1. Introduction to the Unit

This unit will provide an introduction to the variety of methods used to conduct research in education. It will engage you in the key debates surrounding educational research and its importance in developing educational policy and improving educational processes. The question of what constitutes good educational research will be addressed and you will be encouraged to develop strategies to better understand and critique the immense variety of educational research reported in books and journals.

In this unit, you will be introduced to the entire process of conducting educational research from the initial stages of thinking about research questions to designing a project, choosing particular methodologies and methods and analysing the data that you collect. You will be encouraged to look at this from a political and philosophical as well as an educational perspective and you will also be asked to consider and reflect on the key issues that educational researchers face, including how it is possible to ensure good ethical practice.

The best way to learn about doing educational research is through action and engagement in designing and conducting research. This unit will guide you through the process of designing a research project and will provide an overview of the most frequently used methods of both quantitative and qualitative data collection, allowing you to experience the excitement as well as the complexity of this process. You will also be encouraged to draw on any experiences that you have in conducting, being part of or reading about educational research.

The unit will involve group work in designing and conducting a small scale research project. You are provided with some structured learning materials, including this set of guided readings. The literature in the area of research methods within education and the social sciences more generally is vast and you are encouraged to explore it with the help of the commentaries and bibliographies.
The assignment for the unit will be the completion of a 4,000-word report on your group research project.

The aims of this unit are as follows:

- To present the main philosophical and methodological positions within social science research with special reference to research in education;
- To enable you to enrich your reading and understanding of research literature and allow you to appreciate the importance of critically engaging with this literature;
- To enable you to understand and engage with the process of research design and its conduct;
- To introduce you to key issues in data collection and analysis and to give you firsthand experience of this process; and
- To help prepare you for undertaking an empirically based dissertation.

2. Introduction to Educational Research

It is important to begin by reflecting on three key issues in relation to educational research.

- What do we understand by educational research; how can we define it and how has it developed within the disciplinary frameworks of the social sciences?
- The purpose of educational research must also be considered as it stands within a complex political and social context. What, therefore, is the significance of the role of educational research in shaping educational policy and educational practice?
- What are the philosophical perspectives that influence debates on the nature of knowledge and the means by which it is possible to conduct inquiry into educational issues?

2.1 Understanding Educational Research: definitions and key concepts

The most often quoted definition of research is by Bassey (1999), where he claims that, “research is systematic, critical and self-critical enquiry which aims to contribute towards the advancement of knowledge and wisdom.” (Bassey 1999: 38).
This definition is important because it promotes the idea of research as both systematic and critical but also self-critical in the sense that anyone engaging in this process must subject themselves and their work to intense reflection and reflexivity. It captures some of the key concepts, which define what we mean by research such as,

- Systematic
- Critical
- Self-critical

This particular quote is also significant in that it gives a very broad scope for the purpose of research, which is deemed to be in the service of generally advancing what is known about the social world. Some social scientists believe that research is and should be a disinterested activity, which is value-free and does not serve any particular purpose other than to increase our knowledge base. Other commentators, however, particularly in the field of educational research, argue that it is not value-free, that it cannot be and that its purpose should be more engaged.

### 2.2 Politics and Policy-making: values and educational research

What can educational research do to help improve educational institutions and processes? How can we help children, like the ones pictured here, and any learner achieve more within the educational system?

There have been many critiques of educational research, which imply that it is too theoretical and ‘out of touch’ with the practices of educational institutions, in particular, schools, to really have any impact on improving the educational system and influence policy and practice.

Many educational researchers, however, believe that educational research should have as its purpose the direct aim of improving and influencing the educational system. Bassey (1999) provides the following quote to describe what is meant and also what should be the purpose of educational research.

Critical inquiry aimed at informing educational judgements and decisions in order to improve educational action. This is the kind of value-laden research that should have immediate relevance to teachers and policy makers, and is itself educational because of its stated intention to inform.(Bassey 1999: 56).
Educational research does not exist in a vacuum, however, and educational values can be in conflict so that researchers are always working within a political context. As Clough and Nutbrown (2012) argue, research should be seen as:

- Persuasive
- Purposive
- Positional
- Political

(Clough and Nutbrown, 2012)

Key Reading 1

Chapter 1: What is Research?

Why you are reading this chapter
In order to begin thinking about conducting educational research, it is necessary to have at least some understanding of what research is, why we do it and what we hope to achieve by it. This chapter asks ‘What is research’ and helps you to reflect on what YOU understand by research. In addition, and importantly, the authors establish educational research as being purposive, positional, persuasive and political.

2.3 Educational Research Perspectives: knowledge and knowing

When you look at the picture here of people marching, how would you describe and understand it? Would everyone in the picture have the same understanding of the events and shared meanings of its purpose?

The way in which you understand the social world and how we can have knowledge about the social world (epistemology) will have a dramatic influence on the choices that you make about research methods and methodology when designing a research project.
It is important to understand that there are different conceptions of how we can come to know the social world and make claims about our observations and understandings. The different ways in which we can think about social reality and our ability to gain knowledge of that reality are depicted in Table 2.1. These form a number of dichotomies relating to ‘objectivist’ and ‘subjectivist’ conceptions of reality.

