



IQRA NATIONAL UNIVERSITY

DEPARTMENT OF ALLIED HEALTH SCIENCES

Final Term Examination (Spring-2020)

Course Title: Research Methodology (Radiology 6th)

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1. According to you which of the following methods of data collection is better? And why?

Direct observations, experimentations and surveys. (10)

Ans:- Methods of collecting data

There are many methods used to collect data for statistical analysis and successful accomplishment of research project.

Among all these methods the following three are the most popular methods for data collection.

1. Direct observation
2. Experimentation
3. Surveys

- (1) **The observation** is of elephantine significance especially in descriptive sociological research and is the most common and significant technique of data collection.

Observation is the activity and process in which we observe what is going on in real life situation. It is important step to evaluate the human behavior in normal or adverse, controlled or uncontrolled situation.

It mean accurate watching, knowledge of phenomenon occurring in nature and cause and effect of mutual relations and order to ascertain what people thing and do. **QURAN insists** seven hundred fifty time of observation, pondering, deep thinking in the universe as well as our own body. While this figure for nemaz as seven hundred time.

- (2) **Experimentation** it is usually planed activity to yield some results for testing the hypothesis and research. In an experimentation a controlled group i.e. a group receiving no treatment or placebo is used to compare the effectiveness of the experiment results. Proper lab instruments and methods are used in empirical research.

- (3) **Surveys:** - it is a method used for investigation by collecting data, commonly used when public is involved by asking questions. The main points the research the surveyor must keep in mind are careful use of wording, logical ordering and choice of the question in order to avoid biased results. Key survey parameter i.e. proportion of all people selected in the survey is known term **response rate**.

Surveys may be carried out by different methods. i.e. personal interview, telephonic interview and using questioners.

The best way data collection among the above three is my view is *experimentation*.

in my opinion, the best method for data collection to attain reliable accurate and appropriate data in order to convert the vision and dream of research in to reality and to get unbiased results is **Experimentation**.

The reason is quite bright and clear as experimentation insure the authenticity and accuracy of data and hypothesis. By using experiment we attain the most suitable and true results of the project in order to promote knowledgeable society with full research-oriented aptitude.

This brings a positive change through quality research thus enabling our learners to meet the challenges of the new millennium of science and technology with the desire to face the challenge in solving the unsolved problem, so as to get intellectual joy with the spirit of selfless service to the society along with all consequential benefits.

Research is the voyage of discovery and curiosity from known to unknown. It is a scientific investigation on a specific topic and is impossible without experimentation.

Experimentation confirm the required results by testing the hypothesis and assumption with the outcome of distinguishing the acceptable and unacceptable scientific aptitude and behavior.

2. You are to design a questionnaire for your survey. What are some of the points you need to consider while designing your questionnaires. (20)

Answer:- Questioner Designing for survey

Basic and significance points for designing a questioner for survey.

The questioners are extremely important for accomplishing a research project of any type. It is a significant tool to collect all sorts of information

regarding that particular research project and it must express multi-angled approaches. A best questioner is the basic key to successful research projects which help the researchers to succeed in the best way with the all the essential obligations, data, objective of the survey, its utility and public significance, all necessary details of the organization, individuals involved, location and area of the survey, timings and timeline, age and gender study , geographical touches.

In public surveys, the questioner must be very simple by using the local language especially when low socio-economic group are population with low literacy rate is involved.

Some important aspects of best questioner are the following

- We should keep the questioner as short as possible.
- The question asked in the questioner must be short, simple and clearly worded.
- The demographic questions must be placed in the starting to help respondents to start comfortably.
- Dichotomous question (Yes/No) and multiple choice question (McqQs) may be used.
- Open ended questions the best to be asked.
- Leading question may avoided.
- Pre-test a questioner as pilot survey on a small number of people may be implemented.
- The pilot survey data must be analyzed by professional experts in to examine the pro and cons of the survey.

