

## **CHAPTER 2 SOCIAL RESEARCH WORK**

### **2.1 Introduction of the Unit of Learning/Unit of Competency**

Social research work is a unit of competency covered in TVET level 6 Social Work and Community Development course qualification. This unit covers the competencies required to conduct social research works. It involves identifying research problem, formulating research plan, developing research tools, carrying out data collection, analysing collected data and preparing research report. The significance of social research work TVET level 6 Social Work and Community Development curriculum is to equip learners with knowledge and skills to be able to conduct research related to Social Work and Community Development.

The critical aspect of competency to be covered includes; demonstrated ability to conduct literature review, identify research problem, establish scope of the study, establish time frame of the study, prepare a budget, establish research sample size, identify, design, test, validate and administer research tools, establish and train data collection team, conduct data analysis, prepare a report and share the findings and finally implement the recommendations. The basic resources required include videos, stationary, filing equipment, text books/reference materials, and policy documents.

The unit of competency covers seven research learning outcomes. Each of the learning outcomes presents; learning activities that cover performance criteria statements, thus offering the trainees an opportunity to demonstrate competencies stipulated in the occupational standards and content in curriculum. Information sheet provides; definition of key terms, content and illustration to guide in training. The competency may be assessed through written test, demonstration, practical assignment, interview/oral questioning and case study. Self-assessment is provided at the end of each learning outcome. Holistic assessment with other units relevant to the industry sector workplace and job role is recommended.

### **2.2 Performance Standard**

Identify research problem, formulate research plan, develop research tools, carry out data collection, analyse collected data and prepare research report as per analysis, standard operating procedures, set objectives and organization policy.

## **2.3 Learning Outcomes**

### **2.3.1 List of Learning Outcomes**

- a) Identify Research Problem
- b) Formulate research plan
- c) Develop research tools
- d) Carry out data collection
- e) Analyse collected data
- f) Prepare research report

### **2.3.2 Learning Outcome No 1: Identify Research Problem**

#### **2.3.2.1 Learning Activities**

<b>Learning Outcome No 1: Identify Research Problem</b>	
<b>Learning Activities</b>	<b>Special Instructions</b>
 <p>1.1 Conduct <i>Literature review</i> (Project report, Government agencies report, Past research reports and Development partners report) as per SOPs          1.2 Conduct literature review analysis as per SOPs          1.3 Identify research problem based on the analysis</p>	Discussions Research proposals

#### **2.3.2.2 Information Sheet No2/LO1: Identify Research Problem**



#### **Introduction**

This learning outcome covers conducting literature review and literature review analysis, meaning and identification of research problems.

#### **Definition of key terms**

**Literature review:** It is a search of available research in a chosen area of study.

**Social research:** Method used by social scientists to investigate social issues and develop products and services to solve the problems/needs of the society.

**Research problem:** This is a statement about an area of concern, a condition to be improved, a difficulty to be eliminated for meaningful understanding and deliberate investigation.

#### **Content/Procedures/Methods/Illustrations**

##### **1.1 Literature review is conducted as per SOPs**

When conducting literature review as per standard operations procedure you will use the following steps;

- i. Find a working topic
- ii. Review the literature
- iii. Identify gaps
- iv. Develop a purpose statement and analysis

There are different types of literature review namely;

- Argumentative review: This form examines literature to support an argument.
- Integrative research: A form of research that represents literature on a topic.
- Historical review: This is a form of research throughout a period of time.

- Methodological review: This is a particular approach of the theory used during research.
- Systematic review: This is a clear approach on a topic.
- Theoretical review: This form shows the existence of theory.

The purpose of literature review is to:

- Assist in justifying your research area
- Identify the relationship of the topic to other work
- Collect, evaluate, select and find connections of themes in your area of research
- Supports the identification of a research topic
- Help gain understanding of the existing research
- Help you build your knowledge in your field
- Help understand how research findings are represented

## **1.2 Literature review analysis is conducted as per SOPs**

Literature review analysis is an assessment of literature on particular topics. Literature review analysis consists of;

- A main statement/idea that you are putting forward e.g. a topic sentence
- Evidence from research to support/ argue your idea, showing where the writers agree or disagree
- Analysis of the research literature where appropriate
- Summing up and linking to the next idea
- Evaluating the current state of the literature reviewed
- Pointing out major flaws or gaps in research
- Outline issues pertinent to future study of literature

### **Steps followed in literature review analysis**

- i. Define your research
- ii. Decide on the area of review
- iii. Select the databases to use while doing the research
- iv. Conduct your searches and find the literature review analysis
- v. Review the literature review analysis

A literature review analysis is meant to help in;

- Distinguish what has been done from your topic
- Rationalize the significance of the problem
- Provide a context for your own research
- Understanding the structure of the subject
- Identifying relationships between ideas and practice
- Identifying the main methods and research techniques that have been used
- Preventing duplication and give credit to other researchers

### **Advantages of literature review analysis**

- It gives framework for research, because students can have an idea of what has already been done
- Helps students build up new research topics
- Provide foundation of knowledge on a topic
- Identifies gaps in research
- Opens questions left from other research

### **1.3 Research problem is identified based on the analysis**

A research problem is a statement about an area of concern a condition to be improved, specific issue to be addressed for meaningful understanding and deliberate investigation. There are three types of research problem;

- **Theoretical research problem:** It is the explanation of research problem that has no need for verification.
- **Descriptive research problem:** The following type is asked “what is it like?” describing a situation, condition or occurrence.
- **Action descriptive research problem:** This is a problem through a process of data collection which enables them to describe the situation completely.

### **Ways of identifying a research problem**

- Choosing a specific topic for your research
- Identifies all the issues that you will address
- State the issues in clear research language

### **Ways of formulating your research problem with ease:**

Formulating your research problem enables you to make a purpose of your study clear to yourself and the target readers. A problem statement is an effective and essential tool to keep you on truck with research and evaluate it. Some of the ways formulate a research problem include:

- Specifying your research objectives
- Review its context
- Explore its nature
- Determine variable relationships
- Anticipate the possible consequence of alternative approaches

### **Most frequent mistakes when forming a research problem**

- The author specified the area and not the research problem
- Research problem is not of value or does not make sense
- The research problem is simple
- The problem is too broad
- The problem is not researchable

### **Basic characteristics of a research problem**

For your research problem to be effective, make sure that it has these basic characteristics.

