

# QUANTITATIVE "VERSUS" QUALITATIVE RESEARCH: THE WRONG QUESTION

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## **Résumé:**

*Avec un étude déconstructif des textes sur des méthodes qualitatives et ses contrastes avec des méthodes quantitatives et avec l'étude des besoins informatiques à l'égard des populations spécifiques de femmes cette document conclut que le focus sur les méthodes utilisées ne devrait pas motiver la recherche. Au lieu, les positions ontologiques et épistemologiques des chercheurs évaluées sur une gamme du subjectif à l'objectif sont plus indicatives des perspectives représentées dans la domaine de la bibliothéconomie et des sciences de l'information.*

## **Abstract**

*Through a deconstructive reading of texts on qualitative method and its contrast with quantitative method and through information needs studies regarding specific populations of women this paper concludes that the focus on method should not drive research. Rather, the ontological and epistemological stances of researchers assessed on a spectrum from subjective to objective are more indicative of the perspectives represented in library and information science research.*

## **Introduction**

The ongoing argument over the relative merits of what are generally referred to as qualitative and quantitative research is clouded by two problems: 1) lack of coherent definitions, and 2) the focus of most discussions on methods instead of on the basic assumptions of these two stances. I believe that the second problem

is at the root of the confusion and the first is a manifestation of it. Specific methods, particularly data gathering methods, are not necessarily linked with one set of assumptions as opposed to another. The question underlying differences of research stances (or paradigms) should be their ontological and epistemological assumptions.

This paper examines the qualitative *"versus"* quantitative debate by focussing on the definitions put forward in the library and information science (LIS) literature, identifying the characteristics attributed to the two, and assessing whether or not there is a fundamental difference between them. The question of fundamental difference is addressed in terms of the ontological and epistemological assumptions which writings by proponents and examples of research accept explicitly or implicitly. The method of this paper is a deconstructive reading which, first, illustrates the arbitrary and fluctuating difference between definitions of qualitative and quantitative research and, second, examines their underlying assumptions.

The texts for this reading include LIS methodological discussions and examples of research. The analysis adapts a spectrum of ontological and epistemological stances described by Gareth Morgan and Linda Smircich in the *Academy of Management Review*. Morgan and Smircich rename the difference subjective/objective. From their description I focus on the roles of the Cartesian knowing subject and the object of research as illustrations of ontological and epistemological stance.

### **Definition**

General definitions of "qualitative" and "quantitative" are linked closely to method.

The applicable *Oxford English Dictionary* definitions of "quantitative" are:

- 2 That is, or may be, considered with respect to the quantity or quantities involved; estimated or estimable by quantity.
- 3 a Relating to, concerned with, quantity or its measurement; ascertaining or expressing quantity.

(OX2)

These definitions indicate possibilities of data gathering, whether measuring or estimating. The definition of "qualitative" cites "quantitative" as its implied opposite, therefore, also implying its links to data gathering:

a Relating to, connected or concerned with, quality or qualities. Now usually in implied or expressed opposition to QUANTITATIVE. (*OX2*)

The LIS literature on qualitative research methodologically follows this approach of defining qualitative in opposition to quantitative. Jack Glazier's discussion epitomizes the dichotomous and vague nature of definitions of qualitative research in LIS by suggesting that it be defined by what it is not, quantitative. "It is not ... It is not ... It is not ..." (1992, 6) He lists as qualitative methods ethnographic and naturalistic and, most curiously, unobtrusive measures.

The one characteristic that all these terms share is that they tend to obscure rather than clarify the concept. The concept seems to be confusing not only because of the number of terms applied, but also because it carries different connotations for different people. (Glazier 1992, 6)

Jana Bradley includes a similar range of methodologies adding "grounded theory" and "hermeneutic approaches to the interpretation of texts." (1993, 433) Elfreda Chatman also defines qualitative research by what it is not. "... unlike other methods, field work does not use tightly controlled variables or the creation of structured situations." (1984, 436) These definitions echo the *OED* definitions by defining "qualitative" vaguely except in its opposition to "quantitative."

Raya Fidel (1993) lists characteristics of qualitative research, only one of which, its nonmanipulative or noncontrolling nature is in the negative. Positive definitions of qualitative research collectively include its being holistic, environmental, or contextual; inductive or dialectical; pluralistic or relative; and its involvement of the object of the research. (Bradley 1993; Fidel 1993; Sutton 1993; Mellon 1990; Grover and Glazier 1985) These defining characteristics differ from the negative definitions in that they are more ontological or epistemological than methodological.