<table>
<thead>
<tr>
<th>Dimensions of Comparison</th>
<th>Objectivist</th>
<th>Subjectivist</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Philosophical Basis</strong></td>
<td>Realism: the world exists and is knowable as it really is. Organisations are real entities with a life of their own.</td>
<td>Idealism: the world exists but different people construe it in very different ways. Organisations are invented social reality.</td>
</tr>
<tr>
<td><strong>The Role of Social Science</strong></td>
<td>Discovering the universal laws of society and human conduct within it.</td>
<td>Discovering how different people interpret the world in which they live.</td>
</tr>
<tr>
<td><strong>Basic units of social reality</strong></td>
<td>The collectivity: society or organisations</td>
<td>Individuals acting singly or together</td>
</tr>
<tr>
<td><strong>Methods of Understanding</strong></td>
<td>Identifying conditions or relationships which permit the collectivity to exist. Conceiving what these conditions and relationships are.</td>
<td>Interpretation of the subjective meanings which individuals place upon action. Discovering the subjective rules for such action.</td>
</tr>
<tr>
<td><strong>Theory</strong></td>
<td>A rational edifice built by scientists to explain human behaviour.</td>
<td>Sets of meanings which people use to make sense of their world and behaviour within it.</td>
</tr>
<tr>
<td><strong>Research</strong></td>
<td>Experimental or quasi-experimental validation of theory.</td>
<td>The search for meaningful relationships and the discovery of their consequences for action.</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>Abstraction of reality especially through mathematical models and quantitative analysis.</td>
<td>The representation of reality for purposes of comparison. Analysis of language and meaning.</td>
</tr>
</tbody>
</table>

Table 2.1 Alternative Bases for Interpreting Social Reality (adapted from (Cohen, Manion et al. 2000))
There are a large number of different research perspectives that inform our understanding of how we can know and explain or understand the social world that are informed by these different conceptions of social reality (ontology) and the means by which we can gain knowledge of the social world (epistemology). Many of the research methods textbooks will refer to them in some degree, whilst others provide a detailed analysis of them as the foundations of social research (Crotty 1998).

The three main perspectives are:

**Positivism** – a ‘scientific’ approach

**Interpretivism** – the process of interpretation and understanding

**Critical Theory** – an analysis of power, ideology and reality

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**Key Reading 2**


**Chapter 2: Understanding Methodology**

**Why you are reading this chapter**

In order to begin thinking about conducting educational research, it is necessary to have at least some understanding of the main philosophical debates underpinning social research. This chapter provides an excellent introduction to some of the main ideas around what is knowledge (epistemology) and what is reality (ontology) that are vital to engage with before embarking on the journey of conducting social research.
3. Designing a Research Project

3.1 Research Methodology

The question of what we mean by ‘methodology’ in social research is an important one and can sometimes be a little difficult to grasp. In many ways, it relates quite closely to the idea of a rationale for your chosen project, your reasons given for conducting the research in a particular way. In this respect, Clough and Nutbrown (2012) talk about the methods of doing research (interviews, questionnaires etc…) as being like the ingredients of a recipe, whereas methodology constitutes the actual recipe, the way in which all of the items and procedures come together to make the final product.

The idea of methodology, however, is more centrally integrated to the design and conduct of a research project in the sense that it is not something, which you simply decide at the beginning of the project and then use it as an instruction manual on how to proceed. On the contrary, doing research involves a constant process of critical self-reflection at all stages of the process and so is ongoing during every stage of the project. Clough and Nutbrown (2012) describe this in the following way.

At the heart of these interwoven research activities are endless processes of selection; and in constantly justifying this selection, a ‘good methodology’ is more a critical design attitude to be found always at work throughout a study, rather than confined within a brief chapter called ‘Methodology’.

(Clough and Nutbrown, 2012: 39).

It is helpful, therefore, to keep this idea in mind when you are discussing the research design of a project. It is important to consider that significant decisions occur at all stages of the implementation of a project and not just at the beginning when you are formulating your ideas.

3.2 Research Design

In many of the research methodology books, you will find many different ideas on how to think about the key stages of a research project and therefore the kinds of decisions that you need to make at each of these different stages. Table 3.1 gives a very basic summary of the key stages that need to be considered in designing a research project. However, it is not
always useful to think of these stages as necessarily following a linear logic. It may be that your research design is ‘unfolding’ rather than ‘pre-specified’ (Punch 2009). Quantitative research tends to be ‘pre-specified’ in that it will have pre-specified research questions, a tightly structured design and pre-structured data (e.g. questionnaires with fixed responses). Qualitative research is more ‘unfolding’ in that it tends to have general guiding questions, a loosely structured design and the data is not pre-structured. This kind of research design is more open and flexible and can change substantially during the research process. Qualitative research can also be pre-specified but quantitative research would almost always follow a pre-specified design.

The design of any research project would address the above questions and follow each of those stages at some point in the research process. The process should be thought of more as an iterative one rather than linear in terms of following each stage in sequence. As your project progresses there may be any number of dilemmas and decisions that occur which may force you to rethink the initial ideas. Flexibility and adaptability are key features of doing educational research even for those projects, which begin with a very structured design.

