Organisation In Memory.

- ## STATEMENT OF THE PROBLEM :-

To study the clustring effect in the method of free recall.

- ## INTRODUCTION :-

1) Definition of memory :-

   " Memory is an active system that recieves information from the senses, organizes and alter it as it stores it away and then retrives the information from storage" [Baddeley 1996].

   " The power we have to 'store' our experiences and to bring them into the field of consciousness. Some time after the experience have occured is termed as memory."

2) The process of memory :-

   Memory is the process that is used to require retains and latter retrive information. The memory process involves three domains : Encoding, storage and Retrieval.

   Encoding ⟶ storage ⟶ Retrieval.

   a) Encoding :-

   This is the process of getting information into memory. If information or stimuli never gets encoded, it will never remembered. Encoding requires paying attention to information and thinking it to existing, knowledge in order to make new information meaningful and easier to remember.

   b) storage :-

   It consists of retention of information over time, to is believed that we can gather information in 3 main storage areas. They are sensory memory

, STM, LTM and they vary in time frames.

c) Retrieval :-

It is the process of getting information out of memory. The ability to access and retrieve information from memory allow you to use the memories to answer questions, perform task and make decisions.

3) Organisation In Memory :-

Information about events we experience is stored in memory in terms of complete organisational schema and not as descrite, isolated units.

Organisational memory here referes to the memory for material that significantly enges the contents of the long-term storage. The organisation may be revealed by asking the subject to recall material that has been in LTM storage for some time [eg. all the states in the country] or by investigating memory for material that is represented sufficiently well in LTM storage to provide some basis for organizing an otherwise unorganised input.

4) Types Of Organisation :-

• Primary And secondary organisation :-

Primary organisation refers to organisation that is independent of the memory of the tens and the subjects past experiences with them. certain discripencies between input and output order tend to occur in free recall; respective of the meaning of the items in the list or the subject past experience with the items. Tulving reveal such discripencies

as evidence of primary organisation. In a sense, primary organisation refers to what might be called as 'raw' organisation structure inherent in the free recall task.

Secondary organisation refers to consistent discripencies between order in which the items are presented and the order in which they are recalled, which is determined by relations among the items.

5) **Associative And Category Clustering :-**
Both has been interpreted in many ways. In his earlier studies; Bausfield emphasized the role of superordinate structures in explaning clustering. His view was that the presentation of category members (subordinates) served to activate a superordinate system is activated it would tend to facilitate recall of words, belonging to the same category.

6) **Levels Of Processing And its Relation With Organisation In Memory :-**
The levels of processing approch was proposed by Craik and Lockhart in 1972 and is one of the most influential in the area of human memory.

This approach states that deep meaningful things of information processing lead to more permanent retention that shallow, sensory kinds of processing. In other words more meaning a person extracts from a stimulus, the greater the depth of processing and more permanent the retention

According to Craik and Lockhart people can analyze stimuli at two level :-

(i) Shallow Level Processing :-
Which can take two forms :-

a) structural Processing :- [appearance] which is when we encode only the physical qualities of something. eg. the typeface of a word or how the letters look. And,

b) Phonemic Processing :- Which is when we encode how the words sounds.

(ii) Deep level Processing :-
Involves semantic processing which happens when we encode the meaning of word.

When we analyze for meaning we might think of other, related associations images and past experiences related associations tr to the stimulus. This is very similar to primary or secondary organisation or associative and category clustering of information in memory.

When stimulus is analyzed at the deep level, i.e. in terms of its semantic appropriatness in terms of category to which it belongs that memory trace will be durable and can be easily remembered.

7) Methods of Measuring Retention :-

i) Recall :-
The procedure is best discribed as active recall. In recall, the subjects task is to actively reproduced the correct response which he has aquired during the period of learning. There are several variations of active recall however in all methods the subject is simply require to reproduce as many

items as he can remember.

ii) Recognition:-
Refers to the identification of past images or familier objects. Correct recognition of familiar and unfamiliar objects reflects the storage or retention of the past images and thus measures memory.

iii) Anticipation :-
The members of a series are represented one by one at a regular pace usually through the window of memory drum. The full series is presented once and there after the subject is instructed to anticipate each item before it appears. The correct item is presented whether or not the subject has attempted to anticipate it. Thus each presentation of the series is both a learning trial and a test of retention.

iv) Free Recall:-
Allows us to sum up the pieces of learnt material may be recalled freely without any specific order. Thus there is a single event of learning.

