

METHODS BRIEFING 11

Integrating Quantitative and Qualitative Research:

Prospects and Limits

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Introduction

This research drew its inspiration from what I felt was a growth in the use and popularity of investigations that combine quantitative and qualitative research, which I like to refer to as *multi-strategy research* (Bryman, 2004). After a period in which the two research strategies were often viewed as incompatible, a new phase emerged in which the epistemological concerns associated with the 'paradigm wars' were sidelined and a détente achieved, so that quantitative and qualitative research were increasingly viewed as compatible. Indeed, multi-strategy research increasingly came to be perceived as a position that offered the best of both worlds. I also felt that the enthusiasm for and use of multi-strategy research was running ahead of what was known about how it is employed in practice and what its benefits might be. I felt that the time was ripe for an examination of multi-strategy research in practice.

Objectives

The project had a wide range of objectives, although the findings reported in this Briefing relate mainly to objectives 1, 3 and 4 in the following list:

1. to provide a comprehensive assessment of the state of the field with

regard to the integration of quantitative and qualitative research;

2. to proffer recommendations with regard to good practice concerning the integration of quantitative and qualitative research;

3. to identify areas or contexts in which the integration of quantitative and qualitative research is not obviously beneficial;

4. to explore an area of research in which quantitative and qualitative research co-exist as separate research strategies or traditions and to analyse the prospects for linking the two sets of findings;

5. to explore some of the discursive practices involved in the representation of research which integrates the two approaches.

Methods

1. Content analysis of case studies of the integration of quantitative and qualitative research across the social sciences. Articles in refereed journals in five fields between 1994 and 2003 were analysed.

2. Examination of discursive strategies employed in making the case for combining quantitative and qualitative research.

3. Examination of the prospects for combining published accounts of research combining quantitative and qualitative research in the field of leadership.

4. Interviews with researchers.

The research itself thus entailed a combination of quantitative and qualitative research, in order to explore different aspects of the overall project. Some objectives were seen as most suited to the quantitative approach associated with content analysis; others, such as the exploration of discursive practices, were most suited to a qualitative approach involving semi-structured interviewing and close readings of various texts.

Findings

One of the chief achievements of the content analysis phase of the project was a greater appreciation of how multi-strategy research is done in the five fields analysed. The analysis shed light on such issues as: the research designs and methods employed; the rationales given for doing multi-strategy research; and the uses to which it is put. The findings relate to objectives 1 and 3 above.

Research designs and research methods used in multi-strategy research

Survey methods and qualitative interviews account for most of the methods employed in the multi-strategy research examined. A cross-sectional design was by far the most common design for the collection of both quantitative and qualitative data.

Thus multi-strategy research is typically being carried out with a much more limited range of research designs and research methods than stock phrases such as ‘multi’ and ‘mixed’ might lead one to expect. The modally typical article comprises quantitative data deriving from a survey instrument administered within a cross-sectional design and qualitative data deriving from individual interviews within a cross-sectional design.

Rationales and uses of multi-strategy research

One of the main areas of interest was the rationales employed to justify multi-strategy research and how

they were actually used in the context of each article analysed. Two approaches were employed.

First, the influential scheme devised in the context of evaluation research by Greene and Caracelli (Greene et al., 1989) was used. This scheme isolates five justifications for combining quantitative and qualitative research: triangulation; complementarity; development; initiation; and expansion.

Each article was coded for both rationale (the justification for using both quantitative and qualitative research) and practice (how multi-strategy research was actually used).

Table 1
Uses of multi-strategy research – Greene et al. scheme

<i>Category</i>	<i>Rationale</i>	<i>%</i>	<i>Practice</i>
Triangulation	8		13
Complementarity	29		45
Development	10		9
Initiation	0		1
Expansion	25		32
Not stated	27		1

Table 1 shows the distribution of articles in terms of a primary rationale using the Greene–Caracelli scheme (see column for ‘Rationale’). In just over a quarter of all articles, no rationale was provided. Complementarity and expansion were the most frequently cited rationales with 29% and 25% of all articles mentioning each of them as a primary rationale. When ‘Practice’ is examined, it is striking that nearly half of all articles can be subsumed into the complementarity category. In terms of the Greene–Caracelli scheme, this is by far the most prominent primary approach to the integration of quantitative and qualitative research.

