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Qualitative or Quantitative ? Selection of Research Methods

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Introduction

In order to achieve the preset goals in an academic research, researchers usually need to resort to the appropriate research traditions which can help them acquire meaningful findings and persuasive conclusions by, elaborately, selecting the suitable research paradigm design the routes of study, taking effective ways to acquire data during the research procedures and rigorous visual methods to analyze the acquired data validly. In fact, it is not necessary for researchers to identify which method is superior to another since the research method itself has no absolute advantages or disadvantages because of having no single agreed criteria of evaluation. It is more important to take the appropriateness or inappropriateness for the study into consideration when we choose the research methods in fulfilling the academic research. An educational researcher is required to be acquainted with the issues of discipline and be cognitive of the distinctions and characteristics of alternative research methods and paradigms to decide which one to be selected as we embark on an academic research.

Academic studies in educational disciplines has been impacted to a great extent by the positivist paradigm for a long time in the past decades. Therefore, in order to test hypotheses of theories and make the findings of research reliable and visual, data-based methods for evidence, and correlational analysis are widely applied in educational research, researchers more and more believe that rigorous and convictive academic findings rely largely on experimental studies using data analysis and quantitative paradigms. Subsequently, however, some scholars have questioned and even criticized this research paradigm, including the self-evaluation and criticism from the quantitative researchers themselves. For instance, Michell (1999) pointed out that most of the quantitative researches were conducted on the basis of the fact that the attributes of psychology could be calculated by the means of quantitative techniques instead of empirical research, and most of the quantitative researchers misunderstood the definition of measurement as only a way of assigning numbers to objects and events in terms of particular principles and regulations, in his reflection of the measurement in psychological studies. Likewise, Toomela (2008) showed the ambiguity caused by quantitative variables when encoding data and the inherent limitations of statistical procedures. Almost simultaneously, basing on a thoroughly distinct hypotheses of philosophy, focusing mainly on depicting and interpreting phenomena in research, qualitative research methods have been introduced to social and behaviour research and have risen to a crucial place. Therefore, for the past decade, two main research methods are having been adopted by researchers in social and behavioral research, they are called, respectively, qualitative research method and quantitative research method. In recent years, some scholars began to compare and distinguish these two research methods, and even critiqued the two research traditions from various dimensions and perspectives. Some publications about the advantages and disadvantages of qualitative and quantitative methods, such as research papers, books and monographs, have appeared. Hence, the third research paradigm -- mixed research methods, the hybrid of qualitative and quantitative, has been widely mentioned and applied by many researchers in various disciplines.

General understandings of Qualitative and Quantitative Research Methods

Qualitative Research Methods

About the description of qualitative research, Denzin and Lincoln (2000) offered a general statements in detail. According to their depiction, qualitative research is actually a sort of situated activities of observation, analysis and academic interpretation of the material practices about the world, by which phenomena existing in the world were transformed in the forms of field investigations, interviews, records, scripts, memorandums or pictures.

Qualitative research belongs to the exploratory study which focuses on the analysis of the quality and nature of materials by defining questions or searching for solutions of problems, it is often used to make assumptions or to identify variables to be included in a study. That is to say, qualitative studies are usually carried out in the material environments and natural settings to understand and explain the natural phenomena which attract people's interests in the world according to the meanings given by human beings. Scholars in qualitative study attempt to find problems, interpret phenomena, and analyze different behaviors and views from various perspectives and dimensions to obtain distinct viewpoints and findings. Empirical study and case study are its main presentation, and also includes individual experience, introspection, interviews, descriptive texts and so on. Therefore, in order to get practical problems solved in the research, researchers in qualitative research practice would like to set up a wide range of correlational interpretative work.

Actually, it has been considered to be tough to define qualitative research for its multifaceted nature underpinned by various paradigms (Hitchcock & Hughes, 1995), Strauss and Corbin (1998) interpreted qualitative research as any kind of study paradigm that produces findings which are not achieved by statistics or other of quantitative means. However, this statement could not offer a panorama of the quantitative research because it merely puts emphasis on the research routines set in the study and techniques adopted in data collection and analysis, being in a lack of mention of other layers involved in the systematical design of the study. There is also a tendency to define qualitative research from the quantitative dimension instead of focusing on the procedures and techniques only. Gay and Airasian (2000) defined it as 'the collection of data on variables' in natural settings. The definition also was confronted with queries since, according to the assumptions of epistemology on which qualitative research is based, the phenomena existing in the world are so complicated and correlational and interacted with each other that we can not define qualitative research by using the term 'variables' simply.

