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EXPLORING QUANTITATIVE VS. QUALITATIVE RESEARCHES: A COMPARATIVE STUDY

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ABSTRACT
Research methodologies play significant part in developing highly impactful researches. Methodologies in research directed the researchers on the structure, design and processes. This study explored teachers' views and insights in using quantitative and qualitative researches in administering education-related researches. It employed a phenomenological research design which was participated by 100 randomly selected public elementary school teachers in the Philippines. The validated guide questions were used in the conduct of structured interviews. Findings showed that teachers viewed quantitative researches as more objective, generalized and exact measurement of conditions however, they also viewed that quantitative researches had limitations including rigidity and misinterpretation. Further, results of the study revealed that teachers viewed that developing qualitative researches imposed in-depth analysis and detailed insights into participants' thoughts and feeling and reflective of participants contextual insights. Also, teachers viewed that qualitative researches had limitations such as subjectivity and limited generalizability as against quantitative researches. Hence, a proposed intervention program was developed in order to develop teachers' competence in writing quantitative researches and qualitative researches.

Keywords:
Research, quantitative, qualitative, views, objectivity, subjectivity, limitation, conditions, insights

INTRODUCTION

Teachers are commonly regarded as explorers of knowledge and discovers of truth specially when circumstances they are confronted with, are strongly related to the development of their learners. In the current academic landscape, research writing has not been confined on four corners in the halls of graduate school levels, but this extends to the surfacing situations in the field of education. While teachers are the fundamental builders of knowledge and agents of transformation whereas their instructional competence are measured by the manner how they deliver instruction and provide effective learning outcomes to their learners, it is viewed as an imperative component of their holistic competence that research writing becomes one of its core elements. Writing research involves herculean tasks where it is made meticulously following a highly intricate processes and procedures encapsulated by scientifically designed methods and tools which researchers are obligated to follow. In this line, in the field of education, research writing becomes one of the critical requirements which teachers have to endure in order to respond with the ever-evolving pedagogical landscape. Following this line, writing research is progressive academic tasks of teachers where they are expected to contribute to the continued development of knowledge and wisdom through scientific undertakings. As teachers gradually engaged in research writing which they learned through professional studies, trainings, workshops or personal undertakings, they are also expected to form relevant research which is to be of great help to respond with the changing situations in the educational landscape. As far as this study is concerned, the vitality of research writing lies in

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the very notion that academicians and scholars like teachers are expected to prevent stagnation as knowledge and truth are continually flowing within very fibers of societal landscape. When teachers administer they research works, they find it as challenging tasks which add burden to their work loads. Research writing does not only an extension of work but also a professional drive of teachers who are also seekers of truth and relevant knowledge. In this regard, the proper selection and use of relevant research methods has always been a perennial challenge for teachers who are doing their research works. Although teachers are basically founded with the fundamentals of research writing but still, there are challenges and difficulty emerge in the proper selection and implementation of research methods under a specific context in a certain research work. Based from the observations of the researchers, they find that most the teachers are afraid of pursuing a research undertaking as they perceived that research writing is tedious and critical process. Added to this, the researchers also observed that teachers put less emphasis on the proper selection and use of research methods which should have been primarily considered at the initial formulation of their research works.

Consequently, teachers although they hold basic knowledge or even, advanced knowledge in writing a research work, there are also great numbers of teachers who are still confused as to what method to be used, when it shall be used and how it would be applied based on the context and nature of their research undertaking. This circumstance is supported by the researchers' consistent observations. While teachers know the primary structure and form of a research work, still they are challenged in the proper selection and use of research methods specifically in distinguishing quantitative and qualitative methods. Notably, the researchers observed that there are teachers who are using qualitative method in spite the fact that their research context and nature supposed to be conducted or administered using quantitative method and *vice versa*. The distinction between the quantitative and qualitative researches is diversely perceived by many scholars. Along with this, the significance of understanding the distinctions between quantitative and qualitative research enabled teachers and scholars to choose proper methodology and contribute to the wider discourse on research practices (Katono, 2025). Teachers, students and researchers have wide varieties of knowledge about quantitative research design most of them perceived qualitative research design as a gray area (Salvador, 2016). Quantitative and qualitative approaches make different assumptions about the world about how science and development should be conducted and about what constitutes legitimate problems (Cleland, 2015). The characteristics of qualitative research are elucidated through illustrative examples emphasizing its naturalistic, inductive and bottom-up approach while quantitative research is characterized by its scientific, deductive and top-down approach (Jensen, 2020). Complimentary distinction on understanding of the notion of approach emphasizing quantitative and qualitative researches, is fundamentally different in terms of forms and domains (Landrum & Garza, 2015). In addition, qualitative research is a process of naturalistic inquiry that seeks an in-depth understanding of social phenomena within their natural settings while quantitative research is the dominant research framework in the social sciences as it contained set of strategies, techniques and assumptions used to study psychological, social and economic processes (Ahmad et al., 2019).

