

# UNIT : I: What is behaviour? What is behaviour modification? What is behaviour assessment?

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<b>TOPIC [unit :I]</b>	<b>HOUR</b>
WHAT IS BEHAVIOUR?	1 HOURS
WHAT IS BEHAVIOUR MODIFICATION	4 HOURS
WHAT IS BEHAVIOUR ASSESSMENT	3 HOURS

# Concept and origin :

- The term “***behaviour***” and its concept is the most basic and important aspect to study “***psychology***”, which is better known as the “***science of behaviour***”. In the words of Woodworth (1948), ... “ ***first psychology lost its soul , then its mind, then it lost its consciousness. It still has behaviour of a sort.***” The concept of “***behaviour***” was one of the essential milestone in psychology. From the nineteenth century onward , with the advent of modern era of scientific investigation and thought, psychology began to be defined in terms of the study of behaviour. William McDougall , a british psychologist was the first to define psychology in terms of the science of behaviour(1905).

# Concept and origin ( *continued...* )

Thereafter John B. Watson who put forward an entirely new doctrine named “*behaviourism*”(1878-1950) was quite contrary to **structuralism** and **functionalism**. He concluded the whole idea of “consciousness” as absurd as it cannot be seen, touched or exhibited in a test tube. Even if it exist it cannot be studied scientifically and he thereafter he intend to study psychology as a **science of behaviour** and concentrated only on overt, observable and measurable behaviour. which could be observed and objectively recorded.

# Concept and origin *(continued...)*

This field of behaviourism was propagated by Watson and was in fact based on the findings of the Russian physiologist Ivan Pavlov, the propagator of the theory of classical conditioning. This school of psychology, which emphasized the study of behaviour, has made immense contribution in the field of psychology, with eminent **behaviourist** like Skinner, Thorndike who enlightened various new aspects in psychology with a major spotlight on behaviour modification. All though, behaviour modification is based mainly on the theories of behaviourists, it also had a few shortcomings like it gave no emphasis on other aspects of behaviour like covert behaviour and unconscious behaviour but other schools have worked with the other aspects of behaviour.

# What is behaviour?

- ❑ Behaviour is any action that can be observed and measured. (John B. Watson).

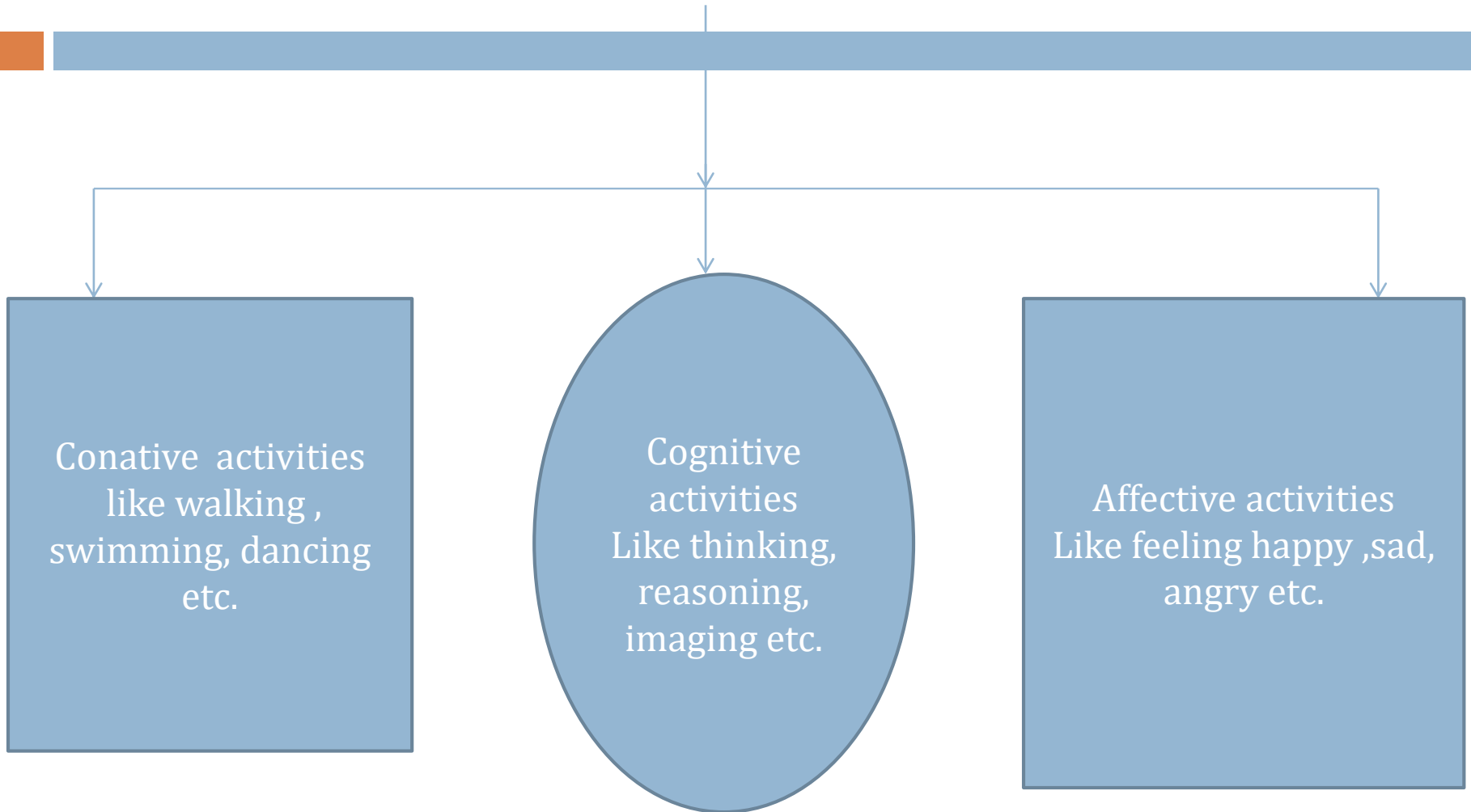
**CHARACTERISTICS OF BEHAVIOUR:**[Raymond G. Miltenberger ].

