



APRIL 27-30, 2020

## LESSON 7

TOPIC: **Determining the Research Design**

- **Qualitative Research Methods/Design**
- **Qualitative Research Methods/Designs**
- **Sampling Strategies/Techniques in Quantitative and Qualitative Research Methods**

### **Concepts of Research Method and Design**

Here are important concepts and definition that you need to learn according to Edmond & Kennedy (2013).

#### **Research Method**

This refers to the philosophical, theoretical, conceptual, and analytic perspective of research. It can be quantitative, qualitative, or mixed method.

#### **Approach**

Refers to the first step in creating structure to the design and it details a conceptual model or framework of how the research will proceed, considering the objectives and variables of the study.

#### **Design**

This refers to the plan, structure, and strategy of investigation so conceived as to obtain answer to research questions or problem. It is complete scheme or program of the research. It includes an outline of what investigators will do from writing the hypothesis and their operational implications to the final analysis of data. (Kerlinger; in Kumar, 2011)

### **Meaning and Functions of a Research Design**

The research design guides the researcher in planning the following aspects procedures of research:

- Identifying the population of the study
- Decision on whether to take the whole population or just select a sample
- How the sample of the study will be selected
- Ethics in the selection of samples and data gathering
- Choice of methods in data collection
- Consideration in the use of questionnaires
- How interviews will be conducted

### **Research Designs in Quantitative Method**

#### **1. Research Designs Based on the Number of Contacts**

**1.1. Cross-sectional studies** are commonly used in the social sciences. These studies aim to find out the prevalence of a phenomenon, situation, problem, attitude or issue, by taking a cross-section of the population.

It is a simple design wherein the researcher decides what he wants to find out, identify the study population, select a sample.

**1.2. The before and after design (also known as the pre-test/post-test design).** This design can measure change in a situation, phenomenon, issue, problem or attitude. The before and after design can be described as two sets of cross-sectional data collection points on the same population to find out the change in phenomenon or variable between two points in time.

**1.3. The longitudinal study design.** This is useful to determine the pattern of extent of change in a phenomenon, situation, problem or attitude in relation to time. Under this design, the study population is visited a number of times at regular intervals, usually over a longer period. Intervals may be as short as a week or longer than a year.

## 2. Research Design Based on the Reference Period

- 2.1. **The retrospective study design** is used to investigate a phenomenon, situation, problem or issue that has happened in the past. This study may be conducted either on the basis of the data available for that period or on the basis of respondents' recall of the situation.
- 2.2. **The prospective study design** attempts to establish the outcome of an event or what is likely to happen, such as the likely prevalence of a phenomenon, situation, problem, attitude or outcome in the future. Experiments are usually classified as prospective studies since the researcher must wait for an intervention to register its effect on the study population.
- 2.3. **The retrospective-prospective study design.** This applies to a study wherein available data are analyzed and used as bases of future projections. It does not involve control group. Trend studies fall under this category.

## 3. Research Designs Based on the Nature of the Investigation

- 3.1. **The experimental design** has an assumption of a cause-and-effect relationship. In this design, the researcher introduces the intervention that is assumed to be the cause of change and waits until it has produced the change.
- 3.2. **In the non-experimental design,** the researcher observes a phenomenon and attempts to establish what caused it. In this instance, the research starts from the effect or outcome and attempts to determine causation.
- 3.3. **A semi-experimental or quasi-experimental study** has the properties of both experimental and non-experimental studies; part of the study may be experimental and the other part non-experimental.

## Research Designs in Qualitative Method

### 1. Case Study

This is a dominant qualitative study design but also prevalent in qualitative research. A case could be an individual, a group, a community, at instance, an episode, an event, a subgroup of a population, a town or a city. To be called a case study, it is important to treat the total study population as one entity.

### 2. Grounded Theory

This is an approach to qualitative research data collection and analysis in the social sciences. As cited by Hennik, Hutter and Bailey (2011), grounded theory is not a theory itself; but a process for developing empirical theory from qualitative research that consists of a set of tasks and underlying principles through which theory can be built up through careful observation of the social world.

### 3. Phenomenology

This is a qualitative research design which studies all possible appearances in human experience using empirical methods to make empirically grounded statements that can be generalized. Various aims can be pursued such as describing phenomenon, or to evaluate an intervention or institution in the interest of knowledge production (Flick, 2011).

### 4. Ethnography

This is a research process which deals with the scientific description of individual cultures involving the origins, development and characteristics of human kind, including social customs, beliefs and cultural development (Wiersma and Jurs, 2009).