- Reflecting on important issues or needs
- Basing on factual evidence
- Being manageable and relevant
- Suggesting a testable and meaningful hypothesis

The purpose of research problem is to;

- Introduce the reader to the importance of the topic being researched and studied
- Places the problem into a particular context that defines what is to be investigated.
- Provides the framework for reporting the results
- Indicates why it is necessary to conduct the study

### **Conclusion**

This learning outcome covered conducting literature review and literature review analysis, meaning and identification of research problems.

### **Further Reading**



1. Read more on approach to research from Educational Research by Creswell J.W
2. Read more on identification of research problem from Orodho & Kombo (2002)

### **2.3.2.3 Self-Assessment**



### **Written Assessment**

1. Which of the following is not a type of literature review?
  - a) Integrative review
  - b) Literature review
  - c) Existing research
  - d) Identification review
2. A research problem is expected to do all of the following EXCEPT?
  - a) Reflecting on important issues or needs
  - b) Determine variable relationships
  - c) Place the problem into a particular context that defines what is to be investigated

3. Which of the following is not a purpose for conducting literature review?
  - a) Form research
  - b) Find connection of themes
  - c) Support an argument
  - d) Research method
4. The following are advantages of literature review analysis except?
  - a) Systematic review
  - b) Understanding concepts
  - c) Making outcomes
  - d) Validating analysis
5. What is the purpose of literature review analysis?
  - a) Understanding the structure of the subject
  - b) Systematic review
  - c) Understanding concepts
  - d) Conducting literature analysis
6. Identify the importance of literature review among the following?
  - a) Gain understanding of the existing research
  - b) Represent and approach sourced of literature
  - c) Form research thought
  - d) Supporting an argument
7. The following are characteristics of a research problem which one is NOT?
  - a) Reflects on important issues or needs
  - b) Provide factual evidence
  - c) Being manageable and relevant
  - d) Based on researcher's feelings
8. Outline the criteria to use in formulating research problem with ease.
9. Analyse the basic characteristics for your research problem.
10. Differentiate between a statement of a research problem and a research problem.
11. Evaluate the benefits of conducting a literature review.
12. Justify the purpose of literature review analysis.

### **Oral Assessment**

1. Summarize procedures for conducting literature review.
2. Formulate a viable research problem.

### **Practical Assessment**

Conduct a literature review on issues facing the education sector in your area and formulate a research problem based on literature analysis you have done.

#### **2.3.2.4 Tools, Equipment, Supplies and Materials**

- A functional office
- Fully equipped simulated operations training office
- Video cameras
- Tablets
- Smart phones
- SD cards and card readers
- TFT screen
- Recorders

#### **2.3.2.5 References**



Creswell J.W (2012). Educational Research: Planning Conducting and Evaluating qualitative and quantitative research. (4<sup>th</sup> Ed.). Boston MA: Pearson.

Liu, B. (2009). Some research problems in uncertainty theory. Journal of uncertain Systems, 3(1), 3-10.

Ogras, U.Y. HU. J & Marculescu. R. (2005, September).Key research problems in Noc design: a holistic perspective. In proceedings of the 3<sup>rd</sup> IEEE/ ACM/IFIP International Conference on Hardware/Software Codesign and System Synthesis (PP 69-74)

Orodho A & Kombo D (2002), Research Methods, Nairobi. Kenyatta University, Institute of open learning module.

### **2.3.3 Learning Outcome No 2: Formulate research plan**

#### **2.3.3.1 Learning Activities**

<b>Learning Outcome No 2: Formulate research plan</b>	
<b>Learning Activities</b>	<b>Special Instructions</b>
 <p>2.1 Establish scope of study as per the set objectives      2.2 Establish Timeframe as per the scope of the study      2.3 Prepare budget as per organization policy      2.4 Establish samples size as per the scope of the study</p>	<p>Classroom Simulations      Brainstorming      Case Studies</p>

#### **2.3.3.2 Information Sheet No2/LO2: Formulate research plan**



#### **Introduction**

This learning outcome covers establishing: scope of study, research timeframe, sample size and preparing a budget as per organizational policy.

#### **Definition of key terms Scope of Study**

A **research plan** also known as a research proposal is a document that explains more about the research work to be done.

**Sample:** A group of people, objectives or items that are taken from a large population to represent it in generalizing the finding of a research project.

**Hypothesis:** A statement about relationship between two or more variables.

#### **Content/Procedures/Methods/Illustrations**

##### **2.1 Scope of study is established as per the set objectives**

A scope of study is the first plan in formulating a research plan. It entails the area to be covered in the research work. Contents found in the scope of study: title, background information, research methodology, a plan of work, the time schedule and a budget plan.

##### **Steps taken to establish a scope of study**

- i. The organizations' or researchers' reasons as to why they are undertaking the research
- ii. Define the key objectives of the research study. Why is the proposal being done, what will be done, when will it be done and how much it will cost.
- iii. Outline a project statement of work. A statement of work provides a detailed breakdown of the work to be done during the research period.

- iv. Obtain a sign off from organizations management or involved stakeholders as a confirmation sign that they are aware and fully understand the research work done.

### **Importance of the scope of study**

Scoping assist the researcher in;

- Planning what steps needs to be done
- Define the objective
- Note the important areas to be covered

### **Essential information in a scope of study**

- **Business case:** why is the project required and what benefits are expected to be delivered or what problems will be solved.
- **Project description:** An overview of the projects; final deliverable.
- **Success criteria:** These are the key elements that will constitute a successful project they include: Background information research methodology plan of work /time schedule and a budget plan.
- **Limitations:** This could be related to resources or some technology limitations that could affect the end product.
- **Assumption:** These are documented assumptions that have been made and will affect the final outcome.

## **2.2 Timeframe is established as per the scope of the study**

A timeframe is a set of time in which certain activities are expected to occur. A timeframe serves as a visual overview of the project. It is formed by establishing a work breakdown structure showing the flow of work. A timeframe includes scheduled work times for example; one may have a time frame for researching, sorting, writing, sampling and data collection, compiling data received and submitting the report.

**Table 1: Sample table showing a work timeframe**

Research activity	Jan	Feb	March	Apr	May	June	July	Aug
Develop research proposal								
Literature review								
Develop questions for data collection								
Data collection								
write up for first draft								
Write up for final								
Submission of research report								

### **Advantages of formulating a time frame**

- Allows enough time for communicating with people who have communication difficulties
- Gives the researcher time to discuss
- Enough time is needed to reflect upon and learn from the sample size used
- Time is necessary not only to collect but also carefully analyse the data collected
- Enough time is needed to report back your finding to your respondents
- Enough time is needed to write your reports for the various groups of people who may find your research useful.

