

# Fourteen

## MIXED METHODS AND EVALUATION

This chapter has two parts – the first deals with mixed methods, the second with criteria for evaluating empirical research.

### Mixed methods

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Sometimes I find there is a preliminary issue to deal with here, which traces back to the paradigm wars and the quantitative–qualitative debates referred to in Chapter 2. The issue is that some people believe that the two approaches – quantitative and qualitative – should be kept separate and not combined. As I hope is clear from my writing, I do not believe this. At the height of the paradigm wars – in the 1970s and 1980s – many people believed this and the idea of combining the two approaches was not widely accepted. Fortunately, the field of social science research has since moved well past this, to the point where mixed methods – combining the two approaches – is now seen as the ‘third wave’ of research methods development. This is described in section 14.1.

When the topic of combining the approaches is dealt with on a pragmatic level, aiming to combine the strengths of the two approaches, and minimise their weaknesses, I find there is no real problem or objection. The problem comes when the topic is dealt with on a philosophical or paradigm level. And, on that level, the problem can be bluntly stated: It is difficult, perhaps impossible, to reconcile and combine the philosophical assumptions underlying quantitative methods (principally those of positivism) and those underlying certain types of qualitative methods. Personally, I spent some 15 years grappling with this issue and, of course, like others, I failed to resolve it. Now I see that it does not need to be ‘resolved’ for worthwhile research to proceed. These days, I describe the whole philosophical issue involved here as a ‘swamp’. It is interesting to wade around in but easy to slide down into, sometimes to the point where one can disappear without trace.

Thus, in my experience, the best way to teach the logic of mixed methods is to focus on the fundamental principle of mixed methods research (section 14.2) – combine the methods in a way that achieves complementary strengths and non-overlapping weaknesses. This of course means focusing on developing a clear

understanding of the strengths and limitations of the qualitative approach and of the quantitative approach. I spend as much class time as possible on discussing these strengths and weaknesses, trying to make sure students have a full understanding of them.

This leads naturally into a focus on doing what is logical, on 'what works'. This in turn takes us to pragmatism, as the philosophical position underlying mixed methods. I don't go into the philosophical aspects of pragmatism deeply, because I don't want to take students back into a philosophical swamp. But I want students to be aware of pragmatism, as both an established philosophical tradition and as a convenient philosophical basis for mixed methods research.

Taking a pragmatic point of view also fits very nicely with the question first-method second approach in research planning. Substantive issues come before methodological ones – the question(s) is logically prior to the method we might use.

Another preliminary issue when dealing with mixed methods concerns terminology and the need for precise and consistent use of terms. As explained at the start of Chapter 13, the term mixed methods is now generally accepted as the best term to describe the combination of qualitative and quantitative approaches, methods and data. But it is an umbrella term, in the sense that there are many different models of mixed methods research. In other words, there are many different ways in which the two approaches can be combined.

With these preliminary issues out of the way, the idea of many different models leads us to the very useful three-dimensional framework provided by Creswell and Plano Clark. The three dimensions are timing, weighting and mixing. This in turn leads to the equally useful four-part typology the same authors have developed. They use the terms 'triangulation', 'embedded', 'explanatory' and 'exploratory' to describe the four main designs they identify. I believe strongly that somebody proposing mixed methods research should be able to state clearly and simply which mixed methods design is being proposed and why.

This last point comes back to being able to describe the research strategy proposed and showing how it leads to a particular design. This point has been made in a general way several times throughout the book. It is here applied to the particular case of mixed methods strategies and designs. In my view, a proposal is much more convincing when the writer has a short non-technical strategy description before the more technical aspects of design are presented. Conversely, when a proposal does not contain such a strategy description, I think it is not as convincing as it could be. In addition, the non-technical strategy description is particularly useful in situations where a non-expert committee is involved. A reader who does not have technical knowledge of social science research designs should still be able to follow the strategy proposed. It is interesting to me that students often find this strategy description difficult to write. For this reason, I spend class time with examples and proposed projects from students, teasing out these short descriptions. Usually, I find that students do have a strategy they want to follow but that they have not previously tried to put it into words. Getting them to articulate this strategy is a very useful discipline.

