5.5 Fundamental Research Methodology

Aim

☯ To expose the student to basic research methodology in order to appropriately respond through pastoral initiatives.

Materials Required

☯ Pen and Paper

Input:

For service-oriented communication to be effective, a correct reading of the context and needs of the beneficiaries is necessary. However, organizations often assume the needs of the people they serve and proceed to act accordingly - through schools, dispensaries, and other socially uplifting projects. One of the ways service-oriented communicators can address the needs of their beneficiaries appropriately is by first collecting relevant information through a research project.

Research is important because the data collected is:

- based on facts and not mere guess work or vague presuppositions.
- objective and not dependent on personal preferences, predispositions and values.
- delves deeper than what merely appears as self-evident to the actual ground reality.

1. How does one select a problem for research? Obviously the data to be studied has to be empirically and objectively measurable by using appropriate research tools. "Does God exist?" is not a good topic for research but "Does belief in God make a person law abiding?" is, since the latter is empirically measurable while the former is not. The empirical approach to knowledge is based on observations. We all use the empirical approach in everyday living. For example, the teacher may observe students becoming restless during a certain lesson. He or she might say she knows the lesson is boring. However, these observations may be misleading and are often misinterpreted. For example, the teacher may have misinterpreted reasons for the students' restlessness.

2. Once a problem has been chosen the next step is selecting an appropriate research design. It is a plan of action according to which observations have to be made and data collected. It answers the following questions:

1. WHAT should we study? What is our scope? What are the variables to include?
2. HOW shall we collect our data? Which techniques should we use? Questionnaires, interviews, observations, or some combination of all the three?
3. WHO shall we study? Who are the respondents?
4. HOW VALID will our data be? How objective, factual, true to reality?
5. How shall we present our data?
   - There are two types of research designs: descriptive and explanatory.
   - The primary interest of a *descriptive design is* to examine the state of affairs 'as it exists'. The census conducted by governments is an example, or 'how many street children have resorted to substance abuse?'

The explanatory *design* probes the 'why' behind the state of affairs. It studies the causes that have given rise to a phenomenon. Two strategies are usually used to find this out:

a) The 'after only' strategy finds out why something has occurred after the event. For example, if 60 % of street children are found to be substance abusers, then we may want to know the cause of this phenomenon.

b) The 'before and after' design is valid for measuring data. When we want to know the impact of TV violence on children we could observe the state of affairs before the film is shown (pre-measurement) and after (post-measurement). Finally the two measurements will be compared. If there is a change, that is, if there exists a difference in the two measurements, one can conclude that the phenomenon is positively responsible for the change. Thus if there is greater aggression in the behaviour of children after a violent film is shown to them, the researcher can conclude that TV violence is indeed the cause of aggression in children.

3. The research design is only half of the research task. The other half is sampling the
people or events that will help in the collection of relevant data - t*he population understudy.* The problem selected will determine which group of people to be studied. Thus if a research is being done on street children of Johannesburg, the groups to be interviewed are precisely the street children of Johannesburg.

Sample: Time and resources sometimes make it difficult to study all the people in a research, hence a selection is made. Those selected make up the sample. The method of sampling can be of two types - probability sampling or non-probability sampling.

The probability sample is used when you have a complete list of persons under study. Let's say they total 1050. Give each of them a number from 1 to 1050. Decide how many you wish to study, let's say 100. Write the numbers 1 to 1050 on slips of paper, fold them and put them in a bowl. Randomly pick 100 of these slips of paper. The persons who bear the numbers now make up your random sample.

The non-probability sample can be taken when such a list of persons under study is not available. Let's say you wish to study 50 rural and 50 urban persons. You will then contact any 50 persons from each category who may be available and willing to cooperate with you. (Even in this case, special effort should be made to be as objective as possible.)

4. Various techniques can be used to collect the data

a) *Observation:* This technique is useful for studying data that is present and available. For this technique, it is important to have a diary in which you will record meticulously what you observe. Recording can be either on the spot or later, particularly if the people under study are conscious of being observed. Yet, maintaining accuracy is difficult. It depends on your skill. You will also have to keep your personal preferences, values and biases consciously in check so that you are as factual as possible. Another way to observe will be to get a team of three to help you observe and then all can sit together to check the observations.

b) *Interviewing:* This technique is useful for studying past events or personal opinions, feelings and attitudes which cannot be observed. The interview can be structured and formal - like approaching people with a specific set of prepared questions. Most questions also provide a fixed set of alternative answers from which the respondent is asked to choose only one option: e.g.:
Have you consumed marijuana?
a. Never
b. Only once/twice
c. Once a week.
d. daily

Other questions can be open ended*:* e.g. *What kind of experiences do you have after smoking marijuana?*

Less structured interviews do not have predetermined questions or fixed sets of answers. General questions are put to the respondents and their answers come across through the conversation that follows. Further probing questions will have to be asked and in this case the researcher will have to be perceptive and flexible.

