



Global Journal of Scientific Researches

Available online at gjsr.blue-ap.org

©2020 GJSR Journal. Vol. 8(3), pp. 53-61, 11 December, 2020

E-ISSN: 2311-732X

Conceptualization of Integrated Application for Importance of Each of Qualitative and Quantitative Method in Writing Research

Youssra Qassim Ali

Instructor of English, the General Directorate of Education, Al-Najaf Al-Ashraf-Iraq

Corresponding Author: Youssra Qassim Ali

Received: 24 November, 2020

Accepted: 01 December, 2020

Published: 11 December, 2020

ABSTRACT

Research in education systems is systematic investigation of phenomena to discover the truth which involves a combination of reasoning and experiences needed to find an appropriate research method for teaching and writing. Regarding terminology, quantitative research generally indicates that it produces numerical data; they are analyzed using statistical techniques, while qualitative research generates non-numerical data (images, words or objects) which are based on the processes of inquiry to the development of human problems understanding from multiple perspectives. The key purpose of research writing is to submit vital aspects of using qualitative and quantitative approaches and methods in educational research. Advantage, disadvantage and their role in conducting educational researches are central prerequisites for a final result, involving data collection, and analysis. On that basis, the excerpts relating to the subject matter of researchers' quotes that have multi-notions and views in collecting qualitative and quantitative fields would be analyzed with suggestions, recommendations to solve the manifold and complex problems facing us in the field of education.

Keywords: *Research methods, Qualitative methods, Quantitative methods, Techniques, Advantages, Disadvantages.*

©2020 GJSR Journal All rights reserved.

INTRODUCTION

Quantitative and qualitative approach represents innovative research strategies that frequently used, often in different discipline of education such as sociology, psychology ...etc. As far as research approaches, there is still so-called paradigm, which can be widely referred to as the "approach" or "design". Design of any study begins with the selection of topic and research methodology. These initial decisions reverse assumptions about how and what methods that involve significant theories and hypothesis.

Foremost, Quantitative research was the generally accepted paradigm of research in educational research until the late eighties, when the "paradigm wars" among the major proponents of the quantitative and qualitative research reached a new peak (Guba, 1990; Tashakkori & Teddlie, 1998). During the 1980s, there are some arguments about the superiority of research methods: whether qualitative evidence is superior to quantitative evidence, or vice-versa. To support this important area, there is a need to highlight the most important approaches and methods of each qualitative and quantitative in order to understand the dominant method in the arena of research.

Educational researchers use diverse research approaches relied on the methods of their data collections. Accordingly, the paradigm is characterized by not only the data collection and analysis but also methodological approaches to research that have had a significant impact on researchers. Qualitative research produces "textual data" (non-numerical), its data answers questions of how and why. Quantitative research is precisely the opposite, generates information, turn it into numbers, it addresses the questions: how many and how much. Thus, the researcher's worth is characterized by 'the degree to which he is able to clarify what goes on in such place, to reduce the puzzlement –what manner of men are these?' (Geertz 1973, p.16). Thus, a qualitative

researcher tends to use the exploratory method to create hypotheses that used to understand concepts, thoughts or experience by gathering in- depth insights on topics that are not completely incomprehensible.

Unlike Qualitative research, quantitative research is carried out under more tightly controlled conditions and tends to use a confirmatory scientific method, concentrated on hypothesis and theory testing, its goal is to develop generalization that would contribute further to developing the capabilities of researcher to predict, understand, and explain a phenomena.

To this end , The educators and researchers have left no stone unturned to search for best approach to instil appropriate problem – solving abilities .Perhaps, findings from the studies with this tool may lead to propounding laws and facts that can stand on their own regardless of it being true or not (Shank and Brown, 2007, p.58) .

Qualitative Research approach

In the world of research, Research approach is a design or plan to conduct a research, for example, using, case study, phenology, or ground theory (Johnson,B.,&Christensen,L.;2008, p.246) . It was not until the 1980s that anthropologists began to work in educational arenas to any great extent (spradley, 1979). Lincoln and Guba (1985) clarified that "studies be conducted in natural settings rather than in laboratories". However, in the primary mode of conducting educational research remained experimental in nature. Until the 1990s, scholars had begun to reflect on the qualitative research, thus, it has seen a phenomenal growth in educational sphere, and changes in approaches have also been observed in various disciplines from different parts of world as well.

