

A Practical Examination of Two Diverse Research Paradigms  
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INTRODUCTION

The term “research” has become a very complicated vocabulary word in recent weeks. Many have interpreted “research” to have a singular meaning when, in fact, it describes a multitude of methods each possessing subtle differences. In prior years, I would have described research in the terms of answering a question by testing a hypothesis through experimentation between a dependent variable. The term research had been fairly well defined in my mind with a limited scope of variability. Research can involve so much more.

For a young researcher, epistemological frameworks seem never ending and confusing. Words like positivistic, post-positivistic, qualitative, quantitative and a host of other names are tossed around like beanbags and one eventually begins to ask, “is there ever an end to the different kinds of research?” Add to this that each one of these words has a host of descriptive types of methodologies that fall under them, and a young researcher quickly collapses under the weight of it all. Confusion is quick to arise, as well, when one tries to organize all of these different types of research into something comprehensible. Several of the research paradigms even attempt to resist organization, making those who try to do so seem like neophytes in a world not built for them. This endless mass of confusion forms the murky waters through which every young researcher must wade.

Each researcher tends to find the paradigm that suits him or her best. They must be careful, however, to avoid their favored methods at the exclusion of others. This does not mean researchers should use every available method before their research careers end; but it does suggest researchers should take time to conceptualize the various methodologies so they might conscript the paradigms at appropriate times. It is, therefore, in the researcher’s best interests to

have a working knowledge of the research methodologies currently in-use along with other paradigms entering the debate.

The purpose of this paper is to clarify and cauterize several various research paradigms by comparing and contrasting two articles from different methodologies. The format of the paper will include an introduction of each article followed by the comparisons and referential support from the various readings. This process will enable me to delineate the differences between unique paradigms and solidify my own understandings of each. Through this process I hope to deepen my understanding of epistemological foundations so that I can speak knowledgably about those I do not use and hone to a fine skill those that I do.

## THE ARTICLES

Education has become a politicized topic in recent decades. Communities have expressed their frustrations to state and national congresspersons about academic standards, the behavior of students, and the impact on local societies. These legislators have, in turn, sought to improve schools through the use of proposals which eventually become laws and regulations. Great debates are had as these proposals are brought before the various legislative committees. As a result, many stakeholders have taken an interest in educational topics realizing that they have a voice in how schools should look and act.

Of particular interest in the last decade is the issue of school choice. This particular topic has various forms including school vouchers to be used at private schools, offering intra-district choice—that is, transferring from one school to another within one’s home district, inter-district choice—that is transferring from one school to another outside of one’s home district, and magnet schools which are typically schools focusing on a particular subject matter. The debate over school choice continues to heat up both locally and nationally as legislators and community members seek to structure an educational system that serves the needs of all students. Research

has advanced in this area since the academic community has now begun the attempt to frame the discussion beyond mere anecdote. This paper will examine two of the recent articles focused around the topic of school choice.

The first article is entitled *A Comparative Study of Student Achievement in Traditional Schools and Schools of Choice in North Carolina*. Okpala, Genniver Bell, and Kwami Tuprah authored the study. This research sought to answer three questions:

Research Question 1: Are there significant differences in academic achievement scores of students in selected public middle schools of choice as measured by the end-of grade test scores in reading?

Research Question 2: Are there significant differences in academic achievement scores of students in selected public middle schools of choice as measured by the end-of-grade test scores in mathematics?

Research Question 3: Are there differences in demographic and/or socioeconomic variables that appear to affect student achievement outcomes? (Okpala, Bell, & Tuprah, 2007, p. 317)

The purpose was to study the impact of schools of choice on student achievement by using a “comparative longitudinal study of intradistrict choice and traditional schools (Okpala et al., 2007, p. 317).” The authors go on to outline the method they used for data collection and then layout the statistical analysis used to illicit the study’s conclusions. They spend less than a page offering discussion about the results of the analysis, but complete the study with conclusions and implications.