After the above reviews of relevant literature, we can get a more comprehensive definition about the qualitative research, that is, it is a set of interpretive and naturalistic approaches in natural settings (Creswell, 2007) in terms of induction and description of the characteristics of social problems, natural phenomena and human behaviors, whose main purpose is to expose the meanings of the world and nature given by human beings. It is particularly important to mention that the rise and development of qualitative research does not originate from a certain methodology or a certain discipline only, but on the basis of integration of philosophical concepts drawn from phenomenology, hermeneutics and others to sustain the attention on 'quality' rather than 'Quantity' (Brewer, 2003).

Quantitative Research Methods

Quantitative research is considered as an approach which is opposite to the qualitative research, revealing phenomena of the world and society by comparing and analysing numeric data using the mathematical methods, for instance, the statistical methods. Creswell (1994) gave a definition of quantitative research as a sort of empirical research tradition which, in order to explain and test the theoretical predictions or hypotheses of variables, interprets the phenomena of nature and human beings and reveal the nature of materials in terms of numerical methods, in which numbers and statistics analysis are used to measure the variables. In quantitative

research, the worthwhile findings and conclusions aiming to reveal the nature and essential attributes of various problems in the world come from the rigorous and systematical analysis and comparison of numerical information or data, which can eliminate bias and subjective consciousness of the researchers. Quantitative research methods have been widely applied in a large range of aspects of society, especially in the field of social, environmental and educational issues. It has been accepted by researchers and approved to be more precise to explain social and natural phenomena due to the objectiveness and reliability of numerical analysis and comparison, which is considered as a necessary way to grasp the intrinsic regulations of objects' development. The popular methods adopted in quantitative research include roughly face-to-face survey, telephone survey, mail questionnaire, returned questionnaire and media questionnaire survey. A quantitative research would usually go through four stages, they are stage of data acquisition, stage of data classifying, stage of data analysis and stage of analysis report.

The Differences and Relationships between Qualitative and Quantitative Research Methods

Differences between Qualitative research methods and Quantitative research methods

To distinguish these two main research methods in the fields of social and behaviour disciplines, people who are engaged in digging up their differences between them distinguish them from the perspectives of objects of the study, techniques of the study, procedures of the study and targets of the study. Crotty (1998) pointed out the differences between qualitative and quantitative research methods in the following aspects: epistemology, theoretical perspectives, methodology, and methods.

Differences of the Theoretical Bases

The theoretical bases from positivist philosophy of empirical philosophy which holds the views that a) Subjects and objects are sets of qualitative and quantitative are various from each other. The theories of quantitative research originate from two distinct entities; b) Social phenomena exist objectively and are not affected by subjective value factors; c) But the subjects could obtain the knowledge of the objects through the operation of a set of techniques or tools. Nevertheless, the theoretical backgrounds of qualitative research are mainly derived from the interpretationism in phenomenology and symbolic interaction theory. The general viewpoints of the interpretationism include a) Objects and subjects are not absolutely divided and independent from each other; b) The social phenomena are not completely objective which will be affected by the factors of values.

Differences of the Objectives of Study

The relationship between the objects of the study and the researchers are closely related to each other in the qualitative studies where the objects were considered as an organic part of the procedures of the study and were almost given subjective sense by the researchers. Therefore, the findings and conclusions drawn from the qualitative researches were regarded as subjective descriptions and predictions. However, the objects in quantitative study are objective and independent from the researchers, there is a natural distance and gap between the objects and the researchers in quantitative study. Frequently, **Key issues** claims that the objects in quantitative research can be divided into several constituent parts through which objective and holistic recognition can be obtained, which is opposed to the qualitative research in which the objects are inalienable and the researchers put emphasis on the whole organic procedures instead of constituent parts.

Differences of Research Methods

In qualitative studies, researchers usually use the Participant Observation Method by which findings and conclusions can be drawn through carefully observing people's behaviors, the reasons hidden behind the behaviors,

