

## Keynote Speech 2

### A Mixed Methods Way of Thinking and Doing: Integration of Diverse Perspectives in Practice

Speaker : Pat Bazeley, Ph.D. (University of New South Wales)

#### Introduction – observing and thinking holistically

Any phenomenon (or thing) we study, whether physical, emotional, or cognitive, intrinsically has both qualities and quantity – we can observe and describe its appearance, its 'feel', and how we respond to it, we can count features associated with it or measure qualities pertaining to it. We do this 'naturally'. For example, if I am researching which house to buy, I will visit prospective houses and pay attention to their appearance and 'feel', their location (social context, physical context, distances), their condition, their room sizes and ceiling heights, and their prices. We can represent phenomena, including mental phenomena, in multiple ways using both numbers and text. Whether we use numbers or text does not change the phenomenon, although it can change how we think about it, and how we present it to others. It is in our approach to thinking about things that we begin to divide and classify what is, by nature, integrated. The primary way in which we take nature apart is to separate quantity from qualities, but in so doing, we lose the perspective of the whole. A mixed methods way of thinking and doing research attempts to retain or regain that more holistic perspective by holding qualities and quantities together. What is done 'naturally' in the world out there is now, with the advance of scholarship, done intentionally, reflectively, and effectively also by researchers.

Historically, those in the sciences observed nature and described what they saw using both words and measures. Anthropologists and sociologists have always used multiple methods to study people in communities. When I investigated the mental health needs and resources of a disadvantaged community in the 1970s, I modelled my approach on that of the earlier Chicago sociologists, using a combination of extensive ethnographic observation and interaction with members of the community, social indicator statistics, key informant interviews, and a survey comprising scaled

items as well as open and closed questions. I continued to use a combination of methods for the evaluation studies I conducted through the decades that followed, using data sources and methods to analyse them that were available and appropriate for answering the questions at hand, applying those methods both separately and together. Others working in programme evaluation, and researchers with a health or education focus who were working in practical contexts, also routinely used a variety of methods

because the practical demands of the contexts in which they worked called for both generality and particularity. And they called for defensible patterns of recurring regularity as well as insight into variation and difference. And they called for results that conveyed magnitude and dimensionality as well as results that portrayed contextual stories about lived experiences. And they called for dispassionate neutrality as well as engaged advocacy for such democratic ideals as equity and justice. (Greene, 2008: 7)

Then we 'discovered' paradigms, and experienced the 'paradigm wars', and the pressure from the paradigm crusaders in the 1980s and 90s was to say that we could not do what some of us had been doing (successfully) for years. When people tired of that debate and a truce was called with the broad acceptance of pragmatism as a rationale for mixing methods, mixed methods once again became accepted as a legitimate approach to use in social research. Books were published, journals were established. The combination of methods became codified, and identified as a methodological approach. But then the pressure resulting from that acceptance and codification of mixed methods was to constrain, in other ways, how we might do mixed methods. Restrictive definitions of what constitutes a mixed methods study and design typologies for carrying out a mixed methods study act in both obvious and subtle ways to establish 'right' ways of doing research where multiple data sources are being used and methods are being mixed. One of those restrictive definitions, for example, insists that both a quantitative and a qualitative method have to be used within the program of study for it to be called a mixed methods study. And yet:

Mixed methods research embraces much more than the traditional dichotomy between qualitative and quantitative research. ... The dichotomous view masks the reality that there can be many different

“mixes” or combination of methods. For instance, in education research, some combination of experimentation and surveys—both being forms of “quantitative” methods—might deal better with the dual needs of addressing internal and external validity than either method alone. (Yin, 2006: 41)

Similarly, there are examples of studies in which different qualitative methods have been employed that would meet the definition of being “mixed”. One that comes to mind was a study by Jones and Bugge (2006) in which awkward interactions in healthcare consultations, identified through transcription and conversation analysis techniques, were then followed up with a further interview using a think-aloud protocol. Indeed, when Denzin (1970, 1978) first wrote about triangulation of methods, theories, data and investigators in the 1970s, it was in the context of qualitative research, not mixed methods as currently understood.

Max Bergman (2008: 19) argued strongly that ‘qualitative’ and ‘quantitative’ are ‘straw men’ concepts without clear methodological substance. Indeed, the boundary between quantitative and qualitative approaches to research is ‘fuzzy’. Let’s say you give a response of ‘a lot’, to the agent’s survey question about how much you liked that house you were looking at. You are expressing a feeling, which the agent chooses to record as the number 3 on a 3-point ordinal scale, for use in statistical summaries and tests. But was your response, ‘a lot’, qualitative or quantitative? And is what is in your mind with regard to what it is that you like ‘a lot’ about the house in any way similar to that of the real estate agent who designed the survey? Perhaps you were thinking of a scale that also included ‘extremely’? Or possibly you had seen other houses that day that were very poor, so this one seemed good by comparison – an evaluation that might not stand up in another context. Indeed, is a survey, despite its use of numbers to record answers to questions and use of statistics to analyse them, really a *quantitative* instrument?