## Evaluative criteria

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I first came across the writing of Cronbach and Suppes on the subject of disciplined inquiry (section 14.5.1) in the early 1970s. I have used it ever since. As they stress, important aspects of this concept are for any research (proposal or report) to be able to withstand careful scrutiny by other researchers, and for the research to have its different component parts fitting together well. The first of these – scrutiny by others – is the reason universities typically ask a higher degree student to present the proposal to a wider audience, thus exposing it to scrutiny, and use feedback from this as important information in deciding whether or not to approve a proposal. (Some universities also use the same method as part of examining a finished piece of research, although this now seems to be less common than it was a generation ago.) The second of these, making sure the different parts fit together, is at the heart of what is meant by internal consistency and internal validity, terms which are often used interchangeably in this context. It is also central to what makes written research (whether proposal or report) convincing. The easiest way to see this is when you read research where the different parts don't fit together well. The misfit is usually obvious, and it jars. This means that the research itself is internally inconsistent and leaves the reader unconvinced.

The need for disciplined inquiry and for the different parts to fit together, are general criteria which are important in assessing research. When it comes to more specific evaluative criteria, I find five main headings to be useful. They are as shown in section 14.5.3 and I will not repeat them here. However, I would stress two points:

First, quality of data is all-important, and I want to see research which does everything possible to maximise the quality of its data. This point applies to any empirical research, whether qualitative, quantitative or mixed methods, and I have written about it in specific contexts in sections 14.2.3 and 14.5.3. But I think it cannot be stressed enough as a fundamental principle – empirical research is only as good as the data on which it depends. Poor quality data means poor quality research, and we should always ask what we can do to ensure the best possible data. I stress this because I don't think the point receives enough explicit attention in the research methods literature. Yet it really is self-evidently true, and blindingly obvious, and I want research students to incorporate it into their thinking from the very beginning. (For me then, in a proposal, I want to see explicit consideration of this issue, including steps that will be taken to attempt to maximise the quality of the data. Similarly, in a report or thesis, I want to see what was done to maximise the quality of the data, as well as the researcher's view on the quality of the data.)

Second, there is a distinction between results or findings, on the one hand, and conclusions on the other. Throughout the book, I have stressed the central role of research questions. Results or findings (I think these terms can be used interchangeably) can be seen as the answers to research questions. Conclusions are different. They refer to what can be concluded on the basis of the results and findings reported.

It is important that research questions are answered. This seems obvious but is sometimes overlooked. As a thesis or research report reader, I want to see formal answers to the research questions formulated to guide the study. Indeed, this suggests a useful way to organise the final chapter in a thesis – begin with revisiting the research questions and briefly reviewing the approach and methods used in the research, and then give a formal, summary answer to each research question. Next can come a section on conclusions (see below), and then a consideration of such matters as discussion, implications and recommendations of the findings and conclusions.

Conclusions are based on results and findings but take them further, in the sense of raising the level of abstraction. Results and findings are often quite specific because they are the empirically based answers to quite specific research questions. Conclusions then allow the researcher to go further, raising the level of abstraction and thus increasing the generality of what is said. If there is an element of speculation in making these more general statements, that can be indicated. An important benefit of making logical connections between research questions, answers to them as results and findings, and then moving on to conclusions is that it enhances the overall internal consistency of the research report.

Keeping these distinctions in mind, and being consistent and accurate in the use of these terms, is part of what I call ‘cognitive and linguistic hygiene’. This in turn is part of disciplined inquiry.

Following on from this, there are two useful frameworks for thinking about what might be called the ‘so what?’ section of a thesis. Before presenting the framework, what do I mean by the ‘so what?’ section?

Basically, the report of a piece of empirical research should tell us:

- what the research is about
- what questions it is trying to answer
- in what context (literature and other contexts) the inquiry takes place
- what methods were used
- what was found (especially, as indicated, what are the answers to the research questions)
- what can be concluded on the basis of these findings, results and answers.

In a very real sense, there is little or no room in the bullet points listed above for the researcher’s opinions, speculations or point of view. However, if this is all the report contains, I think the report is less than it could be. There *is* room for opinion, speculation and point of view, and these can come in the ‘so what?’ section. As a reader, I do want to know what the writer thinks about all of this, but I don’t want that material to be mixed up with the straight reporting part of the thesis. Put differently, I want to know whether I am reading ‘factual reporting’ or ‘researcher opinion’. There is room for both – indeed, I would say a thesis sells itself short if it does not include both – but I want to see them separated.

A useful three-part framework for this ‘so what?’ section is:

- discussion
- implications
- recommendations.

These terms can be collapsed if there does not seem to be sufficient differentiation between them, especially between the first two. However, it is useful to keep a section on recommendations, and a second useful three-part framework for dealing with recommendations is:

- recommendations for theory
- recommendations for practice
- recommendations for further research.