The Main Elements of Research Design

- Formulate research question(s)
- Decide on research approach/strategy
- Identify sample and issues of access
- Decide on methods for data collection
- Decide on methods for data analysis
- Carry out pilot study

Table 3.1: Stages in designing a research project

Each of the different elements mentioned in Table 3.1 are important and decisions must be taken after much careful consideration. Clough and Nutbrown (2012) conclude from a survey of 13 PhD students that research questions require researchers to

- Define the limits of their study
- Clarify their research study
- Identify empirical issues and work on empirical questions
- Plan responses to ethical issues

It is important, therefore, to spend substantial amounts of time ensuring that your research question(s) capture in essence what your research
project is about. It is vital, furthermore, to be able to demonstrate the inter-linking of all of these elements, particularly in relation to your research questions. How do your choices of methods of data collection and methods of data analysis ensure that you will be able to answer the research questions that you have.

An important decision for you to take in designing your project is the particular research approach that you might follow. Table 3.2 shows the main research approach/strategies used within educational research.

<table>
<thead>
<tr>
<th>Research Approaches/Strategies Used in Educational Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Survey</td>
</tr>
<tr>
<td>• Experiment</td>
</tr>
<tr>
<td>• Case Study</td>
</tr>
<tr>
<td>• Action Research</td>
</tr>
<tr>
<td>• Ethnography</td>
</tr>
</tbody>
</table>

Table 3.2: Different Research Approaches/Strategies

You can explore in detail these different approaches to conducting educational research and most of the research methods textbooks available will discuss them in great depth and give examples of how to utilise them in designing a research project. Denscombe (2010) gives a particularly useful series of chapters, which explore in some depth all of these different approaches. Denscombe (2010) summarises the key features of each of them in a very helpful way.

Surveys can be seen as a means of achieving wide and inclusive coverage of a large amount of data from a large number of people. He argues that “implicit in the notion of ‘survey’ is the idea that the research should have a wide coverage – a breadth of view. A survey, in principle, should take a panoramic view and ‘take it all in’ (Denscombe 2010). He also maintains that surveys tend to be representative of a particular point in time and that the focus is on ‘empirical research’ in the sense that there is a “quest for details of tangible things – things that can be measured and recorded” (Denscombe 2010). A number of research methods can be adopted for use in a survey such as questionnaires, (structured) interviews, documents and observation, although questionnaires would perhaps be seen as the most common method used in this approach.

Experiments are normally associated with the means by which it is possible to control naturally occurring circumstances such that we are able to isolate the
causal effects of certain factors or variables. It is for this reason that we often associate experiments as taking place in a controlled environment such as a laboratory but it is possible, particularly in Education to have field experiments. Denscombe (2010) identifies three key features of experiments;

- Control – manipulation of circumstances
- The identification of causal factors – the identification of causal factors
- Observation and Measurement – precise and detailed observation and measurement of circumstances and outcomes

**Case Study** is an approach which focuses on “one instance (or a few instances) of a particular phenomenon with a view to providing an in-depth account of events, relationships, experiences or processes occurring in the particular instance” (Denscombe 2007: 32). A case study normally involves, therefore, a detailed study of one school or one organisation; however, it is also be possible to do a comparative case study whereby you may compare a small number of schools or organisations. Denscombe (2007) provides a helpful table, Table 3.3, to identify the key characteristics of case study research.

<table>
<thead>
<tr>
<th>Depth of study</th>
<th>rather than</th>
<th>Breadth of study</th>
</tr>
</thead>
<tbody>
<tr>
<td>The particular</td>
<td>rather than</td>
<td>The general</td>
</tr>
<tr>
<td>Relationships and</td>
<td>rather than</td>
<td>Outcomes and</td>
</tr>
<tr>
<td>processes</td>
<td></td>
<td>end-products</td>
</tr>
<tr>
<td>Holistic view</td>
<td>rather than</td>
<td>Artificial</td>
</tr>
<tr>
<td>Natural settings</td>
<td></td>
<td>situations</td>
</tr>
<tr>
<td>Multiple sources</td>
<td>rather than</td>
<td>One research method</td>
</tr>
</tbody>
</table>

Table 3.3 Key Characteristics of Case Study Research

**Action Research** is an approach that usually involves the active participation of practitioners in researching their own professional environment. Denscombe (2007) provides four key defining features of action research as being;

- Practical – dealing with real world problems
- Change – as a way of dealing with practical problems
- Cyclical process – involves a feedback loop in which initial findings generate possibilities for change which are then implemented and evaluated as a prelude to further investigation
• Participation – practitioners are the crucial people in the research process

Like some of the other approaches discussed, action research does not necessarily involve the use of any particular research methods.

**Ethnography** literally translates as ‘graphy’ meaning to describe and ‘ethno’ meaning peoples, so it is the practice of describing and understanding the lives of people from a particular culture. It has its roots in the discipline of anthropology where people from a culture are studied in-depth by the researcher living as part of their community for a certain period of time. Denscombe (2007) provides the following characteristics to explain the ethnographic research practice;

• Time in the field – the researcher spends a considerable time with the people that s/he is studying

• Everyday life – is of considerable importance with mundane and ordinary parts of social life given as much attention as special events and ceremonies

• How members of the group/culture being studied understand things

• Holistic approach – stresses processes, relationships, connections and interdependency among the various features of the culture

In ethnographic research, it is likely that your methods of data collection would rely heavily on observation, field notes and diaries and informal conversations.