8) Tulvig's contribution To Organisation In Memory:-
Tulvig suggested that terminal items may be more accessible than earlier items. This is because certain information may be stored with the earlier items which might be longer be available. Such information might include the acoustic trace of items that the subject has seen recently and

encoded acoustically. In this case presumble the acoustic traces of items presented earlier would have already decayed from the sensory store.

In addittion Tulving suggested that temporal dating or serial position of the information may explain the superior recall of initial and terminal items over time than the recall of middle items. Thus Tulvings views the primary organisation in terms of retrieval process.

9) **Bausfields Experiments:-**

Bausfield was one of the first investigator to study category clustering. In his experiment the subjects were shown a list of sixty words consisting of 15 examples from each of them focus mutually exclusive categories [animals, home, profession and vegetables]. After the list was presented the subjects were given 10 mins to recall as many words as they could.

The results indicated a significant level of clustering during the initial part of the recall inter- val after which clustering gose to maximum and finally dropped off to a chance level.

The initial law level of clustering observed by Bausefied is quite common when the singal trial free recall procedure is employeed. This result is usually due to primary organisation in the form of recency effect.

— HYPOTHESIS:-

In the method of free recall clustering effect

will be seen.

- VARIABLE :-
Independent Variable :- Free recall and cards of
different categories.
Dependent Variable :- % of recall and percentage of
clustering.

- MATERIAL :-
1) set of 49 cards having 7 categories.
2) stationary
3) stop watch.
4) wooden screen.

- PLAN OF THE EXPERIMENT :-
1) Experimenter randomly presents all the cards
to subject (Each for 5 sec).
2) Subject is given 2-3 min to recall and write
the recalled words (free recall)
3) Rest of 2 min is given and same task will be
repeated more 2 times (Total 3 trials).

- PRECAUTION :-
1) Subject is not allowed to expose to experiments
material prior to experiment.
2) Experimenter shuffle card for each trial
3) On each trial each card is shown for 5 seconds
only.
4) subject is given 2-3 min time to recall and
write the words.
5) subject is not allowed to see responses of
previous trial.

6) Subject is not told, total no. of cards and no. of categories there.

– PROCEDURE :-
Cubical was set and subject and s was called inside the cubical. Rapport was established and then further instructions were given :-
" This is very simple and interesting task. I will show you some cards on which some meaningfull words are written. I will read out loudly for you. After showing all the cards, I will give you piece of paper on which you have to write as many words as you remember in any order as you like. We will give you some time for it. After you finish writing I will give you gap of 2 min and in similar manner we will continue 2 more trial but you are not allowed to see responses of previous trials?"

RESULT TABLE :-

i) Percentage of Recall in each trial.

Trial No.	Correct Recall	% CR $\left[\frac{CR}{Total\ No} \times 100\right]$
1	22	44.89%
2	34	69.38%
3	38	77.55%

ii) Percentage of categorization in each trial.

Trial No	Category	Grouped Response	% GR $\left(\frac{GR}{7} \times 100\right)$
	Cities		
1)		—	0
2)		5	71.42%
3)		6	85.71%
	Relationship		
1)		5	71.42%
2)		5	71.42%
3)		7	100%
	Musical Instrument		
1)		—	0
2)		5	71.42%
3)		—	0

Trial No.	Category	Grouped Responses	% ($\frac{GR}{7} \times 100$)
	Shapes		
1)		3	42.85%
2)		6	85.71%
3)		6	85.71%
	Pronounce		
1)		—	0
2)		4	57.14%
3)		5	71.42%
	Fruits		
1)		—	0
2)		4	57.14%
3)		5	71.42%
	Colours		
1)		3	42.85%
2)		5	71.42%
3)		6	85.71%