There are several reasons for the increased interest in qualitative research that began in the 1990s.on one hand, there was a growing dissatisfaction with educational research findings based on quantitative studies alone (subject to many problems in implementation, poorly disseminated, and often irrelevant), on other hand, teachers demanded a larger role in design and conduct of research and were drawn more to action research projects. The positive side to take in consideration is that Qualitative research is a way in which research gathers, organizes, and interprets information. Qualitative methods is the most appropriate when understating of perceptions and observations of an extensive process requires to be carried out (Patton, 2002).

Qualitative is basically more subjective than quantitative research and used various methods to gather information. Lichman ,M. (2006) illustrates that "It is now more generally accepted that a qualitative researchers adds understanding and interpretation to the description"(p.12). Therefore, ongoing questioning process is an integral part both of understanding of the perspectives and their life unfolding. According to Janesick (2000) "qualitative research begins with ‘a question’ or at least an intellectual curiosity if not a passion for particular topics"(p.382).

Nonetheless, changes should somehow emerge the researchers` capacities to examine their own roles and perspectives in the inquiry process.That is, The researcher starts to carefully identify the appropriate research question which is intellectual. Good qualitative question should invite processes of exploration and discovery (Creswell, 2007).

The initial provisional questions can be much more focused; as the process of research inquiry will be constrained from moving forward in a constructive, coordinated and unified manner. Therefore, Maxwell (2005) cautioned that starting with questions that are too focused can lead to ‘tunnel vision’ and can inhibit a researcher’s understanding and analysis"(p.67).Since qualitative research is exploratory, it does not have a hypothesis. Because the concept of hypothesis is predication in nature, so, the qualitative research tries to explore rather than predict participant views. Creswell (2007) noted that" Qualitative question is 'evolving'. First iteration of questions are tentative and exploratory but give researcher a tool for articulating the primary focuses of the study (p.107). Because qualitative researchers are interested in meaning and interpretation, they typically don't deal with hypotheses as implemented in quantitative research to test hypotheses.

The exploration of what is supposed to be the dynamic reality is one of the processes responsible for conducting qualitative research.

Despite the fact, some processes at qualitative research that generate detailed and valid data to contribute to in-depth understanding of the context, all early efforts at qualitative research focused on description of data. Wolcott (1973) gave a detailed account of a principle and his emphasis is a descriptive account rather than an interpretation .But many believe that it is the role of the researcher to bring understanding, interpretation, and meaning to mere description.

In the field of research, qualitative interviewers should explore new areas and discover and unravel intriguing puzzles. According to Lichman, M. (2006) [.....T]hat this dynamic nature of qualitative interviewing is a critical element in the development of a successful qualitative study. Qualitative researchers do not always know who they will study or what they will study. Qualitative researchers feel free to modify protocols as they progress through the ever-changing landscape of those they study "(p.13). In line with this concept, qualitative research characteristically doesn't use standardized procedures and this is a main reason for the low reputation of qualitative research in some social disciplinary 'communities.

Quantitative Research approach

Unlike a qualitative research approach known as its interpretative nature, the quantitative research approach known as the scientific research paradigm, seen as process of rigorous clarifying, defining, and using of pilot experiments (i.e. it is empirical in nature) .

One area that should be stressed that a majority of the views collected from qualitative researchers are that the best way to understand any phenomenon is to view it in its context, They see quantification as limited in nature, meaning looking at only a small fraction of reality which cannot be split or unitized without loss of the importance of phenomenon as a whole. So the best way to understand what's going on is to become immersed in it.

In view of the above, Johnson,B.,&Christensen,L.(2008) elaborate the quantitative approach as "a term describing traditional methods of hypothesis testing, determining, cause and effect and generalizing" (p.246), in which an inquiry measured with numbers, and analyzed using statistical techniques in order to assess whether the predictive generalizations of a theory is fully true, while remaining the researcher separated and independent from what is being researched. In the `70s to `90s, noticeable attention is not being paid to use of quantitative research because at the time new qualitative approaches began to develop, this was due to the fact that they have various concepts of reality, and the relationship between both the object of investigation, researcher and so on, while quantitative analysis is viewed as irrelevant to their lives or as a skill only a few, mathematically minded students can acquire and use effectively in this area.

This highlight the urgent need researchers to have a frame of reference against which they can judge research design and results to be valid and reliable knowledge (Bridges, Gillmore, Pershing and Bates, 1998). According to Hammersley, M.(2007) "key catalyst for our renewed focus on quantitative research skills is an increasing attention given to evidence-based educational practice and policy". Therefore, the quality of educational research is contingent on future education researchers being equipped with the necessary skills to carry out meta-level research that being able to analyze context of educational processes and practices.