Once you have decided on a research approach that you would like to use, it then becomes important for you to consider, who you want to include as the respondents or participants in your project, who will form your sample. There are two main types of sampling procedure, probability sampling and non-probability sampling as shown in table 3.4. Probability sampling is the common method used in quantitative research and allows you to make statistical inferences from a selection of the population to the whole population. For example, choosing a good representative sample of university students in Hong Kong for a research project on ‘Experiences of University Life’ may allow you to argue that your results could be applicable to all university students in Hong Kong.

Non-probability sampling is used when you want to collect views and responses from particular groups of people so you want to select individuals with a purpose rather than on a random basis. Using this method of sampling does not allow you the possibility of making
generalizations to the whole population. Punch (2009) suggests the following three questions as being crucial to any research plan.

- How big will the sample be, and why?
- How will it be chosen and why?
- What claims will be made for its representativeness?

<table>
<thead>
<tr>
<th><strong>Probability Sampling</strong></th>
<th><strong>Non-probability Sampling</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Random</td>
<td>Purposive</td>
</tr>
<tr>
<td>Systematic</td>
<td>Snowball</td>
</tr>
<tr>
<td>Stratified</td>
<td>Theoretical</td>
</tr>
<tr>
<td>Quota</td>
<td>Convenience</td>
</tr>
<tr>
<td>Cluster</td>
<td></td>
</tr>
<tr>
<td>Multi-stage</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.4 Types of Probability and Non-Probability Sampling

Once you have made some decisions concerning your research questions, the research approach most appropriate to your study and the sampling method, you will need to think about the methods of data collection that you will use and your methods for analysing this data.

---

**Key Reading 3**


**Chapter 7: Research Design: shaping the study**

**Why you are reading this chapter**

This chapter gives a very user-friendly approach to thinking about where to begin planning an educational research project. It provides a very helpful ‘research planning audit’, which will enable you to ask all of the relevant and necessary questions to test out the viability and rationale for designing a project. The key issues such as research questions, issues of sampling, chosen research approach/method are all considered in terms of how they relate to and inform each other. These are discussed using the example of an actual research project from an educational context, which helps to illuminate the complex decision-making process involved in research design.
4. Quantitative and Qualitative Research Methods

The division between quantitative and qualitative research provides one of the main debates within social science research. There is a history of each standing in opposition to the other, as they are described as being epistemologically and methodologically incompatible. Table 4.1 highlights some of the main differences that are found between quantitative and qualitative research.
<table>
<thead>
<tr>
<th>Guiding Principles</th>
<th>Quantitative Approach</th>
<th>Qualitative Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hypothesis testing</td>
<td>Inductive</td>
</tr>
<tr>
<td></td>
<td>Search for</td>
<td>Grounded theory</td>
</tr>
<tr>
<td></td>
<td>generalization</td>
<td>‘Subjective’</td>
</tr>
<tr>
<td></td>
<td>‘Objective’</td>
<td>‘Value-laden’</td>
</tr>
<tr>
<td></td>
<td>‘Value-free’</td>
<td></td>
</tr>
<tr>
<td>Data Collection</td>
<td>Numerical evidence</td>
<td>Textual evidence</td>
</tr>
<tr>
<td></td>
<td>Observations are</td>
<td>Researchers are the</td>
</tr>
<tr>
<td></td>
<td>atemporal and</td>
<td>key instrument</td>
</tr>
<tr>
<td></td>
<td>asituational</td>
<td>Researchers are part</td>
</tr>
<tr>
<td></td>
<td>Researcher is detached</td>
<td>of the situation</td>
</tr>
<tr>
<td></td>
<td>Social world like the</td>
<td>Processes of research</td>
</tr>
<tr>
<td></td>
<td>natural world</td>
<td>are central</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>Independent of</td>
<td>Dependent on</td>
</tr>
<tr>
<td></td>
<td>researcher/analyser</td>
<td>researcher</td>
</tr>
<tr>
<td></td>
<td>Reality is objective</td>
<td>Interpretative</td>
</tr>
<tr>
<td></td>
<td>Facts are external</td>
<td>Reality is subjective</td>
</tr>
<tr>
<td></td>
<td>Researcher is</td>
<td>Researcher is central</td>
</tr>
<tr>
<td></td>
<td>neutral/objective</td>
<td>Reflexivity is vital</td>
</tr>
<tr>
<td>View of the World</td>
<td>Findings are</td>
<td></td>
</tr>
<tr>
<td></td>
<td>independent of the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>researcher</td>
<td></td>
</tr>
<tr>
<td>Associated Methods</td>
<td>Experimental and</td>
<td>Interviews: semi-</td>
</tr>
<tr>
<td></td>
<td>quasi-experimental</td>
<td>structured and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>unstructured</td>
</tr>
<tr>
<td></td>
<td>Surveys:</td>
<td>Observation:</td>
</tr>
<tr>
<td></td>
<td>questionnaires and</td>
<td>participant and</td>
</tr>
<tr>
<td></td>
<td>structured interviews</td>
<td>non-participant</td>
</tr>
<tr>
<td></td>
<td>Statistical Analysis</td>
<td>Focus groups</td>
</tr>
<tr>
<td>Sampling</td>
<td>Probabilistic</td>
<td>Narrative and life</td>
</tr>
<tr>
<td></td>
<td></td>
<td>histories</td>
</tr>
</tbody>
</table>

