Mixed or merged? Integration as the real challenge for mixed methods

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Abstract

Purpose: Giampietro Gobo called for new methods that combine qualitative and quantitative approaches in a single instrument, suggesting this was the next challenge facing social research and mixed methods in particular. This paper is a response to that challenge.

Design/methodology/approach: An overview of methods, demonstrating their inherently mixed qualities, with special emphasis on a range of methods that can be classified as merged.

Findings: The real challenge is not to find merged methods, but to ensure integration of the quantitative and qualitative aspects of the methods used during the analysis and writing processes.

Practical implications: Researchers need to be alerted to the mixed elements within their work, to learn how to better tap into these and to exploit the integrative potential of their methods during analysis and writing. Researchers need more 'rounded' methods training.

Originality/value: This paper refocuses the challenge facing mixed methods research.

Keywords

Mixed methods, Merged methods, Integration, Writing, Analysis

Paper type

Viewpoint

In his brief December 2015 thinkpiece in this Journal, Giampietro Gobo noted there had been a decline in dominance of quantitative methods in sociology accompanied by a concomitant rise of qualitative methods, and more recently, a "resurgence" of mixed methods. The latter, he saw as constituting "one of the most important contemporary trends in social and applied research" (p. 330). The benefit of using mixed methods in a complementary way, he observed, is that a more complete result might be obtained, although that comes with possible limitations due to conflict between methods and need for greater time investment. He then posed the idea that "merged" methods which "combine both qualitative and quantitative approaches in a single instrument" (p. 331) provide a potential solution to the challenges posed by these limitations, while still "squeezing the advantages" of both approaches.

Dissonance between methods does indeed pose a special challenge when the research being undertaken is purposed for application in clinical, educational or social settings (Slonim-Nevo and Nevo, 2009), although for researchers with a more exploratory purpose, dissonance can initiate new questions and fresh understanding (Greene, 2007). And it is not a rare issue: dissonance was

recorded in 26 of 87 empirical studies published in the Journal of Mixed Methods Research over a recent six year period (Bazeley, unpublished data), particularly in those with a triangulation (convergence) or explanatory sequential design. Most authors were able, nevertheless, to offer a straightforward methodological or contextual explanation for the conflict between methods, and/or to undertake further investigation to resolve the issue.

My goal here is to respond to Gobo's call to envision *merged* methods that overcome these challenges, beyond the four he lists as already existing. In doing so, I briefly review a range of methods, old and new, with particular focus on those that fit Gobo's criteria for merging methods. I conclude by refocusing the challenge that faces mixed methods research.

As a starting point, I would argue that all social research methods inherently carry some mixed features or, at least, potential for such. Any phenomenon, whether physical, emotional, or cognitive, intrinsically has both qualities *and* quantity; use of numbers to measure phenomena involve acceptance of the *theory* and *judgements* on which the numbers are based (Gorard, 2010). Anguera and Izquierdo (2006) put forward the "integration premise" that a quantity is a predetermined quality, and a quality is a predetermined quantity because "quality and quantity lose their meaning unless viewed in light of one another" (p. 213). At the root of statistical and other quantitative analyses there lies, somewhere, a 'qualitative' understanding of the world insofar as it relates to the topic being investigated – else how can the questions have been asked and the variables to include have been determined. Researchers in management, and possibly also sociology, quite often draw on quite extensive interviewing and/or archival research to identify variables to include in a statistical analysis, without paying any further attention to that data once those variables have been selected (Bazeley, 2015a). Furthermore, often the numbers used are more qualitative than quantitative in nature (e.g., dichotomous, dummy, or categorical variables), while interpretation of, say, rotated factors or identification and naming of multivariate clusters and dimensions is very much a qualitative exercise.

Qualitative researchers, likewise, tend to ignore the "numbered nature of phenomena":

> These antinumber myths have led to the underrecognition, underutilization, and even avoidance of numbers in qualitative research. Although they have a less prominent place in qualitative research, numbers are integral to qualitative data, and skill with numbers is essential to good qualitative research. The meaning qualitative researchers seek depends, in part, on number, just as number depends on meaning. (Sandelowski, 2001, p. 231)

Just as recognising the qualitative component underlying and within statistics could enhance an investigator's capacity to interpret their statistical results, so too might recognising the numbered nature of phenomena enhance interpretation for a qualitative report. Both quantitative and qualitative sources contribute to the contextualization of any form of data being analysed and presented and consequently to the capacity for analytic generalisation from the results obtained.

