Is it alright to mix Qualitative and Quantitative Methods?

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Abstract

The paper explores the various dimensions of the debate on the mixing of qualitative and quantitative methods. Broadly, the two positions involved in the debate are — mixing of qualitative and quantitative methods causes epistemological damage; the choice of the method and the epistemological position are not necessarily linked. The paper deconstructs the positions and argues that the choice of the method is essentially rooted in the epistemological stance of the researcher.

Introduction

Acutely conscious of the scepticism as expressed by Bryman (1984, p. 75) "about the extent to which a neat correspondence can currently be established" between epistemological position and associated techniques, I started out with a hunch bordering on conviction that epistemology is at the heart of the issue. But as Bryman (1984) repeatedly points out that there is a "tendency for epistemological and technical issues to be treated simultaneously and occasionally to be confused" (p. 75), sorting out and thinking through ideas was a tedious process. I cling to my hunch and explicate the arguments given in favour of the significance of epistemology. To support my arguments, I have drawn inferences from research studies in the areas of literacy and reading.

The Origins of the Conflict

The debate between qualitative and quantitative research is an old one. It is certainly half-a-century old, since the resurgence of qualitative research around the early 1960s (Bryman and Burgess, 1999). The reasons for its coming back are interesting and to an extent explain the origin of the debate. The key factors responsible for the return of qualitative research have been enumerated as follows:

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"A certain amount of disillusionment with the output of quantitative research" and "the pretensions of much quantitative research to adopt the characteristics of the natural sciences" (ibid. 1999, xi). This was coupled with strident critiques, drawing attention to the limitations of research methods, like social survey in failing to elicit social meanings constructed by the participants. A growing awareness about epistemological viewpoints that looked at social reality alternatively is another factor mentioned in the review.

The early 1960s was a time when qualitative research acquired a definite existence and identity. One can say this because the history of qualitative research has been described to be diffused before this period. In a way, its origins are rooted in the conflict with quantitative research because it stood up as an alternative to the prevalent research tradition. The fact that the debate continues is indicative of the vigorous existence of both kinds of research. Earlier, the focus of the debate was the epistemological superiority of the two. Now, the focus has shifted to a seemingly more pragmatic issue — is it alright to combine or mix methods? This is the question posed by the above mentioned positions. I will examine the underlying assumptions in the question and deconstruct the two positions to arrive at my position.

Is It Alright to Combine or Mix Methods?

At the first glance, it appears to be a question of technique because it is talking about methods. A closer examination reveals that it is a question revolving around epistemology. Let me explain how. One is questioning the mixing of methods because one is assuming that there are methods of two (or more) kinds. And that distinction between the methods is created because of the assumption that each kind falls within the realm of a specific epistemological position. In other words, we are debating about mixing methods because we are aware of the epistemological moorings of methods. So, what is being suggested is the embededness of methodology in epistemology. Now, the question can be put this way:

"Is it alright to mix or combine methods affiliated to distinct epistemological positions?"

I will pick up the strand of the argument of embededness of methodology in epistemology later and currently proceed to deconstruct the two positions.

Deconstructing the Two Positions

The first position says that the two represent 'virtually different worldviews'. This is agreeable. But what should not be let out of sight is that they are views of/on the same world. All research, irrespective of its epistemological orientation, has a larger objective of understanding reality in its complete form. But all research can only be an 'approximation of that reality' because of the ever-changing nature of social reality. Multiple points of view add to the richness of attempts to understand the reality and urge each other to find better ways of defining, explaining and understanding that reality.

In that sense, 'competing paradigms' do not 'obscure diversity and complexity', which is a claim made by the second position. It is difficult to

bypass Kuhn's concept of paradigms at this juncture. My interpretation of Kuhn's concept of paradigms presents a paradox of sorts. I would like to return to it once my analysis of the two positions is done with.

Clarity in one's epistemological position will not allow a 'mixing of methods'. Mixing of research methods indicates a mixed-up epistemological stance. At the same time, I believe that neither quantification by a qualitative researcher, nor a little 'scratching of the surface' by a quantitative researcher leads to epistemological damage, provided that one has stated one's epistemological position with utmost clarity and transparency. The possibility of epistemological damage arises when there is a gross mismatch between the research question and the method employed to answer it. The research question reflects the epistemological stance of the researcher and a confused question can lead to an error of this kind.

I must clarify here that I make a clear distinction between the research problem and the research question. A research problem can lead to several research questions, each of which can have a distinct epistemological orientation but the research problem is neutral. Here, I find myself completely aligned with Bryman (1984) in dismissing Trow's observation that "it is the problem that determines the technique to be employed" (p. 79) and asserting "it is not so much a problem that determines the use of a particular technique but a prior intellectual commitment to a philosophical position" (p. 80).