Table 4.1 Comparing Quantitative and Qualitative Research

This table is a useful one to have as a guide to the significant differences found between the two approaches from guiding philosophical principles to their associated methods of data collection. However, these descriptions of both quantitative and qualitative approaches are perhaps more *ideal types* and in fact it is possible to define much blurring of boundaries and more overlap.
between the two than is represented in these strict divisions. Indeed, in many research projects, a mixed methods approach will be taken, which utilises both quantitative and qualitative methods.

4.1 Quantitative Research Methods

A quantitative approach to social research essentially means that you are attempting to quantify aspects of the social world and represent them in numerical form. As Punch (2005) argues, quantitative data are numerical. They are information about the world, analysed in the form of numbers. The key to this process of quantification is measurement, the means by which it is possible to assign numerical values to people, things, events, attitudes, beliefs, indeed, any aspect of the social world about which you want to be able to make calculations and predictions. Central to this approach is the identification of significant variables and the attempts to establish causal or associative relationships between variables.

The main philosophical and epistemological grounding of the quantitative approach within social science is to be found in the ideas of Positivism. Advocates of a positivist perspective, from the founding father of Auguste Comte (1798-1857) onwards, have argued that as far as possible the social sciences should remain close to the guiding principles of the natural sciences and the procedures of scientific investigation. The focus of a positivist perspective is on the establishment of laws of the social world. As Crotty (1998) maintains; “…laws that can be scientifically established; that is, to facts that regularly characterise particular types of beings and constant relationships, which can be shown to obtain among various phenomena. The direct methods whereby these laws can be established scientifically are observation, experiment and comparison…” (Crotty 1998: 22).

The methods associated with a quantitative approach are given in Table 4.1 as experiments and quasi-experiments and surveys, with questionnaires (see Oppenheim 1992), (Sudman and Bradburn 1989) and structured interviews. Experiments can be done in laboratory settings or in field settings, for example within the classroom. Surveys can be conducted in a number of ways including, face to face, postal, telephone and on-line using the internet or email (see Mann and Stewart 2000). As discussed above, all of the methods allow the possibility of numerical and therefore statistical calculations about events and occurrences in
social life in a way that can result in the demonstration of relationships and causality between variables. In this way, it may be possible, as Comte suggested that we can develop an understanding of social laws and make predictions about human behaviour and social relations within society.

Key Reading 4


Chapter 6: Questionnaire Design

Why you are reading this chapter

This chapter provides a very accessible and useful analysis of the key issues to be considered in constructing a questionnaire. It is very practical in orientation and gives many helpful ideas on different ways to construct questionnaire items in terms of content and appearance as well as consideration of how to ensure that respondents fully understand what they are being asked to do. It can be very difficult to put together a really good questionnaire and this chapter covers all of the main issues to ensure that you have the knowledge and skills to construct a valid and reliable research tool.

4.2 Qualitative Research Methods

A qualitative approach to social research involves the collection of data, which is not numerical, so normally this mean data in the form of words whether written or spoken. Denzin and Lincoln (2005) provide a helpful list of qualitative data that can be collected, which they call ‘qualitative empirical materials’.

- Interview transcripts, recordings and notes
- Observational records and notes
- Documents and the products and records of material culture
- Audio-visual materials
- Personal experience materials such as artefacts, journals and diaries and narratives (nowadays also emails and Instant Messaging conversations) (Denzin and Lincoln, 2005)

The key to qualitative research is the attempt to capture the lived experience of individuals and to understand the meanings, which they attach to their experience in different aspects of the social world. It seeks to interpret and
understand people’s actions in social situations.

As a result, qualitative research tends to be small in scale and relies more on exploring in-depth the experience and understandings of individuals rather than trying to make empirical generalisations across large numbers of people or whole populations as would be the case in quantitative research.

The main philosophical and epistemological grounding of qualitative research is in Interpretivism. The roots of interpretivism can be traced back to some extent to the work of the sociologist Max Weber (1864-1920) and particularly in his concept of verstehen, which means ‘to understand’ and his insistence, against the positivists, that the human and social sciences must be different from the natural sciences because they deal with complex individuals who cannot be understood simply by statistical calculations and laws of cause and effect.

“This has been taken to mean that Weber is contrasting the interpretative approach (Verstehen, understanding) needed in the human and social sciences with the explicative approach (Erklaren, explaining), focused on causality, that is found in the natural sciences. Hence the emphasis on the different methods employed in each, leading to the clear (though arguably exaggerated) distinction found in the textbooks between qualitative research methods and quantitative research methods.” (Crotty 1998: 67).

