Topic: KINDS OF RESEARCH DESIGN&SAMPLING PROCEDURES

Grade: 12
Week: 9

QUEST:

★ **Content Standard:**
   ✓ **The learner demonstrates understanding of quantitative research designs.**
   ✓ **The learner demonstrates understanding of description of sample.**

★ **Most Essential Learning Competency/ies:**
   ✓ **The learner describes sampling procedure and the sample. (CS_RS12-IIa-c-2)**

MISSION 1

Instruction:Read the statements carefully and encircle the letter of the correct answer.

1. A type of research design where if one intends to empirically present the traits and characteristics of a target population, the researcher should utilize this.

   A. Historical Research Design   C. Causal Research Design

   B. Descriptive Research Design   D. Experimental Research Design

2. It is where describing and examining past events to better understand the present and to anticipate potential effects on the future. What type of research design is asked?

   A. Historical Research Design   C. Descriptive Research Design

   B. Correlational Research Design   D. Experimental Research Design

3. "*What is the impact of social media campaign in the number of votes received by a candidate?*"
This research question is intended to what type of research design?

   A.Historical Research Design   C. Descriptive Research Design

   B. Causal Research Design   D. Correlational Research Design

4. The topic "*Socioeconomic characteristics of residents of a community*" is a research topic that must entail to what type of research design?

   A. Historical Research Design   C. Descriptive Research Design

   B. Correlational Research Design   D. Experimental Research Design

5. What is the type of research design where in it looks on the cause-effect relationship and how it affects a variable?

   A. Historical Research Design   C. Descriptive Research Design

   B. Causal Research Design   D. Experimental Research Design
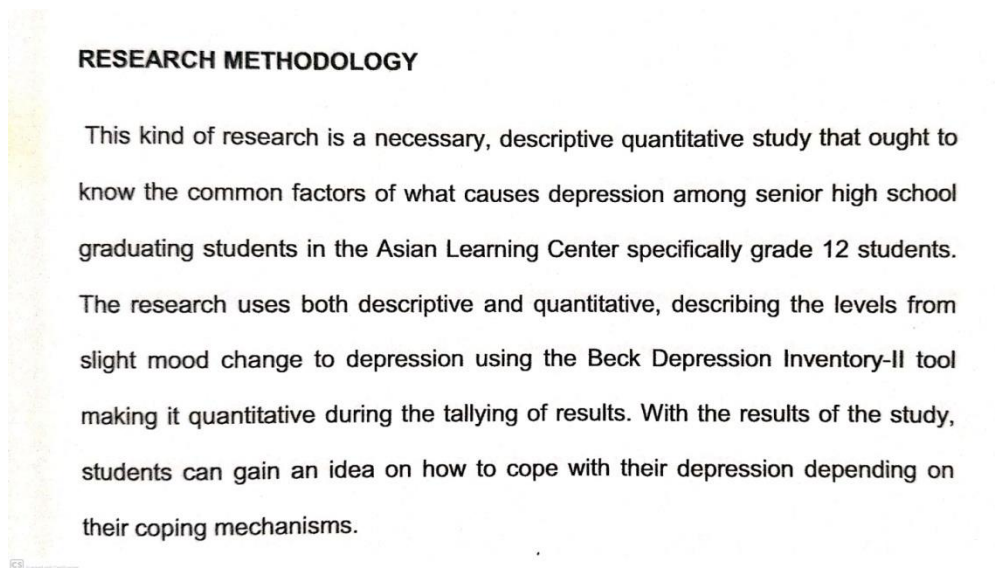
> **Equip**

RESEARCH DESIGN
   - is a plan that represents how the researcher intends to study an empirical question. (Johnson and Reynolds, 2012)
   - It encompasses the entire research process – from the formulation of the research question, the review of related literature, the development of the framework, and the selection of data gathering and analysis techniques.

QUANTITATIVE RESEARCH DESIGNS

➢ DESCRIPTIVE QUANTITATIVE RESEARCH DESIGN

- ✓ Uses questionnaires and interviews to gather data about a group of people.
- ✓ If one intends to empirically present the traits and characteristics of a target population, utilize a descriptive research design.