### **Ontological and epistemological considerations**

Some LIS writers suggest that the distinction is really one of epistemology. Lynn Westbrook suggests that it is a different research "paradigm" rather than a method. Barbara Wildemuth further suggests that the difference is between positivist and interpretive paradigms is that the former recognizes an objective reality not dependent on the researcher and the latter views reality as subjective and socially constructed. However, Wildemuth still links epistemic assumption to method although she sees method determined by the epistemology, not vice versa:

It is true that the positivist approach, with its goal of discerning the statistical regularities of behavior, is oriented toward counting the occurrences and measuring the extent of the behaviors being studied. By contrast, the interpretive approach, with its goal of understanding the social world from the viewpoint of the actors within it, is oriented toward detailed description of the actors' cognitive and symbolic actions, that is, the meanings associated with observable behaviors. (1993, 451)

Bradley agrees that the methodology and epistemology are wedded to each other. She presents:

... the internal rationale of qualitative research traditions as methodological issues and practices that arise from assumptions about reality and what we can know about it. (1993, 432)

That is, methodology develops from the researcher's ontological and epistemological stance.

Gareth Morgan and Linda Smircich (1980) suggest that this ontological and epistemological difference is crucial. They devised a spectrum from subjectivist to objectivist which embodies ontological stances of reality as a project of human imagination/socially constructed to reality as a concrete process or structure; and the epistemic stances of knowledge for the purpose of revelation and for understanding of social construction to knowledge for construction of a positivist science. The manifestation of these two sets of assumptions is the relation between the knowing subject and the studied object.

### **Subject/object - researcher/respondent**

Objective research as practiced in the social sciences separates the researcher (the Cartesian knowing subject) from the respondent (the object of the research). The objective researcher/subject focusses on the respondent/object in an effort to understand objective reality. Subjective research puts the researcher/subject into the context of a situation to understand it. The separation between subject and object is diminished with the object becoming an active participant in the knowing process. The subjective researcher seeks to know the situation through the eyes of the respondent. This use of the traditional object's viewpoint is asserted by Chatman (1984), Mellon (1990), Fidel (1993), and Westbrook (1994) and by Sutton (1993) who includes the audience as a third party in this relationship. The relationship between subject and object is an indicator of the ontological and epistemological assumptions on which a given study is based. The spectrum of researcher involvement from complete participant to complete (detached) observer suggested by Westbrook and Chatman can serve as an epistemic barometer.

### **Objectivity**

Attitude toward bias, particularly as introduced by the researcher, is affected by the underlying epistemic assumptions. Mellon states that objective researchers try to eliminate bias while subjective researchers recognize and acknowledge it.

Total objectivity is impossible for researchers who are, after all, human beings. The difference between the two research traditions is not that one has and one lacks objectivity. The difference is that naturalistic researchers systematically acknowledge and document their biases rather than striving to rise above them. (1990, 26)

While this interpretation is overly simplistic in that conscientious objective researchers will certainly "admit" to biases of which they are aware the perspective on bias is different between the two. Subjective researchers shift the focus from eliminating researcher bias to developing the relationship with the respondent. Again, the difference is in the separation or integration of the researcher/subject. Nonetheless, qualitative

researchers endeavour to achieve what Lincoln and Guba defined as credibility, transferability, dependability and confirmability: the "trustworthiness of qualitative research." (Bradley 1993, 436)

### **Methodological considerations**

Three methodological considerations influenced by the relation between subject and object arise in the literature. They are, however, differences of emphasis rather than material differences. First and most indicative is the focus of subjective (particularly ethnographic) research on developing a relationship with the respondent by gaining entry, rapport, empathy and reciprocity (Chatman 1984). However, the data thus gathered can be analyzed in either a quantitative or qualitative manner. Content analysis of field notes or transcribed interviews is a way of quantifying text. A second consideration is the importance of context. Instead of the researcher controlling the research the environment is left to the respondent. (Bradley 1993; Fidel 1993; Sutton 1993; Mellon 1990) However, quantitative surveys also consider environment in data gathering, especially space and time. A third consideration is the use of multiple methods of data gathering. Fidel (1993) suggests that subjective research uses multiple methods to measure the same qualities, one verifying the other, and objective research uses multiple methods to measure different qualities as appropriate. It would be interesting to explore this idea in further research by surveying studies using multiple methods.