People have tried to distinguish and separate quantitative and qualitative approaches to research in many ways, without success. Whatever way you think of in which quantitative methods might be special and differ from qualitative, there will be a way in which qualitative methods can be like that. According to Bergman:

Qualitative and quantitative methods represent large and heterogeneous families of methods under convenient headings. The members of these two families vary tremendously within their own family to such an extent that it

is difficult to identify a unique set of qualities that encompasses the characteristics of one family of methods, and that is clearly distinctive from the characteristics of the members of the other family. Most characteristics encompass either only a subgroup of members of the family or are also applicable to some members of the other family. (Bergman, 2008: 14)

You can count qualities, and you can describe quantities. For example, quantitative research is typically used in deductive, hypothesis-driven studies, and qualitative with inductive, exploratory studies, but qualitative methods are also used for deductive, theory-testing studies, and quantitative surveys are often exploratory and inductive. Qualitative and quantitative approaches to research might be better described as poles on a multidimensional continuum, with any one study located at different points along the particular dimensions that might distinguish them, or, in Bergman's terms, as heterogeneous and overlapping families. The terms are non-specific, and yet they retain value insofar as they point to broad directions in research methodology.

The key implication for thinking and doing mixed methods is that if a boundary cannot be established between qualitative and quantitative methods, then it makes no sense to insist that the multiple data sources, methods or approaches integrated within a mixed methods study must include methods that have been separately defined as qualitative and quantitative, or even to necessarily think about methods in those terms. To quote Robert Yin (2006: 48) again: "Once freed from the quantitative-qualitative dichotomy, the relevance and reality of a broad variety of 'mixes' emerges."

## A mixed methods way of thinking and doing means engaging with multiple perspectives

—because any topic we might be studying can be viewed from multiple perspectives. A mixed methods way of thinking and doing recognises the complexity of any topic, and deliberately engages with those different perspectives. To do so can challenge current views and initiate fresh understanding, ultimately leading to a broader, deeper and more rounded, more holistic understanding.

I am indebted to Jennifer Greene (2007) for the expression "a mixed methods way of thinking", which I have borrowed from her. The perspective I am taking today is

more focused than Greene's. I am suggesting that *the researcher who employs 'a mixed methods way of thinking and doing' evaluates the multiple data sources available to her not in terms of whether they take the form of number, text, or image, but rather, in terms of the quality of information they can provide on the subject of interest.* That researcher then determines the best method of working with those data—whether to consider a quantitative or qualitative representation of them, or both—based on her purposes, the kind of questions being asked, and on situational factors that are not intrinsic to the data, for example, on the time and resources available for the investigation, or perhaps on personal preferences or skills.

I want to encourage you to resist pressures to limit choices and to conform to historical or prescribed patterns of activity when considering how to investigate something, and instead, to do 'what comes naturally', using multiple senses and multiple perspectives—to engage in a mixed methods way of thinking that results in a mixed methods way of doing. So what does this mean in practice, in a research setting?

I am going to suggest that, freed from the quantitative-qualitative dichotomy, those who engage with multiple perspectives and adopt a mixed methods way of thinking and doing will:

- focus on their research purposes and questions
- design considering the demands and opportunities of the situation
- judge available data by its relevance rather than its form
- analytically integrate methods used
- integrate writing of results as well as conclusions
- benefit from use of computer technology.

**A mixed methods way of thinking and doing means focusing on your research purposes and questions**

Your research purpose provides the context for the questions you will ask. Purposes can be intellectual, professional, practical, social, or just personal interest (Maxwell, 2013; Mertens, 2013). Questions arise in the context of purposes, and address the concerns embedded in that purpose. For example, if my task is to conduct a program to raise the research profile of the university, then I might ask:

'What is the pathway to becoming an excellent and productive researcher?' My purpose in doing so is strategic, and will be focused on the academic setting. The university, its funders, its staff and students, and I myself all have interests that would be served by doing this research.

If you set out to write, separately, a quantitative question, a qualitative question, and a mixed question, you will inevitably fall into the trap of divided thinking and poorly integrated methods. A researcher employing a mixed methods way of thinking will consider a range of possibilities in methods that might be used to answer any question. Factors other than the question will influence what particular methods are chosen.