attitudes towards the objects, and effort degree and so on. Besides, case study is also one of popular methods in qualitative researches. Case study belongs to a kind of descriptive research method that can be used to describe facts and interpret social phenomena. It has been widely recommended and used in the study fields of law, medicine, sociology and management. Case study is regarded as a more in-depth and internal exploration, and can help us understand the complex social phenomena better. However, in the process of quantitative studies researchers conducted the research mainly through collecting quantitative documents and numerical data which are trusted to be more scientific, objective and accurate. A quantitative study is usually designed aiming to specific objects, needing statistic analysis of the findings and results systematically. In order to obtain the accurate numerical data, it is necessary to deal with the information which is presented by a series of numbers with mathematics and statistic knowledge. The main techniques adopted to gain numerical information in quantitative research include telephone survey, interview, mail questionnaire, media survey, indwelling questionnaire and so on. It is deserved to be pointed out that the telephone survey has been widely used by researchers in quantitative study because it has outstanding advantages, for instance, it is easily to carry out since almost all of activities of survey can be realized by phoning, also, more important is that most of the samples enrolled in the study can be accessed in a short time to get data by telephone survey. But, the telephone survey could not works well when complex forms, graphs and figures are involved in the study. Therefore, most authoritative researchers conducted the quantitative studies by using deductive method to dig up the results and underlying causes. Actually, the deductive research method is a sort of static design in which the variables designed in the research are separated and not confined by the contexts before the study. The universal applicability of the study is manifested mainly by means of prediction and interpretation through collecting and analyzing the numerical information, and their accuracy and reliability of individual case studies are supported by the scientific and rigorous measurement of their reliability and validity.

Differences of Research Procedures

The main procedures of qualitative research generally include the following sequential systematical steps: determining the objects of study, stating the goals of study, raising questions of study, reviewing literature and backgrounds of study, constructing conceptual frame, selecting samples, collecting information, analyzing information, drawing conclusion, rebuild theory, testing the validity of the study, considering the degree of generalization and ethics issues, writing research report. All of these steps in this rigorous process are designed in sequences and mutually connected with each other, they interrelated to each other and even overlaps with each other in a way of recycle. The main methods of collecting knowledge information usually include interview, observation, and files analysis. By summarizing the first-hand data obtained in qualitative research and transforming these information, the researchers would be able to form theories after the sequential series of procedures.

In the quantitative study, firstly, researchers need to analyze the objects of the study, put forward one hypothesis or several hypotheses, then, raising research questions, and standard methods should be chosen to analyze and compare the research designs. And then what is followed are sample selection, sample backuping, sample testing, data collecting, data analyzing. Finally, the researchers describe the findings and draw conclusions. The results of quantitative research are expressed mainly in data, figure patterns and graphs.

Differences of Research Goals and validity

On the one hand, qualitative research focuses mainly on the qualitative change of objects, which is based on logic and history. It generally relies on a large number of historical facts and specific experience in life as materials for analysis, and uses logical reasoning, historical comparison and other methods to draw conclusions. The conclusions drawn by qualitative research would be able to guide people's practical activities. To some degree,

qualitative research is regarded as the basis and guiding direction of quantitative research. On the other hand, however, quantitative research, which is mainly based on probability theory and social statistics, belongs to a sort of research tradition focusing on the change of quantity of objects. Quantitative research mainly investigates the obtained real data through the measurement of social facts, empirical measurement, statistical analysis and modeling. The results obtained by quantitative research are generally expressed through data, patterns and graphs. Quantitative research is to study the quantitative properties of objects and their motion. The purpose of quantitative research is to make qualitative analysis more accurate and persuasive. For the validity of research, biases seems to exist in our mind that we believe that the reliability of quantitative research is higher than the validity of qualitative research. Some scholars even claimed that it is not only irrelevant but also misleading to determine the quality of quantitative researches through quantitative measures, for instance, reliability and validity (Creswell, 2009; Steinke, 2004).

Relationships between Qualitative and Quantitative Research Methods

There are something in common between qualitative and quantitative research, although they are different traditions in scientific research, they generally both analyze and interpret phenomena by comparing the changing figures of variables showing the characteristics and principles of phenomena. It is through the comparison of various variables or the comparison of the same variables in different periods that the factors, for instance, the quantity, quality, efficiency, and the speed of development and so on, can be reflected, so as to offer conclusive and evidence-based information for conclusions. Therefore, we can find out some connections between this two research traditions. As mentioned above, in qualitative research the researchers takes themselves as a tool, adopting various methods of data collection in natural situations to conduct a holistic research on social phenomena, then use inductive method to analyze data, and finally collate and analyze the data to form a certain theory, from which we can find that qualitative research could interpret the behaviors and meaning constructions of the research objects through observing **Critical thinking** between them. However, quantitative research is to measure and analyze the quantifiable factors of a objects, so as to test whether the theoretical hypotheses put forward by the researchers themselves about the objects are feasible or not. In qualitative research, researchers usually only care about the situations when and how the behaviors happen. Therefore, they usually should be engaged in specific situations, to draw distinct and unique conclusions which are restricted by the backgrounds of the study. By contrast, the main tools or techniques of the data collecting are objective means which are not restricted by subjective and conditional environments, such as measurement scales, questionnaires and experiments, and the variables designed in quantitative research are measurable and statistical. So, the conclusions obtained from a quantitative research usually own the characteristics of generality, universal applicability and not restricted to the research backgrounds and environments.