### **2.3 Budget is prepared as per organization policy**

A budget is a created plan for money showing how it is intended to be used. Budgeting may include costs like direct costs, indirect costs, operating costs among others.

#### **Types of budget**

- i. **Provisional budget:** This a rough budget to enable one to have an estimate of how much an activity will cost.
- ii. **Permanent budget:** there is no room to change this type of budget one must work within it.

iii. **Contingency:** It is a budget based on the permanent budget that has been worked out so as to take into consideration any unexpected events or rises in the cost.

Creating a budget includes;

- Identifying all items that are going to cost money
- Creating and estimating prices of items money will be spent on
- Getting approval for the amount from the management

### **Importance of Budgeting**

- Establishing guidelines
- Cost estimation: One can estimate how much money can be spent on each component of the project
- Prioritizing: It will allow one to prioritize the different parts of the project
- Future Planning: In case the budget shows funding to be inadequate to cover the necessary cost to complete the entire project, having a budget in place will help in planning for future cost.

### **2.4 Samples size is established as per the scope of the study**

Sample size refers to the number of participants or observations included in a study.

Terms used in sampling include;

**Population:** The total number of people or objects in an area.

**Target population:** This is the total group of people or objects being used in the study.

The size of the sample influences two statistical properties

- The perception of the estimates.
- The power of the study to draw conclusions.

### **Sampling Techniques**

There are two forms of research sampling;

#### **i. Qualitative Sampling**

These are non-numerical data used to study elements in their natural setting. There are three main types of qualitative sampling.

- a) **Purposive Sampling:** Pre-selected criteria related to research hypothesis determines the participants for the research.
- b) **Quota Sampling:** The researcher established participants' quotas before forming a sample.
- c) **Snowball Sampling:** The participants in the study refer other individuals who fit the traits required for the study.

#### **ii. Quantitative sampling**

Used to categorize or rank numerical data. Researchers establish general laws of behaviour found in different contexts and settings.

There are three main types of quantitative sampling;

- Random Sampling: This is when all individuals in a population have an equal chance of being selected.
- Stratified Sampling: When the researcher defines the types of individuals in the population based on the specific criteria.
- Systematic Sampling: Occurs when the researcher chooses a sample in an orderly manner.

### Steps for estimating a sample size

- i. Specify a hypothesis test: choose one to three main hypothesis. A hypothesis is a tentative statement about the relationship between two or more variables
- ii. Specify the significance level of the test: It is usually alpha 0.5 but it does not have to be
- iii. Specify the smallest effect size that is of scientific interest
- iv. Estimate the values of the parameters necessary to compute the power function. Most statistical tests have the format of standard deviation. We can get it if we use data from a pilot study or also use historical data to compute standard deviation
- v. Specify the intended power of the test which is the probability of finding significance if the alternative hypothesis is true
- vi. Calculate

### Purposes of Sampling

- Saves time
- Saves money
- Collects richer data: sampling allows the researcher to ask participants more questions and to gather richer data than does contacting everyone in a population.

### Conclusion

This learning outcome covered scope of study, research timelines, sample size and budget proposal which will help the student to understand more about formulating research plans and the steps to take and points to note in the task.

### Further Reading



Read more on sample size from: Social Work Research Methods by Bruce A. Thyer. (2000)

Read more on scope of study Fundamentals of Social Work Research by Rafael J. Engel. (2014)

### **2.3.3.3 Self-Assessment**



#### **Written Assessment**

1. Define the term research?
  - a) Searching again and again
  - b) Finding solutions to a problem
  - c) Working in a specific way to search for the truth of any problem
  - d) None of the above
2. Identify the first step in research sampling process?
  - a) Searching sources of information to locate problem
  - b) Survey of related literature
  - c) Searching for solutions to the problem
  - d) Identification of the problem
3. The essential qualities of a researcher are?
  - a) Spirit of free enquiry
  - b) Reliance on observation and evidence
  - c) All of the above
  - d) None of the above
4. A research is a brief report of research work based on?
  - a) Both primary and secondary data
  - b) Secondary data
  - c) Primary data
  - d) None of the above
5. Which of the following variables cannot be expressed in quantitative terms?
  - a) Marital status
  - b) Numeric aptitude
  - c) Professional Attitude
  - d) Social economic status
6. A common test in research demands much priority on?
  - a) Reliability
  - b) Objectivity
  - c) Usability
  - d) All of the above
7. What content is found in the first page of the research report?
  - a) Title page
  - b) Appendix
  - c) Index
  - d) Literature review
8. Formulate a budget to be used in a research exercise.
9. Discuss the steps taken in establishing a scope of study when formulating a research plan.

10. Classify the various forms of sampling techniques giving examples in each case.
11. Discuss the advantages of having a timeframe when formulating a research plan.
12. Analyse the contents found in the scope of study.

### **Oral Assessment**

1. Discuss some of the sampling techniques used in research.
2. State the importance of budgeting while formulating a research plan.

### **Case Study Assessment**

In recent reports, there has been a high rise of teenage pregnancy in our country and you have been appointed to carry out research on the case. Prepare a time frame and a budget for the project.

### **Tasks to do**

1. Establish a scope of study as per the set objectives.
2. Formulate a workable timeframe likely to be used during the study
3. Estimate a suitable budget to be used
4. Discuss the possible solutions that can be used to cub the identified problem

#### **2.3.3.4 Tools, Equipment, Supplies and Materials**

- A functional office
- Fully equipped simulated operations training office
- Video cameras
- Tablets
- Smart phones
- SD cards and card readers
- TFT screen
- Recorders
- Pens
- Calculators
- Note books/pads

#### **2.3.3.5 References**



- Allen. R., & Earl R.B. (2015). Research Methods for Social Work. USA. Cengage Learning.
- David R. (2007). Research Methods in Social Work. USA. Thomson Learning. Jac.
- Rafael J. Engel, Russel K, Schutt (2014). Fundamentals of Social Research. USA. SAGE Publications. Inc.

### **2.3.4 Learning Outcome No 3: Develop data collection tools**

#### **2.3.4.1 Learning Activities**

<b>Learning Outcome No 3: Develop data collection tools</b>	
<b>Learning Activities</b>	<b>Special Instructions</b>
 <ul style="list-style-type: none"> <li>3.1 Identify required tools as per SOPs</li> <li>3.2 Design required tools as per SOPs</li> <li>3.3 Test selected tools as per SOPs</li> <li>3.4 Validate research tools as per SOPs</li> </ul>	Group discussions Case study simulations Oral discussions

#### **2.3.2.2 Information Sheet No2/LO3: Develop data collection tools**



#### **Introduction**

This learning outcome covers: Identification and development of data collection tools, pilot testing of the tools and validation of the research tools.