Apparently, the researchers find a strong knowledge gap based on their previous studies cited as such studies only focused on the perceptions and views of distinct researchers in the field of social sciences, medicines and history. They also find the cited studies only focused on the determination of professionals' view but put less interests in determining the perceptions of teachers between quantitative and qualitative researches. With this gap, researchers filled this knowledge gap as this study explored teachers' views and insights in using quantitative and qualitative researches.

OBJECTIVES

This study explored teachers' views and insights in using quantitative and qualitative researches in administering education-related researches among the selected public elementary schools in the Philippines.

METHODOLOGY

This study employed a phenomenological research design which used developed questions in the conduct of structured interviews. The study used a simple random sampling to select the participation of 100 public elementary school teachers in the Philippines. In the construction of guide questions used for structured interview, the researchers developed twenty (20) questions whereas ten (10) questions for teachers' views while another ten (10) questions for their insights in using quantitative and qualitative researches in administering

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education-related researches. There were three (3) experts in phenomenological research who validated the developed guide questions. They rated the developed questions as "outstanding" which signified that the questions were congruent to the established research objectives of this study. On one hand, as to the data collection, the researchers underwent a thorough process whereas they have allotted 10-15 minutes for each participant and provided specific schedule based on the participants' availability. Each participant was invited for a structured interview through Zoom Teleconferencing. When all participants expressed their responses, the researchers encoded their responses. At the onset of the structured interview, the researchers administered a short briefing and provided them a soft file of informed consent. Once the participants voluntarily agreed to participate in the study, formal structured interview commenced. Thus, all the recorded responses were transcribed. Colaizzi's method was used in order to extract meaning from the coded statements found to be significant by the researchers. Then, the researchers validated the extracted statement through the expertise of a rater. Then, upon the validation and approval of the rater, the researchers proceeded with the presentation of major themes and subthemes. On the other hand, the researchers complied with the highest ethical standards in the conduct of phenomenological research following the provision of informed consent, administration of short orientation among the participants, concealment of identities and proper storage and destruction of the gathered qualitative data.

RESULTS AND DISCUSSION

On Teachers' Views on Quantitative Research in Education. Participants as scholars and researchers in the field of education and who, obtained significant experiences in administering researches related to education employing quantitative and qualitative methods, they expressed that quantitative research is more objective and precise method to use when measuring various conditions within the pedagogical landscape. This perception is anchored on their experiences as quantitative method provided a structured framework where it heavily and solely relies on statistical analysis and numerical data to draw concrete conclusions under their completed research works. Along this line, the participants also expressed that quantitative research is strongly viewed as relevant method to produced highly generalized findings that could be applied across different contexts. Also, the findings implied that teachers perceived quantitative researches to be of greater reliability thereby imposing a strong quantifiable variable that enabled them to identify the trends and comprehensive examine the conditions and test theories leading to profound output. With these identified perceptions forming the strength of a quantitative method, the findings also showed that teachers perceived this method to have inherent limitations where it contained rigid forms restricting largely the exploration of nuanced conditions which may affect the results of the quantitative studies conducted. Thus, oversimplification is also viewed as limitation of quantitative research where lack of depth and contextual understanding are presented. Mostly, the participants expressed that using quantitative research, sometimes it caused for a failure to significant deduce the actual conditions and translate the same to a more scientific value. Further, quantitative research is also viewed by teachers for having a potential misinterpretation of data in which the participants are worried on the numerical outcomes of their research works. Accordingly, the results showed that participants' viewed that reliance on standardized measures could also lead to narrow focus where significant aspects could be disregarded. As expressed by one of the participants:

"I am always using quantitative method because it is objective and easy to undertake."

Another participant mentioned that:

"Although I am fascinated in the application of quantitative research, I somehow found this method to have oversimplify my results."

Also, a participant agreed that:

"While it is commonly used and convenient for me, quantitative research may not actually represent the way I thread my study, based only on my experience."

Results of the study supported the study of Vernikoff and Reagan (2024) which revealed that quantitative research in education is often perceived to be objective or neutral. Thus, it has been and continues to be used to perpetuate inequities arise as both intended effects and unintended effects of traditional quantitative research.