### **Theory**

The role of theory also arises from the difference in the subject/object relationship. In subjective research, theory may be generated by the evidence during the study. Objective researchers devise hypotheses or theses prior to the study. This difference makes sense if objective research is designed to understand a single objective reality. This ontological assumption indicates that all research on a given topic, if well- conceived, should contribute to one truth. Therefore, what has gone before is taken as probable to some determinable degree, informing the theoretical basis of the study and its hypotheses. Subjective research, however, accepts that different theories may be

simultaneously valid according to the researchers', and presumably the respondents, interpretations. (Mellon 1990, 72) Therefore, theory, while not uninformed by previous work, develops from the findings of the study.

### **Research studies**

I will now examine five studies for the subjective or objective of their epistemic assumptions. I have chosen studies which deal with the information needs of women in various contexts because of the discourse in feminist research which affirms many of the attributes of qualitative research (for example Opie 1992) as contrasted to the current discourse in LIS research. Researchers do not typically declare their epistemic stance so I will use the characteristics discussed above to assess these studies.

*Creelman and Harris. 1990. Coming out: the information needs of lesbians.*

Janet Creelman and Roma Harris interviewed 50 lesbians to find out what sorts of information they needed during the process of coming out. Indicative of subjective research was use of "snowball" sampling - asking respondents interviewed to help make contact with future respondents. Thus, the respondents helped to shape the actual research from the very beginning. This technique assists researchers in gaining entry and establishing rapport. Also indicative of subjective research is the respondent-driven nature of the interview.

Respondents were asked to recall the time during which they were coming out and choosing one particular event describe it in detail, going back over the resultant timeline, listing their questions and concerns at the time and the sources they consulted. Respondents, therefore, controlled the interview and provided contextual information, also characteristic of subjective research.

Dervin's sense-making model was used to interpret the data - a predetermined model, not one derived during the study as would have been more characteristic of subjective research. Creelman and Harris do not specifically describe their research as qualitative, but if defined by the relationship between subject and object developed above it has significant subjective attributes.

*Dewdney and Harris. 1992. Community information needs: the case of wife assault.*

Patricia Dewdney and Roma Harris employed trained interviewers in a random household survey of 543 women to identify information needs regarding wife assault. Consistency in interviewing and coding data was stressed. The interviewers prompted respondents through explanation and additional questions. Everyone approached was offered an information package about wife assault. Followup on sources of information suggested by respondents was made through 179 structured interviews of agency representatives and professionals. This study is considerably less subjective than Creelman and Harris (1990). The survey instrument asked respondents what they would do if approached for advice about wife assault. The questions were open-ended and interviewers were at liberty to prompt respondents, but the concern regarding consistency indicates a controlled process. The offer of a package of information indicates at least a minimal relationship with the respondents and interviewers were educated and sensitized to wife assault. The second stage of the study used a different method, but not to measure the same quality. However, the choice of agencies and professionals to interview was respondent-determined. Finally, aspects of context were gathered in the course of the household survey including the respondents' perceptions of abused women, length of residence in their community, and effectiveness of the telephone directory for finding sources. The latter, showing very limited success, helped to round out the picture of women seeking useful information from often mismatched agencies to which access is poor. This study introduces subjective characteristics into a relatively large sample survey.

*Fairer-Wessels. 1990. Basic community information needs of urban black women in Mamelodi, Pretoria, South Africa.*

Another instance of a randomly sampled population surveyed with a traditional instrument, here a structured interview, is Felicité A. Fairer-Wessels' study of the information needs of urban black women. The interview guide was pretested on

25 women and 80 were interviewed in the study. Using another method to measure the same qualities, four women were interviewed in a "semi-structured" format. The results of the two methods compared favourably. Fairer-Wessels stated that the involvement of the interviewer with respondents was a positive contribution to the research because it allowed for probing and interpretation. Again, subjective elements are present in this survey research.

*Chatman. 1987. The information world of low-skilled workers*

Elfreda Chatman's study of the information needs of janitors at a southern university illustrates some subjective aspects of ethnographic research. Two methods to gathered data on the same qualities: observation and interviews. The research was conducted over a two year period during which Chatman amassed contextual data as well as data relating directly to information needs. In this article and a later one (Chatman 1990) Chatman, as the knowing subject, is clearly in charge of choosing which data to evaluate in her theory building. All but one of the 52 janitors were African American (that one was Vietnamese) and she discusses race as a factor in their context. However, 41 were women and although she notes some instances in which sex made a difference (1990, 358), she does not directly address it. Neither does she indicate why she does not. This selective interpretation is in one way consistent with theory development in subjective research it being acceptable for different researchers to have different interpretations. However, it is at odds with the inclusion of context in interpretation.