#### **Definition of key terms**

**Data collection:** The procedure of gathering, computing and analysing data collection from researching certain variables or research questions through systematic techniques.

**Pilot testing:** A preliminary study that is conducted in small scale for the purpose of evaluating the procedure and outcome of a research project prior to the study.

**Data validation:** The procedure of ensuring that the data collected is a true representation of the variables being studied.

#### **Content/Procedures/Methods/Illustrations**

##### **3.1 Required tools are identified as per SOPs**

These tools include interviews, questionnaires, focus group discussion and observation. These instruments are used to collect data from chosen respondent about a certain phenomenon.

###### **a) Interviews**

An interview is a standard data collection tools that entails the collection of information through the inquiry method. During interview the researcher coordinates the entire process by asking questions that address the research objectives. The questions can be asked either face to face, through the telephone or email. The responses to these questions are then recorded in a manner that allows data analysis.

### **Types of interviews**

- **Structured interviews:** These are organized or designed in a manner where researchers actually fill structured forms instead of the respondents involved. The questions asked are also predetermined and standard.
- **Semi- structured interviews:** They are utilized when an interviewer intends to use both structured questions in a form with a lee-way of asking questions to seek clarification and more information concerning a topic, however structured interviews apply for consistent results.
- **Open-ended interviews:** These interviews entail no specific instruction or restrictions during the process of data collection. It entails the interviewer asking a series of broad questions to ensure an open, and information discussion.

### **Advantages**

- Using interviews is appropriate for research because it enables a researcher obtain in-depth information about a certain phenomenon by asking open-ended questions. It allows the interviewer to ask questions that are private and require rapport formation with respondents

### **Disadvantages**

- A major limitation of using interviews is that it is time consuming and expensive to conduct interviews on every participant

### **b) Questionnaire**

Questionnaires are research instruments that entail respondent filling in forms by themselves. They are used when the respondent have some level of literacy and can be able to understand and fill the form by themselves. Forms can be sent via email or delivered by hand to the respondents. There are two types of questionnaires depending on the type of the questions they are:

#### **• Closed questionnaire**

These entail questions that a respondent should choose while filling out forms. Closed questions are especially concordant for quantitative data because they provide both normal and ordinary data. Additionally, the data developed may be presented using pie charts, percentage and bar-charts.

Closed questions are advantageous because they are economical, easy to collect and analyse and provide standardized responses that are easy to test for reliability since they lead to responses that are narrow in scope.

- **Open questionnaire**

Questionnaires could also be designed from open-questions where respondents are allowed to answer questions how they deem fit. They are mostly used for answering questions that are complex in nature and require more explanations.

One major strength for open questions is that it enhances scope covered by respondent by allowing them to expound on their answer.

Open questions are limited in that they are time consuming to construct and answer and are unsuitable for respondents who are less literate and cannot adequately express their feelings.

1)\* How satisfied are you with our selection of products?

Very satisfied    Satisfied    Neutral    Dissatisfied    Very dissatisfied

Any comments?

2)\* How satisfied are you with the ease of the order process?

Very satisfied    Satisfied    Neutral    Dissatisfied    Very dissatisfied

Any comments?

3)\* How satisfied are you with the speed of delivery of your order?

Very satisfied    Satisfied    Neutral    Dissatisfied    Very dissatisfied

Any comments?

Figure 1: A simple questionnaire

Source: jotform.com

c) **Observation**

A process of collecting data from the natural environment by physically observing phenomenon such as processes, objects, event and relationships formally record the observations. Observation is advantageous because it is a simple method and does not entail any technical expertise; it provides a clear accuracy of results and is used for sensitive cases.

**Types of Observation**

- **Structure/ direct observation**

The researcher records observations against agreed checklists. This is important where standardized data is required.

- **Expert observation**

An expert observer in a certain field is involved in observing and recording data concerning a certain phenomenon. It is required when information required is sensitive and difficult to find and interpret.

- **Participatory observation**

It occurs when the beneficiaries of the particular are engaged in the planning an observation exercise, actual engaging in the process and discussing of the findings. This is required in instances when the researcher is required to live with the respondents to understand in-depth the phenomenon under study and information required is sensitive.

### **3.2 Required tools are designed as per SOPs**

Designing data collection methods entails developing content to use in the collection tools to ensure all questions included in the tools represent the questions of the study.

#### **Designing questionnaire**

##### **Steps in designing a questionnaire**

- i. Decide on the content of the questionnaire i.e. participants to involve and how to relate content of the questionnaire with the research questions
- ii. Draft the biographical information excluding the names of the respondent to ensure that anonymity is upheld,
- iii. Choose how to reach the respondents i.e. personal interaction, telephone or via mail.
- iv. Decide on the content of the questions and their wording,
- v. Align the questions in an orderly manner, protest the developed questionnaire
- vi. Develop a conclusive survey form to use

#### **Designing an interview**

While designing interviews, the researcher should:

- i. Consider the research questions and overall objectives of the research.
- ii. List the objectives and hypothesis of the research
- iii. Select the interview method to use including how to represent the interview forms to respondents and when and where to include open or close-ended questions
- iv. Prepare a discussion guide which will ensure that the researcher refers to the list of items within a checklist to help him/her stay within topic
- v. Find interviewees as per method required from the previous stages
- vi. Conduct the interview. By first seeking informed consent and collect the data
- vii. Finally analyse the collected data and disseminate findings

### **Designing observation method**

- i. Prepare observations to the questions of the study which will then be used as a guide to the process.
- ii. Find an appropriate spot to conduct the observation with minimal interruption.
- iii. Note down the happenings required as per the research questions, the setting ambience and physical characteristics as well as how you felt during the process of observing
- iv. Write down all notes in the observation template constructed above to ensure that time is not wasted on inelegant aspects.
- v. Allow data to evolve throughout the process because information tends to emerge as the observation process unfolds.
- vi. Then analyse all the data collected from the fields

### **3.3 Selected tools are tested as per SOPs**

Standard Operating Procedures advocate that before tools of data collection are used in the main research project, they should first undergo testing. The main procedure used to test the data collection tools is pilot testing.

