NOTES AND REFERENCES

CHAPTER II


Swarup, S. (ed.) : op. cit. pp. 46 - 49


Gaidn, D.N.; Sharma, R.P. : 1963, Talks to Teachers of


7. ibid

8. ibid


   Wadhwa, S.S.; Shaida, A.K.: op. cit. p. 25


12. ibid

14. ibid

15. ibid

16. ibid, pp. 29 – 30


18. ibid


(Thorndike gave this theory as a result of his experiments with cats. He placed a hungry cat in a specially prepared box called the puzzle box. The cat was placed inside the box and the food was placed outside. In one face of the box there was a small door which could be opened by pressing a slat. The cat was kept hungry for sometime before placing it in the box. The cat made random movements to find a way of getting out. In all 100 trials were given, 10 in the morning and 10 in the evening for 5 successive days. Thorndike noticed:

a) in the early stages the cat made a great variety of movements like scratching at the door or
pushing the bars on the sides and so on. Unless movements were gradually eliminated.

b) after many trials (which decreased experiment was continued) there was the discovery of the solution and connection or a bend was established between the pressing of the slat and the opening of the door. This resulted in the differentiation and consolidation of the movements.

Thorndike described six distinct stages of this experiment

a) Drive: There was some drive or motivation on the part of the learner. The cat was kept hungry so that it may have the drive. A well fed cat may not have tried to get out to get feed. Psychologically it can be seen in another way. When the animal is put in a new situation a tension is built up and in order to reduce that tension or adjust to the new environments, the animal makes efforts which results in many and varied activities.

b) Block: Next stage is the facing of the block or obstacle that is placed in the way of reducing the tension easily. In the above experiment, the puzzle box was very simple. But Thorndike and some of his students used quite complicated masses of different kinds in experiments.
c) **Random Movements**: When the animal faces the block, it makes random movements to overcome it. That is the third stage. It may be noted that greater the motivation, more vigorous would be the movements and lesser the motivation, less vigorous would be the movements.

d) **Chance Success**: During these random movements, the animal succeeds by chance to get the correct response or find the solution. Thus the animal overcomes the block.

e) **Selection**: The random movements now give place to selective movements. The animal eliminates the unsuccessful responses gradually and takes in the successful responses. Thus the animal moves from the hesitant and halting movements to those of set movements.

f) **Fixation**: This is the last stage when the correct responses have been fixed. The hesitating and halting responses are replaced by the rapid and smooth actions.

19. Lade, R. * op. cit.*

Gulati, R.; Gulati, K. *ibid*, pp. 80 - 81

*Kohler conducted his experiment with Chimpanzees.*
The Chimpanzee was in a cage and a banana was hung inside the cage at a height which the chimpanzee could not reach by jumping. Sultan (that was the name of the chimpanzee in the experiments of Kohler) could reach the banana if he got on to a box. A box was lying in the cage. When Sultan saw the banana, he leapt at it but he could not reach it. He leapt several times, but each time he failed to reach the banana. He then lay quiet on the group. All of a sudden he got up, moved the box to the corner where the banana was hanging and got on the top of the box and caught hold of the banana. Kohler repeated this experiment by hanging the banana higher than before so that the chimpanzee could not reach it even if he got on to the top of one box. Sultan tried to reach the banana by jumping. He could not reach the banana. But again suddenly he dragged the bigger box (because now Kohler had put two boxes, one big and one small), got on to the top of it, but did not actually jump. He got down and started shrieking. As before, suddenly he stopped shrieking, dragged the second box near to the first one, placed it on the first one, and jumped on to the top of the two boxes. Now he could reach the banana and so he got it.
In another experiment, the banana was placed outside the cage at a distance which the chimpanzee could not reach by stretching his hand. At first Sultan lay indifferently on the ground. All of a sudden he caught hold of one of the two sticks which had been placed in the cage by Kehler and tried to drage the banana with it. He failed. He again swuitted for sometime. But suddenly he rose up, get held of the second stick and keeping it in line with the ether, fitted it with the first. Now the two sticks were long enough to reach the banana and Sultan dragged the banana with it and got it.

