

Constructing research questions

Focus, methodology and theorisation

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Introduction

As a supervisor, doctoral convenor and book reviews editor for an educational research journal, a large number of books on doing social research find their way into my hands during the course of a year. Although I cannot claim to have read them all, I often scan through them for specific issues and topics. In particular, I am always on the lookout for a good reading on research questions to accompany a course I convene on research design, but am never very satisfied. Virtually all the books mention research questions as being very important and many stress that not having good ones can seriously weaken the research project. Wilkinson (2000: 16) even goes as far as to claim that many research projects fail because of poor decisions over research questions. However, having issued the warning this book, like most of the rest goes immediately on to other matters without further discussion about what would constitute suitable research questions to avoid failure. Perhaps this is because as Bryman (2004: 31) suggests, 'the process of formulating and assessing research questions is difficult to spell out'. My suspicion is, however, that in many cases the reason so little space is devoted to the subject is because the process is assumed by many to be a technical one; the way that research questions relate to the wider methodology of research is underestimated. In this chapter I shall argue that selecting research questions is not just a straightforward technical matter. On the contrary, it is a complex task, which brings together a great deal of thinking about the fundamental issues that underpin the project, the way the research is practised and the knowledge that it will hope to produce. However, it is this complexity that gives meaning and importance to social research and what makes its practice so exciting. Moreover, the chapter will also contain practical suggestions as to how to generate research questions where this complexity can be turned to advantage in finding a methodological fit with the intentions of the researcher and others involved in the research.

Research questions are important – but for whom?

For qualitative researchers the research process seems to be full of questions.¹ It is launched with a proposal containing questions; a dataset is created usually through using research

methods such as interviews or questionnaires, which depend on questions; and even when the thesis is written, it will need to be defended in an oral examination or defence, which is structured by the questions of the examiners. However, of all these, the research questions are arguably the most important. Research question(s) – for there may only be a single main one – are a device to encapsulate what your research is about. They summarise and sit at the top of a hierarchy of all the other questions that make up the research. They are the super-ordinate, the big questions that both generate and are generated by all the smaller questions.

The most frequently identified way in which research questions work is as a heuristic device for the researcher. They provide focus by defining what the project is about and, equally importantly, they provide boundaries about what the research is not about. Bryman (2004: 31), for example, suggests that they therefore 'stop you from going off in unnecessary directions and tangents' throughout the research process. He continues that they guide your literature search, your decisions about research design and about what data you should 'collect' and from whom; they shape the way that you will analyse the data and the way that you write up the research.

Whilst I generally concur with this and will later explore its implications, the research questions are not just a device for the researcher, but also for the other people involved in your research. For example, research questions may be a way of explaining to collaborators and informants what the research is about. Although the notion of obtaining informed consent is not as straightforward either practically or conceptually across all contexts as it may appear, it does form a useful basis for thinking about the implications and consequences of other people's involvement. If the fundamental questions the research is addressing have not been broached, it may be difficult to make a case for informed consent having been negotiated. Even where, as in my own doctoral research, the researcher decides against giving the research questions to participants, their formulation can be important in thinking about what to say to them, what to withhold and in making a case as to why.

If the research questions are essential to the researcher and the researched, they are also important to the readers and users of the research. Amongst this group, those most salient are the examiners appointed by the university to decide whether you get your doctorate or not. The criteria for a doctoral degree are slightly different at different universities, some specifying more in terms of the process and the acquisition of expected competencies. However, agreement throughout the English-speaking world converges on a criterion of knowledge. Taking three out of many possible examples, a candidate's thesis or dissertation is expected to demonstrate, in the UK: 'the creation and interpretation of new knowledge' (Quality Assurance Agency for Higher Education 2008); in Australia: 'value of original contribution to knowledge in the field' (Australian Council of Deans and Directors of Graduate Studies 2005); and in the USA: 'a genuine contribution to knowledge' (University of Alabama 2008). It is often useful to think of a doctoral thesis as being pyramid-shaped: the different elements of the research, all the steady building of the conceptualisation, the fieldwork, the telling of the story, the analysis and the creation of an argument culminates in the apex of this contribution to knowledge. A way of thinking of this, the point of the research, is as the response to the research question. Indeed, in the now considerable numbers of doctoral defences I have attended, I can think of several where, when the examiners were not clear about the project's original contribution to knowledge, they asked for it to be reformulated in terms of the research questions.

