LEARNING ACTIVITY SHEET
SPECIAL PROGRAM IN ICT 10
INFORMATION SYSTEM AND RESEARCH 10
Second Quarter, Week 4

Name of Learner: _____   Date: _____

Grade Level /Section: _____

DATA COLLECTION AND ANALYSIS

BACKGROUND INFORMATION FOR THE LEARNERS

The term 'Data' in research is commonly defined as the information gathered, listed, or observed which aims to validate any original findings of studies. Data Analysis is considered as one of the most crucial part in the process of doing a research. Its goal is to summarize, interpret, and present the collected data.

There are three types of Data:

1. Interval Data are usually consist of numbers, it is also referred to as quantitative or numerical data. Examples of Interval Data are height and weight.

2. Nominal Data may be names or categories. It is also referred to as qualitative or categorical data. Some of its examples are Male, Female and Single, Married, Divorced, Widowed.

3. Ordinal Data are commonly categorical in nature, but their values are in order. Example of this is ratings such as Poor, Fair, Good, Very Good, and Excellent.

Data Presentation is referred to as a method wherein people organize, summarize and report information using multiple tools such as tables, graphs and diagrams.

Types of Data Presentation:

1. Tabulation- is a systematic, organized and logical arrangement of data/information in rows and columns.

2. Graph- is deemed to be a very effective visual tool as it easily shows data at a glance. It may facilitate comparison and contrast and may also reveal trends and relationships

within the data such as changes over time, frequency distribution, and correlation or relative share of a whole.

It is important to use a data collection method that will help answer your research question/s. Many data collection methods can be either qualitative or quantitative. For example, in surveys, observations or case studies, your data can be represented as numbers (e.g. using rating scales or counting frequencies) or as words (e.g. with open-ended questions or descriptions of what you observe). However, some methods are more commonly used in one type or the other.

According to the University of Leeds, as presented on their web page, here are the common types of research data:

- documents, spreadsheets
- laboratory notebooks, field notebooks, diaries
- questionnaires, transcripts, codebooks

- audiotapes, videotapes
- photographs, films
- test responses
- slides, artifacts, specimens, samples
- collections of digital outputs

When it comes to the analysis of data, there is a difference with how a researcher processes a Qualitative Research Data and Quantitative Research Data. In analyzing data gathered for a Qualitative Research, content analysis is commonly utilized. It is defined as the procedure for the categorization of verbal or behavioral data, for purposes of classification, summarization and tabulation. It is often collected from interviews conducted, focus group discussions, mere observation and documentary analysis.

The content can be analyzed on two levels:

1. Basic level or the manifest level: a descriptive account of the data i.e. this is what was said, but no comments or theories as to why or how.

2. Higher level or latent level of analysis: a more interpretive analysis that is concerned with the response as well as what may have been inferred or implied.

In analyzing Quantitative Data, it may involve frequencies of variables, test of difference, test of relationship, statistical tests or instruments to estimate the significance of the results and the probability that it did not occur by chance.

LEARNING COMPETENCY

1. Discuss the different methods in data collection, analysis, and presentation.

2. Determine the appropriate statistics for organizing and describing the numerical data gathered.

ACTIVITIES

ACTIVITY 1: Using the given below, categorize the following data collection techniques unto which type of research it is used, whether it is Quantitative or Qualitative.

- Case studies
- Commonly uses statistical tests
- Interviews are closed-ended questions
- Doesn't use statistical tests
- Usually uses small sample size
- Number-based
- Objective and measurable

- Observation is one way to gather data
- Interviews are using open-ended questions
- Unstructured techniques
- Uses instrument or test based
- Commonly uses large sample size for Population

QUANTITATIVE DATA COLLECTION	QUALITATIVE DATA COLLECTION

Guide Questions:

1. What have you observed from the data collection methods used in both Qualitative and Quantitative research?

_____

_____

_____

2. Which data collection technique can be used in both Qualitative and Quantitative Research?

   _____

   _____

   _____

3. Why is it important to carefully choose your data collection method in conducting a research?

   _____

   _____

   _____

4. What do you think are the common mistakes of researchers when it comes to gathering data?

   _____

   _____

   _____

ACTIVITY 2: Identify whether the statements below are True or False. Write your answer before the number.

1. A larger sample size is more acceptable and valid for all kinds of research.
2. Observation forms are similar to questionnaires.
3. Observation is used solely in qualitative research and not in quantitative study.
4. Qualitative research depends mostly on the researcher's own interpretation compared to a quantitative research.
5. Qualitative research is easier than quantitative research because it does not commonly use statistics.
6. Qualitative research uses statistical analysis to accept or reject a hypothesis based on theory or previous studies.
7. Research shouldn't be biased in any way especially in gathering data.
8. Well noted and carefully managed observation can be deemed valid, accurate and reliable.
9. Writing and keeping a journal is much applicable on Quantitative research.

10. You must introduce yourself and discuss your study to your subject as the observer for qualitative research prior to observing.

ACTIVITY 3: Given below is a link from YouTube for you to enrich your knowledge on various data we collect and list in research. After watching the video, write inside the box the types of data tackled and discuss it on your own words.

LINK: *https://www.youtube.com/watch?v=hZxnzfnt5v8*

REFLECTION

Why do you think Data Collection and Analysis is considered to be a crucial and important part of conducting a research?

_____

_____

_____

_____

Rubric for Reflection

Features	1	3	5
Organization of Ideas	Information is not organized and inaccurate. The flow of ideas is not clearly understandable.	Information appears to be organized and flows smoothly.	Information is very organized and commendable.

Content	Lacks development and self-reflection	Demonstrates a reflective analysis	Demonstrates a thorough self-reflective analysis.
Sources	Sources are not documented at all.	Some sources are not accurately documented	Sources are documented.

REFERENCE

"Types of Data: Nominal, Ordinal, Interval/Ratio - Statistics Help".

YouTube, uploaded by Dr Nic's Maths and Stats, 14th of December,

2011, https://www.youtube.com/watch?v=hZxnzfnt5v8.

Prepared by: **DANNA BIANCA D. CARREON**
                Name of Writer

Noted by: **LABERNE A. LADIGNON, JR.**
                Division ICT Coordinator/ OIC EPS