- ❑ Behaviour is any action that can be observed and measured.
- ❑ Human behaviour is defined as an individual's actions that have one or more physical dimensions like frequency, intensity, duration and latency.
- ❑ Behaviours have an impact on the physical or social environment.
- ❑ Behaviour is lawful; its occurrence is influenced by environmental events.

# Study of behaviour in major perspectives of modern psychology:

Perspective	Description
Behavioural	Focuses on overt behaviour .
Cognitive	Focuses on cognitive processes such as memory , thought, reasoning.
Biological	Focuses on the biological events and processes underlying behaviour.
Evolutionary	Focuses on the possible role of evolved psychological mechanisms (inherited tendencies shaped by evolution) in human behaviour.
Developmental	Focuses on the change of behaviour and cognitive processes over the life span.
Psycho dynamic	Focuses on the hidden , often unconscious , internal processes (example, unconscious motives)
Social and cultural	Focuses on social and cultural factors that can influence behaviour.

# Behaviour is the collective term for:



- ❑ The term behaviour is taken in totality, connoting a wide and comprehensive meaning. According to Woodworth(1948) “any manifestation of life is activity,” and behaviour is a collective name for all these activities. Therefore , the term behaviour includes all motor or conative activities like walking , swimming, dancing etc., cognitive activities like thinking, reasoning, imaging etc., and affective activities like feeling happy, sad, angry etc. (S.K.Mangal).

# Brief explanation of types of behaviour:

- **Overt behaviour:** it is an obvious act or behaviour , that is observable by people. It may include walking, singing and other bodily actions.
- **Covert behaviour:** opposite of overt behaviour that is an unobvious manner and disguised as well as secret in nature. It cannot be easily observed by people. Example : praying .
- **Conscious behaviour:** it is an action one does from what one really wants to do . It is an action with purposive conduct. For example: making and eating breakfast when one feels hungry.
- **Unconscious behaviour:** here the person is unaware of what he is doing. This behaviour is doing anything without thinking of any motivation because it is automatically done.
- **Rational behaviour:** this behaviour is reasonable and used to explain the choices that people make with regards to achieving satisfaction.
- **Irrational behaviour:** it is unreasonable behaviour having no clear objective or meaning. It is senseless and meaningless.



# *Behaviour modification*

# Behaviour modification

- Behaviour modification is the field of psychology concerned with analysing and modifying human behaviour.[R.G.Miltenberger].
- The approach that draw heavy influence on learning principles and are aimed at helping people change behaviour is coined with the term behaviour therapy or behaviour modification.(Morgan, King, Weis, Schopler).

