

Final Exam

- 1. What is the difference between qualitative and quantitative research? Include mention of possible differences in purpose, method, data sources, and data analysis.**

Quantitative research: in this type of research it is the researcher who “decides what to study, asks specific, narrow questions, collects numeric data from participants, analyzes these numbers using statistics, and conducts the inquiry in an unbiased, objective manner”.

Qualitative research: Here, “the researcher relies on the views of participants, asks broad questions, collects data consisting largely of words from participants, describes and analyzes these words for themes, and conducts the inquiry in a subjective, biased manner” (p. 39).

From this quote we see that the differences between these researches lies in the purpose where the first is specific and narrow with measurable data and the latter is general, broad and focused on the participants’ experiences. The major difference between qualitative and quantitative methods lies in the researcher’s perspective and the sampling style. In quantitative, for best results a random sampling is chosen where a sample is selected to represent a population. In qualitative, however, there is purposeful sampling where the researcher selects the people or site that can best help in understanding the phenomenon. Finally, in data analysis qualitative research uses text analysis where the data is described, analyzed, coded, collapsed, and themes are developed. In quantitative research, the analysis is statistical, it is a description of

trends, comparison of groups, or relationships among variables and there is a comparison of results with predictions and past studies.

2. Write the essential elements required in a Method Section for an intervention research study.

The methods section should begin with a literature review followed by a statement of purpose and the research question. The method section is made up of several parts including:

- Design of the study: include how participants were selected for the study and in this case the best assignment is random for most validity. Participants are assigned to a group and a pre and post test are administered.
- Sample: Who will participate in the study, from teachers to students to parents, and the setting where the participants are located.
- Materials: what the researcher intends to use in the study whether in the experimental or controlled group.
- Data sources: all the dependant variable and measures used to collect data are described in this section
- Procedure: a detailed step by step description of what will be done by whom and when.
- Reliability or Treatment Fidelity or Treatment Integrity: a section in which a description of how the researcher ensures that the procedures were implemented faithfully and shows how the researcher made sure that all observers recorded what they saw reliably.
- Scoring of Data is also a section typically added in intervention studies that describes precisely how all the data sources were scored.

- Proposed data analyses (usually a brief description identifying major proposed analyses by data sources

3. **Examine the following quantitative research question: “Do fifth grade students who participate in a supplemental daily calendar math program learn more math content as demonstrated on the Virginia SOLs than those who do not receive this supplementary math program?”**

What is the independent variable? The daily calendar math program

What is the dependent variable? Results on the Virginia SOLs

4. **List and describe each step in the Human Subjects review process at GMU (include all items from the GMU protocol in your response).**

An HSRB application must be completed in full. There is a cover page followed by protocol information which must be completed then forwarded along with any and all supporting documents to the Office of Research Subject Protections. On the cover page information such as project title, information on principle investigator (faculty) and co-investigator (student researcher), status, a short abstract, and a checklist of the types of subjects involved, identifiable data and research design.

The protocol information that follows asks specific question and for elaborations on

1. The abstract: where it asks for the aim and specific purpose of the research and the involvement of human participants, the characteristics of the sample, the criteria for inclusion or exclusion and the relationship of the researcher to the participants if any.

2. Protocol of involving human participants: this section is made up of ten questions which are used to clarify to the HSRB board how human subjects will be involved.

Questions in the section ask about benefits to the participants, participant recruitment,

obtaining consent, compensation of participants, the involvement of minors and use of assent and consent forms, a description of what participants will be asked to do, the maintenance of confidentiality, any risks to the participants, the use of audio or video recording, and finally if participants will be misinformed/ uninformed about the study and a justifiable reason if so.

3. Informed consent: all consent documents must be attached. This includes documents for guardians, teacher, students or any human subject involved written in clear easily understood language.

4. Instruments: a copy of any/ all instruments used in the study along with a brief description.

5. Approval from cooperating institutions/ organization human subjects' board.

6. Protocol involving existing records: if existing data will be studied a description of the data set, permission from the owner of the data if it is not public, how confidentiality will be maintained and what is being extracted from the data set all need to be provided clearly in this section.

5. Describe the report writing process in both qualitative and quantitative research. What features do they have in common, and how might they differ?

Discuss with reference to examples of qualitative and quantitative research.