#### **Pilot study**

Pilot studies are small scale studies used to investigate whether the key components of a study are feasible before engaging in the project. Pilot studies help researchers resign the project to ensure that all questions the design, the sample among other elements are feasible for the purpose of creating high quality outcomes.

- Pilot studies are used to prove the reliability of research instruments
- Pilot studies respondents use the selected data collection tools. To pilot a questionnaire, a representative sample of the target respondent is selected and ensures that they take the questionnaire, than make improvements where it seems fit on the basics of the feedback obtained.
- Pilot studies are therefore conducted prior to any study to increase the reliability even though it might lead to lengthy delays when it comes to disseminating research findings.

Pilot testing ensure feedback of a questionnaire is reasonable to ensure the removal of unnecessary and ambiguous questions. In interviews, it can also be piloted by conducting data analysis and altering the finding to determine whether the interview questions will represent the study questions. When it comes to the observation, piloting will entail finding out whether the chosen location will serve the study objectives in a feasible manner. For instance, whether the time it will take to observe phenomenon is feasible for the current study.

### **3.4 Research tools are validated as per SOPs**

Apart from testing the reliability of data collection tools, the validity of these tools must also be tested. Checking the validity of data collection tools entails finding out how accurate they are in measuring what they set out to measure.

#### **Conclusion**

This learning outcome covered identification and development of data collection tools, pilot testing of the tools and validation of the research tools.

#### **Further Reading**



Further reading could be done on validity testing, and tools such as focus group discussions, surgery and case studies on:

1. Wilcox, A, B. Ciallagger, K, D, Boden-Albala. B., S, Balcken, S.R (2012). Research Data Collecting Methods: from paper to tablet computer. Medical care .568-573
2. Fundamentals of Research Methodology and Data Collection (2016) Igwenagu, Chinelo

#### **2.3.4.3 Self-Assessment**



#### **Written Assessment**

1. Which of the following tools is a method to collect data?
  - a) Opinion
  - b) Positivism
  - c) Case study
  - d) Interview
2. Which of the following types of research is used to cause changes and monitor outcomes?
  - a) Grounded theory
  - b) Action research
  - c) Survey
  - d) Case study
3. While conducting any study one should test reliability and validity of
  - a) Procedure of sampling
  - b) Interviewing process
  - c) Data collection tool
  - d) All the above

4. Secondary data include?
  - a) Personal documents
  - b) Optical document
  - c) Archived research data
  - d) All the above
5. Qualitative observation conducted for exploratory purposes is called \_\_\_\_\_ kind of observation.
  - a) Probed
  - b) Complete
  - c) Naturalistic
  - d) Structured
6. What is the other name for a likert scale?
  - a) Ranking rating scale
  - b) Trent sampling
  - c) Summated rating scale
  - d) Interview protocol
7. When conducting interviews asking questions such as how do you feel, anything else are forms of?
  - a) Protocols
  - b) Probes
  - c) Contingency questions
  - d) Response categories
8. Highlight five reasons why a researcher should conduct a pilot study
9. Outline the advantages and disadvantages of observation method
10. Explore five advantages of using the questionnaire method of data collection
11. Summarize five sources of secondary data that are helpful to the researcher
12. Briefly describe how to design a field observation method

### **Oral Assessment**

1. Justify why a researcher should ensure the validity of research instruments.
2. Demonstrate the process for designing an interview guide.

### **Practical Assessment**

Develop a questionnaire on a topic of your choice with careful consideration of the 15 principles of questionnaire construction

#### **2.3.4.4 Tools, Equipment, Supplies and Materials**

- A functional office
- Video cameras
- Tablets/smart phones
- SD cards and card readers
- TFT screen
- Notebook and pen

#### **2.3.4.5 References**



- England, M. (2012). The interview: Data collection in Descriptive phenomenological Human Scientific Research Journal of phenomenological psychology, 43(1), 13-35
- Igwenagu, Chinelo (2016) Fundamentals of Research Methodology and Data Collection. LAP Lambert Academic Publishing
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- Wilcox, A.B., and Research Data Collection Methods: From paper to tablet computer medical care, 568-573

### **2.3.5 Learning Outcome No 4: Carry out data collection**

#### **2.3.5.1 Learning Activities**

<b>Learning Outcome No 4: Carry out data collection</b>	
<b>Learning Activities</b>	<b>Special Instructions</b>
4.1 Establish data collection team as per organization policy 4.2 Train data collection team as per organization policy 4.3 Administer research tools as per organization policy	Group discussions Classroom simulations PowerPoint presentations

#### **2.3.5.2 Information Sheet No2/LO4: Carry out data collection**



#### **Introduction**

This learning outcome covers types of data, establishment and training of a data collection team and administration of data collection tools.

#### **Definition of key terms**

**Data collection:** It is a process of gathering and measuring information on variables of interest, in an established systematic way, in order to answer research questions and evaluate outcomes.

**Data:** This is the information gathered for purposes of reference or analysis.

**Research Tools:** These are instruments or equipment used in quantitative and qualitative methods of data collection.

#### **Content/Procedures/Methods/Illustrations**

##### **4.1 A data collection team is established as per organization policy**

Data collection team is a group of people who are carefully selected from the organization to gather information for analysis as per the guidelines and rules of that organization. An organization establishes data collection team by leveraging existing skills. This is done by ensuring that the employees from within the organization are given the first priority before outsourcing. An organization can also establish a data collection team by striking a balance. This should be a harmonious balance between having fun and expressing creativity while thoughtfully evaluating the risks and rewards involved.

## **Importance of establishing a data collection team**

An organization may establish a data collection team in order;

- To help improve a product or a service
- To be able to come up with a solution to a problem that is hindering the attainment of the organization's objective
- To help the organization learn more about its customers
- It enables the organization to dissolve trends in the way people change their opinions and behaviours over time or in different circumstances
- It also helps the organization in facilitating decision making and improving the quality of decisions made.

In data collection, there are two types of data

- **Qualitative data:** Is any data that can be measured and characterised based on the attributes and properties of a phenomenon. It is non-numerical in nature
- **Quantitative data:** Are measures of values or counts and are expressed as numbers

## **4.2 Data collection team is trained as per organization policy**

Training is the process of adding more skills and knowledge in an employee in a certain area. Data collection teams should be equipped with the necessary skills and knowledge in order to carry out the data collection process with ease and understanding.