- Time line management is of tremendous important for conducting a successful survey.
- The questioner must be distributed and collected by survey experts.
- The population involved must be guided and supported as well as encouraged to record true information on the spot, depending on the nature of the survey.
- Lady surveyor may be inducted for the surveys which involve sensitive information about female in particular information in Pakistan especially in Khyber Pakhtunkhwa.
- The cultural values, morals and local customs of the population may be kept in mind while designing a survey questioner.
- Questions on cost, religion and sects may kindly be avoided in not mandatory for that survey.
- The way, mechanism and methodology of utilizing the collected data through questioner must be kept in mind before designing it

Some Important points for best questioner for survey may be summarized as follows:-

1. Name of the project/title of the survey
2. Objective of the survey
3. Major field and minor field of research
4. University/organization/department responsible for survey
5. Sponsoring agency/organization
6. Name, age, sex, nationality i.e. demographic information.

3. How can you put your references using end note? Describe. (10).

Answer No. 03.

Method. How to put research reference using Endnote.

Endnote, among many citation software, is one of the built-in citation machine in MS word. Following is the procedure of adding citation to your file.

- Open MS file. On the top of the file there is a tool bar.
- There is an EndNote tab. Click on it.
- This will pop up a new mini window.
- In this popup window go the style button and select the stile/ document format of your own choice. The APA style is frequently used method among other.

How to insert citation in EndNote.

Different version of MS office has different way of inserting citation. Here we will use the method of inserting citation in MS word 2013.

- After opening of the file in the word. There is a EndNote button as discussed above.
- In the Endnote tab click on the insert citation tab to find or put citation in to MS Word. One can also copy/past citation from Endnote to MS word directly.
- In the word document click on the text where to cite.
- Now go to EndNote Tab.
- Press on ctrl + right click on the mouse.
- Now press the tab “insert Citation” in the end note.

This will complete the process of putting citation into your file.

4. What is the difference between results and discussion portion of a research writing? (10)

Difference between results and discussion portion of research writing:-

Scientific writing is very significant skill for the successful completion and implementation of research projects which lead to not only successful accomplishment but promotes the economic and public importance of the research project.

Results and discussion chapter are the two most important portions of research writing.

1. **RESULTS:-** the objective presentation in logical sequence, of the findings in the best possible way to attain the goal and major objectives of the research projects is determined by **result** portion of the research/ dissertation. Some major obligations of the result chapter may illustrated as follows

- Orderly sequence
- Logical sequence
- Using text/illustration / tables/charts/figures and pictures.
- Variation and results depend on the type of research, objective of the project, public utility of research and data collected etc.
- For best results the researcher can use google doc/ SPSS/EXCEL/ R/ MATLAB etc. or any other statistical tool the researcher may like.
- The results must be aim and objective oriented supported with flow diagrams/ flow charts, commonly used international / universal units and signs/abbreviation.

(2) Discussion:- the chapter discussion in the research writing is basically the interpretation and comparative analysis and statements of what is already known in that particular research area.

Some important points of discussion portion of research may be given below.

- The new understanding of the subject/research project based on the collected data, present results after going through the material and methods must be explained in a precise and logical order.
- It must tell the reader and new researchers how the present study moved from what was known to what is new in order to proceed forward in the new research project in the journey from unknown to known so as to enable the future researchers to dig-out something from nothing.
- The national as well as international comparative analysis is the basic soul of **discussion**.
- It must be ensured that proper citation of each and every point, coherent with **literature review as well as references**.
- In order the discussion appealing to youngsters, the innovative and creative potential and capability of the present research project must be projected.
- For successful discussion we must use charts, graphs and pictures in a logical order as picture is worth a thousand words and a graph is thousands paragraphs.
- While writing discussion all the relevant surveys and projects carried out by researcher on the same topic and title at national and international level must be consider. And all relevant research paper published must be taken to account.
- The discussion sequence must be in accordance with the sequence of literature review, chapter material and methods as well as portion results.