# Behaviour modification involves:

## behaviour modification

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graph TD; A[behaviour modification] --> B[ANALYSING]; A --> C[MODIFYING];
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**ANALYSING** which means identifying the functional relationship between environmental events and a particular behaviour to understand the reasons for behaviour or to determine why a person behaved as he or she did.

**MODIFYING** means developing and implementing procedures to help people to change their behaviour.

# Characteristics of behaviour modification:

- ❑ Behaviour modification procedures are designed to **focus on the changing of behaviour** not a personal characteristics or trait.
- ❑ One of the important emphasis is given on the **measurement of behaviour before and after intervention** to document the behaviour change resulting from the behaviour modification procedure.
- ❑ Behavioural modification involves assessing and modifying the **current environmental events** that are functionally related to behaviour.

# Characteristics of behaviour modification: *(Continued...)*

- ❑ Behaviour modification procedure **de-emphasises past events** as the cause of behaviour.
- ❑ Behaviour modification procedures **rejects the hypothetical causes** underlying behaviour.
- ❑ Behaviour modification is a procedure based on **behavioural principles**.

# Basic principles of behaviour modification:

- Reinforcement
- Extinction
- Punishment
- Stimulus control
- Respondent conditioning

# Reinforcement

- **Reinforcement** is the process in which a behaviour is strengthened by the immediate consequence that reliably follows its occurrence.
- Types of reinforcement :
  - **Positive reinforcement** : positive reinforcement is defined as the occurrence of a behaviour which is followed by the addition of a stimulus ( a reinforcer) or an increase in the intensity of a stimulus.
  - **Negative reinforcement**: negative reinforcement by contrast is defined as the occurrence of a behaviour which is followed by the removal of a stimulus ( an aversive stimulus) or a decrease in the intensity of a stimulus which results in strengthening of a stimulus.

# Punishment

- **Punishment** can be defined when a particular behaviour occurs and a consequence immediately follows the behaviour and as a result, the behaviour is less likely to occur again in future.( the behaviour is weakened.)

A punisher ( also called an aversive stimulus) is a consequence that makes a particular behaviour less likely to occur in future.

## **Types of punishment :**

**Positive punishment :** positive punishment is defined as the occurrence of behaviour when followed by the presentation of an aversive stimulus and as a result the behaviour is less likely to occur in future.

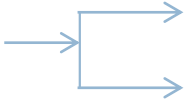
**Negative punishment:** negative punishment is defined as the occurrence of behaviour and is followed by the removal of a reinforcing stimulus and as a result , the behaviour is less likely to occur in the future.

# Extinction

- Extinction is defined as a behaviour that has been previously reinforced but no longer results in the reinforcing consequences and therefore the behaviour stops occurring in future.

As long as a behaviour is reinforced , at least intermittently, it will continue to occur. If a behaviour is no longer followed by a reinforcing consequence , however the person will stop engaging in the behaviour. When a behaviour stops occurring because its no longer reinforced , then it is said that the behaviour has undergone extinction or that behaviour has been extinguished.

# Stimulus control

- **Stimulus control:**  discrimination  
generalization

***Discrimination*** : when a behaviour is reinforced in the presence of one stimulus (or stimulus class) but is not reinforced when other stimuli are present. The antecedent stimulus that is present when a behaviour is reinforced is called discriminative stimulus , an antecedent stimulus that is present when the behaviour is not reinforced is called an S-delta. Stimulus discrimination training may with reinforcement , or extinction; the occurrence or non occurrence of a behaviour may be under stimulus control.

***Generalization*** :when stimulus control is broad or when a behaviour occurs in the presence of novel antecedent stimuli that are similar to the initial discriminative stimulus , it is said that generalization has occurred. Stimulus control generalizes to a class of stimuli sharing a particular feature or features.

# Respondent conditioning

- Respondent conditioning may be defined as a process in which a neutral stimulus , acquires all the characteristics of natural stimulus.
- 1] UCS----- UR
- 
- 2] CS+ -----UR
- UCS
- 
- 3] CS ----- CR
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# Planning and implementing behaviour modification:

## □ **Describing the behaviour**

The first step in changing actions is describing the target behaviour in specific and measurable terms. Both the undesirable behaviour and desirable change should be specified.