### **Steps in training the data collection team**

- i) **Determining training needs:** This entails analysing what needs to be trained with regards to the job requirement and the team's requirement.
- ii) **Establishing Training policies:** An organization should have guiding principles on how training should be done. The responsibility of the top management in training should also be clearly stated.
- iii) **Setting goals and objectives of training:** The goals of training the team is to help in the improvement of the performance. An objective could be long-term e.g. organizational restructuring.
- iv) **Preparing the training budget:** The organization is responsible for the funds allocation required for the training process. The funds are supposed to facilitate any activity during the training process.
- v) **Deciding about the training venue:** The type of training to be given helps in deciding the venue e.g. if it is on the job training, the training could be done within the organization. Off the job training requires an environment away from the normal working environment.
- vi) **Deciding about the methods and techniques to be deployed in the training:** The organization does this depending on the depth of knowledge, background of the trainees and the number of trainees to undergo the training process.

vii) **Determining methods of evaluating training:** This is the measurement of the effectiveness of performance after training and collecting useful feedback for future training.

### **Importance of training data collection team**

- It helps in the improvement of the organization's operations. When the data collection team is well equipped with the knowledge required and the skills, the process of data collection becomes efficient and effective
- There is improvement of the quality of data collected and is safely ensured
- There is increased profitability because the data collected is well analysed to help the organization improve on products and services
- There is improved corporate image because, effective data collection leads to improved quality of the products and services offered hence improving the image of the organization
- It boosts the morale of the workers in that organization

### **4.3 Research tools are administered as per organization policy**

A research tool is a testing device for measuring a given phenomenon, a concept of interest in research. An ideal measuring instrument is one whose results are relevant, accurate, objective, sensitive and efficient. When one wants to collect data, they need to decide on the research tool to use in the process. Research tools include the interviews, surveys and focus group. Research tools are administered in the following ways;

- Interviews have a face to face conversation between the interviewer and the respondent. They ask questions in line with the information they want to gather. In cases where the questions are not clear, the respondent is free to ask for clarifications from the interviewer while they record down the answers as they are being answered
- In surveys information is gathered from a sample of a particular group. The respondents use such devices as smartphones, tablets and computers and can do so in places where they are comfortable. A large sample size is used in this method thus ensuring data accuracy
- Focus groups consist of a small number of people from a target group. The information is gathered through group discussions with a moderator who ensures smooth flow of the questions

### **Conclusion**

This learning outcome covered types of data, establishment and training of the data collection team and administration of data collection tools.

## **Further Reading**



1. Read more on: survey methods for data collection from Data Collection book by Wendy Olsen (2011).
2. Read more on collecting qualitative data from Fundamentals of Research Methodology and Data Collection. Igwenagu, Chinelo (2016).

### **2.3.5.3 Self-Assessment**



#### **Written Assessment**

1. Which one is not a method to consider when selecting an appropriate method for data collection?
  - a) Adequately piloted instrument
  - b) Unethical sound instrument
  - c) Appropriate instrument to the research objective
2. Which of the following is not classified as secondary data in data collection?
  - a) Journals
  - b) Internet
  - c) Questionnaires
  - d) Government publication
3. Quantitative or numerical data occur when the variable can be measured and expressed numerically. Is this statement
  - a) True
  - b) False
4. Which of the following statement is correct?
  - a) Close ended questionnaire allows respondents to answer using their own words
  - b) Open ended questionnaires include all possible answers/ prewritten response categories
  - c) None of the above
5. The following are methods of data collection **EXCEPT?**
  - a) Questionnaire
  - b) Observation
  - c) Case study
  - d) Qualitative data

6. When establishing data collection team, the organization is guided by?
  - a) Organization mission
  - b) Organization policy
  - c) Case study
  - d) Qualitative data
7. Which of the following methods of data collection does not require the data collection team to move to where the respondent is in order to collect data?
  - a) Questionnaire
  - b) Interview
  - c) Case study
  - d) Observation
8. Outline three advantages of using questionnaires as a data collection method.
9. Plan the procedure of training data collection team.
10. Identify the various methods used in data collection.
11. Classify the types of data by their characteristics.
12. Differentiate between qualitative data and quantitative data.

### **Oral Assessment**

1. Summarize the importance of data collection?
2. Demonstrate the criteria to use when selecting data collection tools.

### **Practical Assessment**

In Oloitoktok, the number of female students sitting for their final exams is less than their male counterparts. Collect the data in from a school of your choice in the area and present it to justify the statement.

#### **2.3.5.4 Tools, Equipment, Supplies and Materials**

- A functional office
- Online books
- Tablets
- Notebooks and pens
- Smart phones
- Books

### **2.3.5.5 References**



- De Vaus, D.A. (2001) Research Design in social research, London SAGE
- Igwenagu, Chinelo(2016) Fundamentals of Research Methodology and Data Collection. LAP Lambert Academic Publishing
- Kippra. (2005), research methodology and communication, Module 3. Nairobi: Kenya Institute for Public Policy research and analysis
- Kothari C.R (2004), Research Methodology: methods and techniques 2<sup>nd</sup> Edition. India new Delhi New Age International (P) Publisher.
- Wendy Olsen. (2011), Data Collection Ist Ed, SAGE Publications Ltd. UK.

## **2.3.6 Learning Outcome No 5: Analyse collected data**

### **2.3.6.1 Learning Activities**

<b>Learning Outcome No 5: Analyse collected data</b>	
<b>Learning Activities</b>	<b>Special Instructions</b>
5.1 Conduct data analysis as per organization policy 5.2 Prepare <i>data analysis tool</i> (Excel spreadsheets, graphs and charts) as per organization policy	Written tests Demonstration Oral questioning

### **2.3.6.2 Information Sheet No2/LO5: Analyse collected data**



#### **Introduction**

This learning outcome covers: The meaning of data analysis, types of data analysis tools which include; excel spread sheets, graphics and charts. It also looks into the preparation of data analysis tools and methods of conducting data analysis.

#### **Definition of key terms**

**Data analysis:** It is a method in which data is collected and organized with the goal of discovering information and information conclusion (data) to support decision-making process.

**Graphs:** It is a diagram representing a system of connections or interrelations between two or more points using dots, lines or bars.

**Charts:** It is a sheet of information which is in the form of a table graph or a diagram.

**Excel spread sheet:** It is a computer program used for accounting, analysis and storage of data in a tabular form.

#### **Content/Procedures/Methods/Illustrations**

##### **5.1 Data analysis is conducted as per organization policy**

Data analysis is a method in which data is collected and organized so that one can derive meaningful information from it.