Important as they are, examiners are only one part of the audience for doctoral research. Increasingly, people undertake a doctorate as part of a commitment to a professional field rather than as an entry into an academic job. The purpose of the research is then to have some influence on the field in which they work, in which case, even if the thesis is not the actual text that will be used to communicate with the professional audience, the research questions will have to address their concerns. Looming even larger for many people are the sponsors of the research, the employers, governments or foundations who provide time and money for the project in the expectation that it will engage with the issues that occupy them and meet their criteria for useful research.

Robinson-Pant (2005: 1) finds that this presents such an important dilemma for international students studying in universities in the UK that she begins her book on cross-cultural perspectives in education research with the question asked by one of her students: 'Should I write two theses or one? My employer might not like the kind of thesis my supervisor encourages to me to write'. She then devotes almost the whole of her chapter on defining the research question to the ramifications of this dilemma.

To summarise, the importance of research questions lies not only in their function as a guide to the researcher, but also in their ability to encapsulate and give meaning to the research for all the people involved with it. The implications of this are that when formulating research questions, we should be thinking not just about the way they may define and focus our own abstract conceptualisation of the area to be researched, but also how other people and discourses are involved. Thus, they are laden with theory in the sense that they derive their meaning from what both the researcher and their potential audience may consider to be important. Research questions are, therefore, far from a technical matter, and any process of creating them will involve both cultural and social engagement.

Research questions and methodology

We can extend this thinking by considering research questions and methodology. Methodology is a slippery term. The addition of the 'ology' widens its meaning beyond that of method, so that it is concerned with thinking about method and the way that research is done. However, within this many people give it a restricted meaning, for example by following Burrell and Morgan (1979) who see methodology as something separate from issues about the nature of knowledge (epistemology), of reality (ontology) and of human nature. Yet your position as a researcher on these issues inevitably shapes the research that you will do and the way you go about it. Therefore, it seems helpful to think of methodology as encompassing all these different dimensions.

In a previous work I have suggested that we might identify six different sets of issues that make up the methodological (Pryor and Ampiah 2004; Dunne *et al.* 2005).² These are the epistemological, ontological, practical, micropolitical, macropolitical, ethical. This is shown in Figure 13.1 by arranging the sets of issues around methodology and connecting them to it by double-headed arrows.

The sets of issues are separate but also paired. It is difficult to speak of epistemology without invoking ontology. Stating an epistemological position, for example, that it is possible to discover knowledge of the world that can be reliably substantiated or disproved, requires particular ontological premises, in this case that there is an objective reality separate from the knower. Similarly, it is very difficult to talk of one's political