Thus, from a dialectical point of view, the two research methods have their own distinguished characteristics and features. For example, we can find the advantages of qualitative research at least include: a) it can shorten research time and low research cost, b) it can reflect the motivation and attitude of the testees well, which is regarded as a effective way of cooperating with the quantitative research, and absolutely superior to quantitative research in depth of phenomena analyzing. At the same time, qualitative research, of course, own its own shortcomings due to its insufficient width of samples, inability to offer specific and detailed information, and incapability to reflect the subtle distinctions between objects, and large probability of being affected by the subjectivity of the researchers. By contrast, quantitative research method is considered to be more scientific by scholars, it can deduce accurate and persuasive findings and conclusions by using a lot of mathematical knowledge and statistical skills. The results of the quantitative research can be quantified and high precision, less affected by the subjectivity of the researchers. And, on the other hand, because the final results of quantitative research are frequently includes large amounts of

reports of numerical data which actually has no significant and realistic guiding significance to our lives if they are not used and analyzed well. Besides, from a philosophical point of view, it is well known that any qualitative changes of anything always originate from the quantitative change, and only when the quantitative changes are accumulated to a certain extent can it cause the qualitative changes of objects. Frequent and enough quantitative research is beneficial to qualitative research. However, it is accepted by many scholars that qualitative research is, to some extent, regarded as the premise and basis of quantitative research.

Conclusions

Conclusions can be easily drawn from the above statement and analysis. It is obvious that qualitative research and quantitative research have their own advantages, disadvantages and limitations. They play different roles in different kind of practical researches. Both of them are necessary and non-negligible research. If only one of them is adopted in our practical research activities, it would be probably not enough that we can not draw what we are seeking for in our studies. For example, if only quantitative research method is adopted, the researchers probably can only obtain the partial understandings of the objects through the numerical data; while if only qualitative research method is used, it is tough for the researchers to have complete accurate and persuasive understandings and findings. Therefore, we may have a third consideration of the research tradition - mixed research tradition, that is the combination of this two research traditions. It is more and more recommended that the qualitative research and quantitative research should be unified and complementary in practical studies, providing supports and supplements to each other if necessary. In some cases studies, we need both of qualitative and quantitative research methods in different phases of the process of the studies. For instance, before conducting a qualitative research, it is very necessary and helpful for the researchers to do quantitative analysis of the research literature and research data. In some qualitative studies, there is a need to use qualitative analysis to support the study with accurate evidences, and in return, qualitative research is inevitably to be used in the quantitative research when it is to put forward a theoretical hypothesis, or to interpret the relationships between the variables and the objects, or to analyze and summarize the results of the studies.

To sum up, actually, quantitative research and qualitative research are not opposite, but interrelated and complementary to each other. If we can combine this two research traditions organically and properly in a research, effectively overcoming the disadvantages and drawbacks of themselves, and supporting each other with their strengths, the results and conclusions of studies would be more accurate, persuasive, and comprehensive. In the same research practice, using mixed research paradigms would be helpful for the researchers to explore the problems raised in the study from different perspectives, so as to achieve more persuasive conclusions. Therefore, mixed research tradition - combination of qualitative and quantitative research traditions, should be seriously taken into consideration when we conduct researches. Mixed paradigm would support large space for researchers in future. It was considered to be a bridge between quantitative and qualitative research (Onwuegbuzie & Leech, 2004). The paradigms of mixed methods could be found in many publications (Creswell, 2003; Johnson & Christensen, 2004; Tashakkori & Teddlie, 2003), we should understand the philosophical rationales, research design, data collection and disposition, validity testing, ways and procedures of mixing about the mixed research methods.