The second article is entitled *The Place of the “Open House” in the School-Schoice Process: Insights From Canadian parents, Children, and Teachers*. Izhar Oplatka conducted the inquiry. The purpose of the study is to examine “the kind of influence the open evening has on

parental choice (Oplatka, 2007, p. 166)” for determining schooling. Open evenings are similar to open houses in public schools but are held in schools of choice and are designed to be a marketing tool to invite parents to send their children to that school. The impetus for the study began out of the realization that

a large proportion of school budgets and time is spent on promotional events, the identification of the perceived effective elements of these events is beneficial in indicating what marketing practices and how much intensity to apply. In addition, schools are unlikely to evaluate the impact of their marketing mechanisms and process against outcomes...(Oplatka, 2007, p. 164)

The article is organized into several distinguishable sections. Following a literature review of school marketing and promotional activities, the authors describe why they chose their particular school setting to conduct the study, and then explain the methodology used to collect data. The article concludes by discussing the findings and engaging in a brief discussion on the “theoretical and practical implications for school choice and educational marketing (Oplatka, 2007, p. 164).”

#### THE QUALITATIVE ARTICLE

Several defining characteristics make the Oplatka article qualitative in nature. The first defining mark is that the author calls his research a qualitative product. Oplatka (2007) says “The method employed in this study was based on the qualitative research paradigm.” Important to note here is that just because an author defines his study under a certain paradigm does not make it so. The article’s layout, methodology, data collection methods, assumptions and purposes will justify the claim. The author is still well-suited to state in the content of the article what paradigm will be used. This prepares the reader to remain on guard as to the qualities that will be forthcoming as the research is revealed. Critical to any research, however, is that the actual methodology remains consistent with the declarations made therein.

Oplatka makes use of interpretivism in his research. He says that “The current study sheds some light on the actual operations of school staff during open evenings (Oplatka, 2007).” Interpretivism implies that meaning is the primary goal. Empirical research, as a place of contrasting, seeks to explain and predict. Qualitative research focuses on understanding the situation and how those involved make meaning. “Research out of this [the interpretivist] paradigm seeks to replace the scientific notions of explanation, prediction and control, with the interpretive notions of understanding, meaning and action (Merriam, 1991, p. 48).” Oplatka’s key statement is that of “shedding light.” He intends to understand rather than explain; make meaning rather than control the environment. This style of meaning-making is qualitative in nature and provides firm evidence to Oplatka’s claims of a qualitative research product.

Another defining mark of qualitative research is a focus on process rather than product. Empirical research tends to rely on an outcome as its conclusion. Qualitative research seeks to understand and make meaning of the process involved. It is trying to answer the questions of how things work, the components involved in their functioning and how these come together to illuminate. “The questions in interpretive research focus on “process rather than outcomes or products (Merriam, 1991, p. 49).” Oplatka seeks to understand the process of marketing within a school-choice environment. Again, he says “The current study sheds some light on the actual operations of school staff during open evenings (Oplatka, 2007).” This time the key phrase is “actual operations.” Oplatka is going to look at the process of school operations in hopes of understanding how much marketing affects the choices parents make in determining which school to send their children will attend. Process is also evident in how Oplatka makes meaning of his data. He says, “The analysis aimed at identifying central themes in the data and searching for recurrent experiences, feelings, and attitudes, so as to be able to code, reduce and connect different categories into central themes (Oplatka, 2007).” Coding data must be done as a

process. Multiple themes emerge as the coding of data progresses, informing the researcher and guiding conclusions. These two areas provide additional support to Oplatka's claim of a qualitative product.

Unlike quantitative research, qualitative inquiry recognizes the impact context has on a study. While quantitative products attempt to isolate the study from any outside influences, qualitative research embraces them. Mishler (1979) says "the understanding of meaning as context dependent has been excluded from the main tradition of theory and research in the social and psychological sciences and in the application of this tradition to educational research ." Qualitative inquiry, as a non-traditional theory, seeks to rectify this problem by purposely including the contextual frame in which a study is situated. Oplatka's study satisfies the contextual bar when he notes that the interviewees all come from the one school of Edmonton (Oplatka, 2007, p. 168). By doing this he purposely refuses to ignore the impact parents from one campus will have on the study. Oplatka's inclusion of context is another feature that describes this inquiry as qualitative.