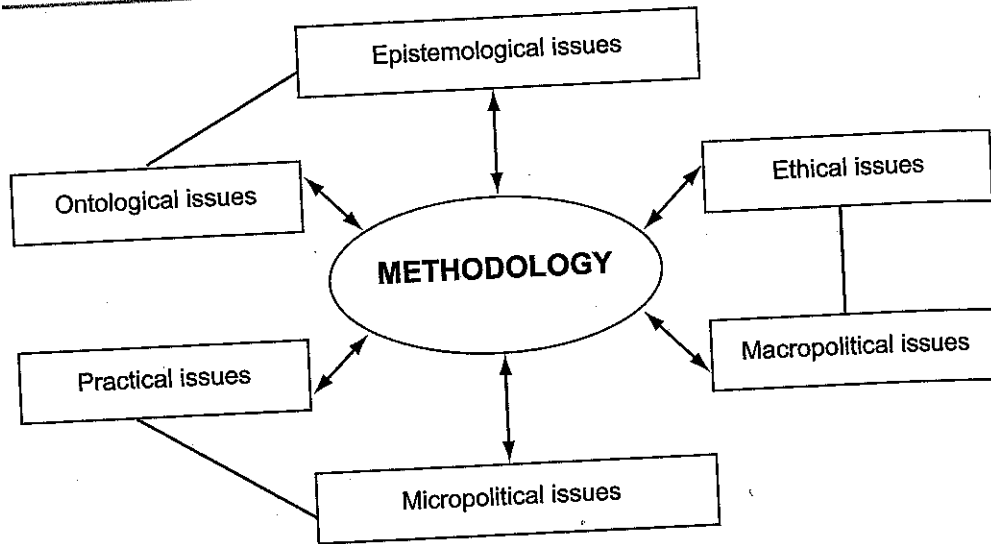


Figure 13.1 Methodology.

views without reference to ethical issues: both tend to relate to generalised positions outside the particular situation in which one is operating and people often have recourse to the one to justify the other. Finally, both practical issues and micropolitics depend on local conditions: which method or instrument is suitable to use and how, will be determined not just by what is physically possible or convenient but also by the micropolitics of the situation. For example, a busy, powerful head teacher as respondent will call for different techniques from working with a 'captive' group of students; enquiring about institutional strength may need to be approached in a different way from asking about perceived weakness.

Following the arrows on the diagram inward together, the sets of issues constitute the methodology of a research project. Methodology here is concerned with ideology and also with context, both of which cut across the different six sets of issues. The diagram thus offers researchers a kind of checklist for describing and explaining their approach. However, arrows can also be followed outwards to suggest a more dynamic way in which the shape of the methodology results from 'pulls' from the six different dimensions. These methodological pulls take place throughout the research process, not least when one is formulating research questions.

In considering what is worth asking and why, all of the issues exert some influence. For example, a doctoral research student I am currently supervising is involved in a study of second chance education in Sudan. He is interested in the students' perspective, but is constrained by a micropolitical need to work mainly with the teachers. In formulating a research question about students' values, he is therefore concerned to focus the question in the teacher's realities. 'How do the teachers perceive the processes and structures of Adult Education Centres influence the development of the students' values?' What is apparent is his ontological position, whereby he accepts that values are real and can be developed, and an epistemological one that it is possible, though difficult, to capture and represent the teachers' perceptions. Nevertheless, working at this and his other research questions has entailed a process of thinking through these issues. It is, therefore, not only

the research questions, but also the process of having worked on them, that has generated the provisional positions that are proving helpful to him as he does his fieldwork.

Considering research questions within methodology is also important in considering what might constitute good ones. Bryman (2004) suggests that good research questions should be clear, researchable, linked and neither too broad nor too narrow; they should connect with established theory and show potential for new knowledge. This is an uncontroversial list; it is echoed elsewhere and is consonant with many of the things said in this chapter. However, thinking about how research questions relate to a wider notion of methodology, suggests the limits of this list to specify what may be good. Being stretched to cover many different contexts and methodological purposes, the meanings of the terms become elusive. What is the meaning of researchable? A realist researcher may be posing questions in the hope of finding clear answers to research questions, whereas for a poststructuralist finding an answer in this way would be seen as closing down a problem, when their intention is to 'open up' (Stronach and MacLure 1997). Goodness is then more a question of thinking about whether the questions have a methodological fit, both with the project in hand and with the identity as a researcher that you are embracing (Dunne *et al.* 2005). Ultimately, a good research question is one that works in the interests of the research. This performative judgement may include another common idea about what makes a good research question – that it addresses a topic in which the researcher is interested (see, for example, Andrews 2003) – but it goes well beyond individual preferences and emphasises research as social endeavour.

In this section I have suggested that the formulation of research questions is at the heart of methodology. As well as seeing research questions as guiding the research and its methodology, they are themselves guided by the positions that the researcher takes up. Research questions, therefore, have a reflexive or recursive nature: they are both constituted by the different aspects of methodology and in themselves constitute the methodology of an enquiry. Bearing this in mind will be helpful when formulating them.