## □ **Establishing a baseline**

Once the problem behaviours have been clearly described, a baseline can be obtained reflecting the severity and frequency of the behaviours at the inception of treatment. It is measured in terms of frequency and severity and the measurement must be recorded.



## □ **Determining goals**

Goals should be meaningful, clear, specific, measurable and achievable. They should be logical outgrowths of the baseline information.



# Planning and implementing behaviour modification: *(continued...)*

- **Developing Strategies**

the next step in the process of changing behaviour is identifying strategies to help people to achieve their goals .



- **Implementing interventions**

once goals have been established and strategies determined , the plan for behaviour change are implemented .



- **Assessing functioning**

At regular intervals , clients and clinicians monitor progress to maintain and reinforce success and address difficulties in the plan.



- **Reinforcing Gains**

Assuming rewards have been built into the change plan and some success has been achieved, people can now reward themselves. Clinicians also can cautiously provide some social reinforcement , congratulating clients on efforts and helping to take pride in their accomplishment.

# Planning and implementing behaviour modification: *(continued....)*



## □ **Continuing The Process**

The last stage of a behavioural change plan takes one of three directions:

1. If the plan had some shortcomings and clients did not reach their goals, client and clinician consider what revisions in goals and strategies are likely to lead to greater success. Considerable attention may be paid to the strengths and weaknesses of the original plan to determine how it needs to be improved.
2. If the plan was successful but the client has additional goals or wants to build accomplishments of the initial plan, clients and clinician agree on new objectives and develop strategies to facilitate their accomplishment.
3. If the clients are satisfied with their accomplishments they work with their clinicians to solidify those gains and prevent relapse. Strategies such as involvement in a peer support group, on going self monitoring, stress management and periodic follow up sessions are common elements in a relapse prevention plan.

# Strategies to modify behaviour:

- Token economy
- Contingencies
- Shaping
- Pre-mac principles
- Time out technique
- Response cost technique.
- Prompting and fading.
- Chaining
- Behavioural skills training procedure

# Application of behaviour modification

Behavioural modification is applied in the following fields:

- ❑ Developmental disabilities
- ❑ Mental illness
- ❑ Education and special education
- ❑ Rehabilitation
- ❑ Community psychology

# Application of behaviour modification *(continued...)*

- ❑ Clinical psychology
- ❑ Business , industry and human services.
- ❑ Self management
- ❑ Child behaviour management
- ❑ Prevention
- ❑ Sports performance
- ❑ Health -related behaviours
- ❑ Gerontology

# Major contribution of behavioural theorists:

Theorists	Contribution in short
Ivan Pavlov (1849-1936)	Pavlov demonstrated that a reflex (salivation in response to food) could be conditioned to a neutral stimulus( the sound of a metronome). Pavlov called this a conditioned reflex.(Pavlov,1927).
Edward L. Thorndike (1874-1949)	Thorndike's major contribution was the <i>law of effect</i> which states that a behaviour that produces a favourable effect on environment is more likely to be repeated in future.
John B. Watson	Watson asserted that observable behaviour was the proper subject matter of psychology , and that all behaviour was controlled by environmental events. He started the movement in psychology called behaviourism (watson , 1913,1924).
B . F. Skinner (1904-1990)	Skinner was the propounder of operant conditioning, a number of basic principles of behaviour and wrote about applying the principles of behaviour in the analysis to human behaviour.



# **What Is Behaviour Assessment ?**

# What is Assessment?

- The term *assessment* is described as the action of assessing someone or something . (according to the dictionary).

## **Assessment of behaviour:**

- Measurement of the target behaviour ( or behaviours) in behaviour modification is called behavioural assessment.[Raymond G. Miltenberger].
- The basic goal of assessment is to evaluate a behaviour in terms of current and future functioning. In the process of *assessment*, behaviours are classified into different categories and measured against a normative standard.[ A.K. Singh].

# Need for assessment in behavioural science:

- ❖ **In selection:** assessment in behavioural science helps to predict the ability of the individual and thus it helps to select the appropriate individual according to the then required criterion.
- ❖ **In classification :** assessment helps to classify individuals on the basis of their behaviour , ability or disability which is essential to carry out different programmes effectively.