#### **Methods of data analysis**

- **Qualitative research:** It is a data analysis method of observation to gather non-numerical data.
- **Quantitative research:** It is a data analysis method which uses measurable data to formulate facts and uncover patterns in research.

Data analysis is conducted using the following tools

- Use Google sheets to prepare data for analysis  
Google sheets- Is a free and accessible web-based spreadsheet tool for data processing.  
They work on any computer running any web browser (chrome, Firefox, Microsoft Edge) or as an app for the android users.
- Use Microsoft Excel to prepare data for analysis.
- Use Atom for simple data cleaning  
Atom is a free and open source text and source code editor desktop application built using web technologies.
- Use Tableau Prep when preparing data for analysis automatically.  
Tableau Prep is a personal data preparation tool that empowers are to cleanse, aggregate, merge and prepare data for analysis in Tableau...

## **5.2 Data analysis tool is prepared as per organization policy**

Data analytics helps improve company's strategies by keeping in mind the customer focus which helps in improving the profits of the company.

### **Types of data analysis tools**

- i. **R programming:** It is a programming language and free software environment widely used for statistics and data modelling it can easily manipulate your data and present it in many different ways as per organization policy. It has many packages which allow you to install automatically as per the user requirements and then allow you to browse all packages by categories.
- ii. **BI tools (Business Intelligence):** It is a type of software used to retrieve, analyse, transform and report data for business intelligence as per organization policy. Its goal is to shorten/convert the business data to business decisions and use data to influence the decision making process. There are three common BI tools namely Power BI, Fire Report and Tableau.
- iii. **Statistical Analysis System (SAS):** It is a programming language and environment for data manipulation which can analyse data from any sources as per the organization policy.
- iv. **Splunk:** It is a software technology used for monitoring, analysing and visualizing the machine generated data in real-time as per organization policy. It pulls all text-based log data and provides statistical calculations on the data to present it in different formats.
- v. **Excel:** It is a spread sheet program from Microsoft used to create grids of texts, numbers and formulas specifying the calculations as per organization policy. It is also used to analyse complex tasks which summarizes the data with a preview of pivot tables that help in filtering of data as per the client's requirement.

### **Process of preparation of data analysis tools include;**

- a) Identification of data sources
- b) Identify how to access the data
- c) Considering which variables to used
- d) Determining whether to use derived variables
- e) Explore the quality of your data, seeking to understand both its state and limitations.

### **Conclusion**

This learning outcome covers: The meaning of data analysis, types of data analysis tools which include; excel spreadsheets, graphics and charts. It also looks into the preparation of data analysis tools and methods of conducting data analysis.

### **Further Reading**



Read more method of data analysis from:

1. Introduction to Statistical Learning by: Gareth James, Daniela Witten, Trevor Hastie, and Robert Tibshirani
2. Fundamentals of research methodology and data collection ER: Igwenagu, Chinelo (2016)

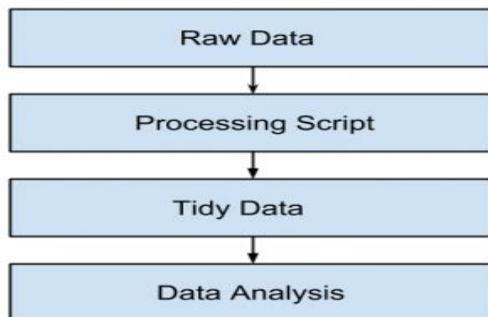
### **2.3.6.3 Self-Assessment**



### **Written Assessment**

1. Point out the correct statement.
  - a) Data has only qualitative value
  - b) Data has only quantitative value
  - c) Data has both qualitative and quantitative value
  - d) None of the above
2. Which one of the following is not a data analysis tool?
  - a) Tableau
  - b) Excel spread sheet
  - c) Questionnaire
  - d) SAS
3. What do we call data that summarize all observations in a category?
  - a) Frequency data
  - b) Summarized data
  - c) Raw data
  - d) None of the above

4. Following figure represents correct sequence of steps in performing data analysis.



- a) True
  - b) False
5. Which of the following is an example of raw data?
- a) Original swath files generated from a sonar system
  - b) Initial time-series file of temperature values
  - c) A real-time GPS-encoded navigation file
  - d) All of the above
6. Which one of the following is the original source of data?
- a) Primary data
  - b) Secondary data
7. Which of the following data is put into a formula to produce commonly accepted results for decision making?
- a) Raw
  - b) Processed
  - c) Synchronized
8. Discuss the different methods of data analysis used in an organization.
9. Explain 4 types of qualitative research method.
10. Explain 4 types of quantitative research method.
11. Differentiate between quantitative research method and qualitative research method.
12. Explain three examples of BI tools.

### **Oral Assessment**

1. What is data analysis?
2. List 3 common data analysis tools used in an organization.

### **Practical Assessment**

Collect, analyse and present your organization's/ school's employees number in a excel spread sheet, graph and chart.

#### **2.3.6.4 Tools, Equipment, Supplies and Materials**

- A functional office
- Computers
- Appropriate application Software
- Smart phones
- Flash disks and SD cards
- TFT screen
- Paper and pen

#### **2.3.6.5 References**



- Coakes, S.J., Steed, L. & Ong, C. (2010). SPSS Version 17.0 for Windows: Analysis without anguish. Milton: John Wiley & Sons Australia.
- Hair, J.F., Black, B.J., Babin, B.J., Anderson, R.E. & Tatham, R.L. (2010). Multivariate data analysis. 7thEd. Upper Saddle River: Pearson Prentice Hall.
- Igwenagu, Chinelo (2016) Fundamentals of Research Methodology and Data Collection. LAP Lambert Academic Publishing
- Weinberg, S.L. & Abramowitz (2008). Statistics using SPSS: An integrative approach. 2ndEd. New York: Cambridge University Press.

### **2.3.7 Learning Outcome No 6: Prepare research report**

#### **2.3.7.1 Learning Activities**

<b>Learning Outcome No 6: Prepare research report</b>		
<b>Learning Activities</b>	<b>Special Instructions</b>	
 <p>6.1 Report is compiled as per organization policy      6.2 Share or disseminate report as per organization policy      6.3 Implement research findings as per organization policy</p>	<p>Group discussion      Trainee to write report</p>	

#### **2.3.7.2 Information Sheet No2/LO6: Prepare research report**



#### **Introduction**

This learning outcome covers; components, compilation, dissemination and implementation of the research report and finally the implementation of the research report findings.