Useful typologies?

Another common feature of the sections of guidebooks devoted to research questions is systems of categorising them. These are usually allocated most importance by those who take a fairly technical approach to research questions or whose research is more quantitative than qualitative. At their simplest they usually have three categories, such as Drew's (1980) *Descriptive, Relationship and Difference* (often called *comparison* in other schemes). A much more detailed typology is presented by Flick (1998), derived from the work of John Lofland and colleagues (latest edition, Lofland *et al.* 2006). Here, you can locate your questions in the cells of a matrix. Along one axis there are seven types of question, where 'it' is the phenomenon under investigation:

- What type is it?
- What is its structure?
- How frequent is it?
- What are the causes?
- What are its processes?
- What are its consequences?
- What are people's strategies?

Table 13.1 Focusing questions (original focusing questions are adapted from De Vaus 2001:17-18)

Focusing question	Expansion
What is the scope of the core concepts?	What am I referring to? What do I mean by...? Does that include...? Either or both?
What is the timeframe?	Am I aiming for a snapshot or a dynamic description or a longitudinal study? How far back do I need to go? Over what period of time do I need to investigate the phenomenon?
What is the geographical location? How general is the focus?	How do I define the place in which I am interested? How does this relate to the choice of sites or sampling of the research? Am I interested in differentiating sub-groups?
What is the unit of analysis?	At what level of detail? What is the thing about which I hope to draw conclusions: Meanings, Practices, Episodes, Encounters, Roles, Relationships, Groups, Individuals Organisations, Settlements, Worlds, Lifestyles? (Lofland et al. 2006)
How abstract is my interest?	How central are the phenomena I am exploring to my main interest? Am I seeking conclusions on a micro- meso- or macro-level?
Overarching question: How can I balance the desirable with the practicable?	

On the other axis of the matrix are suggestions for units of analysis, or what kind of 'it' is referred to in the questions (see Table 13.1, in which they are listed).

Despite their ubiquity, I am not certain as to how useful they actually are for doctoral students planning their project. Often they are more useful for locating, describing and analysing a readymade research question than for generating a new one, though even this is problematic. One of my own doctoral thesis questions – 'What strategies can teachers adopt to promote equity in group work in this gender-sensitive area?' – fits very neatly with the last category above. However, the other – 'What gender issues emerge when children are working in groups with computers?' – is more difficult to place. I think it is of the first variety – *what type?* – though this is debatable. But whichever category it fitted made little difference to the research. In practice, people do not begin from the position of thinking that they wish to ask research questions in the form of a particular category, but rather start from thinking of the substantive issues of the field.

Where the different categories may be most useful is in offering another checklist of possibilities when formulating or reformulating a question. Here, the longer lists are possibly more useful, though perhaps less so than looking at actual examples of research questions.³

Generating and refining research questions

Creating focus

The notion that research questions define and provide boundaries for a research project provides the rationale for this first activity in formulating them. It also addresses the problem of conceptual scope, which people often encounter in trying to manage their research projects. Very occasionally, the ideas are too narrow and they are left with

something that seems to make little sense without taking in a broader picture; however, mostly the boundaries are set too wide, leading to what Kvale (1996: 176) calls the '1000 page question'. In order to develop research questions that work for your project, you need to focus both conceptually and practically and it is the analogy of focus that is exploited here.

The diagram in Figure 13.2, modelled on the viewfinder of a camera, represents your research project. The circle in the middle is the focus of your research, the significant original knowledge that you wish to create. The rectangle around the circle denotes the concepts and ideas that are also in the picture in your research, but which lie outside the central focus. The area outside this rectangle represents things that are obviously part of the field in which the research is situated, but are outside the scope of your prospective investigation. If you copy the diagram out onto a large sheet of paper, you can then write words and phrases and move them around it as you decide what is important in the research. Sometimes writing the ideas on pieces of paper is helpful so that they can be physically moved.