Oplatka collects data for this study through the use of interviews. These serve the purpose of capturing the understandings and meanings of the participants and enable the researcher to characterize those understandings in the words of the participants themselves. Oplatka says that "open, semi-structured interviews were conducted by the author to expose the personal perspectives of the interviewees (Oplatka, 2007, p. 169)." This technique of interviewing is characteristically qualitative in nature. "These methods [of qualitative research] include interviewing; direct observation; the analysis of artifacts, documents, and cultural records; the use of visual materials; and the use of personal experience (Lincoln & Denzin, 2005, p. 25)." The semi-structured nature of the interviews indicates that Oplatka established a direction by asking a few initial questions and then allowed the participants to talk. Additional

questions would be asked by the author in response to the statements made by the interviewees. This enables Oplatka to explore for understanding and meaning by not being bound to a predetermined set of interview questions.

The final qualitative mark of this study that I would like to address is the use of validity. . “Procedures of validation in hermeneutic science are those of validation rather than empirical verification (Brown, 1989, p. 283).” Quantitative studies attempt to verify their conclusion through statistical tests and repetition. Qualitative inquiry seeks to make a valid conclusion by ensuring the interpreted meaning matches the intended meaning of the participants. One of the methods this is accomplished is through inter-rater reliability. In this concept, multiple researchers code the data and the themes are compared. The hope is that all of the researchers will develop similar themes. Oplatka validates his research by saying “the data were validated by peer review and structured analysis (Oplatka, 2007, p. 170).” Peer review offers the same function of inter-rater reliability in that qualified researchers examine the themes established by the coding process to ensure accurate representation. By pursuing validation over verification, Oplatka provides additional support for a qualitative article.

## THE QUANTITATIVE ARTICLE

Quantitative research has historically been the most well understood, the paradigm most applied to research, and the method people typically think of when they hear the word “research.” Empirical methodology is another term used for quantitative inquiry. The methodology used to complete this kind of research is very specific. Zimmerman (1989) has defined it in the following terms:

In order for empirical research to be conducted, the following procedures need to be considered: (1) Selection and definition of the problem including specification of precise

objectives or hypothesis, (2) Identification of the sample, (3) Development or adaptation of data collection devices, (4) Collection of data, (5) Analysis of data, and (6) Interpretation of findings.

Those who read the findings of research based in the quantitative paradigm would expect to see this formulaic style throughout the report.

Okpala does not disappoint in meeting the expectations of style for quantitative inquiry. His article follows very closely the method presented above. The author begins by defining the problem and stating the research question under the section labeled purpose. Secondly, the sample is identified and the data collection devices are addressed under the method section. The author spends considerable space analyzing the data through the use of statistical tools and providing ample conversation as to the meaning through the section labeled statistical analysis. Finally, the findings are interpreted under the section labeled discussion (Okpala et al., 2007, pp. 317-322). The use of this methodology ensures the reader that Okpala has used a quantitative approach in examining the issue of school choice.

Another mark of quantitative inquiry is the use of statistical measures. Any doctoral student who attends a research institution has to take statistics courses for this very reason. Researchers are expected to be able to know how to apply appropriate instruments that test and measure the data under scrutiny. Smith and Heshusius (1986, p. 7) say that “quantitative inquiry deals with the problem of testing and instrumentation effects by developing and properly applying standardized instruments.” An empirical product that lacks the use of statistical measures is a weak product indeed.