#### **Definition of key terms**

**Research report:** It is a document prepared and produced by the researchers that gives an overview of the data collected, analysed and discussed.

**Dissemination:** It is a planned process that involves relating research findings with the purpose and its adaption in the wider decision making practice

**Implementation:** It is the process whereby the research findings are adopted into the wider policy. The findings are integrated into the researched practice and processes

**Sample size:** Refers to a smaller and manageable representation of a group in the research study.

#### **Content/Procedures/Methods/Illustrations**

##### **6.1 Report is compiled as per organization policy**

Reports are developed depending on the purpose why it is conducted. Organized researches are conducted in the form of qualitative methods or surveys. Although the reports vary over numerous topics it specific niche in the proposed market.

##### **Research report can be divided into two**

- **Applied research:** Done in accordance with real life people and situations.
- **Basic research:** From a lab or clinical-based research.

## **How to write a proper research report**

- i. Prepare the content based on the research
- ii. Know your target audience
- iii. Set clear and relevant research goals and objectives
- iv. Establish a proper work model
- v. Do an in-depth background research on the topic
- vi. Proof read your work
- vii. Discuss only the results that are of significant to the research.
- viii. Develop an effective conclusion
- ix. Review between peers who are independent colleagues
- x. Research reports give the general overview of the research study's thus need to be compiled taking all elements into account and using the most understandable and easiest language

## **6.2 Report is shared or disseminated as per organization policy**

Dissemination is necessary as it communicates the report findings to the target audience. The most effective sharing or disseminating plan should be developed before the research study is completed. Before sharing or disseminating, one must determine what to share, in what format and with whom.

### **Steps on how to share your report**

- i. Define the goal or objective of the report
- ii. Clearly outline the target audience
- iii. Collaborate/interact with others; help in problem solving
- iv. Formulate a sharing plan
- v. Write in an essay to understand language such as using narratives
- vi. Layer and link report personalization while trying to meet different audience's specialization, must be tailored in an effective manner to share
- vii. Evaluate the work; Surveys can be used to gather feedback
- viii. Dissemination is targeted distribution of the research report to a particular audience. It occurs through a variety of settings, channels and social contexts.  
Research report dissemination is done for the following objective:
  - To widen the scope reached by the report
  - To increase likelihood of the audience to use and apply the report
  - To increase the audience's ability to improve or refer to the research

Common sharing or disseminating methods include;

- Publishing program
- Publish report to stakeholders in conferences
- Social media such as websites
- Conducting an official press conference release
- Creating training toolkits
- Distributing flyers and pamphlets

The goals of dissemination include;

- **For awareness:** Sharing of information helps reduce ignorance of the audience on the topic.
- **For understanding:** Helps in gaining knowledge on the topic.
- **For action:** Help develop reasons for the action plan creation in solving or creating intervention on the topic.
- **Ethical responsibility:** Dissemination helps one fulfil his ethical responsibility of information-sharing that will help in decision making

### **6.3 Research findings are implemented as per organization policy**

Research findings are the results or outcomes from a research project. Having a good understanding of a research report and its findings is paramount in order to enable implementation and how best to go about it. A number of approaches can be used to implement research finding as researchers are directed at discovery of concepts, proofs or knowledge, laboratory experiment or employing sample/ pilot studies.

Some of the methods used in implementation of research findings may include;

- i. **Participatory action research:** research in communities that seeks to understand day to day activities. It insists on collective inquiry and experimentation intertwined in social history and experience.
- ii. **Pragmatic trials:** they focus on the relationship between treatments/ inventions and outcomes in real life routine practice.
- iii. **Explanatory trials:** they seek to examine whether an intervention/ a treatment is under normal optimal situation.

### **Key characteristics of implementation research**

- **Contextual:** Research objectives and questions should be based on the implementer's identified needs, which are demand driven.
- **Systematic:** Interventions should be based on specific real life situations, adhering to ethics on scientific inquiry.
- **Multidisciplinary:** All factors of the analysis (social, political, biological, economic and environmental) need to be collaborated.
- **Complex:** Occur in a multi-scale, adaptive and dynamic nature.

### **Conclusion**

This learning outcome covered components, compilation, dissemination and implementation of the research report and implementation of the research report findings.

## **Further Reading**



Read more on preparing research plan from:

1. Willis Yuko Oso, David Onen. (2009), A general guide to writing research proposal and report, Nairobi Jommo Kenyatta Foundation
2. Kabir Syed Mohammed (2016) Writing research report.

### **2.3.7.3 Self-Assessment**



#### **Written Assessment**

1. Which of the following is a component of research report?
  - a) Sample size
  - b) Methodology
  - c) Objectives
  - d) Study area
2. The following are include in the introduction **EXCEPT?**
  - a) Objectives
  - b) Key questions
  - c) Literature review
  - d) Data analysis
3. Select an example of research report from the following?
  - a) Basic
  - b) Pragmatic
  - c) Exemplary
  - d) Complex
4. Which is not a step in report sharing?
  - a) Define the goal
  - b) Formulate a sharing plan
  - c) Evaluate the work
  - d) Developing a conclusion
5. Underline the odd one out?
  - a) Systematic trials
  - b) Pragmatic trials
  - c) Explanatory trials
  - d) Participatory action research
6. Identify a component of a research?
  - a) Contextual
  - b) Multidisciplinary
  - c) Pragmatic
  - d) Complex

7. Which of the following is a disseminating method?
  - a) Creating attaining tool kit
  - b) Plagiarizing
  - c) Copying
  - d) Referencing
8. Summarize the components of research report
9. Outline the characteristics of implementation research
10. Name three methods used in implementation of research findings
11. Outline five examples of disseminating methods of research report
12. Discuss the procedure of research as per the SOPs

### **Oral Assessment**

1. Categorize the components of research report in a chronological order
2. Name key characteristics of implementation research reports

### **Project Assessment**

Conduct an assessment on gender-based violence cases in your area and prepare the report

#### **2.3.7.4 Tools, Equipment, Supplies and Materials**

- A functional office
- Video cameras
- Tablets
- Smart phones
- SD cards and card readers
- TFT screen
- Recorders
- SPSS program
- Computers
- Printers
- stationeries

#### **2.3.7.5 References**



Kabir Syed Mohammed 2016 Writing Research Report. Bangladesh Back Zone Publication.

Magenta A.6. (2008). Social science research: theory and principle Nairobi: Applied Willis Yuko OSU, David. (2009) A general guide of working research proposal and report Nairobi; Jommo Kenyatta Foundation.