Two long established methods usually classified as qualitative stand out as being inherently mixed: case study, as the intensive study of a more or less bounded entity, and ethnography, as developed

from anthropological traditions. In each of these it is usual to draw on multiple and varied sources of information, including (but not limited to) observation, interviews, archival and documentary evidence, census data, and survey data and to develop from sources used an integrated descriptive account or a model or theory. Although the actual strategies employed might change and develop in sophistication, the basic purposes and principles have remained the same for a long time, with each representing a weaving and merging of methods in pursuit of their different goals.

Then, there are methods that were developed multiple decades ago which would meet the requirements suggested by Gobo for merged methods, including Stephenson's Q methodology (McKeown and Thomas, 2013; Newman and Ramlo, 2010), and Kelly's repertory grid technique (Fransella, Bell, and Bannister, 2003; Tan and Hunter, 2002). In each of these different methods data are initially gathered qualitatively, but then participants are asked to make judgements about that data that are then analysed quantitatively. Reporting for each requires an interpretation of the statistical results that takes into account the content of the original qualitative data, possibly requiring further qualitative follow up in the process. In recent studies, Baas, Rhoads, and Thomas (2016) used Q methodology to investigate the level of endorsement across different university stakeholders of a "culture of assessment" for university teaching, while Kington, Sammons, Day, and Regan (2011) used the repertory grid technique within a large-scale evaluation study to identify dimensions of effective classroom teaching.

Currently, we have developments in merged or hybrid forms of social network analysis and geospacial referencing being used as strategies for data collection, management and analysis by mixed methodologists. Social network analysis began, in simple visual format, as a tool used by ethnographers, sociologists and social psychologists, but with the development of graph theory and associated procedures it became rather mathematical in its orientation (e.g., Wasserman and Faust, 1994). It retains, nevertheless, a strong visual component to complement the statistical measures, and increasingly is being merged (once again) with qualitative data gathering to enhance interpretation and extend its applicability and reach (Crossley, 2010; Edwards, 2010). Geospatial work, similarly, has also recently 'come out' from a very quantitative phase with the development of new technology and new resources (e.g., Jung and Elwood, 2010). These are allowing the development of new strategies for closely linking qualitative and quantitative information through locational references, recorded using either specialist geographic information systems (GIS) software or through geocoding and/or modelling with maps in qualitative software (Fielding and Fielding, 2013, 2015). Inherent in these developments is the recognition that all data are located in time and space – a recognition that points also (as did Gobo) to the relevance of timelining, diary-based, and event-history methods as merged research strategies (Adriansen, 2012; Elliott, 2002, 2011; Glasner, van der Vaart, and Belli, 2012; Kolar, Ahmad, Chan, and Erickson, 2015), although the mixed methods potential of timelining is still relatively undeveloped.

Also relatively recent are developments in strategies for combining and converting qualitative and quantitative data made possible by the advent and continual development of qualitative data analysis software (QDAS) over the past 25 years (Bazeley, 2002; Kuckartz, 1995). A QDAS database allows for the management and analysis of data in almost any form, with consequent benefits in

being able to apply a common coding system across those different data, and to create links between them. Matrix analyses allow for comparative analysis of qualitative material in relation to categorical data, values on quantitative scales, or spatial references. Qualitative coding can be converted to case by variable tables or to similarity matrices for further statistical and exploratory analyses, for example using cluster or correspondence analysis or multidimensional scaling (Bazeley, 2006, 2010). Bazeley (1999) referred to these twin combination and conversion processes as "fused" analyses and has since used a variety of metaphors, but with a focus always on the integrative value of these types of analyses (Bazeley, 2012; Bazeley and Kemp, 2012). They, along with the practice of creating blended variables to progress stalled analyses (Caracelli and Greene, 1993), would certainly warrant being referred to as merged methods.

The challenge now is not so much the need for creation of new merged methods, nor indeed, the prevention of divergence or dissonance with their generative potential. Rather, the first challenge is for researchers to recognise the inherent joint qualitative and quantitative elements that already exist in the data and analyses they are already using and to carry that recognition through into their interpretations and reporting. The second challenge is for those consciously employing mixed methods to fully exploit the integrative potential of their data during the analysis process, rather than limiting their merging of the data to a superficial commentary during a final discussion. One of the most effective means of encouraging greater depth of analysis is to insist on writing the results from different data sources together, organised by elements of the topic rather than method used to gather or analyse the data (Bazeley, 2015b). This will enhance integration and improve communication of empirical results about a substantive issue. The third and final challenge is in the training of researchers to develop a rounded appreciation of methods and at least basic capacity to use a range of different strategies in a context of seeing how these can work together, even if their focus and expertise is more specialised. Regardless of whether data sources and techniques are singular or plural, integration of analysis processes and writing is the key to advancing research using mixed methods, and a challenge for all researchers.

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