# Need for assessment in behavioural science: (continued...)

- **In comparison** : assessment helps to compare the better one among two individuals.
- **In guidance and counselling**: assessment of behaviour helps to understand the strength and weakness of the individual and thus it helps effectively in the process of guidance and counselling.
- **In research** : assessment is one of the most essential part of any psychological research.

# Methods of assessment in behavioural science:

- **Introspection** :behaviour studied through a kind of self-examination of inner observation is called introspection. The term introspection is made up of two latin words *intro* meaning “within” or “inward” and *spiere* meaning to “look”. Hence introspection means looking within or looking inward.
- **Observation** : observation as a method of studying behaviour consists of the perception of an individual’s behaviour under natural conditions by other individuals and the interpretation and analysis of the perceived behaviour by them.

# Methods of assessment in behavioural science: *(continued...)*

- **Experimental method** : the most scientific and objective method of studying behaviour . It lays emphasis on performing experiments. The word ‘ experiment’ comes from a latin word “experimentum” meaning a ‘trial’ or ‘test’.
- **Survey method** : survey is based on sampling by direct observation. This method makes use of various techniques of collecting data such as tests, questionnaire, observation, interview and use of statistics in analysing the data.

# Methods of assessment in behavioural science: (continued...)

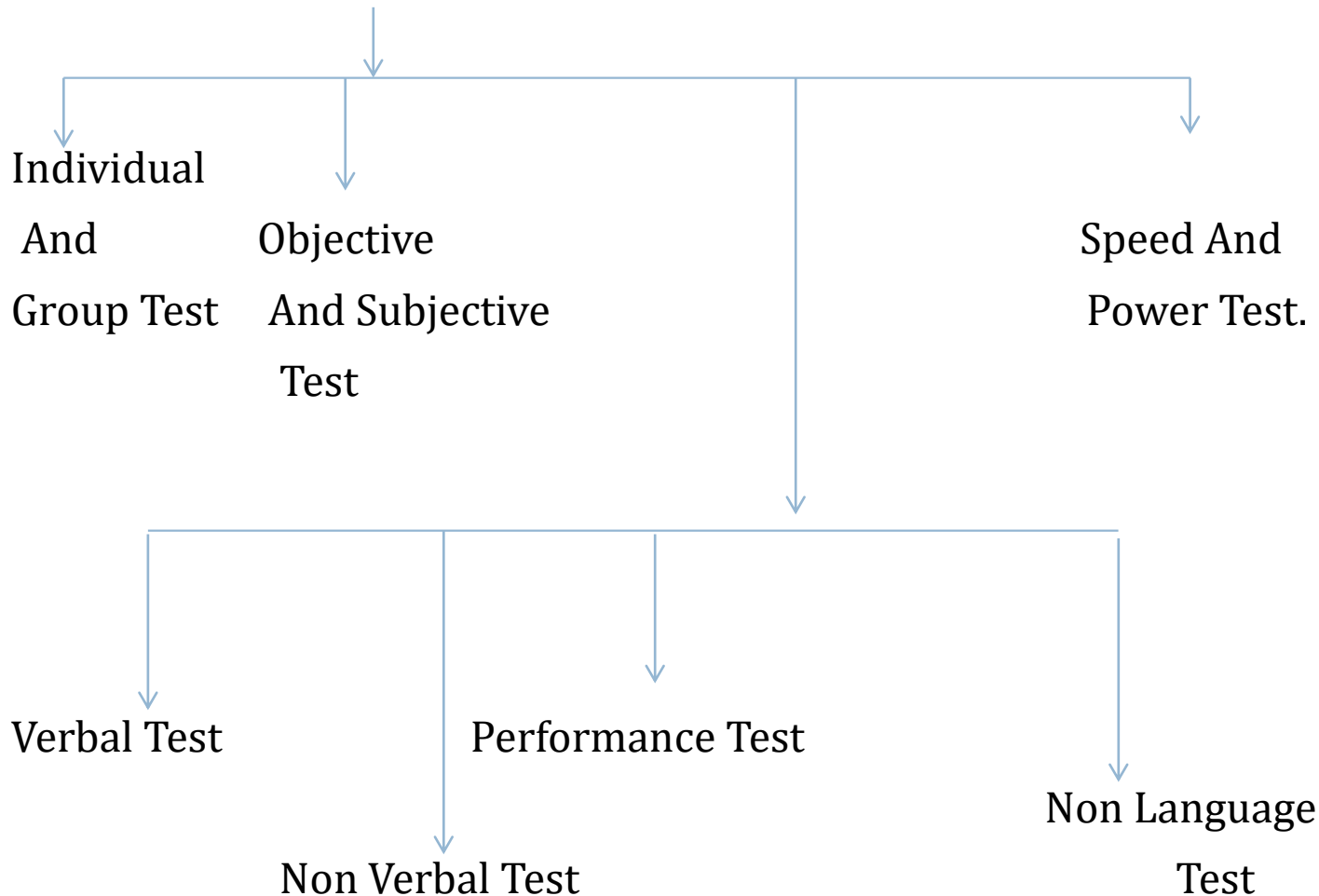
- **Clinical method:** this method is used to collect detailed information on the behaviour problems of maladjusted and deviant cases. The maladjustment may be in the form of anti-social behaviour, emotional disturbances or in the area of learning and backwardness in school subjects. The main objective of clinical method is to study the individual case or cases of groups to detect and diagnose their specific problems and to suggest therapeutic measures to rehabilitate them in their environment. Clinical method includes methods like case history , clinical survey etc.