Methodology

With regard to the methodologies, methodology is defined as, the various techniques, methods, procedures used in conducting research (Lichtman,M. ,2006,p.245) .

Data collection methods

Qualitative data is remarkably different from quantitative data. Quantitative data can be collected using various methods to obtain a more holistic, and accurate picture of what is going on in quantitative research. Whereas, data used in qualitative research is almost about the nature of people's preference, thoughts and what they say.

Data collection methods deal not only with numbers and statistics as in quantitative research, but also with words and meanings that are in qualitative research. For quantitative research, survey or questionnaire is known as an instrument, while in qualitative research there is no instrument, no survey .It is worth noting that the researcher is functioning as an effective instrument in the research field by asking the questions and collect observations in qualitative research rather than relying on surveys or questionnaires to collect data.

Moreover, qualitative and quantitative still are helpful to start with some commonly used scientific methods: the exploratory method and the confirmatory method. Although both of these methods use empirical data, their purpose is different (Johnson, B.,&Christensen,L.;2008, p.63).

Exploratory method: A bottom-up or theory-generation approach to research.

Confirmatory method: A top-down or theory-testing approach to research.

The exploratory method can be thought of as a bottom-up approach because it emphasizes starting with particular data and observations and discovering what is occurring more generally (i.e., movement from data to patterns to theory). The exploratory method is sometimes called inductive method because it moves from the "particular to the general". On the contrary, the confirmatory method can be thought of as a top-down approach focused only on the process of starting with its general theory and testing it with particular data (i.e., movement from theory to hypothesis to data). The latter one is called the deductive method because it moves from the "general to the particular."

Both of the deductive and inductive reasoning are used by the researchers to conduct the research. Inductive reasoning is generally used to search for particular data patterns to facilitate generalizations -making, and to elicit a broader inferences for a better explanation in the later phases of the research. As for deductive reasoning, Researchers conclude from their hypotheses the observable consequences that should happen with new empirical data if their hypotheses are true, it would also be used if the researchers deduce that a theory is false. If they draw this conclusion, they will then move on to generate and test new ideas and new theories (Johnson, B., &Christensen,L.;2008, p.82).

Indeed, the appropriate formulation general principles for determining whether to use quantitative or qualitative data are:

- Use quantitative research if you really want to confirm or test something (a theory or hypothesis)
- Use qualitative research if you really want to understand something (concepts, thoughts, and experiences)

Quantitative and qualitative research techniques

Some of the techniques used for research in education sector can be applied to collect both qualitative and quantitative data:

Quantitative techniques normally include diverse forms of surveys or questionnaires, structured interviews in addition to techniques above; behavioral observation is used as well. "In a structured interview, the researcher asks a standard set of questions and nothing more" (Leedy and Ormrod, 2001). Standardized questionnaires and other quantitative measuring instruments are typically used to measure what is observed carefully.

- Experiments: Situation, in which variables are controlled, manipulated and stimulated to establish cause-and-effect relationships.
- Observations: Direct observation of phenomena in a natural environment where variables can't be controlled or manipulated. The data collection instrument of a qualitative researcher is quite versatile, ranging from completely unstructured to semi-structured techniques. Moreover, the distinction between a method and a way of making data is not at all rigid.

Overall, they are generally ways to make data with goals that correspond with these ways of making data, and behavioral observations are the three most common applied in qualitative methods.

The proposed techniques of qualitative research used in research proceeding:

- In-depth interview: A technique of data collection that relies on long and probing questions, never formal questionnaires. (Lichtman, M.;2006 .p.244). Asking open-ended questions verbally to respondents thus is mainly conducted by qualitative data collection.
- Focus group interviewing: A technique for field data collection that relies on group interaction and discussion (Lichtman, M.; 2006 .p.244). focus groups are useful because they typically take a short amount of time to prepare and execute and allow a significant number of participants to voice their opinions and ideas (Ponsford and Masters, 1998).
- Observation: A technique of data collection in which the researcher observes the interaction of individuals in natural settings (Lichtman, M.; 2006 .p.245). So, intensive work is required by the scholar to be more accepted as a natural part of society to ensure effective observations are better utilized within natural phenomenon. This could be done with the immersion of the researcher in context being observed by becoming a participant.

