

participants and their setting to formulate a narrower research topic. This type of research is exploratory; therefore the focus of the study (i.e., narrow topic) will emerge during the process of research.

13) What is the most important problem with a research topic that is too broad? (p. 65)

It tends to result in a study that is typical, difficult to carry out and difficult to understand. The assignment of reviewing the relevant literature will be too time-consuming in addition to complicating the organization of the literature review itself.

14) When do quantitative researchers typically narrow their topic? (p. 65)

Quantitative researchers narrow their topic in the **beginning** of a study. A broad topic can lead to grief and complicates the organization of the literature review. Quantitative research typically requires that the researcher spell out a specific and manageable topic at the start of the research process.

15) When do qualitative researchers typically narrow their topic? (p. 65)

Qualitative researchers typically start the research process with a general topic in mind. It is not until after they have observed the participants and context over a period of time, that the researcher will then formulate a narrower research topic.

16) What is a researchable topic like and what is one that cannot be researched?

A research topic is **an issue in need of investigation**, and therefore must be **researchable**. A researchable topic is one that can be investigated through collecting and analyzing data. Problems dealing with **ethical** issues or matters of opinion are not researchable due to the fact that research cannot resolve these issues. In other words, research topics that contain the word "should" are often not very easy to answer or resolve and for that reason they are not good research topics.

There's also a third characteristic of researchable topics. A good research topic must have **significance or practical implications**. Significance could mean that the study will have some form of contribution to the improvement or understanding of educational theory or practice.

Fourthly, researchable topics **must not harm participants**. Researchers must consider the physical and emotional safety of the participants.

Lastly, given your current level of research experience and the time frame, the research topic should be **manageable**. You have to think about funding, resources/tools available to you, the number of participants you need, etc.

17) What are five characteristics of good topics? (p. 65-66)

- Select an **interesting** topic that will hold your attention for the duration of the research project.
- Select a topic that is **researchable**, in other words, that can be investigated by collecting and analyzing data.
- Select a topic that has **practical or theoretical significance**. That is to say, that contributes to the understanding or improvement of educational theory or practice.
- Select a topic that is **ethical**.
- Select a topic that is **manageable** for you, the researcher, and make sure you have the skill and resources to carry out the study.

18) What things do well-written quantitative research topics describe? (p. 66)

For a quantitative study, a well-written topic statement describes the variables of interest, the specific relations among those variables, and important characteristics of the participants. For example, fourth graders with learning disabilities would be a well-written topic statement.

19) How do qualitative research topics differ from quantitative ones in how they are stated? (p. 66-67)

Quantitative Research Topics

A quantitative researcher states a well-written topic statement at the start of the study describing the variables of interest, specific relations among the variables, and important characteristics of the participants.

Qualitative Research Topics

A qualitative researcher gives a more general topic statement because they need to spend time in the research context before the focus of the study is developed. A narrowed topic statement will appear in the research report after the researcher learns about the context and the participants.

20) Define the term “hypothesis”. (p. 70/71)

A hypothesis is **a researcher’s prediction of the results from the study**, a statement of the researcher’s expectations about the relations among the variables in the research topic, and typically derived from knowledge gained while reviewing the literature. Its aim is at extending knowledge.

21) A researcher does not seek to “prove” a hypothesis. What does a researcher try to do instead? (p. 70)

Rather than trying to prove a hypothesis, a researcher endeavours to collect

Focus on understanding the participants and the context. They may develop a "guiding hypothesis" through inductive reasoning to help focus the purpose and question. But, overall, the focus is on context and experiences/meaning experienced by each participant and qualitative research questions focus on data collection.

WEEK 3

1. What does the review of related literature involve? (p. 80)

The review of related literature involves systematic identification, location and analysis of documents containing information related to the research topic. The term review of related literature is also used to describe the written component of a research plan/report that discusses the reviewed documents. Reviews of related literature are usually in the intro section of a research study.

2. What kinds of documents are typically consulted in a review of the literature? (p. 80)

- articles (peer-reviewed journals),
- abstracts,
- reviews,
- books,
- reports,
- research,
- monographs,
- dissertations, and
- electronic media

3. What is the major purpose of reviewing the literature? (p. 80)

- The main purpose is to see what other studies have been conducted already that are relevant to the research topic of interest. It can prevent you from duplicating another person's work and help place your topic within a knowledgeable framework.
- It also provides further insight and understanding that could be beneficial for conducting a new study.
- provides the rationale for formulating hypotheses, prevent repeating mistakes done by other researchers, inspire new methods or strategies to collect data, and help facilitate interpretation of results.

4. As compared to quantitative researchers, how do qualitative researchers sometimes differ with how they regard and use the literature and why? (p. 81)

Unlike quantitative researchers who spend lots of time examining the research on their topics at the outset of the study, some qualitative researchers will not

a way that guarantees desired representation of relevant subgroups within the sample.

