

“Paradigm Wars: Promoting Mixed Methods Research in Social Sciences”

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Abstract

The purpose of this exploratory analysis of research methodologies was to begin a necessary dialogue regarding the current quantitative vs. qualitative debate in academia which is just as divisive and unnecessary as the nature vs. nurture debate among psychologists. This disciplinary dichotomy promotes two completely separate paradigms within which the driving philosophies are portrayed as incommensurable, thus the differences insurmountable. This false dualism of scientific exploration and research should not be framed within dichotomous structures or approaches to research patterns.

Keywords: Research Methodology, Quantitative, Qualitative

As a lifelong minority in my chosen living environments and a student of psychology I have been profoundly susceptible to the influences of my parents' dispositions. My mother is a cognitive psychologist who focused on substance abuse disorders and my father is a retired soldier. As one would guess, my mother was primarily concerned with my thoughts, emotional responses and vocalization of feelings which led to my interest in psychology. My father, on the other hand, is a behaviorist at heart. The military imparted a strict code of behavioral measurement which was based on success or failure of stated goals. The emotional response to challenge was not of primary importance. Either one joined the football team, civic organization or school council and gave it due respect or did not, there is no middle ground. This behavioral perspective created a work ethic or sense of individual accountability. To illustrate, the crux of my nightly dinner conversations with my mother was my attitudinal or cognitive adjustment to team sports as compared to individual sports; whereas my father was interested in tackles per game or charting monthly weight gain in comparison to speed. It is within this balance of not exclusively opposing forces that I spent my adolescence and early college life.

In my second year of my undergraduate studies I was offered a psychology internship at a group home for paranoid schizophrenics. I was given credits towards my major, minimum wage and practical experience in an area I was fascinated with. I accepted this position and for over 2 years I was working 30-40 hours a week with a socially neglected and deserving group. Even with my change in environment, the parental influence was ever present. The maternal cognitive approach was represented in the

weekly meetings with clients and psychiatrists which included interviews, discussion and client centered input. The paternal behaviorist was represented by the medical team which evaluated client adherence to individually designed behavioral modification programs, weight gain/loss, sleep schedule, disruptions in circadian rhythms and so on. It was here that I realized the combination of my parental influence was actually evident in the popularly practiced research in psychology of the 1990s. This is also referred to as the third wave of psychological research methods (Johnson et al. 2005). Needless to say, I felt at home in this environment even if I was one of only a few undergraduates dispensing medications and actively involving myself in this treatment process. It is here that I learned a valuable lesson; the quantitative vs. qualitative debate in academia is just as divisive and unnecessary as the nature vs. nurture debate among psychologists of the time. Essentially, it is because of my supportively mixed background that I am an advocate of a mixed methods approach to research. Therefore, this essay will begin with a discussion of the quantitative and qualitative approaches to research and our understanding of knowledge and then introduce theoretical approaches and paradigms to educational research which are most applicable to my social science interests.

Paradigm Wars

The position taken in this paper is that while positivist research is excellent when working within the medical model, social science research should incorporate both methods, and when beneficial, together. The quantitative and qualitative approach to research has been a debate for too long and many have taken these approaches to be polar opposites or two completely separate paradigms within which the driving philosophies are incommensurable, thus the differences insurmountable. This approach to research has created a false dualism (Pring, 2000). I agree with Rowbottom and Aiston who claimed that this is a “misguided polarization” (2006, p. 141) and that social science researchers can “mix and match” research methods depending on their research objectives (Ibid). As a psychology coordinator I often meet international students with adjustment disorders. Often times the students make references to events which created these negative interpretations or feelings (causation). A quantitative approach requires observation of cause and this is simply not practical in most cases. Therefore, psychologists are often required to make inferences based on self report data which is reliant on individual schemas. This creates a variety of conflicting research methodology issues.

Research in psychology has experienced three waves which can be briefly summarized follows; the first wave was characterized by quantitative approaches and methodologies and borrowed much from its' roots in biology and physics. This was called the traditional science or positivist period (Johnson et al. 2005). The second wave criticized the positivists and began to stress the importance of the subjective human experience. This wave relied on qualitative research and explored epistemology (subjective), ontology (relative), axiology (ethical), methodological (dialectic and hermeneutic) and the rhetorical (use of informality in presentation of concepts and ideas) (Guba & Lincoln, 2005). During this period both quantitative and qualitative coexisted as rival siblings

battling for the attention of the scientific community. This 'either or' approach to research, laid the ground work for the marriage of the third wave which was known for its' mixed methods approach (Johnson et al. 2005, Teddlie & Tashakkori, 2003). Essentially the first two waves stressed the monomethod approach. Cambell and Fiske (1959) coined the term 'multiple operationalism'. This integration of more than one research method called many issues into question as were the operational definitions of variables such as emotions or the existence of specific personality traits. This third wave continues today and is the method that will provide the social science community with the most influential or enhanced research findings.

It is within these chosen research methods that the researcher can begin an introspective analysis of the chosen research question and the very nature of research itself. Qualitative research is based on anti-positivistic assumptions or constructivism whereas quantitative approaches are based on positivistic assumptions (Befring, 2002) and that some critical realism is also imbedded (Cook and Cambell, 1979). The positivist believes knowledge can be observed; it therefore exists and is verifiable. It is stable and can be tested as we see in physics or medical models. The interpretivist (constructivist) sees knowledge as dependent on human perception and therefore dependent on subjective influences such as culture, social influences such as religion, or in my case parental influences and a challenging internship which immersed me in the biopsychosocial approaches to the treatment of schizophrenia. Working with paranoid delusional and often hallucinating clients helped to conceptualize an understanding of perception and the creation of knowledge. Knowledge is constructed by the mind which is subjective. The interpretivist assumes multiple realities or perceptions of which create the human understanding of knowledge and consequently, the world. Thus, this is essentially an epistemological debate where the two houses are the positivist supported by natural sciences and the interpretivist supported in part by the social sciences. Both houses accept that knowledge is based on observation therefore a cornerstone of this debate is the possibility of objective observation.