The methods used within qualitative research are many and varied. They include the following:

- Semi structured or unstructured interviews
- Focus groups
- Observation
- Documentary or archival analysis
- Video or Images
- Personal documents, including diaries, journals, emails
- Autobiographies and life histories

It is important to note at this stage that (as the quote above suggests) it is possible to over-exaggerate the distinction and oppositions between quantitative and qualitative methods. It is certainly the case that they derive from very contrasting and oppositional epistemological positions but this may not mean that adopting one approach necessarily excludes the other. Indeed, many research projects combine these different methods. For example, a large survey may be preceded by a more in-depth qualitative study and vice versa. It is important, therefore, to
have an understanding of the basis of these different approaches but not to become too entrenched in one to the exclusion of the other. It is best to take a flexible approach and choose the best methods to answer your research questions. (see (Bryman 1992).

Key Reading 5


Chapter 6: In-depth Interviews

Why you are reading this chapter
This chapter gives an excellent and incisive account of the complexities of conducting in-depth interviews. Interviewing is a complex process but this is especially true of interviews, which attempt to go beyond structured questions and answers to more semi-structured and unstructured approaches. The chapter deals with many of the important issues that you will face as an interviewer and helps to prepare you to be able to deal with everything from setting up the interview, ensuring rapport with the interviewee and developing techniques for getting the most in-depth answers to your questions.

5. Issues for Researchers

In conducting educational research there will always be a number of issues that need to be addressed and reflected upon by the researcher during the entire research process. Some of these issues are predictable and can be partially dealt within in advance while others are not predictable and only partially resolvable. The best strategy is to be able to think ahead as far as possible and be able to plan both for the problems that you might expect and for some you might not. It is also important to carefully reflect on the key decisions you have made in your research design and on the procedures that you use to conduct the study.

The main problems and dilemmas that researchers will face in the conduct of any research project relate to both ethical and methodological issues.
5.1 Ethical Issues and Methodological Issues

The concern with ethical conduct and practice in educational research is becoming increasingly important in the UK and elsewhere. The belief that individuals have a right not to be exploited, misled or harmed in the process of participating in a research project is central to the notion of ethical conduct. From the moment that a research project is first considered, therefore, the concern to ensure that ethical procedures are followed should be central to the decision-making process at every stage. As Burgess (1989) argues,

…there is no ‘solution’ to the problems identified by researchers. Such a situation means that researchers need to regularly reflect on their work so as to develop their understanding of the ethical implications associated with social and educational investigation.

(Burgess, 1989: 8).

In the UK and elsewhere, educational research is governed by Ethical Guidelines, which set out ground rules to help inform the practice of research. The guidelines for ethical conduct set by the British Educational Research Association (BERA) can be found at http://www.bera.ac.uk/publications/guidelines/. A brief summary of the issues raised are as follows:

- **Responsibility to the research profession** – this includes ensuring they do not report research findings that are false, fabricated or misrepresented and that researchers conduct their professional life in a way that does not jeopardize future research.

- **Responsibility to the participants** – this includes ensuring informed consent, that participants understand the aims and purposes of the research and that they have the right to withdraw their participation at any time. Permission from parents and schools must be sought when children are being asked to participate. Researchers must also ensure anonymity and confidentiality to participants where possible.

- **Responsibility to the public** – to report findings in a clear and accessible way relevant to all stakeholders.

- **Relationship with funding agencies** – researchers should remain free to interpret and report their findings without censorship or approval from individuals or agencies, including sponsors.

- **Publication** – researchers have a right and a duty to publish their research findings.

- **Intellectual ownership** – institutions should both develop their own codes of practice, which govern ethical principles and establish appropriate standards of academic freedom.
There are also a number of methodological issues that must be considered by researchers, which to some extent overlap with many of the ethical dilemmas and problems. Firstly, is the issue of access to your research site and to the participants, which is often governed by gatekeepers. For any research project it may be necessary to negotiate access to research participants in organisations via gatekeepers who have the power to control both your ability to gain access and possibly to provide limitations to any access granted. Researchers have to be extremely skillful in negotiating access in a way that does not compromise the research or threaten its validity (Burgess 1984; de Laine, 2000).

Secondly, is the question of the role of the researcher within the process and possible issues around power and equity in terms of relationships between the researcher and the participants. It is important to ensure that researchers treat all respondents and participants in a research project with respect. However, it is often the case that those being researched have a different class, ethnicity or gender from the researcher. Feminist researchers, therefore, in particular have argued that it is important to ensure an equal relationship between the two perhaps by ensuring a match of gender, ethnicity or class and/or ensuring that the researcher is sensitive and empathetic to the experiences and needs of those taking part in the study. Examples of these debates can be found in much of the research methods literature (Burgess 1984; de Laine, 2000; Haney, 2002; Mauther et al, 2002). However, it is important to note that there is a disagreement over the extent to which relations between researcher and researched can become too ‘empathetic’ and the researcher becomes too close or familiar with the participants.