Analyzing qualitative and quantitative data

Quantitative or qualitative data can't demonstrate or prove anything by itself, but it must be analyzed or interpreted much more broadly to show its meaning in relation to the questions submitted in research.

According to Connolly(2007) "Besides sampling, data analysis is less time consuming as it uses the statistical software such as SPSS Results are often reported in graphs and tables". Qualitative is inversely proportional to quantitative data because it is more difficult to analyze . Johnson. &Christensen. (2008) stated that "Qualitative researchers do not usually collect data in numbers. Rather, they conduct observations and in-depth interviews, and the data are usually in the form of words". (p.88)

To decide how effectively analyze data

- In quantitative data, statistical analysis methods are used to test relationships between variables.
- In qualitative data, thematic analysis methods are applied in interpreting the patterns and meanings of the data.

In sum, the content analysis or textual analysis is increasingly used to analyze data collected from questionnaires and interviews. This primary feature could help reduce and simplify the data collected, leading in turn to generate new results that may be then measured using quantitative techniques.

As Carr (1994) noted that "the quantitative findings are likely to be generalized to a whole population or a sub-population because it involves the larger sample which is randomly selected. For the qualitative findings, they cannot be expanded to include larger populations with the same degree of certainty that quantitative analyses can provide. According to Labaree (2004) this implies, no educational research (either qualitative or quantitative) ought to be regarded as generalizable, because too many contextual variables can shape the findings.

As regards qualitative research report, the content of these reports has many numbers and results of statistical significance testing that tended to be much more rigid. The final report of the quantitative research is more rigid and more in the form of a statistical report (Creswell, 2009). In contrast, qualitative research reports are generally more interpretative and contain a lot of writings, as the researcher in this field are attempting to understand and portray the lives and experiences and language of the research participants.

Advantages and disadvantage of qualitative research approach and method

Identification and examination of research is critically important as it is one of the main focus areas in this field. So, one of the most obvious advantages of using qualitative research approaches and methods that can be shed lighted on:

- First, the close relationship that exists between the researchers and participants in this approach makes it so easy for the participant to contribute to shaping the research. Sherman and Webb, (1990); Lichtman (2013) explained that "This however account for significant understanding of experiences as its participants understand themselves and also understand experience as unified" (p.5, p4). Qualitative research approach produces thick (detailed) description of participant's feelings, opinions, and experiences; and interprets the meanings of their actions (Denzin, 1989).
- The popular conception of the approach of this research is that theory emerges from data whereby many authors use different types of words or phrases, where the emergence of theory from data lets the researcher to construct and reconstruct theories as necessary, based on the data they established, rather than testing data that have been established elsewhere by other researchers.
- Corbin & Strauss (2008) have revealed that "the qualitative research admits the researcher to discover the participant's inner experience, and to figure out how meanings are shaped through and in culture". From above, Leung (2012) indicated that "in term of assessing written assignment, "good", "satisfactory", or "60 marks out of 100" are used by the assessors, an investigation might be made in order to understand the meaning of "good" or "satisfactory" or to elicit the features of content or text displayed in the student scripts". In this case, studies that rely on qualitative approach assist in understanding how the presumption of markers' working about what will be assessed, and the explaining the meaning of the grade or score.

Besides to the above- mentioned advantages, some disadvantages of approaches and methods of qualitative research should be stated.

- In terms of research method, Harry & Lipsky (2014); Thompson (2011) elaborated that "smaller sample size raises the issue of generalizability to the whole population of the research". Berg and Lune (2012) commented that, "Qualitative research is a long hard road, with elusive data on one side and stringent requirements for analysis on the other" (p. 4).
- Non-use of numbers by qualitative researchers makes it difficult and impossible to simplify findings and observations. Researchers believe that the social world (phenomena and experiences) has many dimensions, hence explanations are based on the interpretations of the researcher (Leedy and Ormrod, 2014, p141; De Vaus, 2014, p5-7). In view of this, proper explanation cannot be given because the result depends on the explanation of the researcher at that time of which different researcher may give a different explanation. So, the research cannot be repeated by another researcher at another place and still get the same results (Williams and May, 1998, p1-21).
- Qualitative research approaches sometimes leave out contextual sensitivities, and focus more on meanings and experiences" (Silverman, 2010). " Bernstein (1974) stated that "the subjective method employed by the qualitative approach users may be wrong, inaccurate and misleading, (as cited in Cohen and Morrison, 2011, p.21). Researchers have imposed their understanding and interpretations of a situation on a specific time and place for others.