Questionnaires:
Questionnaires may be called 'distance interviewing'. Instead of asking a set of questions
from an interview orally in face-to-face situations, the respondent replies in writing on the questionnaire itself and returns it to the researcher. They can be mailed to people selected in a sample accompanied by self-addressed, postage-paid envelopes for returning them. Alternatively, the researcher may personally hand it over and then on a mutually agreed date collect it. Questionnaires require that the respondents be adequately educated and can read, understand and clearly answer the questions. They are best used to cover large territories or when the respondents need the assurance of anonymity.

5. Data Analysis
After having gone through the process of data collection, you will find yourself asking the question: What should I do with all these pieces of paper?"

Qualitative Data cannot be measured in numerical terms. It can be systematized by classifications. If through your unstructured interviews you have got various responses on the psychological experiences of drug addicts, code the responses by giving a number for the same information in all the interview records. Then count them. Later you will be able to say that, for example, out of 100 respondents 15 felt elated, 50 were depressed and 35 saw colourful images.

Quantitative Data is easier to compile. The following are some of the ways:

Coding: Assigning numbers/alphabets to similar answers in such a way that similar answers are given one code.

AGE CODE

Person A	aged 21	21
Person B	aged 16	16
Person C	aged 35	35

Similar coding can be done for income.

But if you are not interested in exact numerical values but want to prepare categories instead, then the example below will help

AGE	CATEGORY	CODE
11 to 15 years	A	
16 to 20 years	B	
21 to 25 years	C	

How does one code 'open-ended' questions? This requires skill in categorizing and assigning codes to each. But there is no other way except to trust your judgement as to what legitimately falls within a particular category and what does not.

Having scrutinized and coded your data you are still not in a position to say anything about the information until you bring it together. One way to do this is to use computers with the help of an appropriate software package. The most important forms of data presentation are:

The Table: [see the example below:]

Table 1
Number of Marijuana cigarettes smoked per day

No of Cigarettes	**No. of respondents**	**Percentage**
One	05	05.0
Two	11	11.0
Three	24	24.0

Table 2
Gender of Drug Abusers

Gender	**No of Respondents**
Male	**70**
Female	**30**
Total	**100**

Other ways of presenting data are bar diagrams, pie charts, line graphs and graphic visual pictures.

Finally, it is important to *interpret* the data you have received. Tie up your findings with your objectives. Highlight salient features. Mention whether your hypotheses or expectations have been substantiated by the data acquired and if they are not, say so. Data from other researchers can be included in your presentation with permission, if possible. Credit must be given to the researcher. Use a *style* that is simple, clear and precise. Long sentences and big words only confuse.

Having said so much, it is time to get down practicing. The protocol of doing research in the ultimate analysis, is that you must have something significant to say and say it authentically.

Review

1. For service-oriented communication to be effective, a correct reading of the context and needs of the beneficiaries is necessary.
2. Data to be studied has to be empirically and objectively measurable by using appropriate research tools. This identification of a subject to be studied is the first step of research.
3. The next step of carrying out a research study is determine an appropriate research design. There are two types of research designs: descriptive and explanatory.
4. The next step is sampling the people or events that will help in the collection of relevant data - t*he population understudy*. The problem selected will determine which group of people to be studied
5. Sampling can be of two types - probability sampling or non-probability sampling.
6. Various techniques can be used to collect the data:

a) Observation
b) Interviewing
c) Questionnaires
7. The next step after sampling is data analysis. Qualitative Data can be systematized by classifications and Quantitative Data can be coded.
8. Having scrutinized and coded your data, the next step is to bring it together. One way to do this is to use computers with the help of an appropriate software package. The most important forms of data presentation are: tables, bar diagrams, pie charts, line graphs and graphic visual pictures.
9. Finally, it is important to *interpret* the data you have received. Tie up your findings with your objectives. Highlight salient features. Mention whether your hypotheses or expectations have been substantiated by the data acquired and if they are not, say so.

Relevant Skills

1. Conduct a pastoral research project on any of the following:
- What are the TV habits of your parishioners?
- What do the parishioners think of the services rendered by the pastoral team? - What is the class stratification of our parishioners?
- How many people in your parish neighbourhood lack basic facilities?
- What do the parents of the students of your school think of it?

References

AMECEA and IMBISA. Basic Human Communication. Nairobi: Paulines Publications Africa. 2000.
Patten L. Mildred. Understanding Research Methods. California: Prczak Publishing. 2005.
Sharon K. Ferrett. USA: Peak Performance. McGraw Hill, 2003.