— **INTROSPECTIVE :—**

" The experiment was good. There are too many words, so I got confused while recalling. I tried to remember words by categories like fruits, instruments etc. I remembered some words in first trial but some of them I forgot in second trial and same for third trial. I recognised some categories like fruits, instruments, relationship, colours, places, shape. Category of place, relationship, fruits were easy for me to remember."
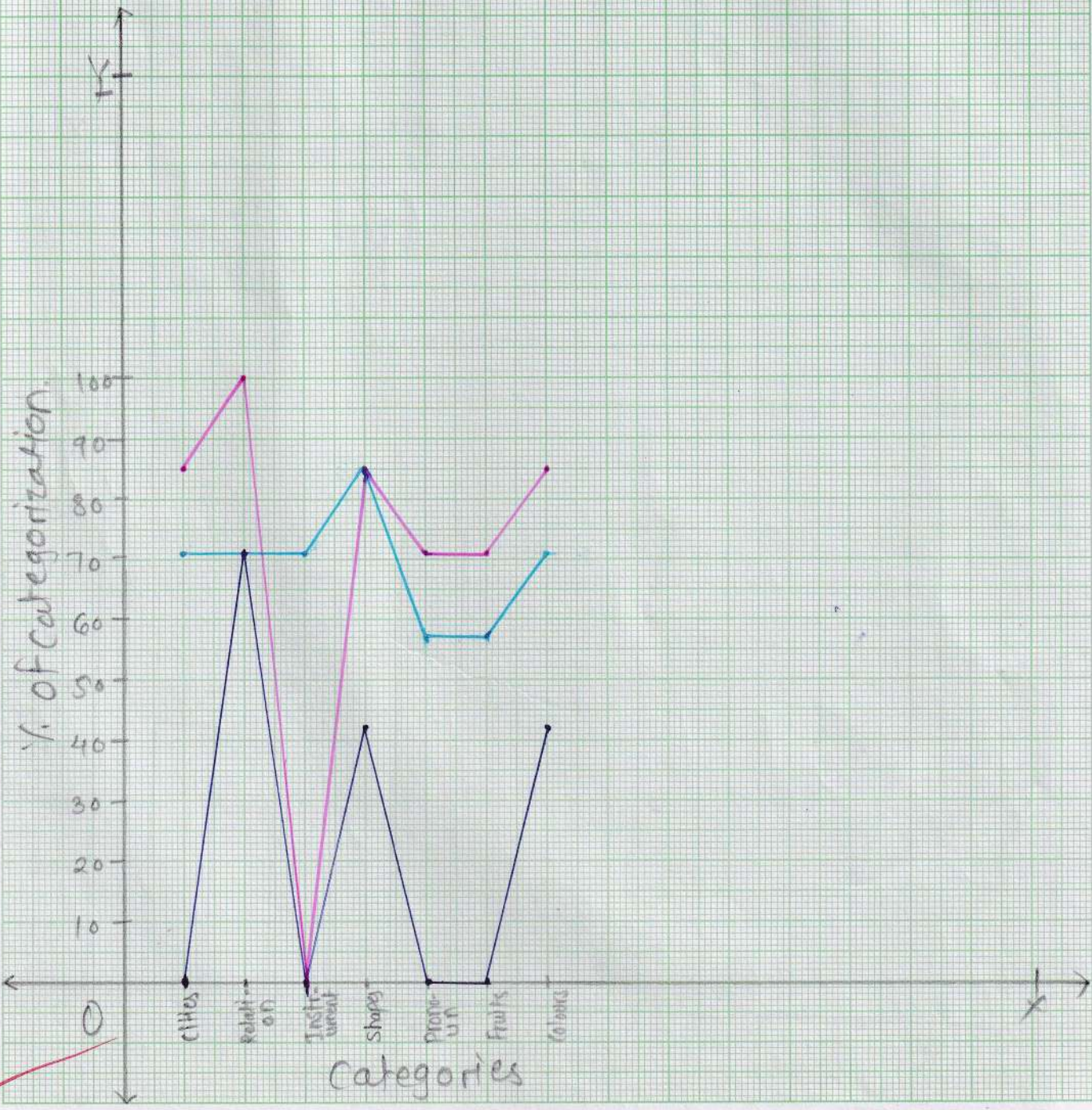
Name : __Madhura Vivek Pawar__   Expt. No.: _____

Class : __MA(I)_____ Roll No. : __1865120__

Title of the Graph : __Graph showing % of catego-__
__rization per category__

Origin = ( )

Slope = _____

Scale
on x - axis, 1 cm = 1 category
on y - axis, 1 cm = 10%.

Intercept
on x - axis =
on y - axis =

Name : Madhura Vivek Pawar.   Expt. No.: _____

Class : MA (T)   Roll No. : 1865120

Title of the Graph : Graph showing % of CR per trial

Origin = (   )

Slope = _____

Scale
on x - axis, 1 cm = 1 trial
on y - axis, 1 cm = 10 % CR.

Intercept
on x - axis =
on y - axis =