Advantages and disadvantages of quantitative research approach and method

Quantitative research has been defined by Bryman (2012) as followed "A research strategy that emphasizes quantification in the collection and analysis of data..." (p. 35).

Overriding priority positives of quantitative research might be effectively identified:

- The first positive and relevant step towards time -saving and resources for this research approach is to use statistical data. Bryman (2001) declared that "quantitative research approach is research that places particular emphasis on numbers and figures in data collection and analysis"(p20).
- Using scientific methods to collect and analyze data makes generalization possible. That is, according to Williams and May (1998) "the interpretation of research findings need not be seen as a mere coincidence" (p.1-21). More precisely, Lichtman (2013) elaborated that "the research approach basically relies on hypotheses testing, researchers need not to do intelligent guesswork, and rather they would follow clear guidelines and objectives" (p.4). Shank and Brown (2007) explained the main objective of guidelines "and can therefore be repeated at any other time or place and still get the same results (p.27).
- If the researcher is not in direct contact with the participants, the issue of researcher being bias may absolutely lead to employ both data collection and analyze. This concept has two possible interpretations: The objectivity of the researcher will not be compromised, or this may probably ensure respondent anonymity (Litchman, 2006, p8; Bryman, 2012, p408; Creswell, 2009, p.4; Muijs, 2004, p7-45).

The negative impact in quantitative area is concentrated on two main axes, as follows:

- Researcher detachment from the participants is an obvious weakness of the quantitative research approach. For that kind of researcher/ participant relationship, it will extremely difficult to obtain in-depth study of the phenomena in their natural environments. According to Berg (2007); Shank and Brown (2007); Christensen and Johnson (2012) state the substantive content that "he will neither understand the group or individuals working with him nor will he appreciate them"(p.4, p.63, p.35).
- Quantity and quality have a special role as an instrument of change for any educational research. Dabbs (1982) reported that "those two words cannot be neglected when explaining phenomena "(as cited in Berg and Howard, 2012, p.3). Since the linear and non-flexibility nature of the quantitative approach requires the researcher to follow a certain order. Start by setting the research question and hypotheses, conducts a literature review, collects data, analyses the data and summaries the result (Litchman, M. 2006, p7-15; Creswell, 2009, p17).

More in-depth supplemental explanations of further quotations sought from various sources

Both research paradigms are important since we are attempting to get the manifold solved of practical difficulties or problems encountering us in the field of education, particularly with respect to the collection of evidence that seek to meet the research needs, both textural and structural.

- In particular, Johnson, B., &Christensen, L. (2008) argued in detail that "Quantitative research often uses what might be called a "narrow-angle lens" (p.88).

Under this argument, this focus on only one or a few causal factors simultaneously. Researchers in this field are trying to hold constant the factors that are not being studied, where information is less in-depth, but more extensive across a great number of cases. Achieving this coherence would require innovative arrangements, but in light of laboratory circumstances, in which an experimenter randomly assigns participants to groups, manipulates only one factor, and then examines the outcome. Study the phenomena "from a distance" is what quantitative researchers are attempting to do.

Unlike quantitative research, the objective of qualitative research uses a wide- and deep-angle lens (Johnson, B., &Christensen, L.; 2008, p.88).

The accurate studies of various aspects of social unit enable researchers to understand previous and present social change in a good manner. In which understanding the dimensions and layers of reality, and how is all these dimensions are determined in a holistically is what researchers are trying to do to describe the group by studying behavior naturally and holistic way to provide more in-depth information on a few cases. "Get close" from the phenomena or their objects of study through the participant observations is what qualitative researchers are attempting to do; this in turn simplifies the process of configuring the conclusions.

- Qualitative and quantitative approaches should not be viewed as rigid, distinct categories, polar opposites, or dichotomies. Instead, they represent different ends on a continuum (Newman & Benz, 1998).

An adorable term exists to describe "worldview" as, "an essential set of beliefs that guide the work ". Quantitative researchers generally assume that there is a fact to be observed when working under an assumption of objectivity. Only those who have the same viewpoint to the phenomenon would mainly agree with its existence, its characteristics, try to remain as neutral and also avoiding human bias whenever possible. This can be done by studying the phenomena that concerned them "from a distance" by using standardized questionnaires and other quantitative measuring instruments that typically used to measure what is observed carefully.

