Unit 12: Educational Research

INTRODUCTION

This unit is intended to give you a deeper understanding of general educational research practice. It is strongly believed that you, as an inspector, should be an agent of change in education and involving yourself in educational research is one of the effective ways of contributing to change. This unit aims at familiarising inspectors with concepts and stages in carrying out education research.

LEARNING OUTCOMES

By the end of this unit, serving inspectors will be able to:

- identify different types of research
- identify the needs and problems to be researched
- state the purpose of the research
- plan and design research methodology
- identify sources of data
- collect and analyse data
- produce a research report with recommendations.

DEFINITION OF RESEARCH

Research is the systematic way of collecting, analysing and interpreting data to facilitate decision-making.

TYPES OF RESEARCH

You, as an inspector, will from time to time be in situations where you will be required to conduct some form of research in order to contribute to the improvement of education standards in your country.

There are different types of research that you may get involved in. The choice of the type of research will largely depend on the purpose of the research. If your interest is to gain insight into a situation, phenomenon, community or person, then you will resort to exploratory research.

The need for such research could arise from a lack of basic information on a new area of interest (Bless and Achola, 1988: 41). If, however, your aim is to give an accurate account of the characteristics of a particular phenomenon, situation, community or person, you will be required to use descriptive research. Bless and Achola further state that this type of research includes a description of how frequently some events occur or of the proportion of people within a certain population sharing certain views or acting in a certain manner. In this type of research, the purpose of investigation is clearly determined and stated before the research starts.

Descriptive research includes:

- **baseline studies**
  - these are used to determine the state of affairs or situation before the implementation of a new project.

- **case studies**
  - this is a detailed and thorough investigation of a specific case or given reality.
- **surveys**
  - this is a collection of information on a wide range of cases and for each case particular aspects are under investigation

This means, therefore, that the types of research that you, as an inspector, may encounter include:

- action research for classroom and school setting
- case studies
- baseline studies
- surveys

This unit focuses on survey type research because it is one of the common research type that an inspector is likely to be involved in.

Bell (1987:10) states that, "The aim of a survey is to obtain information which can be analysed and patterns extracted and comparisons made." She further asserts that the main emphasis of surveys is on fact finding.

> **Activity 12a**
>
> (a) List the different types of research that you have been involved in.
> (b) What impact did the research have on your work?

PROBLEM IDENTIFICATION

Before any research is undertaken, the researcher must identify an area of need, topic or problem to be investigated. You, as an inspector, engaging in research will draw your topics or problems for investigation from current education practice in your professional environment. The problems or topics that you come up with must be clear, precise and researchable.

In selecting a topic or problem, it is desirable that you discuss it with colleagues because in doing so, you will improve the chances of your research being successfully conducted and supported. This will also improve the chances of your research having some practical application.

> **Activity 12b**
>
> Think about your professional environment as an inspector and suggest some possible problem areas for investigation.

COMMENT

In identifying problem areas for investigation, ensure that they emanate from current education practice in areas such as classroom instruction, school management, curriculum issues, application of educational policies and quality assurance issues. A possible problem area may be:

Performance of mature college students in final examinations.

PURPOSE OF RESEARCH

Having identified the problem area to be investigated, you as a researcher, must now narrow it down and be clear about the purpose of the research.

The purpose of the research is an interpretation of the problem area in more specific terms and can take the form of objectives or questions to be investigated.

> **Activity 12c**
>
> Having selected a number of problem areas for investigation in the previous activity, now select one of those problem areas identified and develop a specific purpose in the form of objectives or questions to be investigated.

COMMENT

You should ensure that these objectives or questions are specific and researchable.

Below is an example of a purpose expressed as an objective, and a question relating to the problem given below.

Objective: To investigate the views of mature college students about their chances of success in final examinations.

Question: What are the views of mature college students about their chances of success in final examinations?

RESEARCH METHODOLOGY

Once you, as a researcher, have worked out the objectives of the research, it is important that you make decisions on the appropriate methodology for data collection. The methodology you choose must include the following elements:

- identification of a sample from a selected population
  - the sample should be balanced, truly representative and manageable
- determination of the research methods. These methods may include:
  - questionnaires
  - interviews
  - observations
  - examination of documents
  - tests

> **Activity 12d**
>
> Examine the purpose you have given for the research in the previous activity and construct a set of questions to go into a questionnaire to help you collect the data.

COMMENT

It is important that in determining the questions, you follow the process for constructing questionnaires as given below:

- list the specific research problems to be investigated
- determine the type of data needed to address the problems
- formulate the specific questions to draw out the required data

In coming up with the questions in this activity, you should take note of the good qualities of questionnaires given below:

- questions or items must be relevant to the purpose of the study
- questions must be clear, precise and concise
- questions should focus on single items i.e. avoid double barrelled questions
- objective type questions, and not subjective questions are used i.e. avoid bias
- questions should not be offensive or presumptuous.

Below is an example of a question that can be used in a questionnaire to collect data on the views of mature students about their chances of success.

Do you consider your chances of doing well in final examinations as good? Please place a tick against the response that correctly describes your views.

STRONGLY DISAGREE	
DISAGREE	
UNDECIDED	
AGREE	
STRONGLY AGREE	

SOURCES OF DATA

Having identified the problem, clarified the purpose of the research, identified the type of data required, and the methodology to be used, it is important that you, as the researcher, identify the possible sources of the data.

Activity 12e

Having decided on the purpose of the research, type of data and methodology, now list the possible sources of the data you may need to access.

