Compare and Contrast Paper

Name

Professor

Course

Date

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**Introduction**

Research is a field that allows for the step-wise investigation of material and sources to find out new facts and make new conclusions. There are two main methods of conducting research – qualitative and quantitative methods. The quantitative research method is used where the problem is quantifiable such that data can be used in numerical form. There are often two variables – independent and dependent variables. The qualitative research method is also a scientific research process that focuses on non-numerical data. As such, the measure or count of variables or things is ignored but rather the meaning, attitude, behaviors, and other concepts that are not attached to numerical aspects are investigated. To better understand research methods, we shall analyze the definition and description, explain the similarities and differences, determine the strengths and weaknesses, and relate qualitative and quantitative research methods to different study designs.

**Discussion**

**Definition and Description**

To better understand the qualitative and quantitative research methods, there is a need to fully define and describe the methods. To begin with, quantitative research is a research method that deals with the analysis of variables and their quantification to get the desired results (Apuke, 2017). As such, quantitative research has a thorough look at numerical data and the utilization of various numerical data analysis techniques to validate or nullify a hypothesis. The main questions that quantitative research method answers deal with the what, how much, and how many among others. The data that is gathered for use in quantitative research is in numerical form and analyzed mathematically by the use of statistical tools (Creswell, 2003). The use of statistical tools helps to quantify or refute an alternative for the claims.

There are various aspects of quantitative research that have to be considered. To begin with, quantitative research is very methodological. The first step is the definition of a problem which enables the formulation of a research question or the hypothesis. Any relevant literature is then reviewed to identify the gaps that are to be filled. Finally, quantitative analysis is conducted. To add on, experiments are included in quantitative research where there are instruments for statistical data analysis (Williams, 2011). Therefore, through quantitative research, we can have an accurate assessment of cause and effect for making accurate predictions.

Looking at qualitative research, it can be defined as a research method that focuses on exploring a problem from the perspective of the subjects. Qualitative research is used to explore the various social interactions and processes by providing an in-depth understanding of the subject. As such, qualitative research is personal as the researcher has to engage the subjects in their natural setting through open-ended interviews or conversations to better understand the scope of the problem. Quantitative research is more exploratory since it looks at answering the why questions rather than the quantitative how many questions.

**Similarities and Differences**

Quantitative research methods have some similarities and differences. To begin with the differences, qualitative research aims at interpreting social phenomena such as the cultural attitudes of the minority ethnic groups to the majority. On the other hand, quantitative research focuses on testing hypotheses, making predictions, and finding cause and effect relationships such as how many foreigners learn and speak fluent English in the US. To add on, qualitative research focuses on a small group of individuals to study that are purposefully selected whereas quantitative research can be conducted on a large group that is randomly selected. The variables studied in qualitative research focus on the whole whereas in quantitative research there are specific variables to be studied as part of the whole.

There are more differences. The data collected in qualitative research focuses on words, objects, and images whereas the data collected in quantitative research focuses on numbers and statistics. Similarly, quantitative research focuses on finding relevant statistical relationships for example 80% of the foreigners in American are not conversant in the English language. Qualitative research focuses on finding themes or patterns in the data collected. For example, from the responses of minority group members on their attitude towards majority populations, one may find that the tyranny of numbers intimidates minority groups which influences their attitude.

Some similarities exist for both research methods. Both methods require participants to offer raw data. For qualitative research, the participants may be people while for quantitative research it is numbered from a reliable source. Both research methods also measure data only that qualitative uses words and actions while quantitative uses statistical methods. Both research methods also work hand-in-hand. Qualitative research can be used to identify a problem while quantitative research can be used to determine the cause and effect relationship. Finally, both research methods require that the data retrieved is analyzed.

**Strengths and Weaknesses**

There are various strengths and weaknesses of both research methods. To begin with quantitative research, some of the strengths include a generalization of findings, easy analysis, and consistency. The findings of quantitative research can be generalized into a larger population if the research method is well designed. The use of statistical processes analyzes the raw data easily since the processes are methodological. Finally, where the participants are truthful the data retrieved is consistent, reliable, and can be reconstructed. Some of the weaknesses of the research method include the difficulty in understanding the context since the research is focused on specific numerical variables. In some instances, the data is difficult to access due to geographic or time limitations. Finally, some of the data may not be robust enough to give an accurate explanation of complex issues.

When dealing with qualitative data, there are some strengths and weaknesses to consider. To begin with the strengths, qualitative research methods can help complement quantitative research, provide more detailed information, can gather sensitive data, and is cost-efficient. Qualitative research methods can be used to explore quantitative results further or to define a problem better for quantitative research to be applied. Through open-ended interview questions, qualitative research can be used to gather more sensitive information from participants to elaborate on issues. Finally, since the method uses the little number of participants, it can be more cost-efficient as compared to quantitative research. Some of the weaknesses include the low ability to generalize the findings since they are highly specific to individuals. There is also no clear analysis path and depends heavily on the ability of the researcher to collect and interpret the data. Finally, the process of data collection is highly time-consuming since the researcher has to focus on each participant at a time.

**Study Designs**

Various study designs are used for both quantitative and qualitative research methods. Two study designs used for qualitative research are phenomenology and case study. Phenomenology looks at the study of events, experiences, and situations among other phenomena (Astalin, 2013). On the other hand, case studies are analysis of various factors from a holistic point of views such as people, projects, or policies. They can be descriptive or explanatory. When it comes to the quantitative research method, two study designs are descriptive and correlations study designs. Descriptive study designs focus on the analysis of the status of a variable by providing systematic information. Correlation study designs look at determining the relationship between one or more variables based on statistical data. The quantitative research methodology aligns with my study topic, "how to improve job satisfaction for special education teachers and how it examines the level of burn out experienced by those teachers" since the topic seeks to find quantifiable relationships between various elements. Moreover, the correlation study design aligns with the topic as the relationship between job satisfaction and burn out level is examined as variables.

**Conclusion**

In conclusion, qualitative and quantitative research methods have various characteristics that make them appropriate for use in different situations. By analyzing the various elements of both research methods, we can understand the situations where they can be used. Moreover, for my research topic, the correlation study design of quantitative research is appropriate since the data that I am looking for is numerical and the relationship between two variables can be identified using the research design.

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