Understanding pros and cons on qualitative and quantitative research methods

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Introduction

Throughout the ages, human beings have experienced ill health and have strived to maintain or regain health. Accordantly, the act of nursing has probably occurred since mother and father have nurtured their children and have helped each other to be healthy. Pearson (1969), stated that the development of the two now professions of medicine and nursing arose out of this search. Nursing is young profession and as old as the human race and at its simplest level. Medicine made great strides in mapping out the domain of scientific (post positivism) medical knowledge, nursing until recent times tended to focus on practical activity, the values of service to others, selflessness and the personal characteristics of nurses, such as kindness and gentleness. To-day, nurses could no more nurses without reflecting upon what they were doing than theorists could produce theory without engaging in the sort of practices distinctive activity.

As the research and theorizing of nursing became sophisticated, it may also restrict on the view of knowledge to the dominant paradigm. Through research nursing knowledge can be strengthened, expanded and improved so as to promote professional development. Nursing is primarily focus human beings using soft science (constructivism). There is a tendency to classify research into qualitative and quantitative. There is argument on scientific reality between quantitative (positivism) and qualitative (constructivism). So this discusses the pro's and con's on qualitative and quantitative research methods.

Issues in qualitative and quantitative research methods

This paper discusses the qualitative and quantitative research methods. The paper will describe the terms of different philosophical assumptions about the nature of reality, epistemology, values, the rhetoric of research and methodology mentioned by (Creswell, 1994). Philosophical assumptions have been widely discussed in the literature. Most of the issues are notable and critical perspectives, advocacy/participatory perspectives and pragmatic ideas (Lincoln & Guba, 2000). The philosophical ideas remain largely "hidden" in research (Slife & Williams,1995), they still influence the practice of research and needed to be identified.

Today, less quantitative versus qualitative and more research practices lie somewhat on a continuum between the two. The best that can be said is that studies tend to be more

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quantitative or qualitative in nature. The practice of research involves much more than philosophical assumptions. Philosophical ideas must be combined with broad approaches to research and implemented with specific procedures (Creswell, 2000).

Knowledge claims

The research has three elements of inquiry. These include "knowledge claims; strategies; and methods". Using these elements researcher identify quantitative, qualitative or mixed methods approach to inquiry (Creswell, 2000).Knowledge claims has been discussed by Creswell, 2000 as postpositivism, constructivism, advocacy / participatory, and pragmatism. Postpostivism is sometimes called the "scientific method" or doing "science" research. It is also called quantitative research, positivist /postpositivist research, empirical science and postpositivism. Postpositivism / quantitative research reflects a deterministic philosophy in which causes probably determine effects or outcomes. It is also reductionistic in that the intent is to reduce the ideas into a small discrete set of ideas to test, such as the variables that constitute hypotheses and research questions. It is based on careful observation and measurement of the objective reality that exists "out there" in the world (Creswell, 2000).

The social constructivism is seeking understanding of the world in which they live and work. It develops subjective meanings of their experiences- meaning directed toward certain objects or things. These meanings are varied and multiples, leading the researcher to look for complexity of views rather than narrowing meanings into a few categories or ideas. The goal of the research is to rely on the participants' views of situation being studied. The questions become broad and general so that participants can construct the meaning of situation. The more open ended questions the better as the researcher listens carefully to what the people say or do in their life. The constructivist researchers often address the "process" of interaction among individuals. The researcher is intended to make sense of the meanings others have about the world. Meanings are constructed by human beings as they engage with the world they are interpreting. Qualitative researchers tend to use open-ended questions so that participants can express their views (Lincoln & Guba 2000).

Another group of researchers claim knowledge through an advocacy / participatory approach. The research should contain an action agenda for reform that may change the lives of participants, institution in which the individuals work or live, and researcher's life. The specific issues needed to be addressed that speak to important social issues of the day, issues such as empowerment, inequality, oppression, domination, suppression and alienation. (Lincoln & Guba 2000).

