (such as 'positivistic paradigm' or 'scientific paradigm'), whereas 'perspective' is employed for an arguably narrower approach more closely linked to a specific method for collecting data. Examples here would be 'action research perspective' or 'case study perspective'.

UNDERSTANDING THE RESEARCH PROCESS

Concepts can sometimes vary depending upon the particular situation in which they are used. In other words, we could argue that they are sometimes dependent upon the **context**. A concept used in one situation may have different nuances to the same concept used in a different situation. Concepts may also vary at the same time between different cultures or countries, and between different historical periods. Concepts of goodness and morality certainly appear to differ between time and place, while our ideas of beauty and aesthetics have differed at different points in history. **Norms** are the accepted standards of behaviour or belief which have become prevalent within a particular society. There can, for example, be norms of dress, norms of behaviour, norms of morality, and norms associated with conversation and public speaking. Norms develop gradually over time, and are a product of a particular culture or society. Something is **normative** if it helps to create or to sustain norms in society. Thus principles of justice and punishment are normative. These assist in the process of encouraging or discouraging certain forms of behaviour.

When we are studying a particular research context such as a school, we will quickly become aware that certain norms are prevalent which may not be typical of a neighbouring school. Such norms may relate to the behaviour of pupils in the classroom, the way in which teachers interact with each other, or the manner in which pupils move around the school. The factors which will influence such norms are often the subject of research. However, when conducting such research (for example into, say, the concept of pupil behaviour) it is necessary to determine the specific elements of the concept which will be investigated. In the case of pupil behaviour these might include issues such as pupils working together on projects, pupil attitudes towards teachers, or pupil involvement in extra-curricular activities. As always, when writing about research, it is important to use concepts with precision and clarity.

Summary

This chapter has looked at the use of concepts in research, and the way in which we write about the data collected during research. It has examined the need to be circumspect in making claims about acquiring knowledge, and the grounds upon which we may claim to have learned something through the activity of research. The chapter also analysed the way in which our concepts and knowledge of the world are to some extent built up from interactions between people; that is, they are socially-constructed.

📖 Further reading ───────────────────────────

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