Example:

RESEARCH METHODOLOGY

This kind of research is a necessary, descriptive quantitative study that ought to know the common factors of what causes depression among senior high school graduating students in the Asian Learning Center specifically grade 12 students. The research uses both descriptive and quantitative, describing the levels from slight mood change to depression using the Beck Depression Inventory-II tool making it quantitative during the tallying of results. With the results of the study, students can gain an idea on how to cope with their depression depending on their coping mechanisms.

➢ CORRELATIONAL QUANTITATIVE RESEARCH DESIGN

- ✓ Looks into the degree of association between variables. It considers the extent to which differences between variables are related to the differences in another variable or variables.
- ✓ It is used to establish or explore relationships, associations, or interdependence between two or more aspects of a situation. (Kumar 1996)

Example:

Determining how absences of a grade 11 student may affect his performance in the statistics course.

- ✓ The researcher is trying to find out if there is a relationship between student's performance in statistics and student's absences.

➢ EXPERIMENTAL QUANTITATIVE RESEARCH DESIGN

- ✓ One where a group of respondents are randomly selected to undergo a particular researcher-imposed treatment to determine the effect of such treatment.

Example:

A group of students may be subjected to learning using technology, while the regular class uses the ordinary way of learning. The performance of the experimental group is then compared with the performance of the other group to determine the extent to which the use of technology affected the amount of learning that took place.

➢ **CAUSAL QUANTITATIVE RESEARCH DESIGN**

   ✓ Looks into the cause-and-effect relationships between variable.
   Example:
   For instance, a study can be made on the sales of a particular type of milk tea over a six-month period to predict the probable amount of sales in the next period.

➢ **HISTORICAL QUANTITATIVE RESEARCH DESIGN**

   ✓ Makes use of historical data to predict the behaviour of a variable.
   ✓ Describing and examining past events to better understand the present and to anticipate potential effects on the future.
   Example:
   According to a study on the price and demands of soft drinks.
   As prices increases, the demand of soft drinks decreases.

DESCRIBING SAMPLE SIZE AND SAMPLING PROCEDURES

Sample
   - is a selection of respondents for a research study to represent the total population.

   SLOVIN'S FORMULA

$$n = \frac{N}{1+Ne^2}$$

   Where:
   n=sample size
   N=total population
   e=margin of error

When to use Slovin's Formula?
   - If a sample is taken from a population, a formula must be used to take into account confidence levels and margins of error.

How to use Slovin's Formula?
   Example:
   A researcher plans to conduct a survey. If the population of the Senior High School Department is 5,000, find the sample size if the margin error is 0.05%.

   $n= 5000/(1+5000.0.05^2)$
   $n= 5000/(1+5000.0.0025)$
   $n= 5000/(1+12.5)$
   $n= 5000/13.5$
   $n= 370.37$ or approximately 370

Now, the question is how are you going to select these 370 out of 5,000 which is the total population? Who are these 370 respondents? How are we going to find them?

ANSWER:

For you to determine who arethese 370, you will use one sampling procedure.

So out of 5,000 you have to choose 370 respondents only. To choose these 370 respondents, use the following sampling procedures.

MARGIN OF ERROR

    - is the allowable error margin in research. A confidence interval of 95% gives a margin of error of 5%; a 98% gives a margin of error of 2%; a 99% confidence interval gives a 1% margin of error.

MISSION 2

Instruction: Using the Slovin's Formula, solve for the following statement. Show your solution inside the box.

"A group of researchers will be conducting a study about the learning styles of the Grade 12 Senior High School Students, with a total of 6,500 students, find the sample size with 5% margin error. And identify the appropriate sampling procedure to be used."

Sampling

    - is a formal process of choosing the correct subgroup called a sample from a population to participate in a research study.

> There are two common types of sampling procedure:
>
> The **probability sampling and the non-probability sampling.**

TWO COMMON TYPES OF SAMPLING PROCEDURE

PROBABILITY SAMPLING PROCEDURES

- ■ **Most common used is**
- ✓ *Simple random sampling*

    - most frequently used of probability sampling.