In quantitative, there is a standard, fixed structure and evaluative criteria. The researchers take an objective and unbiased approach. This design should have an extensive literature review, strong research questions and hypotheses, impartial data collection procedures, appropriate statistical procedures, and interpretations that naturally follow from the data. The researcher must make sure that his own personal biases and values do not influence

the results, use instruments that have proven value and are reliable and valid. Use a control for all variables that might introduce bias into a study. And finally, report research without referring to ones self or to personal reactions. For example in my quantitative study titled “Identity development and Arab Third Culture Kids” there is an extensive literature review in the beginning, the whole study shows an objective tone, proven instruments are used to measure variables, and an extensive statistical procedure is used to built objectivity. (That is my ultimate plan for the study).

In qualitative, a flexible, emerging structure and evaluative criteria is used, the researcher takes a subjective and biased approach. A wide range of formats is used to report the studies; reports are realistic and persuasive to show that the study is an accurate and credible account. Here, the reports have an extensive data collection to show the complexity of the event. For example, in my qualitative paper titled “The Affects of ESL/EFL on the Saudi Female’s Identity” there is a literature review yet there is lots of subjectivity and bias on my part, although it can be felt through out the study it is strongly found in the researcher perspective section. There is a scientific approach to the study to show the importance and accuracy of the phenomenon.

Similarities include:

- follow the six steps in the process of research (research problem, literature review, purpose, data collection, analyzing data, and reporting research)
- In the research problem section both can be similar in the topics addressed, such as conveying a problem, pointing out the lack of literature on this problem, and justifying a need to study the problem.

- You collect data using interviews, observations, and documents. However, there is a difference between the types of interviews or observations used.

6. Describe procedures for optimal item construction in survey research, and procedures for obtaining a high response rate.

Question construction problems include: question is unclear, multiple questions, question is wordy, question is negatively worded, overlapping responses, unbalanced response options, mismatch between questions and answers, question includes overly technical language, and not all questions are applicable to all the participants. Pilot testing should be used on a small number of individuals in the sample, ask for written feedback on the questions (like Tina did), revise the survey based on the written comments, exclude the pilot participants from the final sample for the study.

Response rate: researcher should mail out or e-mail if possible original questionnaire with cover letter, follow it in two weeks with a second mailing of questionnaire to those who have not responded, follow again in two weeks with a postcard or another e-mail to non-respondents reminding them to complete the questionnaire. To improve response rate, make questionnaire more attractive, more professional and more personalized. The survey should appear easy to complete where written responses should be optional, bribe respondents, and make repeated contacts.

7. Describe the similarities and differences among grounded theory designs, ethnographic designs, and narrative designs. Define each carefully, and provide examples. Why might there be considerable overlap among these categories?

Grounded theory: a systematic, qualitative procedure used to generate a theory that explains, at a broad conceptual level, a process, an action, or interaction about a

substantive topic. Examples include systematic design, emerging design and constructivist design.

Ethnographic designs: qualitative research procedure for describing, analyzing and interpreting a culture-sharing group's shared patterns of behavior, beliefs, and language that develop over time. Examples include realist ethnography, case study ethnography and critical ethnography.

Narrative designs: researchers describe the lives of individuals, collect and tell stories about people's lives and write narratives of individual experiences. It studies a single person, gathering data through the collection of stories, reporting individual experiences, and discussing the meaning of those experiences for the individual. Examples include autobiographies, biographies, life writing, personal accounts, personal narratives, narrative interviews.

They are all qualitative studies, same in collecting research data, analyzing and interpreting data, and reporting and evaluating research

8. Discuss the process of data analysis in qualitative research, including exploring the data, developing themes from the data, coding data, and connecting themes. Describe also the role of the constant comparative method.

There are six steps involved in analyzing and interpreting qualitative data, they include:

1. Preparing and organizing the data: you begin this process by organizing the data into folders, cards or computer files. This is followed by the transcription of the recordings (audio, video) or field notes into text data.

2. Exploring and coding the database: you begin by exploring the data to gain a general sense. This is followed by the coding process which is a process of making sense of the

data and collapsing information into general themes. This process goes over the data many times in order to collapse the information into manageable general themes.

3. Describing findings and forming themes: here the aim is to answer the research question and form an understanding of the central ideas through description and the development of themes.

4. Representing and reporting findings: this process consists of displaying findings in tables and figures and constructing a narrative to explain and summarize findings in response to the research questions.

5. Interpreting the meaning of the findings: here the researcher steps back to form larger meanings based on personal views and past studies.

6. Validating the accuracy of the findings: member checks or triangulation is used to determine the accuracy and credibility of the findings.

Constant comparative: to slowly develop categories of information, it is an inductive data analysis procedure (in grounded theory) of generating and connecting categories by comparing incidents in the data to other incidents, incidents to categories, and categories to other categories. The overall intent is to ground the categories in the data. This process is used to eliminate redundancy and develop evidence for categories.