To work out which particular methods will work, first analyse your questions. Identify all the elements (concepts and categories) in your questions, and any assumed relationships between those elements. It is helpful to map these, showing tentative pathways and points of intervention, decision, and change. As well as revealing your assumptions, this will sharpen the focus of your study, and further clarify the concepts and the relationships between them that you need to explore or test.

In choosing which specific aspects to follow up, because you cannot cover all, you will come back to your current purposes, and consider also the resources available to you. Questions often need to be broken down into what I call 'bite-sized chunks'. Working from a conceptual or theoretical map will assist in this process, and will ensure that the focus remains on progressing understanding of the topic, rather than on which particular methodological approach to employ.

**A mixed methods way of thinking and doing means to design considering the demands and opportunities of the situation**

Your design strategy will depend on the type of claim to be made from the research, but the actual design chosen, whether it is cross-sectional, longitudinal, experimental or whatever, is independent of the specific data collection and analysis methods to be employed in doing the research (Gorard, 2013). A longitudinal design to study the impact of departmental environment on a researcher's productivity can use qualitative (life history) data, or it can use event history analysis employing

modified Cox's regression based on quantitative panel data (Elliott, 2002, 2011). Either might suggest mechanisms for resulting changes, neither is able to prove those. Experimentally testing an intervention can be done using traditional quantitative measurements, but an experiment might alternatively be conducted using qualitative (Robinson & Mendelson, 2012) or mixed data sources (Plano Clark et al., 2013). The real design issue is: will there be adequate warrant for the 'knowledge' gained.

Samples and sample sizes also need not be dictated by method. Is qualitative work always intensive and intimate? Is quantitative work always extensive and more general? One can gather qualitative data from a large sample. For example, Williams and Burnap (2015) coded 180 million UK geo-coded tweets for indicators of criminal activity, based on initial annotation and coding done by crowd-sourced human coders. One can study a small sample intensively using quantitative methods. A sample size of 15 limits claims that can be made, regardless of methods used, and a mixed methods way of thinking and doing will explore all options. The critical aspect, for a mixed methods way of thinking, is to ensure that a common or at least comparable universe of cases are drawn on for the different sources and methods used. As with keeping the question in focus, keeping the case or cases in focus for all methods will facilitate integration of different data sources.

Ultimately, your choices are as likely to depend on your immediate circumstances as much as on the kind of information different methods can provide. How much time do you have? What financial and other resources are available to you? What sources of data are you able to access? What analytic skills do you have or are available to you? With a mixed methods way of thinking, all forms of data are considered: they are neither chosen nor excluded simply because they are numeric or textual.

### A mixed methods way of thinking and doing means judging available data by its relevance rather than its form

A mixed methods way of thinking and doing allows researchers the opportunity to be creative in seeking out available data, or in making new data. The relevant question to ask of any data is: does this data source provide me with information I can use in answering my question (s), *not*: do I have a quantitative data source *and* a qualitative data source.

Too often, researchers resort to traditional combinations of surveys and interviews, or questionnaires with closed and open questions, without thinking about alternatives. You have the freedom to do something new and different—make use of it! Too often, also, researchers assume they will need to design and gather new data sources to answer their questions, without even thinking to check what sources of data might already be available to them.

I am not suggesting you should ignore interviews, surveys and questionnaires, as they are time-honoured ways of gathering data. But consider also the possibilities offered by:

- documentary sources of data, particularly when you are working with organisations (annual reports, magazines, brochures), but also with individuals (tax records, photos, letters, diaries)
- secondary data sources, i.e., data from previous projects available through national data archives, or perhaps through research centres in your university
- administrative data, including clinical records, especially when your work intersects with government departments, agencies, or even from commercial organisations
- social media and other web-based sources
- existing literature (critically analysed), e.g., for data synthesis, or for exploring methodologies
- pictorial data, specially generated, or already existing, such as photos, drawings, concept maps
- geographic data, e.g., using location as a linking variable between other qualitative and/or quantitative data, and providing geographic context to other data
- social network data, with visual maps and measures of centrality, density, etc.
- and, of course, observational data in its various forms (participant/nonparticipant: structured/unstructured).

Many of these sources, including surveys, lie somewhere between being qualitative and quantitative, and incorporate both perspectives. Some will invite both numeric and textual, or visual analysis. Each could be combined in some way with other sources. A researcher practising a mixed methods way of thinking and doing will judge each potential data source by how useful it will be for answering their

questions and meeting their purposes, and will use whatever analysis methods are appropriate and useful for learning from that data.