Positivist and constructivist approaches

It has been argued that positivist and constructivist are irreconcilable. According to Lincoln and Guba (2000), positivism's "naive realism" holds that reality is both

"real" and "apprehendable," whereas constructivism maintains that meaning is generated by individuals and groups. The quantitative and qualitative methodologies are associated with positivism and constructivism. Qualitative and quantitative researchers examine the phenomena, offering rich descriptive accounts or precise analyses of functional relations, respectively. While description has traditionally been viewed as preceding hypothesis testing, the two approaches are viewed here as complementary and in parallel. Qualitative methods offer an in-depth account of underlying processes and can help frame hypotheses that test specific functional relationships, while empirical findings related to processes can suggest areas which might benefit from detailed descriptive examination (Cupchik, Gerald (2001).

Assumptions of qualitative designs

Qualitative researchers are concerned primarily with **process**, rather than outcomes or products. The researchers are interested in **meaning**- how people make sense of their lives, experiences, and their structures of the world. The qualitative researcher is the **primary instrument** for data collection and analysis. Data are mediated through this human instrument, rather than through inventories, questionnaires, or machines. It involves **fieldwork**. The researcher physically goes to the people, setting, site, or institution to observe or record behavior in its natural setting. This is **descriptive** in nature and the researcher is interested in process, meaning, and understanding gained through words or pictures. Finally, the process of qualitative research is **inductive** in that the researcher builds abstractions, concepts, hypotheses, and theories from details (Merriam, S. B. (1988).& Creswell, J. W. (1994).

Qualitative research is exploratory and inductive in nature.

William & Trochim (2006), stated that quantitative research tends to be confirmatory and deductive. Many qualitative researchers believe that the best way to understand any phenomenon is to view it in its context. The quantification is looking only at one small portion of a reality that cannot be split or unitized without losing the importance of the whole phenomenon.

There are many quantitative research that can be classified as exploratory as well, it can also be used to confirm very specific deductive hypotheses. If the difference between qualitative and quantitative is not along the exploratory-confirmatory or inductive-deductive dimensions, then where is it?

Supportive argument on qualitative inquiry

Qualitative research is used to explore and understand people's beliefs, experiences, attitudes, behaviour and interactions. It generates non- numerical data. Human behavior is influenced by the setting in which it occurs. The physical setting-, space, internalized notions of norms, traditions, roles, and values are crucial contextual variables. Research must be conducted in the setting

where all the contextual variables are operating. The experimental research affects the findings. The questionnaires become artifacts. Subjects may be either suspicious or wary. Additionally, subjects sometimes do not know their feelings, interactions, and behaviors, so they cannot articulate them to respond to a questionnaire. One cannot understand human behavior without understanding the framework within which subjects interpret their thoughts, feelings, and actions. Researchers need to understand the framework of research to explore meanings of events (Marshall & Rossman, 1980).

Positivist and constructivist ontologies underlie quantitative and qualitative methods, respectively. It was argued that the two ontologies represent different ways. The two approaches bring distinctive qualities to the research process. The qualitative approach is holistic in orientation, treating the phenomenon as a whole system. It reflects an *empathic understanding* as if the structure of the social world is seen through the eyes of its participants (Madill, Jordan & Shirely 2000).

The quantitative approach is analytical in orientation and, explores relationships among different variables in a causal matrix. Process can only be inferred by examining *interactions* among independent variables. It implies that qualitative research precedes a quantitative hypothesis testing phase. While qualitative research is a *rich* source of data, it remains unclear as to how one arrives at firm conclusions. Quantitative research, on the other hand, involves *precision* and can yield statistically significant *effects*, but their meaning and ecological validity is open to question. The thick *descriptive* data produced by qualitative research can shape the choice of variables in quantitative research. Reciprocally, the *effects* derived from experiments can help reframe the problem and provide a new focus for in-depth descriptive study. The potential interplay between these two approaches implies that in fact they share many qualities in common as part of the research enterprise. Thus, in a very positive way the two approaches are both *constructive*, because they create data, and *mutually constitutive* reflecting the challenging interplay between words and "variables (Madill,Jordan & Shirely 2000)

The Qualitative-Quantitative Debate

There has been debate regarding the differences between and relative advantages of qualitative and quantitative methods in research. In fact, every applied social research project believe there is value in consciously combining both qualitative and quantitative methods in what is referred to as a "mixed methods" approach. Researchers would argue that there is little difference between qualitative and quantitative *data*. Qualitative data typically consists of words while quantitative data consists of numbers(Willia &Trochim 2006).