The reality is socially constructed, to understand the subjective (individual) in which the phenomenon is studied by "get close" to their objects of study, participant observation could be experience for themselves, the subjective dimensions of the phenomena they study. That`s why the researcher is named instrument of data collection, because he asks the questions, collects the data, and records what is observed. That`s what makes the researcher generally tries to understand different points of view of the participants or citizens. Since it is interpretative approach, it requires detailed observation, explanation and assumes that it is impossible to define exactly what elements are important and crucial. It attempts to study the whole situation in order to evaluate the complexity and ensure that their conclusion take account of both unique and general factors.

- According to Toloie-Eshlaghy, A., Chitsaz, S., Karimian, L., & Charkhchi, R. (2011) 'Qualitative methods' is an umbrella term to cover the methods and techniques which haven't been able to be 'quantitative'.

As is known, qualitative research as a suited activity that detects and identifies the location of the observer in the real world Qualitative research methods since they provide alternative approaches in gathering knowledge about the practices (empirical world) involving a set of interpretive practices that make the whole world a better place and visible to assist in exploratory field

studies on things within a suitable environment. Qualitative method is, therefore, not only provided with enough means to explore such complex and chaotic real-life situations, but also it is provided with adequate and multiple methodological options about how to tackle such a setting according to one's identified research problem and long-term research goals.

- According to Koro-Ljungberg and Douglas (2008) "well - designed qualitative studies can answer research questions that cannot be answered through quantitative methods" (p.163–175).

One important characteristic in writing initial questions is focus. A qualitative researcher is not asking about any context but rather asking about 'the delicacy of its distinctions'. To conduct research studies, Qualitative study doesn't begin with a hypothesis or a presumed outcome as is the case of the quantitative study. Any study in this field must begin with a plan; this would not be 'acceptable' practical, because the majority of researchers are in desperate need of certain preliminary questions to confirm the starting point of an inquiry process.

Most of the researchers agree that the question effectively contributes to shaping of more inclusive form of research study so that, once good question has been asked, study begins. But it doesn't mean that good questions produce good research, constructed questions will likely create problems that affect all subsequent stages of a study. In this connection, it should be noted that the idea of qualitative inquiry is as a reflective process underscores the strengths of a qualitative approach and how the processes of generating and refining questions are critical to the shaping all phases of a qualitative study the inquiry process.

- According to Miles, M. B., Huberman, A. M., & Saldaña, J. (2013)" this confidence to data is based on the fact that data are collected in the real context or from the people with real experience .

Understanding of a person's social environment is essential for overall understanding of a qualitative study; hence, it is necessary for selecting the appropriate methods for the collection of data involved a format that helped increase understanding of the human experiences in the real life should be collected. The lack of sufficient knowledge for researchers at the beginning of a study where they will find their most trusted information, researchers were trying to examine several sources that lead them to consult several other sources for collecting both trustworthy and rich empirical data and then somehow converted into a written text that is suitable for further analysis. Since the main feature of well-collected qualitative data is related by ordinary events that occur naturally in natural settings, so that we have sound evidence on what is going on in the real setting.

- "anyone who is gathering information to answer the question (and so, solve the problem) is conducting research....". Gorard (2002a) .

Providing support, simplify the research process and introducing students to the notion that research is a process of 'finding things out' using a variety of techniques and tools was and is the overarching objective to extend the application of a vast variety of phenomena that might wish to know more about. Need for using adequate techniques depends primarily on the information one is trying to obtain (hence, the need to engage with quantitative as well as qualitative techniques); to emphasize the integrated and cyclical nature of research, and thus, of research techniques that it make an effective contribution to the coherence of the research techniques which would contribute to breaking down the traditional 'qualitative'/'quantitative' division, and polarised vision of research as either concerned with words or with numbers. The consequence of this dichotomy has been an increased feeling of fear and anxiety many students feel from quantitative data analysis because of its close association with maths and sums.

With respect to qualitative research studies typically require more time to design, collect, and analyse data and to report the results comparing to quantitative studies. So, methods selected for gathering data must be fit to research questions and fit to preferred style of inquiry. Using appropriate data collection methods can save time, decrease the effort, and increase meaningfulness of research findings.

Suggestions and recommendations

Although the form and status of the education that varies from one institution to another, there is a growing recognition of the need to be equipped to use quantitative and qualitative research methods in educational research. In this connection, there have been many sensible suggestions and recommendations for effective research.