Thirdly, are the related issues of validity, reliability and triangulation of research data – to what extent can the data be shown to be trustworthy or valid? The concern with validity and reliability were originally to be found in the tradition of quantitative research but have been argued to contain some relevance also to qualitative research (Coleman and Briggs 2007). Coleman & Briggs (2007) define each term in the following way:

…there is widespread support for the view that reliability relates to the probability that repeating a research procedure or method would produce identical or similar results. It provides a degree of confidence that replicating the process would ensure consistency (Coleman and Briggs 2007: 93).

The concept of validity is used to judge whether the research accurately describes the phenomenon which it is intended to describe. The research design, the methodology and the conclusions of the research all need to have regard to the validity of the process (Coleman and Briggs 2007: 97).
There are two main types of validity; *internal* (accurate representation of findings) and *external* (ability to generalize to wider population) and the main difficulty, particularly for quantitative research, is how to exclude or minimise the effects of researcher bias.

One possibility for improving the validity of research findings is to use a process of *triangulation*. There are a number of different types of triangulation but all allow you the possibility of collecting data in a variety of ways to ensure greater possibilities for cross checking and comparing data.

- **Methodological triangulation** – using several methods to explore the same issue.
- **Respondent triangulation** – asking the same question of many different participants.
- **Researcher triangulation** – having different researchers collect and analyse the data to ensure comparability.

Although the concepts of validity and reliability are more associated with quantitative methods, they do also have relevance to qualitative research although they may take on different meaning within the separate traditions. Key to both traditions is a desire to achieve the perhaps elusive goal of ‘authenticity’ in attempting to capture the phenomenon being studied. (Coleman and Briggs 2007).

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**Key Reading 6**


**Chapter 3: The Context and Ethics of Education Research**

**Why you are reading this chapter**

This chapter provides a comprehensive and useful discussion of some of the key ethical debates and dilemmas confronting researchers in education. It provides important examples and illustrations, which help to encourage careful thinking about all of the possible ethical implications of your research project and how to address these issues. In particular, it focuses on conducting research with children and in your own organisation. It is very common for MEd students to do research in their own school/college/university setting and this chapter enables you to ensure adequate ways of dealing with the complexities, including gaining access and providing anonymity and confidentiality.
6. Analysis of Quantitative and Qualitative Data

The analysis of quantitative and qualitative data can be a complex and time-consuming process. It is important to be at least familiar with the key ideas and procedures that are used in each tradition. There is little space here to delve too deeply into the main issues so only a brief summary will be given, but you are encouraged to explore this further in the readings given in this handbook and in the many textbooks available.

6.1 The Role of Theory in Data Analysis

It is important first of all to discuss briefly the role of theory in data analysis. It is possible to identify key theories and concepts at the beginning of your project that you want to use to explore and analyse your data. This approach is described as deduction, whereby you begin with a theory that you then want to test (hypothesis-testing) or explore. Alternatively, you may begin with no particular theory or theories in mind and attempt rather to construct some a theory from the data you have collected and analysed. This process is called induction. Quantitative data analysis usually follows the procedures of deduction whereas qualitative data analysis can be either deductive or inductive, with an emphasis on the latter.

6.2 Analysis of Quantitative Data

The key to quantitative data, as has been already discussed, is for the researcher to collect numerical data that allows measurement and statistical calculations. Many of the research methods textbooks available provide helpful chapters to guide you in analysing quantitative data by using statistics (Briggs, Coleman & Morrison, 2012), (Punch 2009), (Denscombe 2007).

A summary of the key concepts and procedures used in statistical analysis of quantitative data can be shown as follows:

- **Types of Data** – nominal, ordinal and interval data. This is important because the type of data you collect influences your choice of statistical test.
- **Simple Distributions and Summary Data** – calculating the mean and the standard deviation. Looking at frequency distributions and the relationship between variables in cross tabulations.
- **Parametric Testing** – parametric tests are those performed on interval data and assumed to be drawn from a wide, normal
population (Briggs, Coleman & Morrison, 2012). Examples include, a T-test for comparing means and the Pearson Correlation Coefficient for testing correlations.

- **Non-parametric testing** – analyses performed on simple *nominal* and *ordinal* data, having no particular pattern or distribution, hence the occasional use of the term ‘*distribution free*’ to describe non-parametric statistics (Briggs, Coleman & Morrison, 2012). Examples, include chi-square test for comparing variables and the Spearman Rank-Order Correlation for testing correlations between variables.

- **Presenting Findings** – quantitative data can be illustrated graphically very neatly and succinctly in many forms of charts and tables, such as pie charts and bar charts.

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**Key Reading 7**


**Chapter 13: Quantitative Data**

**Why you are reading this chapter**

This chapter is very useful because it provides a good introduction to basic analysis of quantitative data that will encourage students new to statistics and perhaps give some helpful reminders for those with more experience of doing statistical analysis. It gives a helpful grounding for you to begin thinking about how to analyse and present the quantitative data that you may collect. This can then be supplemented with further reading if you want to explore methods of statistical analysis in more depth.