# Methods of assessment in behavioural science: ( *continued...* )

- **Testing :** Testing is the technique where an individual is assessed with the help of a test to measure one or more psychological aspects .
- A psychological test is a standardised procedure to measure quantitatively and qualitatively one or more than one aspect of a trait by means of a sample of verbal and non verbal behaviour.(A.K.Singh).A psychological test is essentially an objective and standardised measure of subjective behaviour.(Anastasi and Urbina , 1997).

# Methods of assessment in behavioural science: *(continued...)*

## □ Types of test used in behavioural science:



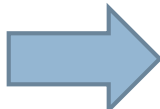
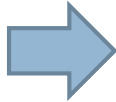
# Methods of assessment in behavioural science: (*continued...*)

- **Differential method** : it is used to study individual differences .this method helps to study the behaviour of several individuals to find out the relative differences. Correlation, longitudinal and cross-sectional studies of behaviour are included in this method .
- **Psycho -physical method**: this method employ physical devices for the scientific measurement of some psychological experiences like sensations of weight, brightness, loudness, and other dimensions.

# Role of assessment in behaviour modification:

- Measuring the behaviour before treatment provides information about whether the treatment is necessary.
- It provides information to choose the best treatment.
- Measurement after treatment helps to determine whether the behaviour changed after treatment.

# Basic structure of behavioural assessment : the functional assessment

- Functional assessment is the process of gathering information about the antecedents and consequences that are functionally related to the occurrence of a problem behaviour.( Raymond G. Miltenberger).
- The analysis is often described in A-B-C terms , as follows:
  - Antecedents  Behaviour  Consequence .

# Information derived from functional assessment:

- ✓ **Problem behaviours:** an objective description (like time and place of behaviour, frequency, duration, intensity, latency etc. dimensions) of the behaviour that make up the problem.
- ✓ **Antecedent :** an objective description of environmental events preceding the problem behaviour, including aspects of the physical environment and the behaviour of other people.
- ✓ **Consequences :** an objective description of environmental events which is reinforcing in nature that follow the problem behaviour including aspects of the physical environment and the behaviour of other people.
- ✓ **Alternative behaviours:** information on desirable behaviours in the person's repertoire that may be reinforced to compete with the problem behaviour.

# Information derived from functional assessment: *(continued...)*

- ✓ **Motivational variables:** information on environmental events that may function as establishing operations or abolishing operations to influence the effectiveness of reinforcers and punishers for the problem behaviour and the alternative behaviours.
- ✓ **Potential reinforcers:** information on environmental events – including physical stimuli and of other people – that may function as reinforcer and be used in treatment programme.
- ✓ **Previous interventions:** information on the interventions that have been used in the past and their effects on the problem behaviour.

