

# RESEARCH TOOL AND DATA COLLECTION METHOD

4<sup>TH</sup> SEMESTER/PAPER-401

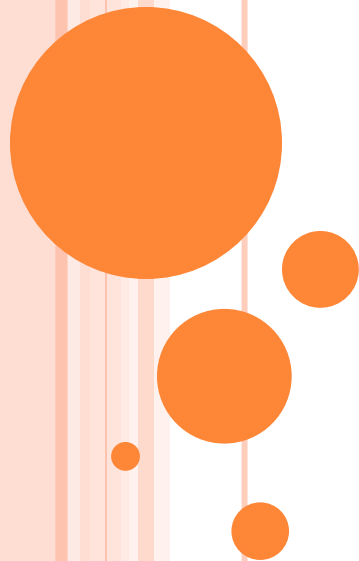
BY:-

MRS.RINKI KUAMRI

DEPTT.OF EDUCATION

MMHA&PU, PATNA

DATE:-28<sup>TH</sup> APRIL,2020



# INTRODUCTION

- Tools are instruments used to collect information for performance assessments, self-evaluations, and external evaluations.
- Tools need to be strong enough to support what the evaluations find during research.
- Depending on the nature of the information to be gathered, different instruments are used to conduct the assessment forms for gathering data.

## DEFINITION OF TOOL:

- It is a testing device for measuring a given event, such as , a questionnaire, an interview or a set of guidelines or checklist for observation.
- It is an instrument or machine that aids in accomplishing a task.



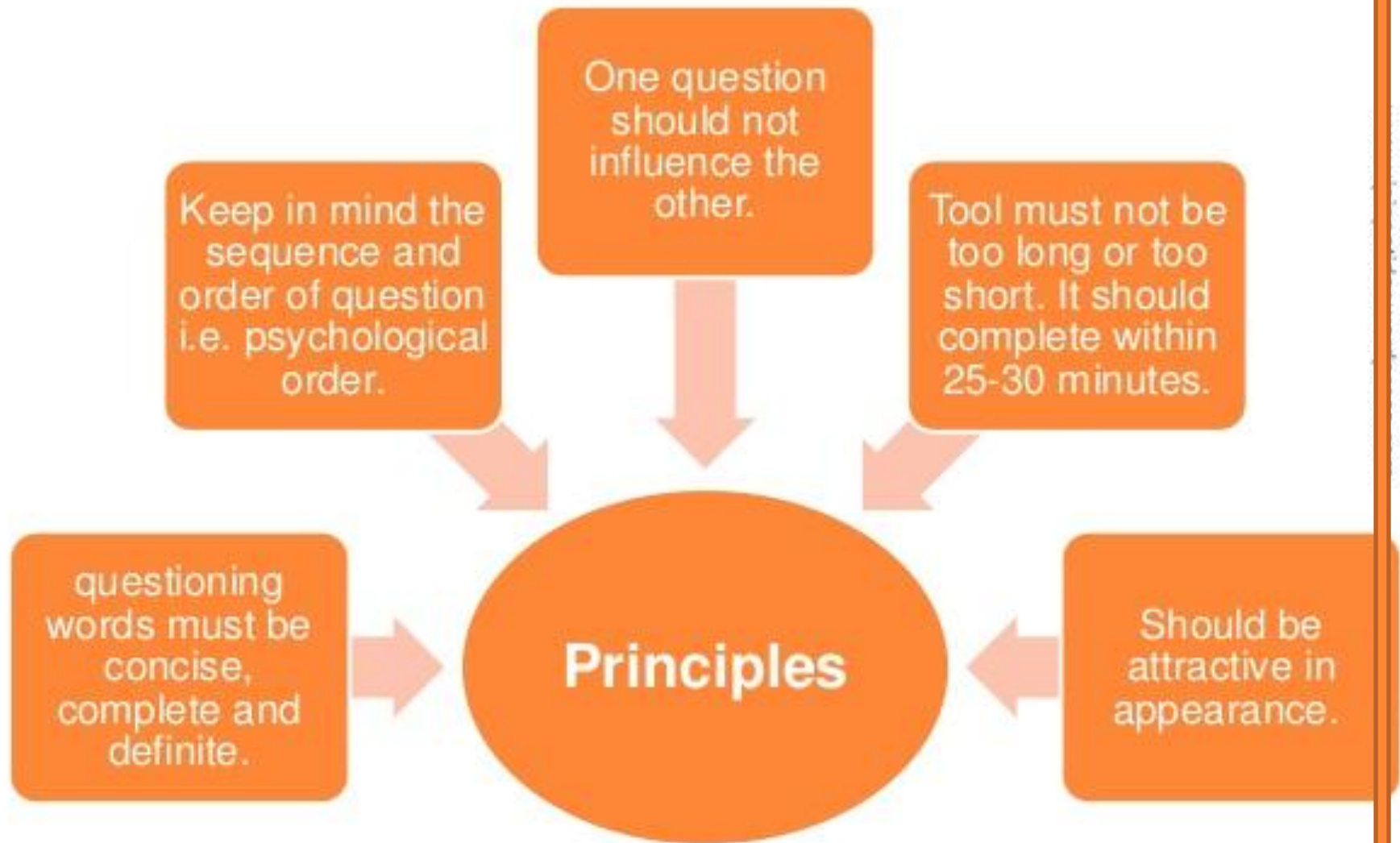
# MEANING OF RESEARCH TOOLS:

Research tools are:

- ✓ the Instruments used for the purpose of data collection,
- ✓ are measurable and observable for data analysis & interpretation
- ✓ constructed by researcher according to objectives.



# PRINCIPLES FOR CONSTRUCTION OF RESEARCH TOOL:



# DEFINITION OF DATA

Data collection is a systematic process of collecting detail information about desire objective from selected sample under controlled settings.



# DATA COLLECTION:

## Primary data collection

personal contact observations is needed

face to face contact with the participants is required.

## Secondary data collection

no direct contact to gather information.

# PRIMARY DATA COLLECTION:

## In-person surveys

- to gain general answers to basic questions.

## Direct observation

- When the researcher is directly involved with the study group.

## Interviews

- used to gain more in depth answers to complex questions.

## Focus groups

- certain sample groups are asked their opinion about a certain subject or theory.



## CONTD.....

- **These data collection tools:**
  - ✓ allow for a true measurement of accuracy and let the researcher obtain any unspoken observations about the participants while conducting research.
- **E.g.** Socio-economic surveys, studies related to rural or tribal communities, nursing research, hospital management studies, knowledge awareness practice studies etc.



# SECONDARY DATA COLLECTION:

Postal  
mail

Electronic  
mail

It is done :

when very large group of population is required.

When Personal contact is not possible for the researcher to collect the data.

**e.g: Institutional survey, organizational research etc.**

Telephone

Web-based  
surveys

# **METHODS OF DATA COLLECTION:**

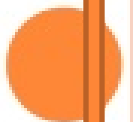
- Method refers to the way of gathering data, a tool is an instrument used for the method.

**(1) observation method**


**(2) interview method**

**(3) Questionnaire**

**(4) physiological measurement**



**❑ ONE OR MORE METHODS HAS/HAVE TO BE CHOSEN. THE CHOICE OF A METHOD DEPENDS UPON THE FOLLOWING FACTORS:**

- The nature of the study of the subject-matter.
  - The unit of enquiry.
  - The size and spread of the sample.
  - Scale of the survey.
  - The educational level of respondents.
  - The type and depth of information to be collected.
  - The availability of skilled and trained manpower.
- 

**❑ ONE OR MORE METHODS HAS/HAVE TO BE CHOSEN. THE CHOICE OF A METHOD DEPENDS UPON THE FOLLOWING FACTORS:**

- The nature of the study of the subject-matter.
- The unit of enquiry.
- The size and spread of the sample.
- Scale of the survey.
- The educational level of respondents.
- The type and depth of information to be collected.
- The availability of skilled and trained manpower.