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**6.3 Analysis of Qualitative Data**

The analysis of qualitative data can be a long and extended process requiring much imagination and reflection on the part of the researcher. There are numerous research methods textbooks that will help guide you through the process of how to analyse qualitative data and inform you of the variety of approaches that are available (Holliday 2007), (Ritchie and Lewis 2003), (Evans 2002), (Briggs, Coleman and Morrison, 2012), (Flick 2009).
Six elements of qualitative data analysis are identified as:
- Defining and identifying data
- Collecting and storing data
- Data reduction and sampling
- Structuring and coding data
- Theory building and testing
- Reporting and writing research

Central to the process of qualitative data analysis is the identification of codes and categorizations or themes (Coffey and Atkinson 1996). The process, which is described by Evans (2002) as ‘putting things into drawers’. Coding is simply the process whereby you break down the data into units for analysis and then categorize those units (Denscombe 2010). From those categories you may then begin to identify themes across the data, which may allow the possibility of building up some theories about how the categories and themes link together.

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**Key Reading 8**


**Chapter 9: The Analysis of Qualitative Data**

**Why you are reading this chapter**

The analysis of qualitative data can be a complex process and it can be difficult for students to get started on the analysis of their data. The practice of ‘coding’ and ‘categorization’ of qualitative data is an important part of the process and this chapter provides many useful ideas on how to develop these skills. It provides a good introduction to some of the key approaches to qualitative data analysis, including: grounded theory, narrative methods, discourse analysis and documentary and textual analysis.
Key Reading 9


Chapter 12: Research Writing

Why you are reading this chapter

This chapter deals with many of the important issues discussed in relation to research design, including developing good research questions and deciding on your methodology and choice of research methods. It is also concerned with the first task of any research project, which is the development of a research proposal. The chapter asks many incisive questions for you to think about when writing up your research project and this should provide some helpful prompts and guidelines for you to consider in preparing for your assignment for this unit.
8. Doing the Assignment

The assignment for this unit is to write up the group project that you have conducted. The assignment length is 4,000-words. You are asked to outline details of the project and provide a thorough discussion of the methodological and ethical issues that were raised. The assignment should be submitted to Blackboard by 8th November 2013. There will be time for discussion of the assignment during the weekend and all students will be able to have a short tutorial with me – an individual meeting or a meeting with a small group of classmates. I aim to give you as much support as you need with this assignment and encourage you to submit a draft so that I can give you constructive, formative feedback. Do take advantage of this support – the best assignments are always submitted by students who contact me to discuss ideas and email a draft for comment. Please ensure that you send me your draft by 25th October at the latest. (This gives me time to read it and offer feedback in time for you to make any changes that might be needed.)

You are asked to show clearly how the project was constructed and carried out and so you will be required to give details on the following points. An approximate indication of words length for each section is given, which should be treated as a guide.

1) The background and context to the choice of research topic (500 words)
2) The relevant topic literature that informed the research (500 words)
3) The research perspective and possible substantive educational theories and/or concepts that informed the research (500 words)
5) Research Design (including research questions) (300 words)
5) Methods of data collection (including sampling and participants) (500 words)
6) Methods of data analysis (500 words)
7) Research Findings (500 words)
8) Ethical and methodological issues that you encountered and how these were dealt with (500 words)
9) Self-reflection (200 words)

Guidelines
1. This assignment should be written up individually even though the work was carried out as a group project.
2. You should outline clearly how the project was constructed and devised and some of the reasoning and rationale behind this.
3. You should show clearly how the project was carried out and how you dealt with the complex ethical and methodological issues raised.
Marking Criteria
1. We will be looking for a good demonstration of how the project was devised and constructed and where possible, carried out.
2. We will be looking for a clear understanding of the various decisions made around topic choice, research question construction, perspectives and theories utilised, research methods used to collect and analyse data.
3. We will be looking for a broad reading and use of the literature on research methods and for appropriate selection of sources that help demonstrate the means by which the project was devised and carried out.
4. It may be helpful to include an appendix of any data collection instruments such as questionnaires or interview schedules and discussion given on how these were devised.
5. We will be looking for detailed discussion on how you dealt with methodological and ethical issues when they arose in the research process.
6. We will be looking for some critical reflection on your experiences of engaging in the research process. For example, what have you learned about yourself as a researcher working with others in a group?
Key List of Research Journals and Websites

American Educational Research Journal
Asia Pacific Education Review
British Educational Research Journal
Educational Action Research
Educational Research
Educational Research Journal
Educational Research and Evaluation
Educational Research for Policy and Practice
Educational Research Quarterly
Educational Researcher
International Journal of Qualitative Studies in Education
Journal for Research in Mathematics Education
Journal of Educational Research
Journal of Research in Science Teaching
Qualitative Inquiry
Qualitative Research
Research in Education
Research Papers in Education
Review of Educational Research

All of the journals listed are available in the CityU Library and electronically through the university library website.

Websites
http://www.hkera.edu.hk (Hong Kong Education Research Association)
http://www.esrc.ac.uk (Economic and Social Research Council)
http://www.qualidata.essex.ac.uk/ (Economic and Social Research Council qualitative data archive)
References

NB All of the following texts are available in CityU’s library. Increasingly, some of them are available as e-books, via the University of Bristol and CityU’s libraries. CityU library has an extensive collection of research methodology texts, far too extensive to list here. You should, therefore, have no problems in accessing relevant material.


**Additional References – Books**


**Additional References – Journal Articles**


