

KNOWLEDGE OF RESULT.

- STATEMENT OF THE PROBLEM:-

To investigate the relationship between knowledge of result and performance of the subject in line drawing task.

- INTRODUCTION:-

1) Definition of Learning:-

According to Henry, P. Smith, "Learning is the acquisition of new behaviour or strengthening or weakening of old behaviour as a result of experience."

According to B.F. Skinner, "Learning is the process of progressive behaviour adaptation."

According to Gates and others, "Learning is the modification of the behaviour through experience."

2) Characteristics of Learning:-

Yokum and Simpson have stated the following general characteristics of learning:-
Learning is growth, adjustment, organisation of experience purposeful both individual and social product of the environment.

According to W.R. McLaw learning has the following characteristics:-

- A) Learning is continuous modification of behaviour
- B) Learning is pervasive. It reaches into all aspects of human life.
- C) Learning involves the whole person socially, emotionally and intellectually.
- D) Learning is often a change in the organisation of behaviour.

E) Learning is responsive to incentives. In most cases positive incentives such as rewards are most effective than negative incentives such as punishments.

F) Learning is always concerned with goals. These goals can be expressed in terms of observable behaviour.

G) Interest and learning are positively related. The individual learns but those things which he is interested in learning. Most boys find learning to play football easier than learning to add fraction.

H) Learning depends on maturation and motivation.

3) Factors Affecting Learning:-

The following points highlight the four main factors influencing learning. The factors are:-

- ① Physiological factor
- ② Psychological factor
- ③ Environmental factor
- ④ Methodology of Instruction

1) Physiological Factors:-

A) Sense - Perception:-

Sensation and perception are the basis of all cognitive learning. Weaker the power of perception, lesser amount of learning.

B) Fatigue:-

Muscular or sensory fatigue causes mental boredom and indolence; environmental conditions like lack of accommodation, bad seating, arrangement, unhealthy clothing, inadequate ventilation, poor light, noise etc. causes fatigue which affects learning capacity.

i) Atmospheric Conditions:-

High temperature and humidity lower the mental efficiency. Distractions of all sorts affect power of concentration and consequently the efficiency of learning.

ii) Age:-

Learning capacity varies with age. Some subjects can better be learnt at the early age, and something during adulthood. On the evidence of experiments conducted, Thorndike says that mental development does not stop at 16 or 18 but increases up to 23, and halts after 40. Learning proceeds rapidly between 18 and 20; remains stagnant till 25 and declines upto 35. Age accompanies mental maturation so some complex problems cannot be solved till the person is sufficiently mature. For example, children learn the school subject more easily than uneducated adults can learn.

iii) Psychological Factors:-

A) Mental Health:-

Mental tension, complexes, conflicts, mental illness and mental diseases hamper learning. A maladjusted child finds it difficult to concentrate. Concentration needs mental poise and absence of mental conflict or complex. For example:- some pupils find it difficult to prepare for the university examination, simply because of fear the examination and anxiety neurosis. A calm, serene and balanced mind gives power to concentrate and learn better.

B) Motivation and Interest :-

No learning takes place unless it is motivated. Purposeless learning is no learning at all. Every child is implied by some motive to learn new things. Motive energises behaviour. Hunger and thirst induce acquisition of food. Reward induces further success. Punishment or failure induces action for achievement.

C) Success, Praise And Blame :-

Thorndike's law of effect, is applicable. Experimental evidences show that praise stimulates small children to work and learn, although it does not produce much effect on superior and elder children. Elder children are more sensitive towards reproof and blame, than younger children are.

D) Reward And Punishment :-

Rewards of all sorts are powerful incentives to learn; but one can become over dependent on rewards. Some refuse to work without any incentive of reward.

Punishments are arousing fear in anticipation. Sometimes punishment creates bad reaction, hatred and disgust. Experimental studies show that punishment interferes with complex learning activities when punishments become frequent. Absence of punishment becomes a basis of low activity on the part of the pupil, in the absence of fear, they disobey and waste time.

iii) Environmental Factors :-

A) Working conditions :-

Learning is hampered by bad working conditions. Such as distraction, noise, bad ventilation, seating arrangement etc.

iv) Methodology of Instructions :-

A) Presentation and Organisation of Material :-

The learning material should be properly planned and organised. It should be presented in a meaningful and interesting manners.

B) Learning By Doing :-

Repetition and practice is important for learning. The rote learning should be replaced by practical application of knowledge, experimentation and personal application.

C) Special methods of Learning :-

It has been found that some special methods give better results. Learning by the whole and by the part method is advocated. Gestalt Psychologists do not approve of trial and error learning. They advocate learning by Insight. They discourage mechanical repetition without understanding.

D) Timely Testing :-

Through tests, the learners know the exact achievement and there is no scope for over-estimation or underestimation.

4) Feedback :-

Information about the results of an action or performance is called feedback. Without feedback one might repeat the same mistakes so many times that one would develop a skill incorrectly one would never learn what he was doing wrong. If for example, you always wore earplugs while you practiced the piano, you would never know just how bad your version of "chopsticks" sounded. Even if you were performing correctly, without feedback you would not be receiving reinforcement for continuing to play. All kinds of rewards, punishments and knowledge of results have been labelled as feedback. It connotes some kind of automatic control systems, like body temperature, homeostasis systems that are largely independent of human intervention. Self observation leading to self correction and self regulation may be regarded as a kind of mental feedback system.

5) Principles Of Feedback :-

The goal of feedback is to provide with insight that helps to improve performance :-

i) Helping to clarify what good performance is :-

This includes the provision of clear concise written instructions, instructional videos and exemplars which clear goals, criteria, expected standards for which one can assess their progression

ii) Facilitating the development of self assessment in learning :-

One requires opportunities to practice aspects of their own learn and reflect on that practice. For

example, peer feedback and self feedback processes.

iii) Encouraging positive motivational beliefs and self-esteem :-

The focus of feedback is on learning goal rather than on performance goals. For example, it focuses on mastering a subject than just passing the test, looking good.