For some people, this activity is enough to produce a map of significance for their prospective research. Others find it useful to have a more structured approach, which is provided by the focusing questions in Table 13.1, adapted and extended from an original model by De Vaus (2001: 17–18). As an analytic framework the table is far from perfect as it contains overlap, but as we have already noted this does not necessarily go hand-in-hand with practicality. Indeed, here the overlap adds to its usefulness as a thinking tool by offering different paths into similar issues. The activity is fairly concrete but it is also intellectually demanding, because as well as encouraging thinking about the logistics of the research, it includes engagement at a theoretical level. Indeed, the more the kind of deconstructive move that questions premises and taken-for-granted assumptions, the more satisfying and creative the exercise is likely to be. During the process the various sets of methodological issues represented in Figure 13.1 will bear on your thinking. Although some issues will arise spontaneously, it is worthwhile looking through them again to check that you have taken them into consideration.

At the end of this process you will have a somewhat messy diagram, which, like a photograph, represents a moving situation in a provisionally concrete form, allowing you to take a more critical look. At this stage the diagram can be a useful artefact to bring to

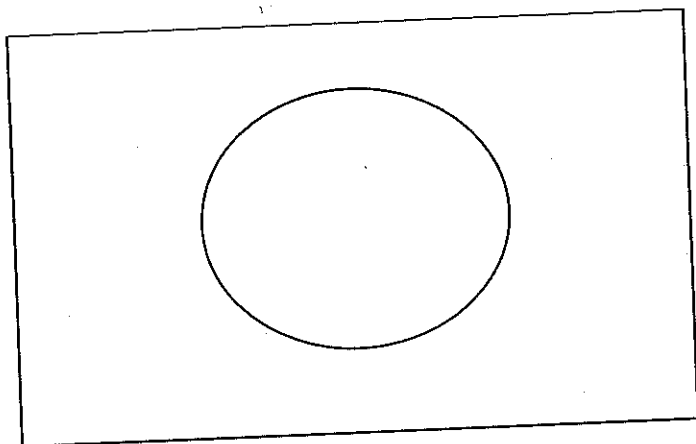


Figure 13.2 Focus diagram.

a supervision session or for discussion with a colleague whilst you clarify. Following discussion, you may decide to change the diagram to make a more advanced working document.

From focus to questions

Doing the focus activity provides ideas that then can be turned into questions by constructing the words produced into question form. What comes forward at this stage may be research questions that you feel are conceptualised, focused and expressed well enough for you to feel happy to work with them. However, it is often useful to go through a further stage of refinement, and here again it is worth holding in mind the issues of methodology outlined in Figure 13.1.

Starting with what is in the circle of your focus diagram, try to formulate a question that encapsulates the whole research. At this stage it does not have to be well formed, nor does it matter if its level of generality makes it somewhat banal. The next stage is to interrogate this question so as to expand it into the series of smaller, though still fairly wide, questions that seem to underlie and proceed from it. The questions within this expansion can then be worked on to produce a second, wider expansion. The notion of deconstruction is often useful here – looking to subvert the assumptions that are behind the original questions, seeking to question binary oppositions and destabilising the obvious. This process will certainly generate a long list of questions. The next stage is to group these together. Then for each group of questions you should seek a super-ordinate question that brings together and covers the ideas in the group. These are potential research questions and the final stage is to go through them adopting them as they are, combining them or ruling them out as your focus has shifted.

To summarise the process:

- Formulate a single overarching question
- Expand into a small group of questions
- Expand each of these through interrogation and deconstruction
- Regroup the resulting questions
- Summarise each group by a new question
- Adopt, combine or reject.

To illustrate this process, Table 13.2 contains an actual example from a doctoral student who was planning a collaborative action research within her context as a teacher trainer in the Middle East.

Further work may still be needed on the questions, for example by checking back against your previous thinking and discussion, and it may be worthwhile doing another iteration of the expansion and contraction. Essentially, this should lead to some research questions that you can work with.