### 5. Mixed Methods

Refers to the research design that uses both qualitative and quantitative data to answer a particular question or sets of questions. In the mixed method design "words, pictures and narratives can be used to add meaning to numbers" (Biber, 2010)

## Sampling Strategies/Techniques in Quantitative and Qualitative Research Methods

According to Kumar (2011), sampling is the process of selecting a few (sample) from a bigger group (the population) to become the basis for estimating or predicting the prevalence of unknown piece of information, situation or outcome, regarding the bigger group.

Population in research refers to the distinct set that your study wants to focus on. This could be a group of people sharing a similar characteristic. For example, a batch of senior high school students such as yourselves is considered a population. Population can also pertain to members of a particular professional group, or people who share a common interest, a common experience. Another set of population could be places. Time periods and events could also be the population in research.

### **Sampling in Qualitative Research**

In qualitative research, investigators are generally concerned about the following (Ladner, 2008):

- Understanding the perspective of research participants
- Providing a rich and in-depth description of a social phenomenon

Because of these, the sampling focus is not so much on how many but on what would yield much depth in the study and what would bring insights into the realities, point of view, and interpretations of the topic under study. The sampling choice is therefore one of the key decisions to make when conducting qualitative research.

For example:

You wish to look into programs catering to children with special needs, so you consider contacting an organization working on this issue. You may decide to interview informants in the setting such as the social workers, house parents, and even some of the children themselves. You may also spend time with the organization to see activities they conduct with the children and observe the interactions.

Your sampling strategy will depend on what would yield the richest data, what would reveal the most insights about the phenomenon, or what would bring the most understanding of the complexities and nuances of the topic or give the most complete picture.

### **Types of Sampling (Kumar, 2011)**

- A. Probability Sampling
- B. Non-probability Sampling
- C. Mixed Methods Sampling

#### **A. Probability Sampling**

##### **1. Random/Probability Sampling Design**

This is a design wherein each element in the population has an equal and independent chance of selection in the sample. This concept of independence means that the choice of one element is not dependent upon the choice of another element in the sampling or the selection or rejection of the element does not affect the inclusion or exclusion of another.

Example:

If one of five close friends in a class was chosen but refuses to participate in the survey if the other four are not chosen, and the researcher therefore is forced to select either the five or none, then that sample will not be considered as independent sample since the selection of one is dependent upon the selection of the others.

#### **Main Advantages of the Random/ Probability Sample**

- As they represent that total sampling population, the inferences drawn from such samples can be generalized to the total sampling population.
- Some statistical tests based upon the theory of probability can be applied only to the data collected from random samples. Some of these tests are important for establishing conclusive correlations.

#### **Steps in Selecting a Simple Random Sample**

- Define the target population
- Identify an existing sampling frame of the target population or develop a new one.
- Assign a unique number to each element in the frame.
- Determine the sampling size
- Randomly select the targeted number of population elements.

## 2. Stratified Sampling (sometimes called quota random sampling)

This is a probability sampling procedure in which the target population is first separated into mutually exclusive, homogenous segments (strata), and then a simple random sample is selected from each segment from each segment (stratum). The samples selected from the various strata are then combined into a simple sample (Daniel, 2012).

## 3. Systematic Sampling (or interval random sampling)

In this sampling procedure, a random selection is made of the first element for the sample, then subsequent elements are selected using a fixed or systematic interval until the desired sample size is reached. For example, after a random start, the researcher may systematically select from a group of 100 students every third name appearing on the list of community volunteers from the school to be able to get a targeted sample of thirty-three students.

## 4. Cluster Sampling

This is a probability sampling procedure wherein elements of the population are randomly selected in naturally occurring groupings or clusters. In this kind of sampling, the selection of population elements is not individually but in aggregates. The clustering of sampling units may be based on geographical locations, type of organization or classes

## B. Non-probability Sampling

Major types of non-probability sampling designs

### 1. Availability Sampling

Under this sampling design, the sample elements are selected from the target population based on their availability, on the convenience of the researcher, and/or voluntary /self-selection. According to Daniel (2012), availability sampling is the most frequently used sampling procedure in research. Some reasons for this are: it is the least complicated sampling procedure. However, availability sampling has its weaknesses, such as; it cannot target specific elements of the population. It is least reliable; it does not represent population elements that are not readily accessible that are uncooperative and are hidden.