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On Teachers' Views on Qualitative Research in Education. Participants' viewed qualitative research as a valuable approach that provided them in-depth analysis and detailed insights pertaining to the nature and form of the research work relative to education. Accordingly, participants viewed that qualitative research enabled them to explore the complexities of human experiences where they were able to capture the nuances of individual perspectives which quantitative research fails. In addition, the findings showed that teachers viewed qualitative research in education as reflective of their research participants' contextual and meaningful insights which provided them a large and richer understanding of the nature of their work. With the employment of interviews, focus group discussions and observations, the participants emphasized that qualitative methods could uncover the emotional responses and actual experiences of their research's participants which has been commonly defeated when quantitative research is utilized. On one hand, similar to quantitative research, the findings also revealed that the participants recognized certain limitations under qualitative research including its subjectivity and limited generalizability. The subjectivity of this type of research meant that the presentation of findings could be heavily influenced by the researchers' interpretations and biases affecting also, the validity and strong reliability of the research work. Further, as qualitative research is a non-numerical research, the findings showed that the participants viewed the same as being challenged to impose generalized results to larger populations. In other words, qualitative researches' findings could not easily used and applied in a broader settings or limiting its applicability. On one hand, the findings also revealed that teachers' viewed this method as time-consuming whereas it often involved extensive data collection and analysis where teacher-participants treat it as voluminous task for data collection. As expressed by one of the participants:

"I enjoyed using qualitative method because I can really extract different insights from my participants."

Another participant shared that:

"It is really advantageous to use qualitative research but it really needs serious amount of time to finish specially in the data collection process."

Also, one participant mentioned that:

"Time-consuming and difficult to analyze different statements shared by my participants as I conducted qualitative research before."

Results of the study supported the study of MacNeill et al. (2016) which concluded that participants' relationship in qualitative research was viewed as somewhat important in stimulating thinking, in-depth analysis of their experiences and comprehensive exploration of the conditions surrounding the experiences of the participants.

On Proposed Intervention Program. Research Skills Enhancement: Better Understanding on Quantitative and Qualitative Researches. The primary goal of this proposed program is to improve teachers' proficiency in designing, conducting and analyzing bot quantitative and qualitative research. It will include significant activities such as: (1) workshops and training sessions, (2) collaborative research projects, (3) mentorship and (4) research development. Apparently, this program is expected to increased teachers research competence, developed critical analysis when doing research and develop teachers' research engagement.

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CONCLUSION

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Teachers viewed quantitative researches as more objective, generalized and exact measurement of conditions however, they also viewed that quantitative researches had limitations including rigidity and misinterpretation. Further, results of the study revealed that teachers viewed that developing qualitative researches imposed in-depth analysis and detailed insights into participants' thoughts and feeling and reflective of participants contextual insights. Also, teachers viewed that qualitative researches had limitations such as subjectivity and limited generalizability as against quantitative researches. Hence, a proposed intervention program was developed in order to develop teachers' competence in writing quantitative researches and qualitative researches.

REFERENCES

[1] Ahmad, S., Wasim, S., Irfan, S., Gogoi, S., Srivastava, A., & Farheen, Z. (2019). Qualitative V/s. quantitative research- A summarized review. *Journal of Evidence Based Medicine and Healthcare*, *6*(43), 2828–2832. https://doi.org/10.18410/jebmh/2019/587

[2] Cleland, J. (2015). Exploring versus measuring: Considering the fundamental differences between qualitative and quantitative research. *Researching Medical Education*, 1–14. https://doi.org/10.1002/9781118838983.ch1

[3] Jensen, K. B. (2020). The complementarity of qualitative and quantitative methodologies in media and Communication Research. *A Handbook of Media and Communication Research*, 328–348. https://doi.org/10.4324/9781138492905-24

[4] Katono, I. W. (2025). Differences between qualitative and quantitative research paradigms. *Exploring Qualitative Research in Business*, 29–70. https://doi.org/10.4018/979-8-3693-7698-0.ch002

[5] Landrum, B., & Garza, G. (2015). Mending fences: Defining the domains and approaches of quantitative and qualitative research. *Qualitative Psychology*, *2*(2), 199–209. https://doi.org/10.1037/qup0000030

[6] Salvador, J. T. (2016). Exploring quantitative and qualitative methodologies: A guide to novice nursing researchers. *European Scientific Journal, ESJ*, *12*(18), 107. https://doi.org/10.19044/esj.2016.v12n18p107

[7] Vernikoff, L., & Reagan, E. M. (2024). Interrogating side effects in critical and Quantitative Research in Education. *Review of Research in Education*, *48*(1), 191–219. https://doi.org/10.3102/0091732x241255093

[8] and research design. *High Mobility in Europe*. https://doi.org/10.1057/9781137447388.0008