The interpretive paradigm defines knowledge much differently, because individual interpretation of stimuli is by definition subjective. Literary minds refer to this as the Death of the Author where Barthes describes how subjective meanings depend on the readers' background. Students of psychology will undoubtedly remember Gestalt (interpretation and perception cues) or more technical theories of observation such as stroboscopic motion or signal detection theory and once again become aware of just how flawed our sense of observation is. All observations rely on sensory perception and subjective interpretation of stimuli therefore we see that both quantitative and qualitative approaches partially rely on human interpretation of sensory data which is essentially, much to the dismay of the empiricist, flawed. Our perceptions are not accurate pictures of the reality. This is the critical realist position (Lund, 2005). The understanding of qualitative and quantitative research methods in social sciences being two completely different paradigms is then equally flawed as any quantitative analysis is reliant on critical realism as well.

This critical realism relies on representationalism which would support an interpretation of human sensory perception as accurate and not simply a product of the central nervous system. Thus the interpretations of events, the observation of reality and all that we consider to be real are in fact real and not a subjective interpretation of stimuli. This however is not accurate. Sensory perception is not infallible. It is inherently subjective. The human mind has a tendency to make mistakes through the use past experiences to interpret events, through cognitive biases, through misattribution, through discrepancies in memory and so on. Some view the world through a paranoid lens while others innate optimism cannot be shaken. Hence the term interpretive or constructive is necessary to define conclusions drawn from data collected qualitatively. After 15 years of living and working in Asia I have developed the belief that if the positivists (empiricist and direct observation of phenomenon) were to test a social theory in Japan, China and Thailand, no conclusive knowledge would be gained. The interpretivist will argue that knowledge is socially constructed and social norms vary greatly. It is my firm belief that social science research cannot be completely objective. In the article Producing Possible Hannahs: Theory and the Subject of Research, Honan et al. (2000) state that “Our different ways of ‘seeing’ through and by means of our respective theories are made manifest in the kinds of research questions we pose in response to what we see as ‘problem areas’...” (p 2.).

The research question is of primary importance, not the chosen method of data collection. Howe asserts that quantitative and qualitative can come together and that a researcher should not just obey or follow the incompatibility thesis (Howe, 1998) instead offering a pragmatic approach which emphasized the importance of obtaining reliable and valid support for a research question. So why does the positivist constructivist divide persist?

As an employee for an international college where approximately half of the students study business related courses, non-social science departments consistently remind us of the necessity and inherently superior quality of the quantitative research methods. This positivist vs. post structuralist dichotomy of research methodologies is not only evident at isolated international programs. The academic community is currently in disagreement regarding the following statement: “It is a truism that a more diverse or varied body of evidence confirms a hypothesis more strongly than a homogenous body of evidence” (Novack, 2007, p. 701).

Why Mixed Methods Works

The above research approaches can be combined to create mixed method research practices. According to Greene (2005, p. 274) mixed methods is “the planned use of two or more different kind of data gathering and analysis techniques, and more rarely different kinds of inquiry designs within the same study or project”. Some examples of this can be seen in ethnography, interviews and questionnaires as supplements for personality inventories such as the Minnesota Multiphasic Personality Inventory (MMPI) or the psychopathic personality inventory (PPI). The use of mixed methods finds its roots in triangulation or the need to improve and strengthen the validity of research.

This dialectic approach to research is of profound importance when looking into such complex issues as cross cultural behavior and the epistemology of adjustment in educational settings.

There are many ways of implementing a mixed methods based research project. One such approach can be found in Hitchcock et al (2010) and the use of single case designs and qualitative methods. The single case design is used to “yield causal evidence of intervention effects” (p.49) which is essential when developing multiple programs to combat anxiety or stress associated with cultural adjustment. A quantitative anxiety index within a small sample can be implemented to identify specific causal factors accompanied with an intensive investigation and exploration of solutions. The results of such research are much harder to generalize but they also offer an insight into acculturation among international students in Asia which may be beneficial to other educational researchers in SE Asia. The single case design within a mixed method approach “can play an important role in the implementation of action research to solve localized problems” (Ibid, p50). For example, Williams (2007) successfully used a mixed methods approach to gain a better understanding of the effectiveness of a professional development course for social workers in Canada.

Green states that ‘Flexibility, creativity, resourcefulness—rather than a priori methodological – are the hallmarks of good mixed-method research design” (p.277). This resonates with my background in psychology and my need to analyze a behavior from both a cognitive and behavioral perspective. Qualitative measurements of behavior are necessary and important in cross-cultural research, but to gain an understanding of the motives, drives or goals of such behavior is equally important for developing better programs and, in the end, better educational experiences for students. Interviews, both structured and unstructured, with students are common in educational research and should continue to be incorporated with quantitative methods of data collection.

In conclusion, scientific exploration and research should not be framed within dichotomous structures either / or approaches to research patterns. The use of both is necessary to the most practical and efficient advancement of human understanding. Unwilling to take sides between the two warring parties of the positivist and interpretive camps, this author chooses to take what is valuable to research from both. To be a valued researcher I must accept that what works in one environment with a specific group of students may not work in another. With this knowledge we hope to build an armory of methods to learn about the specific needs of individual students.

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