### 2. Purposive Sampling

This is non-probability sampling procedure in which the elements are selected from the target population on the basis of their fit with the purposes of the study and specific inclusion and exclusion criteria.

Different ways to utilize a purposive sampling strategy:

- **Extreme or deviant cases (Patton, 1980, 105)**

Example:

In looking at success and hindering factors in implementing a school health program, researchers may choose to look into the experiences of two well-performing schools and two poor-performing ones. These schools would ideally have conducted the school health program for quite some time, say at least 3 years, so that they have established the activities and created a conducive environment to support the program.

- **Typical cases**

In this sampling strategy, the samples are chosen based on "their likelihood to behave like everyone else" (WilkinsonBec, 20016, para. 9)

Example:

When looking into a job placement in a college or university, investigators may consider looking at the experiences of one socioeconomic group.

- **Maximum variation sampling strategy**

A method used in the hopes of attaining representatives out of a small sample number.

Example:

In looking at how schools manage a feeding program, investigators may decide to choose schools from a variety of settings, say from urban and rural settings, and from those with small and high student population.

- **Critical Cases**

Example:

One district was able to encourage all schools in its area to implement a group handwashing program. The study focused on this particular district in the hopes that other districts may also learn how to manage the program.

### 3. Quota Sampling

This is a type of non-probability sampling procedure in which the population is divided into mutually exclusive subcategories, and the researcher solicits participation in the study from members of the subcategories until a target number of elements to be sampled from the subcategories have been met.

### 4. Respondent-Assisted Sampling

In this sampling procedure, the elements are selected from a target population with the assistance of previously selected population elements. This sampling procedure is often used in studying social networks, rare population, and hidden populations such as drug dealers and users and other criminals or commercial sex workers, etc.

### C. Mixed-Methods Sampling

This is a sampling method that combines different types of sampling method into a single design. This is supported by the idea that the weaknesses of one method may be compensated by the strengths of the other method that is used. The used of mixed method research designs was spurred by the application of two key concepts. "multi-method, multi-trait matrix and triangulation" which were introduced by Campbell & Fiske in 1959 (multi- method-multi-trait) and the four types of triangulation by Denzin (2009); "data triangulation, method logical triangulation, investigator triangulation, and theory triangulation" (Daniel, 2012).

*(Additional information)*

### Sampling Strategies in Qualitative Research

Sampling Strategy	Strengths	Weaknesses
Purposive sampling (WilkinsinBec, n.d.,para. 6)	<ul style="list-style-type: none"><li>- Provides you with a wide range of techniques</li><li>- Some strategies allow you for generalizations</li></ul>	<ul style="list-style-type: none"><li>- Researcher bias</li></ul>
Key informants (UCLA Center for Health Policy Research, n.d., 9)	<ul style="list-style-type: none"><li>- Allow the researcher to establish rapport with the informant</li><li>- Can raise awareness, interest, and enthusiasm around an issue</li></ul>	<ul style="list-style-type: none"><li>- Selecting the right informant might be challenging</li><li>- Issues on generalizability</li></ul>
Snowball sampling (Explorable.com,2009, para. 6-7)	<ul style="list-style-type: none"><li>- Allows the researcher to reach populations that are difficult to sample</li><li>- Cheap, simple, and cost-efficient</li></ul>	<ul style="list-style-type: none"><li>- Little control over the sampling method</li><li>- Issues on representativeness</li><li>- Sampling bias</li></ul>

Reference:

Almeida, A.B., Gaerlan, A.A, & Manly, N.E. (2016). *Research Fundamentals From Concept to Output: A Guide for Researchers & Thesis Writers*. Quezon City: Adriana Publishing Co., Inc.

Torneo, H.S. & Torneo, A.R. (2017). *An Introduction to Qualitative Research: Practical Research 1*. 927 Quezon Ave., Quezon City: Sibs Publishing House, Inc.



## LESSON 7 TASKS

### Individual Task

#### Day 1 Task

Directions: Read the sample research titles below and answer the questions that follow. Write your answer on a yellow paper.

1. “Attitudes of Parents toward the K-12 Curriculum”  
Question: What research design is appropriate to use in this study? Justify your answer.
2. “The Farming Practices of Filipino in the 1980s”  
Question: Can this be classified as a retrospective research? If yes, what data can be sought in the research design?
3. Training on Kumon and its Effect on the Math Performance of Elementary Pupils”  
Questions: What type of research design is appropriate to use in this research? Explain your answer.