In support of my argument, I would like to mention the celebrated ethnographic work of Shirley Brice Heath (1983), *Ways with Words*. In documenting her 13-year-long studies of two communities, she has tabulated a number of topics of all play-songs heard in one of the communities and the approximate percentage of each of these along with a comparison of those recorded in schools. This is one of the two tabulated tables she has used in documenting her entire study. The table has been placed in the midst of thick descriptions of how children use play-songs. The descriptions are replete with details.

For instance, "The jump-rope play-songs are performed with either double or single ropes, with one girl turning at each of the two ends of the rope or ropes, and one or two girls jumping. The usual routine requires that a girl jumps and carries out actions named in the play-song. When she misses her turn, another girl enters" (Heath, 1983, p. 100).

It would take a dogmatic purist to believe that this 'harmless' quantification has caused epistemological damage to the ethnographic nature of the study. In this illustrative example, the table does not go against 'the grain' of the study but merges effortlessly with the flow of the study. In this case, the presence or absence of quantification does not change the epistemological orientation of the research question. I am not creating a case for predominant research technique "buttressed" with another technique because it would overthrow the epistemological position (Bryman, 1999, p. 48). It is possible to have a study which neither quantifies data, nor captures the meanings and interpretations of the participants. How is one going to label such a study?

I will examine the claim of 'competing paradigms obscure diversity and complexity' in the second position and interpret this in terms of Kuhn's evolution of paradigms.

The Paradox: Competition and Evolution

The classic, *The Structure of Scientific Revolutions* by Thomas Kuhn, ran counter to the philosophical convictions about science in the 1960s. He questioned the tenability of the view that science describes what is really 'out there', independent of any observer. He urged researchers to conceive scientific progress not as teleological, i.e., goal-directed but as evolutionary. Therefore, there is no 'set goal, a permanent fixed scientific truth', but 'an increase in articulation and specialisation' (Kuhn, 1970, pp. 172–173).

Evolution in Action

Evolution makes a fundamental change and not a surface-level superficial one.

Are the two 'competing paradigms' or one evolved into another, while the vestiges of the former continue to exist? One way of looking at it is as an evolutionary process of the society and the research community and its practices. The society has thrown issues that need the research lens to be positioned in multiple ways. With social and economic changes, more researchers are being drawn to consider people on the margins of the society. For instance, it is worth studying the influence mass literacy or liberalisation has had on research trends. The distance between the haves and have-nots has increasingly widened across the world. Qualitative research being humane and concerned about the people represents the lesser heard, the lesser seen and the rarely understood perspectives and voices.

The other way of conceptualising the situation is that the quantitative tradition had reached its pinnacle or become completely saturated because it was unable to answer the problems posed by an evolving society and an alternative point of view was much needed. This is within the scheme of revolutions proposed by Kuhn. In other words, the inadequacy of quantitative research led to the evolution of qualitative research, rendering them incommensurable at the same time. In my interpretation, here lies the paradox of evolution and competition in action, simultaneously.

In this evolutionary process, the quantified, supported with descriptions stands richer and better understood. Duke and Mallette (2004) in preface to their book, *Literacy Research Methodologies,* urge the readers to "listen to each other" instead of "dismissing each other's work on the grounds of incommensurability" (p.xv). I will use Durkin's much acclaimed quantitative study of comprehension as an illustrative example.

When Dolores Durkin's classic study of reading comprehension instruction was published in the late 1970s, it shook the literary community. Durkin's (1978–79 research had revealed that less than 28 of 4,469 minutes (less than 1 per cent) observed during reading periods in 24 fourth-grade classrooms in 13 districts in the USA were devoted to teaching students how to comprehend. Instead, the maximum time in the class was devoted to assessment of comprehension where teacher questions dominated. Teachers assigned students

to read, and then, asked them questions about what they had read. This finding resulted in great attention to research in comprehension instruction over the next couple of decades — a time that has been referred to as the Golden Age of comprehension because so much was learned about comprehension processes and the teaching of comprehension.

A lesson we have from this example is simple and profound. A researcher may subscribe to an epistemological position and choose to carry out research that is in consonance with the worldview informed by that epistemological position. But it will not be wise to dismiss or ignore the research informed by other epistemological position(s). Needless to say, one has to be critical in examining every piece of research. Concluding this argument here, I would like to highlight that the paradigms are not just competing but one has led to the other's evolution. Durkin's study shows that competing and evolving paradigms enhance diversity and complexity. A step ahead in this evolution has been the emergence of critical theorists, who take on the cause of the marginal groups they study. This is quite unlike the qualitative researchers who describe the lives of these groups.