- By going greater understanding of this research, we had hinted that when there is uncertainty or when the problem is not clearly defined, an exploratory research will be deployed and a qualitative study will be used. Unlike, we implement descriptive or casual research and use quantitative techniques for it, if there is little or no ambiguity and the status problem is structured.

- The prime reason for avoiding using of the quantitative research method is the poor long- term retention of the materials that have been covered, this problem is overcome by emphasizing on teachers and supervisors to be aware of and engage with students' views to help in providing a better educational experience for students. More engagements and new catalysts are now needed to enhance teaching and research in a professional and personal capacity to think 'statistically' in situations relating to quantitative analysis
- On the basis of classic and interactive research methods were used, it is proposed to reconceptualization teaching concepts in research methods of education student since the revision in methodology doesn't substantially impact the global totals.
- A create a methodical scheme or procedure to stimulate students attention by present of results for a small random studies that investigated student attitudes towards research methods in education and every research group studies a wide variety of topics.

Conclusion

Any researcher immersed in each of quantitative and qualitative area of research would be sure to take issue the commonalities and differences of the proposed approaches and methods of collecting data in the context. Quantitative information has thereby used as a good basis for exploring, recognizing the inherent limitations and complex assumptions under numbers with a view to producing a statistical report with correlations, significance, means, etc. and hard facts. Qualitative methods have in common one objective, which is generating new ways of seeing existing data. With the view to creating a theory or a theoretical framework for reflecting reality, rather from the perspective of the researchers or prior research results, one needs multiple methods for discovery of central themes and analysis of core concerns.

There is also a flip side of each of these suggestions. If one knows what is being hypothesized and what could possibly has found, if one does not need to know the complexity of others' understandings, if one is testing prior theory rather than constructing new frameworks, or if one is simply describing a situation rather than deeply analyzing it, it is possible that one should not be working qualitatively. The best advice at this point is to review the general objective, context and the scope of the review and whether they could possibly be dealt with. Although the methods may not be as complete and up-to- date as desired, certain distinctive ways of thinking are entailed. To conclude, to ask or which is "better" or more "valid", or whichever approaches might be offered multiple advantages in the area of research and development.

Simply selecting adequate approaches and methods should not be adapted according to whether they are appropriate to some pre-given and fixed research problem; both problem and methods must be reshaped iteratively to address problems faced by the researcher in continuing research activities.

Acknowledgement

I would like to acknowledge effort made by my inspiring, stimulating supporter (Safeer AL- Hussain: Muslim Bin- Aqeel) in giving me his firm and valuable support on this paper.

REFERENCES

- Berg, B. L. (2007). *Qualitative Research Methods for the Social Sciences*. (6th ed). USA: Pearson Educational, Inc.
- Berg, B. L. & Howard, L. (2012). *Qualitative Research Methods for the Social Sciences*. (8th ed). USA: Pearson Educational Inc.
- Berg, B. L., & Lune, H. (2012). *Qualitative research methods for the social sciences*. Eight edition. Amerika: Pearson.
- Bridges, G. S., Gillmore, G. M., Pershing, J. L., & Bates, K. A. (1998). *Teaching quantitative research methods: A quasi-experimental analysis*. *Teaching sociology*, 14-28.
- Bryman, A. (2001). *Social research methods*. New York: Oxford university press.
- Bryman, A. (2012). *Social research methods*. New York: Oxford University Press Inc.
- Carr, L. T. (1994). The strengths and weaknesses of quantitative and qualitative research: what method for nursing?. *Journal of advanced nursing*, 20(4), 716-721.
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches*. Thousand Oaks, CA: Sage Publications, Inc.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods research*. Thousand Oaks, CA: Sage Publications, Inc.
- and mathematics anxiety in mathematics problem-solving efficiency. *Learning and Individual Differences*, 20(3), 276-283.
- Cohen, L., Manion, L. & Morrison, K. (2011). *Research Methods in Education*. (7th ed). London: Routledge.
- Corbin, J., & Strauss, A. (2008). *Techniques and procedures for developing grounded theory*. *Basics of Qualitative Research*, 3rd ed.; Sage: Thousand Oaks, CA, USA.
- Connolly, P. (2007). *Quantitative data analysis in education: A critical introduction using SPSS*. Routledge.
- Denzin, N. K. (1989). (1989a). *Interpretive interactionism*. Newbury Park, CA: Sage.
- De Vaus, D. A. (2014). *Surveys in social research*.(6th ed).Australia: UCL Press.
- Geertz, C. (1973). *Thick description: Toward an interpretive theory of culture*. *Turning points in qualitative research: Tying knots in a handkerchief*, 3, 143-168.