# FUNCTIONAL ASSESSMENT METHODS

The various methods used to conduct functional assessments fall into three categories:

## Indirect Assessment Methods

- Interview and Questionnaire

## Direct observation Methods

- Observer records the antecedents behaviour and consequences as they occur

## Experimental Methods

- Antecedents and consequences are manipulated

# Indirect assessment:

## □ Indirect assessment :

In Indirect functional assessment methods, behavioural *interviews* or *questionnaires* are used to gather information from the person exhibiting the problem behaviour (the client) or from others who know this person well ( e.g., family members, teachers, or staff). Indirect assessment methods are also known as *informant assessment methods* because an informant ( the client or others) is providing information in response to assessment questions ( Lennox & Miltenberger, 1989).

# Indirect assessment: *(continued...)*

## □ **Goals of indirect assessment method:**

1. Generate information on the problem behaviours , antecedents, consequences and other variables that will permit to form a hypothesis about the controlling variables for the problem.
2. An effective interview teaches the client or informant about functional assessment: the behaviour and events must be identified and specified, that inferences should be minimized, focus on antecedents and consequences in understanding and changing behaviour.

# Indirect assessment: *(continued...)*

## □ Description of Indirect Method:

1. A good behavioural interview is structured to generate information from the informant that is **clear** and **objective**.
2. Information about problem behaviour , antecedents, and consequences should describe environmental events including the behaviour of other people- without *inferences* or *interpretations*.

# Indirect assessment : *(continued...)*

## ❑ **Advantages:**

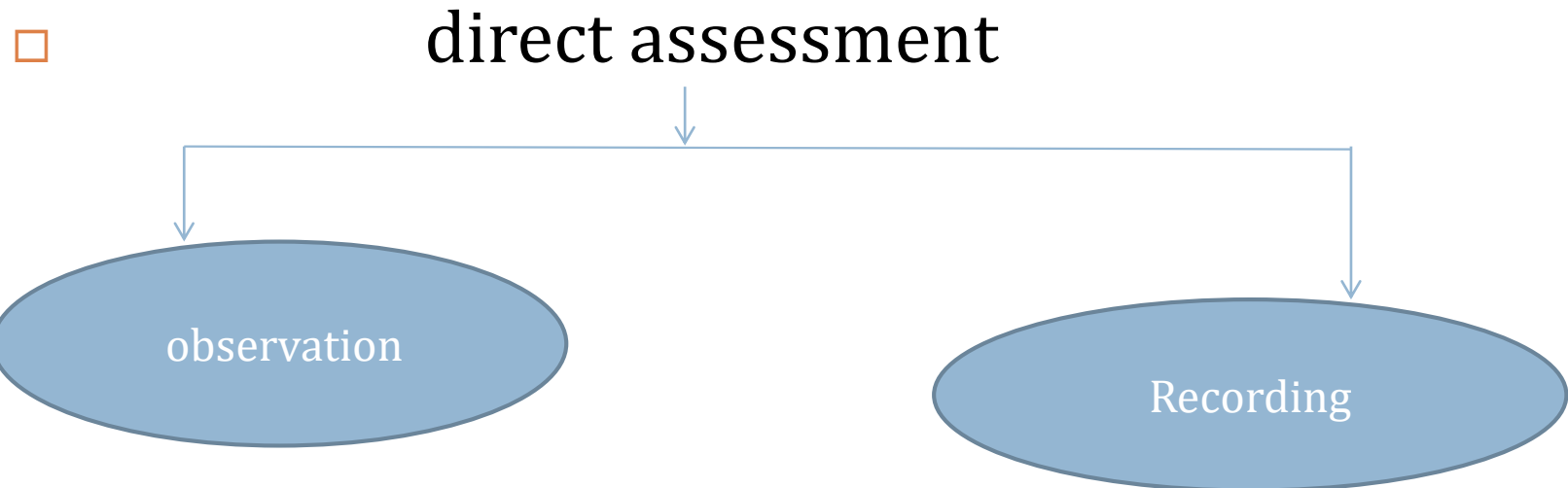
- ✓ Easy to conduct and do not take much time.
- ✓ Sufficient number of interview formats and questionnaires are available for use in conducting a functional assessment.( Bailay and Pyles, 1989, Durand And Crimmius,1988).

## ❑ **Disadvantages:**

- ✓ The informants must rely on their memory of the events . Thus information from interviews and questionnaires may be incorrect as a result of forgetting or bias.

# Direct assessment:

- In this process the behaviour is observed and recorded simultaneously at the time when it occurs.