- The researcher will have the selection process manually or electronically ensuring that everybody has an equal chance of being drawn.

Example: *Best example is the lottery method.*

Research Respondents

The researchers have chosen the respondents in grade 12, morning, afternoon, and night sessions in Asian Learning Center, Pajo Branch. The answers of the respondents helped the researchers in knowing the common factor of depression. The researchers gathered the names from the respective teachers, after which the Slovin formula was used for the selection of respondents through random sampling. There were 261 respondents, divided by the 3 (morning, afternoon, and night session) equates to 87 randomly picked respondents per session.

NON-PROBABILITY SAMPLING PROCEDURES
- ■ **Most common used is:**
- ✓ *Purposive sampling*

   - sometimes called judgemental or subjective sampling employs a procedure in which samples are chosen for a special purpose. In this type of sampling, the researcher has set qualification when it comes to the respondents.

Example: *You may want to conduct a study on why Grade 11 students chose the Voc-Tech track over the Academic track. You, therefore, find your samples and your first question would be "Are you planning to go to the university?" Those who will say "NO" would not be included in the study.*

So, these two common sampling procedures can be used to determine the 370 respondents out of 5,00 respondents that we have in the previous page.

But of course, it would depend on the study itself what sampling procedure must be used among these two common types.

STACK:

PARTS OF CHAPTER 3

RESEARCH METHODOLOGY

- ■ **Research Method/s or Design Used**
   - ✓ Research Flow
   - ✓ Research Respondents

- ✓ Research Environment
- ✓ Research Instruments
- ✓ Sources of Data
- ✓ Data-gathering Procedures
- ✓ Statistical Treatment of Data
- ✓ Scoring Procedures

Chapter 3
RESEARCH METHODOLOGY

The process used in this study will be explained in this section. Categorically, it expounds the research method used, research flow, research respondents, research environment, locale of the study, research instruments, sources of data, scoring procedures.

Research Method/s Used

The study used a Descriptive Quantitative method or design. Descriptive describes the characteristics of the population or the phenomenon that is being studied. Primarily focuses on describing the nature of a demographic segment without focusing on "why" a certain phenomenon occurs. While Quantitative attempts to collect quantifiable data to be used for statistical analysis of the population sample. Hence, the nature of the variable of their behavior is not in the hands of the researcher.

Research Respondents

The Respondents of this study are the selected Grade XII students-afternoon session in Asian Learning Center- Pajo Campus in school year 2019-2020. Out of 645 total number of students from different strands in afternoon session, the researcher have come up with the total of 160 respondents. The researcher used a Slovin's formula with the use of online calculator with the confidence level of 85% with the plus 5 margin of error. This means 160 or more measurements/surveys are needed and the real value is within = 5% of the measured survey value.

The researcher divided the 160 respondents into 5, the result is 32. Each strand should have 32 respondents, in order to get the total respondents of 160.

MISSION 3

PERFORMANCE TASK
"IDENTIFYING YOUR SAMPLE SIZE"

Instructions:

1. Using the Slovin's Formula, solve the accurate number of your respondents.

2. Identify and explain the type of sampling to be used.

3. Submit your manuscripts to your research teacher.

Total # of respondents:	
Margin of error:	0.05%
Sampling:	

References:

- *An introduction to Quantitative Research - Practical Research 2, Torneo, A & Torneo H, 2017*

- *https://prudencexd.weebly.com/#:~:text=%2Dis%20used%20to%20calculate%20the,margin%20of%20error%20(e).&text=%2DIt%20is%20 computed%20as%20n,%2F%20(1%2BNe2).&text=%2D%20If%20a%20sample%20is%20taken,levels%20and%20margin%20of%20error*

CHECKPOINT:

Name: _____

Section: _____

Quarter: _____2_____

Week: _____9_____

PRACTICAL RESEARCH 2

Directions: Write your answer on a space provided.

1. What is Quantitative Research Design?

2. Give the different types of Research Design with its definition.

3. Why is it important to have a deeper understanding on the different kinds of Quantitative Research design in a study? Explain.