## A mixed methods way of thinking and doing means analytic integration of methods used

A mixed methods way of thinking and doing views any data source from multiple perspectives. Numerical data are not just seen statistically, but also as telling a story. Texts are not seen just as narrative, but also as providing variable data. Text and numbers together give a more complete understanding of the phenomenon—the thing—being investigated. Just as both were necessary for the house purchaser to properly evaluate the houses they viewed, so too are both beneficial to the researcher in their investigations.

As a starting point for integration, a person engaging in a mixed methods way of thinking and doing will consciously ensure their different data sources provide complementary or comparable data that focus on the same universe of cases. It is especially helpful if all sources can be derived from the same set of cases, but if this is not possible, there needs to be sufficient connection that meaningful integration of the data sets will be possible (Yin, 2006).

Additionally, even though each type of data collected might invite a different and preferred strategy for analysis, the various sources of data need to include enough parallel concepts that they can be seen as part of the same study. Each type of data will contribute some unique elements, but if there is no commonality between sources, you have two or more independent studies, and you have lost your mixed methods way of thinking and doing.

Shared cases and shared concepts are design elements that will make a mixed methods way of doing analysis possible. The design stage, when you are still *planning for data*, is an important time for the mixed methods researcher to think through the integrative strategies for analysis that she might employ, to make sure her data are going to be organised to allow her to apply a mixed methods way of thinking and doing to the analysis process. Too often what happens is that separate analyses for each source of data are carried out, and the only integration that occurs is at the conclusion of the project.

Integration of data and analyses (and, eventually, of writing) is a core feature of a mixed methods way of thinking and doing research. Integration is about seeing the different data and methods of analysis as being interdependent—they inform each other, and they are dependent on each other for producing the outcome from the whole study.

### A mixed methods way of thinking and doing means integrated writing of results as well as conclusions

The result of an integrated mixed methods way of thinking and doing analysis will be an integrated way of thinking and doing writing. The blueprint for writing up your study will be the elements and issues that make up your topic, rather than the methods used to obtain data, or the different voices being represented. Focusing writing around different methods or different voices leads to repetition rather than development in the analysis and writing of your study. Writing different methods together by focusing on elements of the topic prompts further questions of the data, and thus further analysis and deeper thinking. As different pieces of evidence are woven together to make an integrated point, the emphasis remains where it should be—on that point.

### A mixed methods way of thinking and doing benefits from use of computer technology

Computer technology offers benefits to the mixed methods researcher, primarily through QDA programs that have grown to accommodate mixed methods functions, although quite a lot can be achieved with a common spreadsheet. Software will allow you to manage multiple data sources and types within the one project, and to manage multi-source data for each individual case, to facilitate combining, comparing and contrasting sources. You might look also for QDA programs that allow you to import demographic and scaled variable data for use as a basis for comparative analyses of text data, and to export qualitative coding as case-based variable data to merge with other statistical data for further analysis. Use of such programs, in conjunction with statistical and visualisation software, opens a range of possibilities for joint analysis

that are almost inconceivable without that technical support.

## Conclusion

I want to conclude by saying a mixed methods way of thinking will probably, *but not necessarily*, mean tapping into both the quantity and the quality of the phenomenon being studied. It *will* mean integrating the different perspectives taken on the data at hand, regardless of the nature of those data, and the methods used to analyse them. This integration will be evidenced both in the description of the methods for the study, and, especially, in the writing of the results.

Ultimately, the important issue is not whether you use a single method, multiple methods, or mixed methods, as long as your methods serve the purpose of the study. What matters is appropriate use, quality application, clear thinking, and transparency about what has been or is being done.

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**Dr. Hisako Kakai**

Ladies and gentleman, it's 3:00. We would like to resume the session. Next, we have Dr. Burke Johnson from the University of South Alabama. Dr. Johnson is *the* philosopher of the mixed methods research community. He is serving as the executive director of the MMIRA. He co-edited *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry* (Hesse-Biber & Johnson, 2015) just recently. Dr. Johnson, the floor is yours.

## Keynote Speech 3

### Constructing a Realistic and Inclusive Science

Dr. R. Burke Johnson

#### Introduction

The title of my presentation is "Constructing a Realistic and Inclusive Science." Mixed methods research respects all traditions. And do you wonder what an "Inclusive Science" might look like? Let's think about that. That's what I want us to do today during my presentation. Let's think about what a science that listens to multiple perspectives would look like. That's the vision I want us to work toward during the next 30 minutes. And I am going to draw on a philosopher John Rawls (1993, 1999, 2001) who gave us a strategy for visualizing a world where different people and positions are treated fairly and rationally to produce a just and effective whole; so he was a political philosopher, but I am going to, by analogy, use some