In both these experiments, the solution of the problem of getting the banana was not the result of any haphazard trials nor was there any association (conditioning) made between the boxes and the banana or the sticks and the banana. The solution of the problem struck Sultan all of a sudden through insight. He saw the situation as a whole and perceived the relationships between the parts and got the solution intuitively. In the first case, Sultan saw the boxes and the banana as whole and discovered the relationship between the height at which the banana was
hanging and the height of the two boxes. In the second case he saw the sticks and the banana as a whole and discovered the relationship between the distance of the banana from the cage and the length of one stick as also of two sticks. Thus he solved the problem by perceiving the whole and the relationships of the parts with one another and to the whole.

20. Lado, R. : ibid

21. ibid p. 36

Gulati, R.; Gulati, K. : op. cit. p. 76

(Pavlov noticed that the sight of food caused salivation in the mouth of the dog. He brought the meat powder, and the dog began to salivate. At the same time Pavlov rang a bell. The dog after sometime associated the ringing of the bell to the bringing of the meat powder and therefore, it salivated when the bell was rung but no food was brought. Thus Pavlov succeeded in establishing a conditioned reflex. Thus conditioning is a process of substituting an artificial stimulus for a natural stimulus to evoke the natural response. By an operation of the jaw of the dog, Pavlov could collect the amount of
saliva in a test tube during the ringing of the bell. He found that as the number of times when the bell was rung but no food was brought increased, the amount of saliva decreased, so much so that after sometime the dog did not salivate at all at the ringing of the bell. Pavlov called this experimental extinction. This was described as below:

S stands for stimulus and R for reaction

I Position $S_1$ (Food) $R_1$ (Saliva)

$S_2$ (Bell) $R_2$ (Listening)

II Position $S_1$ (Food) $S_2$ (Bell)

$R_1$ (Saliva)

III Position $S_2$ (Bell) $R_1$ (Saliva)

22. Bade, R.: ibid

23. ibid

24. ibid

25. ibid

(The meeting which was held from the 9th to the 14th April 1962 was attended by twenty participants including nationals from Belgium, the Federal Republic of Germany, France, India, Ireland, Israel, Italy, Morocco, UK, USA and USSR. They
represented such diverse disciplines as language teaching, linguistics, primary education, educational psychology, neurophysiology and comparative education.)

37. ibid p. 11

38. ibid p. 20

39. ibid

40. Mennen, T.X.N.; Patel, M.S. : op. cit. p. 22

41. ibid


43. ibid p. 22

44. Mennen, T.X.N.; Patel, M.S. : op. cit. p. 24

45. ibid

46. ibid

47. Lade, R. : op. cit. p. 50

48. Sachdeva, M.S. op. cit. p. 42


50. Jespersen, O. : 1904, How to Teach a Foreign Language, Allen & Unwin, p. 146


(The written word is to the spoken word what the photograph of landscape is to the landscape itself, what the printed page of music is to the music itself, what the picture of a triangle is to the mathematical conception of a triangle.)

53. ibid p. 40

To know the language is to use its patterns of construction with appropriate vocabulary at normal speed for communication. Understanding or even verbalizing a pattern may help a student to learn it but will never take the place of practising the patterns through analogy, variation, and transformation to establish them as habits. This is pattern practice.

Thompson, M.S.H.; Wyatt, H.G.; op. cit. p. 14

Lado, R.; op. cit. p. 51

Swarup, S. (ed.); op. cit. p. 51
(There are two ways of eliminating bewilderment. One is to give in the clearest possible way certain fundamental explanation whenever there appears to
be confusion in the mind of the student; the other is to see that the programme is properly graded.


73. ibid p. 140

74. ibid p. 150

75. Sachdeva, M.S. : op. cit. p. 44


77. Lado, R. : op. cit. p. 55
   (Thorndike proved experimentally that blindfolded subjects did not learn to draw 4 inch lines even if they drew thousands of lines if they did not find out when they had succeeded.)

78. ibid
   (Skinner proved that experimental animals learned better when correct responses or successively closer approximations were reinforced with food or some other reinforcer)

79. ibid.