The example ended up with two research questions, and I have already said that my own doctoral project had two questions. However, there is nothing special about this number and again what is a right number will depend on contextual issues. However, as research questions are, by definition, big overarching questions, there are inevitably not too many of them, and if there were they would defeat their purpose of summarising the research. Most doctoral research in my experience ends up with between one and four main questions.

Table 13.2 Example of expansion and contraction of research questions

Initial research question:

Why do trainee teachers go about assessing pupils in the way that they do?

First expansion:

What do they understand by assessment?

Why are they not influenced by my college course on assessment?

What are they influenced by?

Second expansion:

What do they claim as assessment goals?

What assessment methods are they using?

What do they say they are doing?

How do they use assessment in their classrooms?

What do the other people they come into contact with think of as assessment?

What are the supervisors' conceptions of assessment (goals, methods, etc.)?

What are the supervisors' and schools' official requirements and the unofficial expectations of the pre-service teachers in assessing their students?

How are the pre-service teachers made aware of these requirements and expectations?

What are the official requirements of the supervisors in assessing their students, including administrative aspects and educational criteria?

How do supervisors actually assess their students?

How are the pre-service students assessed in the college disciplinary courses?

Recontraction:

1. What are pre-service teacher's conceptions of assessment?

2. What factors might contribute to their conceptions of assessment?

The expanded questions, of course, are not thrown away, but again possibly after some combination and reformulation can be arranged under the main questions as subsidiary questions.

Secrets

Having brought the process of formulating the questions to a neat conclusion it is now time to return to a few more complications.

Within an administration known for the gaffes and inanities of its leader, the US Secretary for Defense made a statement that attracted a lot of ridicule at the time, which on closer examination may not be justified. At a news briefing in February 2002 he said:

As we know there are 'known knowns'. There are things we know we know. We also know there are 'known unknowns'. That is to say, we know there are some things we do not know. But there are also 'unknown unknowns', the ones we don't know we don't know.

Donald Rumsfeld, Department of Defense, cited in BBC News 2007

Social research can be seen as pursuing knowledge in Rumsfeld's three categories. Replication studies that might fit into the first category are not common in social research at doctoral level, and risk not meeting the criterion of new or original knowledge. If the research is only concerned with known unknowns, then the research questions that are identified at the outset may be still as useful and relevant at the end. However, once you embark on a project those unknown unknowns often start to creep in. Social

research is not practised in an idealised environment, but takes place in and investigates specific and changing contexts. In seeking for coherence, you may attempt to be consistent and to hold onto the original research questions. However, contextual flux at all stages of the research process means that it is subject to methodological pulling from the different directions identified in Figure 13.1.

If we extend the idea of the research questions as a guide, we can, of course, treat them as a protection against distractions and diversions. However, while receiving the direction from the guide, we can decide that a diversion is, in fact, more inviting than the original route. But, as we discussed earlier, research questions are not just a guide for a researcher, but also for the reader of the final thesis. So, here, I shall let out the big secret about research questions not widely known by doctoral students at the start of their studies: once you have chosen your research questions there is nothing to stop you from abandoning them completely and making up others that fit better with what you have done. Indeed, if you do change course, to keep the same research questions would actually be counter productive and even confusing for your reader, as their guide will have pointed them in the wrong direction. Unlike projects that are commissioned – though this may be the case for some students – there is nothing to hold you to the same research questions in doctoral research.

As Lather (2007: 29) asserts, decisions about whether you choose to foreground or background your manipulation are up to the researcher and the methodological tradition they are working with. If you choose to foreground it, you may make a virtue out of your changes of direction to demonstrate your reflexivity. I have read more than one thesis where the twists and turns in research questions are a useful analytic narrative device.

With the secret about the mutability of research questions comes another one that has been hinted at before: the significant original knowledge that is the point of the thesis comes through addressing, but not necessarily answering, the research questions. Although it is helpful to think of questions that might be answerable when preparing them, the knowledge produced by many good theses is too contingent, too contextualised and too provocative to be an answer. Indeed, many would claim that this is so for all knowledge in the social sciences – but here we are back to competing epistemological positions.