# Types of Observation Technique:

## STRUCTURED

- Standardized condition of observation.
- Careful definition of units to be observed.
- The style of recording the observed information
- E.g. Descriptive studies

## UNSTRUCTURED

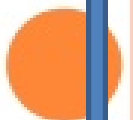
- The observation does not take place as in structured observation.
- E.g. Explanatory studies



# ○ Instruments/ Tools for observation method:



- Field notes
- Anecdotes
- Checklist



# Advantages & Disadvantages of Observation Technique:



## Advantages

## Disadvantages

1) Subject bias is eliminated.

1) An expensive method

2) Relates to what is currently happening.

2) Information is very limited

3) Independent of respondent.

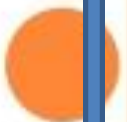
3) Unforeseen factors may interfere with the observational task.



## 2) INTERVIEW METHOD



- The interview method of collecting of data involves presentation of oral stimuli and reply in terms of oral response.
- It can be used through personal interviews and if possible, through telephone interview



# CLASSIFICATION

## 2.1. Personal interview

- A. Structured
- B. Unstructured
- C. Focused
- D. Clinical
- E. Non-directive



## 2.2. Telephonic interview



## 2.1 Personal interviews:

- Asking question generally in a face to face to collect the information.
- The sort of investigation may be in the form of direct personal investigation or may be indirect .



## a) Structured interview:

Involve the use of a set of predetermined questions and of highly standardized techniques of recording.

### **Advantage**

Require less knowledge and skill

Less time consuming

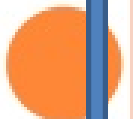
More systematic and authentic

### **Disadvantage**

Provide only superficial information

More rigid hence no freedom

Not possible in all situations



## b) Unstructured interviews:

- Flexibility of approach to questioning.
- It doesn't follow a system of predetermined questions and standardized techniques of recording information.

---

### Advantage:

### Disadvantage

Allow greater freedom to ask question

It demands knowledge and greater skill

Methods provide flexibility according to situation

Difficult to analyze the information

Data are more adequate and accurate

Time consuming



### **c) Focused interview:**

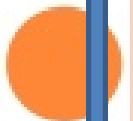
- To focus attention on the given experience of the respondent and its effects.

### **d) Clinical interview:**

- it is concerned with broad underlying feelings of individual's life experience.

### **e) Non-directive interview:**

- encourage the respondent to talk about the given topic with a bare minimum of direct questioning



## II. Telephone interview:

- collecting information consists in contacting respondents on telephone.

### Advantage:

- It is more flexible in comparison to mailing method
- It is faster than other methods
- Recall is easy, call back are simple and economical

### Disadvantage:

- Shortage of time for respondents to reply
- Restricted to respondents who have telephone facilities



### 3) QUESTIONNAIRE:



- It comprises a series of questions prepared by the researcher that are answered and filled by all the respondent.
- This is usually popular self report or self-administered method.
- It commonly used to get demographic data.
- It allow the collection of larger data from large no. of sample quickly and inexpensively.





# Structure of Question:



## Open ended question

- When researcher want more information.
- difficult to analyze.

e.g. Why did you choose to take your graduate work at this university?

## Close ended/fixed/alternative

- Limited respond.
- Easy to analysis

e.g. Have you ever taken a course in statistics?  
( ) yes  
( ) No

# ADVANTAGES

- ❑ Can be posted, e-mailed or faxed.
- ❑ Can cover a large number of people or organizations.
- ❑ Wide geographic coverage.
- ❑ Relatively cheap.
- ❑ No prior arrangements are needed.
- ❑ Avoids embarrassment on the part of the respondent.
- ❑ Respondent can consider responses.



# DISADVANTAGES:

- ❑ Design problems.
- ❑ Questions have to be relatively simple.
- ❑ Historically low response rate (although inducements may help).
- ❑ Time delay whilst waiting for responses to be returned.
- ❑ Require a return deadline.
- ❑ Several reminders may be required.
- ❑ Assumes no literacy problems.
- ❑ No control over who completes it.
- ❑ Not possible to give assistance if required.