COMMENT

The possible sources of data in your professional environment may include:

- diaries and other records of time use
- various officers through interviews
- policy documents from government offices
- school documents
- classroom observations

For you to access these sources of data, it is necessary that you develop appropriate inter-personal skills e.g. protocol, formality, courtesy, tact, humility, patience and perseverance.

DATA COLLECTION AND ANALYSIS

As indicated above, it is important for you, as a researcher, to develop positive qualities to help you access the data which you require.

It is equally important for you to effectively use the chosen research methods to assist with data collection.

In collecting data, you may use some of the methods below:

- evaluating documentary sources
- questionnaires and surveys
- interviews
- diaries and other records of time use
- observation studies
  (NEC 1992: 23)

As data collection is underway, you must keep track of the quality and quantity of the data you are accumulating to avoid being overwhelmed and side-tracked.

Raw (1987: 127) advises that "Raw data taken from questionnaires, interview schedules, checklists etc., need to be recorded, analysed and interpreted."

You, as a researcher, will go through the following stages in analysing data:

- tabulating the results from questionnaires, interviews, observation checklists and diaries and other records of time use.
- identifying similarities and differences
- noting deviations from the expected.

Other researchers may use statistical analysis to determine whether results are statistically significant.

Once analysed and interpreted, the data may be presented using tables, bar charts, pie charts etc.

Activity 12f

A survey was conducted among mature students at a college to determine their views on their chances of success in the final examinations. Below is a table showing levels of agreement among the mature students about their chances of success.

(N = 50)

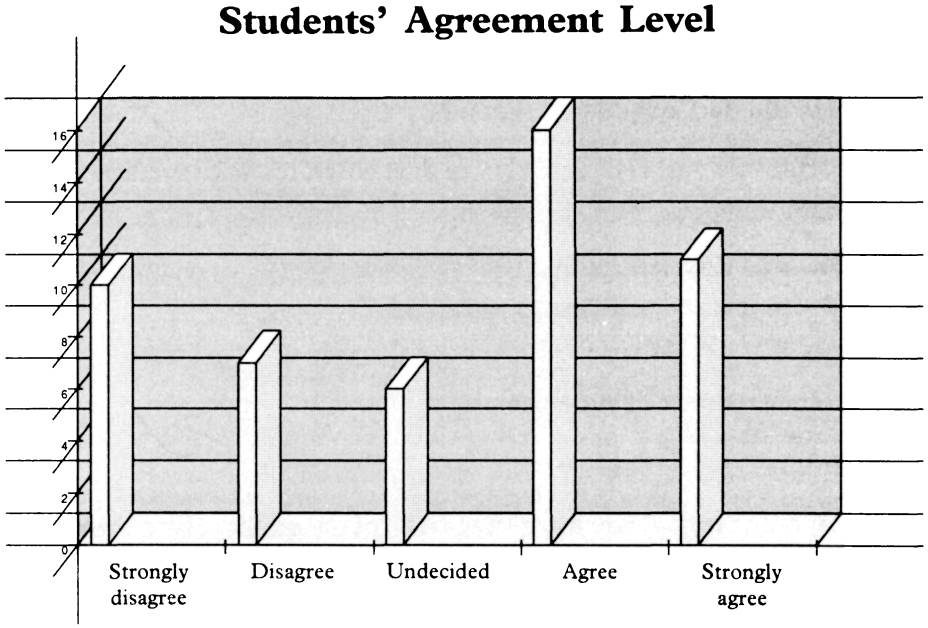
STRONGLY DISAGREE	DISAGREE	UNDECIDED	AGREE	STRONGLY AGREE	TOTAL
10 (20 %)	7 (14 %)	6 (12 %)	16 (32 %)	1 (22 %)	50 (100 %)

SOURCE: Bell, J (1987:140)

You are now required to present the data from the table above in the form of a bar chart.

COMMENT

Page 88 shows an illustration of the bar chart you are expected to produce.



SOURCE: Bell, J. (1987:141)

RESEARCH REPORT

Bless and Achola (1988:142) on research reports state, "Research reports will be quite different depending on their aims and their readership. Their presentation, completeness and length, their emphasis on one or the other aspect, their level of scientific exposure will accordingly vary greatly"

Inspectors will be concerned that research reports are understood by the average education readership and will therefore present their findings in general terms and will avoid scientific terminology. Such reports will have the following components:

- Introduction
  - identification of the research problem
  - purpose and significance of the research
- Methodology
  - population and sample
  - methods used
- data analysis
- findings
- conclusions
- recommendations

Activity 12g

Refer to the table and bar chart in the previous activity and write down possible conclusions and recommendations based on the data provided.

Clearly state the differences between conclusions and recommendations.

COMMENT

The conclusions and recommendations should be based on the data provided in the table and bar chart.

On the differences between conclusions and recommendations, you should note that conclusions are statements of fact relating to situations highlighted by the findings, whereas recommendations reflect the researchers' views regarding possible solutions to the problems cited in the conclusions.

SUMMARY

Now that you have worked through this Unit, it is hoped that you will have developed the following inspector's skills:

- problem identification
- planning
- data collection
- communication
- analysis
- data interpretation
- research report writing

REFLECTION

Having gone through this Unit, reflect on your experiences as an inspector and identify those aspects of educational research which this Unit has helped to de-mystify.

REFERENCES

Bell, J. (1987) *Doing Your Research Project. A Guide for First Time Researchers in Education and Social Science,* OUP, Buckingham

Bless, C. and Achola, P. (1988) *Fundamentals of Social Research Methods: An African Perspective,* Government Printer, Lusaka

National Education Centre (1992) *Techniques of Investigation: An Introduction to Research Methods*, NEC Trust, Cambridge