However, a more detailed analysis of the data strongly suggests that rationale and actual use do not necessarily coincide, with a mismatch often apparent between the rationale for the combined use of quantitative and qualitative research and how it is used in practice. Multi-strategy research is something of a moveable feast.

Other aspects of multi-strategy research practice

The content analysis of journal articles also indicated the degree to which quantitative and qualitative findings were fully integrated. In only 18% of articles were the two sets of findings genuinely integrated, though there was a small amount of integration of the findings in the remaining 35% of articles. The main and most striking feature of these findings is that nearly one half of all articles using both quantitative and qualitative research do not in fact integrate the findings.

Finally, each article was analysed to explore whether any vestiges of the paradigm wars were still operating. The criteria for an article to be deemed to have made a reference to paradigm issues were extremely nominal: all that was needed was for the author(s) to have referred to the possible relevance of epistemological or ontological issues or of paradigm conflicts to their combined use of quantitative and qualitative research. In only 6% of articles were issues associated with the paradigm wars broached. Also, virtually all of my interviewees indicated that such issues did not concern them in their research. Thus, they were not concerned that their use of mixed-methods research transgressed philosophical principles. Instead, a pragmatism held sway among the 20 interviewees.

Problem areas in multi-strategy research

This used evidence from interviews with researchers.

a) Multi-strategy research as fad

Some interviewees expressed a concern that multi-strategy research had become a fad and that it is more likely to be favoured by funding bodies, who themselves were seen as implicated in that fad, because it offers the best of all worlds. This may result in quantitative and qualitative research being combined regardless of the research question. This view is consistent with a feature of many articles in the content analysis, namely, they did not provide a rationale for the use of both quantitative and qualitative research.

b) Skills and training

Many interviewees identified issues to do with skills and training as a problem area. Some recognised that their skills and inclinations were either quantitative or qualitative and they felt uncomfortable with the other tradition. Most commonly, this took the form of qualitative researchers expressing unease about involvement in the more advanced forms of quantitative data analysis.

c) Timing issues

A further problem area that has not been given a great deal of attention in the methodological literature on multi-strategy research was that the quantitative and qualitative components sometimes had different time implications. Most frequently, this took the form of quantitative research being completed more quickly than the qualitative component.

d) Limits of multi-strategy research

Multi-strategy research is not obviously beneficial when the rationale for combining quantitative and qualitative research is not made explicit. In such cases, it is difficult for the reader to judge what has been gained by employing both approaches. Further, in a small number of multi-strategy studies qualitative data were being used only or mainly to illustrate quantitative findings. In such cases, the qualitative findings were largely ornamental and did not add a great deal to the study.

e) What is integration?

The finding that only a small proportion of studies fully integrate the quantitative and qualitative components when the research is written up suggests that greater consideration needs to be given to the issue of how multi-strategy research should be presented in publications.

Can quantitative and qualitative findings in a field be combined?

This aspect of the project examined the field of leadership in order to explore the issue of whether findings deriving from quantitative and qualitative

research can be combined to form an overall view of the subject matter. Leadership is a field in which quantitative research has dominated for many decades, but over the last 15 years more and more qualitative studies have appeared. When the studies are examined it is clear that some qualitative studies can be combined with the dominant quantitative paradigm but some cannot. Most difficult to integrate with the still dominant quantitative research paradigm are those qualitative investigations that problematize leadership. Some qualitative research on leadership was similar to much quantitative research in terms of character and the kinds of research questions explored but did not include any quantification. Such studies were particularly easy to merge with quantitative findings.

Selected publications

Bryman, A. (2004) 'Qualitative research on leadership: a critical but appreciative review', *The Leadership Quarterly*, vol. 15, no. 6, pp. 729-69.

Bryman, A. (2006) Integrating quantitative and qualitative research: How is it done? *Qualitative Research*, 6(1), 97-113

Bryman, A. (2006) 'Paradigm peace and the implications for quality', *International Journal of Social Research Methodology*, Vol. 9 No. 2, pp.111-126

Bryman, A. (2006) 'The research question: what is its role?' *International Journal of Social Research Methodology*, forthcoming

References

Bryman, A. (2004). *Social Research Methods*. Second edition. Oxford: Oxford University Press.

Green, J.C., Caracelli, V.J. and Graham, W.F. (1989) Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11, 255-74.

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