Qualitative data can be coded quantitatively

Qualitative data can be assigned meaningful numerical values. Many surveys have one or more short open-ended questions that ask the respondent to supply text responses. The immediate responses are text-based and qualitative. These might sort the responses into simple categories, and give each category a short label that represents the theme in the response. The simple act of *categorizing* can be viewed as a quantitative one as well.

This is a simple qualitative thematic coding analysis. But, we can represent exactly the same information quantitatively. The quantitative coding gives us additional useful information and makes it possible to do analyses that we couldn't do with the *qualitative coding. The themes most* frequently mentioned can look at the similarities which respondents addressed them. The map would have one dot per respondent and respondents with more similar responses would cluster closer together. The point is that the line between qualitative and quantitative is less distinct than we sometimes imagine. All qualitative data can be quantitatively coded.

Quantitative data is based on qualitative judgment.

Quantitative research generates numerical data or data that can be converted into numbers. Numbers in and of themselves can't be interpreted without understanding the assumptions which underlie them. Here, the respondent answered 2=Disagree. What does this mean? How do we interpret the value "2" here? We can't really understand this quantitative value unless we dig into some of the judgments and assumptions that underlie it: All numerical information involves numerous judgments about what the number means. Here is that quantitative and qualitative data are, at some level, virtually inseparable.

Qualitative and Quantitative similarity

The *qualitative and quantitative data are* similar. The qualitative-quantitative debate must have some basis in reality. There are some fundamental differences between qualitative and quantitative research. Quantitative research is confirmatory and deductive in nature, where as qualitative research is inductive in nature.

Mixing together or rejecting absolutist

Lincoln & Guba 2000, reject any absolutist criteria for "judging either 'reality' or validiy", but stated that reconciliation of positivism and constructivism can only be accomplished by eliminating the arbitrary boundaries and assumptions that separate them. Getting rid of concerns about *truth* and *apprehension* is a good place to start. So the notion of "truth" may be ultimate reality which is knowable only by deities. Social scientists need not have such pretensions and can be forgiven if they place truth to the side and get on with their business of understanding and relating to the natural and social worlds.

Any researcher comments about the similarities between quantitative and qualitative data. It is not possible to separate

your research assumptions from the data. There are qualitative researchers who fit comfortably into the post-positivist tradition common to much contemporary quantitative research. And there are quantitative researchers who use quantitative information as the basis for exploration. There is fundamental disagreement about both philosophical assumptions and the nature of data. Recently, it is found that researchers who are interested in blending the two traditions, attempting to get the advantages of each. Social research is richer for the wider variety of views and methods that the debate generates (William & Trochim. 2006).

Although some social science researchers (Lincoln & Guba, 1985; Schwandt, 1989) perceive qualitative and quantitative approaches as incompatible, others (Patton, 1990; Reichardt & Cook, 1979) believe that the skilled researcher can successfully combine approaches. The positivist and the interpretivist paradigms rest on different assumptions about the nature of the world, they require different instruments and procedures to find the type of data desired. This does not mean that the positivist never uses interviews nor that the interpretivist never uses a survey. They may use such methods are supplementary, not dominant Different approaches allow us to know and understand different things about the world (Glesne & Peshkin 1992).

Conclusion

Both positivists and constructivists can orient toward social phenomena that exist independent of their scholarly disciplines. Positivists have a greater interest in uncovering specific functional relationships between operationalized variables; it is the predictability that counts most. Constructivists will be more interested in describing the coherent structure of a multilayered phenomenon; this strengthens the fabric of understanding.

Nelson, Megill, & McCloskey (1987), stated that reconciliation must begin with a shared notion of social phenomena in-the-world and therefore of what is "real." Just as people can share the "facts" of everyday "reality," even while differing in interpretations of their meaning, positivist and constructivist "realities" are not necessarily foundationally incompatible. It is to summarize that Positivism (quantitative research methods) and constructivism (qualitative research methods) may differ in looking the reality of the world. There are similarities, common purposes to explore phenomena in the social settings. Nurses should be skillful in both qualitative and quantitative mixed methods so as to be paralleled with medicine. Be nurses to be intelligent in the profession, because all nurses are intelligent people who have broad knowledge of accepting the reality within the social world.

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