# Direct assessment: *(continued...)*

- **Recording** : the target behaviour is recorded to have a proper document about the target behaviour.
- **RECORDING PROCESS:**

Types of recording :	Continuous recording, product recording, interval recording , time sample recording.
Recording instruments	Laptop, golf stroke counter, stopwatch, barcode technology, pedometer etc.
Recording can be done by	The client himself or by parents, teacher, psychologist, therapist etc.
Behaviour is recorded in terms of:	Frequency, duration, intensity, latency.

# Direct assessment:

- Direct observation: the antecedents and consequences are observed and recorded in the natural environment by the observer where the problem behaviour typically takes place. (observer may be the person exhibiting the problem behaviour, or it may be client's parent, teacher, staff person, nurse, behaviour analyst or psychologist.
- Direct observation assessment is also called ABC observation.

# Direct assessment: *(continued...)*

- **DESCRIPTION OF ABC observation method :**
- ✓ Objective information about the antecedents and consequences that are reliably associated with the problem behaviour.
- ✓ This method show a correlation of the antecedents and consequences with the problem behaviour .

# Direct assessment: ( *continued...* )

## □ **Goals of ABC observations:**

1. To record the immediate antecedents and consequences typically associated with the problem behaviour under normal conditions.(Anderse and Long 2002).
2. The information( regarding correlation of A and C with the B ) allows to develop a hypothesis about the antecedents that evoke the behaviour and the reinforcer that maintain behaviour.

# Direct assessment: *(continued...)*

- **Types of observation:**
- ❑ **Descriptive method** : indirect and direct functional assessment methods are categorised as descriptive assessment because the antecedents and consequence are described, either from memory or from direct observation of the events. Descriptive functional assessment allow to develop hypothesis about the antecedent and consequent variables controlling the problem behaviour .
- ❑ **Check list method** : for conducting ABC observation involves a checklist with columns for possible antecedents, behaviour and consequences. It is developed after problem behaviour and potential antecedents and consequences are identified in an interview or through observation.
- ❑ **Interval or real time recording**: in this process clinician divide an observation period into brief time intervals and mark a data sheet at the end of each interval to record whether the behaviour occurred in that interval and record the exact time of each occurrence of the behaviour.

# Direct assessment: *(continued...)*

## **Advantages of direct assessment:**

- An observer is recording the antecedent and consequences as they occur.
- The assessment information is likely to be more accurate as it comes from direct observation.

## **Disadvantages of direct assessment:**

- ABC observation is not economical in terms of time and effort.

# Experimental Methods ( Functional Analysis)

Experimental methods of conducting a functional assessment manipulate antecedent and consequent variables to demonstrate their influence on the problem behaviour. This approach is typically called a **Functional analysis**. It experimentally demonstrates a functional relationship between the antecedents and consequences and the problem behaviour. In a functional analysis, the problem behaviour is followed with potential reinforcers to see which consequences increase (strengthen) the behaviour and/ different antecedent events is presented ( possible Eos) to see which ones evoke the behaviour.

# Types of Functional Analysis

**Exploratory:** A number of possible reinforcers are evaluated in the functional analysis( e.g., attention, escape, tangible) along with a control condition in which no Eos or reinforces for the problem behaviour are present.

**Hypothesis testing:** One test condition and one control condition are used to the test the hypothesis that a particular reinforcing consequences is maintaining the problem behaviour.

# Functional Assessment versus Functional Analysis

\* **Functional assessment** refers to the process of gathering information on antecedents and consequences of a behaviour to identify which antecedents and consequences influence the behaviour. There are three methods for conducting a functional assessment. Functional assessment is also called functional behavioural assessment.

\* **Functional analysis** is one of the three functional assessment methods. It specifically involves manipulating antecedents and consequences to demonstrate a functional relationship between the antecedents and consequences and the behaviour.

# General procedure to conduct a functional assessment:

start with a behavioural interview



Develop a hypothesis about the ABCs of the problem behaviour.



Conduct a direct assessment.



Confirm your initial hypothesis about the ABCs of the problem behaviour.



Conduct further assessment if needed.



Conduct a functional analysis if needed.

# To end with :

- ❖ Once the process of functional assessment has been conducted, the information on antecedents and consequences of the problem behaviour are used to develop interventions. Interventions should be designed to alter the antecedents and consequences of the problem behaviour , to decrease the problem behaviour and increase the desirable alternative behaviour.

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***THANK YOU.....***