- Gorard, S. (2002a). Fostering Scepticism: The Importance of Warranting Claims. *Evaluation and Research in Education*, 16 (3), pp. 136-149.
- Guba, E. G. (1990). *The paradigm dialog*. New-bury Park. Cal.: Sage Publications.
- Hammersley, M. (2007). The issue of quality in qualitative research. *International Journal of Research & Method in Education*, 30(3), 287-305.
- Harry, B., & Lipsky, M. (2014). Qualitative research on special education teacher preparation. M. McCray, T. Brownell, & B. Lignugaris/Kraft (Eds.), *Handbook of research on special education teacher preparation*, (pp. 445-460.)
- Janesick, V. (2000). The choreography of qualitative design: Minuets, improvisations, and crystallization. In *Handbook of qualitative research*, ed. N.K. Denzin and Y.S. Lincoln, 379–99. Thousand Oaks, CA: Sage.
- Jonson, B., & Christensen, L. (2008). *Educational research: qualitative, quantitative and mixed approach*.
- Johnson, R. B., & Christensen, L. (2012). *Educational research: Quantitative, qualitative, and mixed approaches*. (4thed). California: SAGE Publications.
- Koro-Ljungberg, M., & Douglas, E. P. (2008). State of qualitative research in engineering education: Meta-analysis of JEE articles, 2005–2006. *Journal of Engineering Education*, 97(2), 163-175.
- Labaree, D. F. (2004). *The trouble with ed schools*. New Haven, CT: Yale University Press.
- Leedy, P. D., & Ormrod, J. E. (2001). *Practical Research: Planning and Design*, Merrill Prentice Hall. New Jersey.
- Leedy, P., & Ormrod, J. E. (2014). *Practical research: Planning and design*.(10th ed).Edinburgh: Pearson Education Inc.
- Leung, C. (2012). Qualitative research in language assessment. *The Encyclopedia of Applied Linguistics*.
- Lichtman, M. (2006). *Qualitative research in education: A user's guide*. Sage publications.
- Lichtman, M. (2013). *Qualitative Research in Education. A User's Guide*. (3rd ed). USA: Sage Publications.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newberry Park, CA: Sage.
- May, T. & Williams, M. (1998). *Knowing The Social World*. Buckingham: Open University Press .
- Maxwell, J. (2005). *Qualitative research: An interactive design*. 2nd ed. Thousand Oaks, CA: Sage.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2013). *Qualitative data analysis: A methods sourcebook*.(3rd ed .(SAGE Publications, Inc. Thousand Oaks, CA, USA.
- Muijs, D. (2004). *Doing Qualitative Research in Education with SPSS*. London: SAGE Publication. Murtonen, M., & Lehtinen, E. (2003). Difficulties experienced by education and sociology students in quantitative methods courses. *Studies in Higher education*, 28(2), 171-185.
- Newman, I.& Benz, C. R., (1998). *Qualitative-quantitative research methodology: Exploring the interactive continuum*. SIU Press.
- Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd Edtn). Thousand Oaks.
- Ponsford, B. J., & Masters, L. A. (1998). How To Use Focus Groups in Higher Education Research. *College and University*, 73(3), 2-9.
- Shank, G., & Brown, L. (2007). *Exploring educational research literacy*. New York: Routledge.
- Sherman Robert, R., & Webb Rodman, B. (1990). *Qualitative Research in Education: Focus and Methods*. London: Falmer Press.
- Silverman, D. (2010). *Qualitative research*. London and Thousand Oaks.
- Spradley, J. P. (1979). *The ethnographic interview*. New York: Holt, Rhinehart & Winston. LeCompte, MD (2000). *Analyzing Qualitative Data*. *Theory into Practice*, 39(3), 146-156.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quantitative approaches*. Thousand Oaks: Sage.
- Thompson, N. (2011). *Effective communication: A guide for the people professions*. (2nd ed): Palgrave.
- Toloie-Eshlaghy, A., Chitsaz, S., Karimian, L., & Charkhchi, R. (2011). A classification of qualitative research methods. *Research Journal of International Studies*, 20(20), 106-123.
- Wolcott, H. F. (1973). Reference groups for researchers in anthropology and education: A symposium. *Council on Anthropology and Education Newsletter*, 4(1), 11-11 .