Okpala uses various statistical measures in his research study. Each research question is not left to wallow and discover results on its own. Instead, Okpala walks the reader through the various instrumentations used to establish the foundations for the conclusions he later



communicates. In fact, each research question has its own set of statistical tools that were employed. As an example, he says that “a one-way ANOVA was used to determine if statistically significant differences exist between the mean achievement scores from the two types of schools (Okpala et al., 2007, p. 318).” ANOVA’s are statistical tools designed to analyze the variance between two sets of data. By including these into research study, Okpala implies another indicator that we are working with a quantitative study.

As opposed to qualitative inquiry, quantitative research does not have much need for context. In fact it seeks to remove as much of the context as possible, seeing it as a possible contamination of data. Quantitative researchers go out of their way to conduct systemized research so that verification can take place along multiple strands. “In empirical-analytic research, evidence is obtained in a systematic and controlled manner (Zimmerman, 1989, p. 4).” This controlling process, established at the beginning of the research process, is viewed as reliable among similarly-minded researchers. The quantitative paradigm requires context-free environments for purity.

Okpala employs a context-free methodology. He removes the potential of contamination from the study by avoiding the use of individual thought or statements. Instead he takes large swaths of data from a state education department and performs statistical analyses on them. “Data for this study were obtained from several sources within the North Carolina Department of Public Instruction (Okpala et al., 2007, p. 317).” By not knowing exactly which school all of the test data were taken Okpala is able to ensure that context does not become an issue to negate the findings of his study. As Okpala maintains such a strong context-free environment, the idea that this is a quantitative study advances.

While qualitative inquiry does not intend for its research products to be verified through replication over various studies, the quantitative paradigm finds reliability in replication. Most

scholars expect to test studies over various situations with numerous data types. Through this process researchers can develop theories that apply in any circumstance. “The intent of empirical-analytic science is to develop universal laws and to formulate law-like theories that are empirically supported by observable evidence (Zimmerman, 1989, p. 5).” These universal laws can be taken by other researchers and used to build upon knowledge that has already been accumulated.

Okpala establishes replication for other researchers as one of the purposes of his study. He says that, “The purpose of this study was to determine the impact of the school choice initiative on student achievement using a comparative longitudinal study of intradistrict choice and traditional schools (Okpala et al., 2007, p. 317).” The comparative longitudinal aspect of the research methodology enables future researchers to duplicate the process with their own acquired data. Establishing replication as one of his research priorities offers fundamental evidence that Okpala’s research is quantitative in nature.

The final quantitative aspect I wish to cover concerning this research study is the issue of bias. Qualitative researchers quickly recognize and define their own biases in the research process. In fact, for them, the bias adds another layer of data that enables fascinating results to grow from rather mundane topics. Quantitative research takes another approach. This paradigm seeks to remove bias and dislodge the attitudes of the researcher. Zimmerman (1989, p. 6) says “Researchers play the role of a detached observer and strive to keep their own personal attitudes, feelings, and biases from influencing their research findings .” Quantitative researchers want the data to speak for itself. Applying any kind of bias whatsoever might risk influencing the data which might then skew the results. For the quantitative researcher, this leads to unreliable theories.

Okpala maintains a controlled aspect to his research and seeks to remove his own bias. He says, in describing how the data was collected, that “A purposive sampling technique was used to select the schools for the study (Okpala et al., 2007, p. 318).” By using the process of purposive sampling, any desires he might have had to pick one school over another due to better scores, lower rates of low-income students, or higher instances of students of color is negated. The reader can be assured that the data is speaking for itself rather than the unspoken intentions of the observer. For the quantitative researcher this produces a highly valid product that will stand the test of time. For Okpala, it provides further evidence that this is, indeed, a quantitative product.

## CONCLUSION

Quantitative research differs greatly from qualitative inquiry in purpose, assumptions, methodology, and representation. While quantitative research has been the dominant paradigm for many years, qualitative no longer takes a back seat. Many qualitative researchers refuse to recognize quantitative inquiry as viable methodology for educational research. Many quantitative researchers recognize qualitative inquiry as a subordinate type of research. Both styles offer an opportunity to explore educational topics through varied and unique methods that advance knowledge about students and learning to compelling levels.

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