*Chatman. 1992. The information world of retired women*

In her later study of retired women's information needs Elfreda Chatman again used the two methods of observation and interviews. The observation which she characterizes as "participant observation" (not total immersion or "going native," but not detached either) lasted for three years. She employs social network theory as her model. For each point she describes the aggregate (quantified) data about her sample of 55 women and then uses individual examples. Each example gives the woman's age, previous occupation, education, previous

residence, family members, income sources, transportation and activities. She does not always explain the relations between these factors and the topic at hand, leaving it to the reader to make connections between, for example, family inattention, limited income and transportation (i.e. adult children do not help by taking the woman on errands and she cannot afford the most convenient transportation options). This approach involves her audience as well as her respondents (see Sutton above). Long quotations suggest an interactive relationship between researcher and respondents. However, there is a certain line which Chatman chose not to cross in terms of involvement. In discussing ethical issues in ethnographic research she gives two examples of knowledge which she gained but did not share with institutional authorities. One was the planned suicide of a respondent to which she presumably considered her promise of confidentiality to apply. In the other she approached a bedridden woman who was being neglected by her caregiver and did not report it. These instances show some objectivist separation between subject and object.

In conclusion, these five studies indicate that there is considerable mix along the spectrum between objective and subjective research. I suspect that there are not any totally subjective studies in the LIS literature in terms of their epistemic assumptions. However, I also suspect that many more studies have subjective elements than is generally recognized and that there is considerably more overlap than the voices in the quantitative *"versus"* qualitative debate imply.

### **So what?**

I suggest that as researchers we ought to be much clearer on our epistemic and ontological stances. Do we need, then, to decide whether we should be ontologically and epistemologically objective or subjective? I can imagine no way of proving that there is one knowable reality or that there are multiple realities of which we can have some individual knowledge (see also Bradley 1993, 448). It more or less boils down to a question of faith.

Brenda Dervin's "information 1" and "information 2" imply that both ontologies can coexist.

... distinction between objective information (Information1) and subjective information (Information2). Information1 is defined as information which describes reality, the innate structure or pattern of reality, data. Information2 is defined as ideas, the structures or pictures imputed to reality by people. In the most general sense, Information1 refers to external reality; Information2 refers to internal reality. (1977, 22)

However, her approach actually views "information1" as representing the real reality and "information2" as the incomplete and imperfect perspectives of individuals. The researcher is still the Cartesian knowing subject seeking "information1." Bradley avows that there are actually multiple realities, but in a discussion of data gathering in qualitative research she implies that there is one reality (flagged by use of the definite article "the"):

In qualitative research, as in other research traditions, data are collected from the empirical world. Those data then form the basis for conclusions about the empirical world. Any set of data is, in fact, a subset of possible data about any phenomenon, and many of the key issues in data collection across all research traditions address the problems inherent in using a subset as a stand-in for a larger data universe. (1993, 439)

It seems, then, that LIS research is largely objectivist? Is that our only option? The studies discussed above suggest more fluidity.

A reexamination and adaptation of the spectrum developed by Morgan and Smircich may help. To this spectrum I add the ontological, epistemological perspective of poststructuralism.

### **Network of Basic Assumptions Characterizing the Subjective Objective Debate within Social Science**

Table adapted from Morgan and Smircich (1980, 492). Double lines indicate columns from original table omitted here. Bold indicates information added in this adaptation. (5K)

While a spectrum is still somewhat limiting in its linearity, it may provide a device for illuminating at least one range of options. In addition, it fills in the space

between the two poles of subjective and objective research. My suggestion is that as researchers we need to define, however fleetingly our beliefs in reality/ies and how we come to know. Bradley notes that

it is possible, and highly desirable in the interests of methodological pluralism, to explore assumptions that underlie all research in the context of their usefulness in understanding particular research problems. Active discussion of what we know, in light of how we produced that knowledge, can only extend our understanding ... (1993, 448)

We need to be open about and cognizant of our ontological and epistemological standpoints and those of existing research so that users of research will have the opportunity to be fuller partners in it and for our own self-knowledge. And then we can feel free to choose our methodology as is appropriate to the problem without needing to declare allegiance to either side of the qualitative "*versus*" quantitative debate.

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