#### Day 2 Task

A. Direction: Answer the question below.

When you hear the words “population” and “sample”, what comes first in your mind? Draw or write your ideas on a short bond paper.

**B. Directions:** Answer the following questions. Write your answer on yellow paper.

**Suppose you were asked to decide on what sampling technique to use, what would it be?**

1. You need to get the opinion of parents who represent 60% of the school population (with a total of 5,000 students) on the issue of the K-12 Basic Education Program.

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2. You want to gather the responses of school principals in the whole Division of City Schools regarding the effectiveness of the school-based management program.

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**LESSON 8**

**TOPIC: Determining the Research Design**

- **Planning Data Collection**
- **Developing Instruments**

**Qualitative Methods**

Creswell (2014, 190-193) list some basic methods for collecting data in a qualitative study.

**Interview**

This can be conducted with individuals or with groups. It may be done face-to face or through telephone, and may be structured, semi-structured, or unstructured. If you use open-ended questions in your interview, you can draw out research participants’ views, opinions, and feelings. You will also find out about their experiences, the meaning they associate with these, and their perspectives.

**Observations**

This often involves fieldwork and going to the research site to observe the activities, social interactions, and behaviors of individuals in the identified setting.

**Document Analysis**

This usually involves looking at available documents. These may come from public sources such as newspaper, online social for a, minutes of meetings, and official reports, or private ones like journals, diaries, emails, and letters.

The table below shows the various ways that the method can be conducted, as well as their advantages and disadvantages (Cresswell, 2014. 191-192):

Data Collection Types	Options within Types	Advantages of the Type	Limitations of the Type
Observation	<ul style="list-style-type: none"> <li>- Complete participants-researcher conceal role</li> <li>- Observes as participants-role of researcher is known</li> <li>- Participants as observer-observation role secondary to participant role</li> <li>- Complete observer-researcher observes without participating</li> </ul>	<ul style="list-style-type: none"> <li>- Researcher has a first-hand experience with participant.</li> <li>- Researcher can record information as it occurs</li> <li>- Unusual aspect can be noticed during observation</li> <li>- Useful in exploring topics that may be uncomfortable for participants discuss.</li> </ul>	<ul style="list-style-type: none"> <li>- Researcher may be seen as intrusive</li> <li>- Private information may be observed that researcher cannot report.</li> <li>- Researcher may not have good attending and observing skills</li> <li>- Certain participants may present special problem in gaining report.</li> </ul>
Interview	<ul style="list-style-type: none"> <li>- Face-to-face – one -on-one, in person interview</li> <li>- Telephone – researcher interviews by phone</li> <li>- Focus group – researcher interview participants in a group</li> <li>- E-mail/internet interview</li> </ul>	<ul style="list-style-type: none"> <li>- Useful when participants cannot be directly observed.</li> <li>- Participants can provide historical information.</li> <li>- Allows researcher control over the line of questioning.</li> </ul>	<ul style="list-style-type: none"> <li>- Provides indirect information filtered through the views of interviewees.</li> <li>- Provides information in a designated place rather than the natural field setting.</li> <li>- Researcher’s presence may be bias responses.</li> </ul>

			- People are not equally articulate and perceptive.
Document	<ul style="list-style-type: none"> <li>- Public documents – minutes of meetings or newspapers</li> <li>- Private documents – journals, diaries, or letters</li> </ul>	<ul style="list-style-type: none"> <li>- Enables the researcher to obtain the language and words of participants</li> <li>- Can be accessed at a time convenient to the researcher.</li> <li>- Represents data to which participants have given attention.</li> <li>- As written evidence, it saves the researcher the time and expense of transcribing.</li> </ul>	<ul style="list-style-type: none"> <li>- People are not equally articulate and perspective.</li> <li>- May be protected information unavailable to public or private access.</li> <li>- Requires the researcher to search out the information in hard-to find places.</li> <li>- Requires transcribing or optically scanning for computer entry.</li> <li>- Materials may be incomplete</li> <li>- The documents may not be authentic or accurate.</li> </ul>

### **Developing Instruments**

The tools you will use to guide your data collection pertain to the instruments of the study. In qualitative researcher, the foremost instrument is he researcher himself/herself.

Aside from the researcher, the most common instruments are the interview guide and the observational protocol.

#### **Interview Guide**

An interview guide usually contains a list of questions or issues “the same information” is gathered among different research participants.

#### **Structured Interview**

The sequence of the questions and how they are phrased are determined beforehand. The interview has to be conducted as planned and in an accordance with the interview protocol. This type of interview is best used when very limited time is allotted for the interview and if greater comparability among the answer is desired (Patton, 1980).