In the preceding section, I have examined the central question and deconstructed the two positions to highlight the significance of epistemology. I would like to return to the other argument I had kept on hold — the embededness of methodology in epistemology.

Embededness of Methodology in Epistemology

In the following section, I try to resolve the tension between methodology and epistemology by dwelling on the embeddedness of methodology in epistemology. Corbin and Strauss have started the introductory chapter of their book on techniques for developing grounded theory with the sentence, "Every methodology rests on the nature of knowledge and of knowing, and so does ours" (2008, p. 1). A detailed explication of the idea has been provided by Cohen and Manion (1994, p. 3) in their borrowing of the philosophical framework from Hitchcock and Hughes. To further approach and explore the issue in a more nuanced manner, I have drawn liberally from a framework of four hypothetical studies developed by Dressman and McCarthey (Duke and Mallette, 2001). This is the example I have used to illustrate my point in this section.

Hitchcock and Hughes (1995, p. 21) suggest that ontological assumptions give rise to epistemological assumptions; these, in turn, give rise to methodological considerations; and these to issues of instrumentation and data collection. This view moves us beyond regarding research methods as simply a technical exercise. It recognises that research is concerned with understanding the world and that this is informed by how we view our world." This states with precision how methodological concerns flow from the viewpoint held about the nature of reality.

To elaborate on the idea, I will proceed with the illustrative example. Dressman and McCarthey explore the topic — class size and literacy teaching and learning — using experimental and quasi-experimental designs, formative experiments, case studies, discourse analysis, and conversation. This hypothetical exercise is undertaken

to examine the epistemological weaknesses and strengths of each method. To do this, they discussed the epistemological assumptions underlying each method, which give rise to the relative weaknesses and strengths of each method. "Underlying each of these methods is a view of knowledge that influences the development of the research questions, the data sources, the data collection procedures and types of analysis (p. 340)." They proceed to argue that different epistemological assumptions among the methods should be considered as a strength rather than a liability because one method alone cannot address all aspects of a research problem. Moreover, different methods produce different kinds of knowledge. They conclude with a word of caution. They argue against the 'mixing of methods' in a single research study because the way each researcher perceives the nature of reality is different. The data from such a study "may result in hodgepodge of information without theoretical grounding (p. 344)". This brings me to the conclusion of my argument.

Conclusion

The primary argument I have used is the relationship between methodology and epistemology, and the 'rootedness' of the first in the latter. It is an issue or debate which cannot be understood without delving into philosophical issues. A comparison of the characteristics of qualitative and quantitative research seems a simplistic exercise to meet the desirable end. The varying characteristics are a result of one fundamental difference — the distinctive epistemological positions. A clear epistemological position seems to be the key to resolve or at least understand the tussle between methodology and epistemology.

References

Bryman, A. 1984. The Debate about Quantitative and Qualitative Research: A Question of Method or Epistemology? *The British Journal of Sociology*. Vol. 35, No. 1, pp. 75–92.

Bryman, A. and R.G. Burgess. 1999. Qualitative Research Methodology — A Review. In A. Bryman and R.G. Burgess. (Eds), *Qualitative Research.* Vol. I, SAGE, London.

Bryman, A. 1999. The Debate about Quantitative and Qualitative Research. In A. Bryman, and R.G. Burgess (Eds.), *Qualitative Research.* Vol. I, SAGE, London.

Cohen, L. and L. Manion. 1994. *Research Methods in Education.* Routledge, London.

Corbin, J. and A. Strauss. 2008. *Basics of Qualitative Research.* SAGE, California.

Dressman, M. and S.J. McCarthey. 2004. Toward a Pragmatics of Epistemology, Methodology, and other People's Theories in Literacy Research. In N.K. Duke and M.H. Mallette (Eds), *Literacy Research Methodologies.* Guilford Press, New York.

Durkin, D. 1978–79. What Classroom Observations Reveal about Reading Comprehension Instruction. *Reading Research Quarterly*. Vol. 14, pp. 481–533.

Heath, S.B. 1983. *Ways with Words: Language, Life and Work in Communities and Classrooms.* Cambridge University Press, Cambridge.

Hitchcok, G. and D. Hughes. 1995. *Research and the Teacher*, 2nd Ed. Routeledge, London.

Kuhn, T.S. 1970. *The Structure of Scientific Revolutions.* University of Chicago Press, Chicago.