Discussion: The Research Paradigms of Education in Future

In future studies, mixed research tradition would have outstanding superiority to the single qualitative or quantitative research method, because strengths of the two research traditions can be combined and integrated into one unity scientifically and organically, avoiding their weaknesses properly, in practical researches. Mixed research tradition, in fact, has experienced a long time of development in practical researches, but it has been

overlooked by the practicing researchers. It is the time for methodologists and researchers to recognize the superiorities of the mixed research tradition in a formal way and start to adopt the mixed research paradigm in practical researches. As mentioned by Sechrest and Sidana (1995), the rapid growth of adoption in the mixed methods (i.e., pragmatist) has the potential priority to eliminate certain problems associated with singular methods. Through using both of qualitative research methods and quantitative research methods in the same framework of study, the mixed paradigm could offer more scientific and reasonable perspectives of research since it is the integration of the advantages of both research methodologies. What is more, researchers would be more probable to choose research methods according to the potential research questions instead of biases of the recognition of single research tradition they already hold in mind. Therefore, in future, mixed research methods will certainly win its splendid time in the fields of educational researches.

References

- Brewer, J. D. (2003) Qualitative research, in: R. L. Miller & J. D. Brewer (Eds). *The A-Z of Social Research: a dictionary of key social science research concepts*, p. 239. Thousand Oaks, Sage.
- Creswell, J. W. (1994) *Research Design: qualitative & quantitative approaches*. Thousand Oaks, Sage.
- Creswell, J. W. (2003). Research design: Qualitative, quantitative, and mixed approaches. Thousand Oak, CA: Sage.
- Creswell, J. W. (2007) *Qualitative Inquiry and Research Design: choosing among five traditions* (2nd edition) p. 37. Thousand Oaks, Sage.
- Creswell, J. W. (2009) Research Design: Qualitative, quantitative and mixed approaches (3rd edition) P. 190. Thousand Oaks, Sage.
- Crotty, M. (1998). *The Foundations of Social Research: meaning and perspective in the research process*. Thousand Oaks, Sage.
- Gay, L. R. & Airasian, R. (2000) *Educational Research: competencies for analysis and application* (6th edition) p. 627. Upper Saddle River, Prentice Hall.
- Hitchcock, G. & Hughes, D. (1995) *Research and the Teacher: a qualitative introduction to school-based research* (2nd edition) p. 26. London, Taylor & Francis.
- Johnson, R. B., & Christensen, L. B. (2004). Educational research: Quantitative, qualitative, and mixed approaches. Boston, MA: Allyn and Bacon.
- Michell, J. (1999). *Measurement in psychology: A critical history of a methodological concept*. Cambridge: Cambridge University Press.
- Onwuegbuzie, A. J., & Leech, N. L. (2004a). On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research methodologies. Manuscript submitted for publication.
- Sechrest, L., & Sidana, S. (1995). Quantitative and qualitative methods: Is there an alternative? *Evaluation and Program Planning*, 18, 77-87.
- Steinke, I. (2004) Quality criteria in qualitative research, in: U. Flick, E. V. Kardorff & I. Steinke (Eds) *A Companion to Qualitative Research* (p. 186). Thousand Oaks, Sage.
- Strauss, A. L. & Corbin, J. (1998) *Basics of Qualitative Research: techniques and procedures for developing grounded theory* (2nd edition) pp. 10-11. Thousand Oaks, Sage.
- Tashakkori, A., & Teddlie, C. (Eds.). (2003). *Handbook of mixed methods in social and behavioral research*. Thousand Oaks, CA: Sage.
- Toomela, A. (2008). Variables in psychology: a critique of quantitative psychology. *Integrative Psychological & Behavioral Science*, 42, 3.

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GRADEMARK REPORT

FINAL GRADE

64/100

GENERAL COMMENTS

Instructor

Engagement with literature

This essay displays very good engagement with the audience. Excellent and comprehensive understanding of the topic which is quite demanding.

Knowledge and Understanding

Detailed knowledge and you offer analytical comment throughout. Clear identification of key issues.

Cognitive and intellectual skills

You tackled this topic with a rigorous approach. Indeed you handled the discussion of key ideas very well.

Practical skills

Confident analytical skills which will be useful for future conferences and research seminars.

Transferable skills

Good clear address. The question was answered clearly with reference to current debates.



Comment 1

Good overview.



Key issues

Clear identification of key issues



Comment 2

Useful disinctions.



Comment 3

Careful about making assumptions.



Key issues

Clear identification of key issues



knowledge

Demonstrates systematic and relevant knowledge.



Critical thinking

Ability to be critical and appraise the literature to further knowledge and thinking.



Comment 4

clarify.



Comment 5

Exactly.



Comment 6

A very good answer that is well presented, coherent, and demonstrates critical judgement.



Comment 7

Excellent references.