To summarise, what emerges from this discussion is that formulating research questions is not so much an event as a process. It tends to be cyclical and recursive rather than being linear, and, although it may most obviously happen at the planning stage, it is well worthwhile going again through the thinking that underlies it throughout the project. Research questions both structure, and are structured by, the research, so time spent in composing, reviewing and refining them is time well spent, and offers considerable rewards in thinking about and making meaning from the project. Far from being a simple job to be completed in complying with the technical requirements of a proposal, developing research questions is an important part of structuring the field under study (Flick 1998). To decide on research questions is, thus, to begin the process of theorisation.

Notes

1 For quantitative researchers this may not be quite so true. In research that relies on statistical analysis, research questions are often replaced by hypotheses. Although this chapter may be of some interest to those embarking on a quantitative study, it is mainly addressed at qualitative and mixed methods researchers.

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- 2 This section of the current chapter draws heavily on the argument contained in chapter 11 of Dunne *et al.* (2005).
- 3 The internet provides a source of many research questions that can be focused towards your particular field by using suitable search terms.

References

- Andrews, R. (2003) *Research Questions*. London: Continuum.
- Australian Council of Deans and Directors of Graduate Studies (2005) *Framework for best practice in doctoral examination in Australia*. Online. (Available at www.ddogs.edu.au/download/85503575 Accessed 21 March 2009).
- BBC News (2007) *What we know about 'unknown unknowns'*. Online. (Available at news.bbc.co.uk/1/hi/magazine/7121136.stm Accessed 21 March 2009).
- Bryman, A. (2004) *Social Research Methods*. 2nd edn. Oxford: Oxford University Press.
- Burrell, G. and Morgan, G. (1979) *Sociological Paradigms and Organizational Analysis*. London: Heinemann.
- De Vaus, D. (2001) *Research Design in Social Research*. London: Sage.
- Drew, C. (1980) *Designing and Conducting Research: Inquiry in Education and Social Science*. St Louis, MO: Mosby College.
- Dunne, M., Pryor, J. and Yates, P. (2005) *Becoming a Researcher: A Companion to the Research Process*. Maidenhead: Open University Press.
- Flick, U. (1998) *An introduction to qualitative research*. London: Sage.
- Kvale, S. (1996) *InterViews: An introduction to qualitative research interviewing*. London: Sage.
- Lather, P. (2007) *Getting Lost: Feminist efforts toward a double (d) science*. Albany, NY: State University of New York Press.
- Lofland, J., Snow, D., Anderson, L. and Lofland, L. (2006) *Analyzing social settings: A guide to qualitative observation and analysis*. 4th edn. Belmont, CA: Wadsworth.
- Pryor J. and Ampiah J. G. (2004) Listening to voices in the village: collaborating through data chains. In E. Swadener and K. Mutua (Eds). *Decolonizing Research in Cross-Cultural Contexts: Critical Personal Narratives*. Albany, NY: State University of New York Press.
- Quality Assurance Agency for Higher Education (2008) *The Framework for Higher Education Qualifications in England, Wales and Northern Ireland*, London: QAA. Online. (Available at www.qaa.ac.uk/academic_infrastructure/FHEQ/EWNI08/default.asp Accessed 21 March 2009).
- Robinson-Pant, A. (2005) *Cross Cultural Perspectives in Educational Research*. Maidenhead: Open University Press.
- Stronach, I. and MacLure, M. (1997) *Educational Research Undone: The Postmodern Embrace*. Buckingham: Open University Press.
- University of Alabama (2008) *Graduate Catalog 2008-2010*. Online. (Available at main.uab.edu/show.asp?durki=95303 Accessed 21 March 2009).
- Wilkinson, D. (2000) Planning the Research. In D. Wilkinson (Ed.). *The Researcher's Toolkit*. London: RoutledgeFalmer.