- In stratified sampling, samples are selected from subgroups in the population rather than the population as a whole – random sampling is done from each subgroup.
- "Strata" refer to the subgroups taken from the subdivided population. (Example: elementary school, middle school, and high school students and or teachers)

Example of Proportional Stratified Sampling:

- The target population of teachers is 5000
- The sample size 10% of all teachers = 500
- The variable of interest is female vs. male teachers
- Within the 5000 population, 40% are male (2000) and 60% are female (3000)
- Determine what 40% and 60% of the sample size (500) is you would get: 200 male and 300 female teachers respectively

14. When is stratified sampling the best approach? (p. 134-135)

Stratified sampling is the best approach to selecting a sample when you need to guarantee representation of subgroups within a population in your study.

Ensuring that your sample is representative of a population can mean ensuring that all groups within a larger population are adequately represented within your sample, under those circumstances a researcher would employ the stratified sampling technique.

15. What is "proportional stratified sampling"? (133)

Proportional stratified sampling is a type of random sampling and is the process of selecting a sample in such a way that identified subgroups in the population are represented in the sample in the same proportion in which they exist in the population. For example, a sample size of 100 teachers in a certain school district can be divided by class level (i.e., elementary school, high school) and their proportions may not be the same in each subgroup (75 % high school; 25% elementary school) and would incline the researcher to choose a stratified sample that is proportionate (75 high school teachers; 25 elementary school teachers). Some standard factors for this type of sampling may include race, gender, socioeconomic status, and level of education.

16. In contrast to proportional stratified sampling, what other kinds of groups can you have? (p. 133)

Asides from proportional stratified sampling, stratified sampling can be used to select equal-sized, and thus non-proportional, sample group sizes. There are equal and non-equal group selections that consist of different

sizes are present. If the sample is greatly underrepresented on a particular variable, the researcher should stratify on that variable (i.e., create a new sample using stratified sampling) because stratification can provide proportional or equal-sized samples. Sampling error results from random differences between samples and populations, and it is usually due to chance and beyond the researcher's control.

23.What is “sampling bias”? When does it occur? (p.140)

Sampling bias is a systematic sampling error, which occurs when some aspect of the sampling creates a bias in the data. The fault for this error usually rests on the researcher. Sometimes it can be difficult to secure approval for the best target sample. In some situations it may not be possible to avoid sampling bias, and so you'll have to address it within your study and discuss whether it will impact the results in any significant way.

24.What is non-random sampling? What is its main disadvantage? (p.140)

Non-random sampling (also called non-probability sampling) is the process of selecting a sample using a technique that does not permit the researcher to specify the probability that each member of a population has of being selected for the sample. These methods do not have random sampling at any stage of sample selection and can introduce sampling bias. There is one main disadvantage with regards to non-random sampling. When these samples are used, it is close to impossible to describe the population from which a sample was drawn and to whom results can be generalized. To compensate for this problem, researchers may obtain information from non-respondents.

25 What are three kinds of non-random sampling? (p.140, 141,145)

1 Convenience sampling (selecting whoever happens to be available)

- Also known as "accidental sampling" or "haphazard sampling"
- Example: randomly interviewing people that you conveniently encounter to participate in your study and they willingly participate
- Weakness: those who agreed to volunteer in your study will be recorded, but those who chose not to volunteer will be underrepresented; therefore, results are not generalizable to the population.

2 Purposive sampling (selecting a sample the researcher believes to be representative of a given population)

- Also called "judgment sampling"
- Example: if a researcher plans to study exceptional high schools, she can choose schools to study based on her knowledge of exceptional schools.
- Weakness: can be biased, or inaccurate

have zero questions answered correctly, they have equal intervals, as well as ordinal and nominal characteristics.

18.What is the relationship between dependent and independent variables? (pg. 152-153)

The dependent variable in an experimental study is the variable hypothesized to depend on or to be caused by another variable, the independent variable.

The dependent variable is the change or difference in a behaviour or characteristic that occurs as a result of the independent or grouping variable.

The independent variable is a behaviour or characteristic under the control of the researcher and believed to influence some other behaviour or characteristic. It is important to remember that the independent variable has at least two levels of treatments. Since it is a type of reinforcement, positive and negative reinforcement are the two levels of the variable.

For example:

"Teachers who participated in the new professional development program are less likely to express approval of new teaching strategies than teachers who did not."

1) Independent Variable: Whether teachers participated in professional development programs

2) Dependent Variable: Approval of new teaching strategies

19.What else is the independent variable sometimes called? (p.153)

The independent variable in a research study is sometimes called:

- The experimental variable
- The manipulated variable
- The cause
- The treatment variable

* Independent variables are always the hypothesized cause of the dependent variable

* Independent variables are primarily used in experimental research studies

* Independent variable must have at least two levels of treatments – it is a type of reinforcement (positive and negative are the two levels)

20.In what kind of studies independent variables are primarily used?

Answer: Independent variables are most often used in experimental studies. In experimental design, "the dependent variable in an experimental study is the variable hypothesized to depend on or to be caused by the independent variable". Because the independent variable is the cause, it is necessarily present in experimental studies.