- HYPOTHESIS :-

As knowledge of result become more specific, performance increases accordingly.

- VARIABLES :-

Independent Variable :- Knowledge of Result.

Dependent Variable :- Performance.

- MATERIAL :-

4 blank paper sheets (A-4 size)

Blind fold

Stationary

Wooden screen

30 cm Scale.

- PLAN OF THE EXPERIMENT :-

I Part - No Feedback - 10 trials.

II Part - Right/wrong feedback - 11 trials.

III Part - Longer/shorter feedback - 11 trials.

IV Part - Exact measurement feedback - 11 trials.

- PRECAUTION :-

1) Blind fold subject properly.

2) Every time measure the length of the line carefully and keep record of it.

3) For every trial starting point should be different.

4) Use scale for drawing straight scale line.

5) Don't allow subject to touch the table or any material or scale.

6) Retracing the line is not allowed.

- RT PROCEDURE :-

The experimenter checked all the material required and cubical was arranged. Subject was called in and seated comfortably, rapport was established and the subject was given following instructions :-

"Today I am going to conduct very simple and interesting task, see this is 10 cm length line. You have to draw same length line but you will be blind folded. I will put your hand on starting point and your job is to draw continuous and smooth line without lifting your hand. You cannot retrace the line. You have to perform this task without resting the elbow. You are not suppose allowed to touch the paper, scale or you are not suppose to take any external cue. This activity will be conducted in 4 parts. In 1st part No feedback will be given and you have to draw 10 lines. In next part I am going to tell you whether line drawn is right or wrong. In 3rd part I am going to tell whether line drawn is longer or shorter. In 4th part, I will tell you the exact measurement of the line drawn.

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Part 1:- No Feedback.

Trial	Reading	$D = R - 10$	D^2	$SD = \sqrt{\frac{\sum D^2}{N}}$
1	4	-6	36	$= \sqrt{\frac{86.64}{10}} = 2.9$
2	8	-2	4	
3	6	-4	16	
4	7.2	-2.8	7.84	$PSE = \frac{75.8}{10} = 7.58$
5	6.9	-3.1	9.61	
6	8.2	-1.8	3.24	
7	7.9	-2.1	4.41	$CE = PSE - 10$ $= 7.58 - 10$ $= -2.42$
8	8.8	-1.2	1.44	
9	8.1	-1.9	3.61	
10	10.7	0.7	0.49	$\sum D^2 = 86.64$

Part 2:- Right/Wrong Feedback

Trial	Reading	$D = R - 10$	D^2	$SD = \sqrt{\frac{\sum D^2}{N}}$
1	9	-1	1	$= \sqrt{\frac{73.17}{10}} = 2.7$
2	7.11	-2.89	8.35	
3	9.2	-0.8	0.64	
4	6.5	-3.5	12.25	$PSE = \frac{69.81}{10}$ $= 6.981$
5	5.5	-4.5	20.25	
6	5.7	-4.3	18.49	
7	7.2	-2.8	7.84	$CE = PSE - Std$ $= 6.981 - 10$ $= -3.01$
8	7.4	-2.6	6.76	
9	7	-3	9	
10	6.7	-3.3	10.89	$\sum D^2 = 73.17$
11	7	-3	9	

Part 3- Short/Long Feedback

Trial	Reading	$D = R - 10$	D^2	$SD = \sqrt{\frac{\sum D^2}{N}}$
1	7.2	-3	9	$= \sqrt{\frac{11.77}{10}} = 1.08$
2	9.6	-0.4	0.16	
3	8.1	-1.89	3.57	PSE = $\frac{97.2}{10}$
4	10	0	0	
5	10	0	0	$= 9.72$
6	10.8	0.8	0.64	
7	11.7	1.7	2.89	CE = PSE - std
8	8	-2	4	
9	10	0	0	$= 9.72 - 10$
10	10	0	0	$= -0.2$
11	9.5	-0.5	0.25	
			$\sum D^2 = 11.77$	

Part 4- Exact measurement Feedback

Trial	Reading	$D = R - 10$	D^2	$SD = \sqrt{\frac{\sum D^2}{N}}$
1	8.5	-1.5	2.25	$= \sqrt{\frac{6.99}{10}} = 0.8$
2	9.8	-0.2	0.04	
3	9	-1	1	PSE = $\frac{96.7}{10}$
4	10.1	0.1	0.01	
5	9	-1	1	$= 9.67$
6	9	-1	1	
7	10.8	0.8	0.64	CE = PSE - std
8	9.5	-0.5	0.25	
9	11.2	1.2	1.44	$= 9.67 - 10$
10	9.5	-0.5	0.25	$= -0.3$
11	9	-1	1	
			$\sum D^2 = 6.99$	

- Result Table :-

	I	II	III	IV
SD	2.9	2.7	1.08	0.8
PSE	7.58	6.98	9.72	9.67
CE	-2.4	-3.1	-0.2	-0.3

- INTROSPECTION :-

"I found the task very interesting. In first part I was guessing measurement as there is no feedback given. In second part, I started counting in mind, approximately my 1 count was for 2 cm. But it is not helpful. In third part, the feedback of shorter and longer is given, which helped me. In 4th part exact measurement was told to me but I got confused because of it. For me feedback of shorter or longer was helpful."

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Title of the Graph : Graph showing constant Error per trial

Origin = ()

Slope = _____

Scale

on x - axis, 1 cm = Trial.

on y - axis, 1 cm = 0.05 Error

Intercept

on x - axis =

on y - axis =