#### **Strengths:**

- Respondents answer the same questions thus increasing comparability of responses; data are complete for each person on the topics addressed in the interviewed.
- Reduced interviewer effect and bias when several interviewers were used.
- Permits decision-makers to see and review the experimentation used in the evaluation.
- Facilitates organization and analysis of the data.

#### **Weaknesses:**

- Little flexibility in relating the interview to particular individuals and circumstances; standardized wording of questions may constrain and limit naturalness and relevance of questions and answers.

#### **Semi-Structured Interview**

The format is guided by a list of topics or questions that need to be explored. The interview is “free to build a conversation around the list of topics” (Patton, 1980, 200). You may ask your questions and sequence them differently, and even add questions of these allow you to probe and elicit rich, lengthy, and detailed responses from the research participants.

#### **Strengths:**

- The outline increases the comprehensiveness of the data and makes data collection somewhat systematic for each respondent.
- Logical gaps in data can be anticipated and closed. Interviews remain fairly conversational and situational.

**Weaknesses:**

- Important and salient topics may be inadvertently omitted. Interview flexibility in sequencing and wording questions can result in substantially different respondents, thus reducing the comparability of responses.

**Unstructured Interview**

This method is most useful in exploratory studies, in areas where a little is known about the topic and there are limitations to investigating the issue in systematic manner (Merriam, 1988). It is often utilized to allow the researcher to find out more about the topic and come up with areas to look into in further data collection processes. In such cases, the method may also be combined with observation.

**Strengths:**

- Increases the salience and relevance of questions;
- interviews are built on the emerge from observation;
- the interview can be matched to individuals and circumstances.

**Weaknesses:**

- Different information collected from different people with different questions,
- Less systematic and comprehensive if questions don't arise "naturally."
- Data organization and analysis can be quite difficult.

Below are the different types of questions (Patton, 1980, 207-209):

- Experience/behavior questions – look into what a person does or has done.”
- Opinion/value questions – make people think and come up with decisions. These look into “people’s goals, intentions, desires, and values.”
- Feeling questions – look into emotions people associate with their experiences.
- Knowledge questions – find out participant’s knowledge about a particular topic. These revolve around “factual information.”
- Sensory questions – revolve around what has been “seen, heard, touched, tasted, and smelled.”
- Background/demographic questions – for “identifying characteristics, of the person being interviewed “such as age, education, and occupation, among others.

**Questionnaire**

This is written list of questions intended to provide answers to the problems of the study. Most survey are based on questionnaires. The respondents read and interpret what are expected in the questions then write down the answers. It is important that questions in the questionnaire are clear and easy to understand. It has to undergo content and construct validation before it is administered to respondents. Likewise, the layout of the questionnaire should be such that it is easy to read and pleasant to the eye. Also, a good questionnaire is one which is developed in an interactive style. According to Flick (2011), questionnaire studies aim at receiving comparable answer from all participants.

**Advantages of the Questionnaire**

- It is less expensive
- It offers greater anonymity since there is no face-to-face interaction between the researcher and the respondent.

**Reference:**

- Almeida, A.B., Gaerlan, A.A, & Manly, N.E. (2016). *Research Fundamentals From Concept to Output: A Guide for Researchers & Thesis Writers*. Quezon City: Adriana Publishing Co., Inc.
- Torneo, H.S. & Torneo, A.R. (2017). *An Introduction to Qualitative Research: Practical Research 1*. 927 Quezon Ave., Quezon City: Sibs Publishing House, Inc.



## LESSON 8 TASKS

### Individual Task

#### Day 1 Task

**Directions:** On one whole sheet of yellow paper. Let's go back to your own research topic. What instrumentation will you use to gather data? Explain.

If you plan to use the interview method, address these questions:

1. What will be the setting of your interview?
2. What type of interview will help research participants to open up about their experiences, feelings, and thoughts?
3. What topics or issues do you wish to explore with them?

#### Day 2 Task

**Directions:** Read the given statements or instructions and do what us asked for. Write your answer on a yellow paper.

1. Research Problem: "The effect of Kumon program on the math performance of elementary pupils." What kind of data would be needed to answer the problem? Develop a questionnaire or interview guide for this purpose.
2. You are assigned to conduct a research about the health status of grade one pupils under the government's conditional cash transfer program". How will you gather the data for this? Construct the appropriate questionnaire and /or interview guide based on the given guidelines.