1.6 Learning

Syllabus: Concepts and theories of learning (Behaviourists, Gestaltalist and Information processing models); The Processes of extinction, discrimination and generalization; Programmed learning, probability learning, self-instructional learning, concepts; Types and the schedules of reinforcement, escape, avoidance and punishment, modeling and social learning.

Previous Year Questions

2016

Q. Show your acquaintance with the cognitive approach to classical conditioning and describe how classical conditioning principles can be used to solve everyday problems. 20 marks [2016]

Q. How far do you agree with the contention that a more preferred activity can be used to reinforce a less preferred activity? Also describe the types of reinforcement. 15 marks [2016]

2015

Q. Evaluate the notion of programmed learning and describe its relevance for modern day education with suitable examples. 10 marks [2015]

Q. Review Bandura's social learning theory and evaluate its impact on understanding aggression as a result of media generated violence. 15 marks [2015]

Q. "Children are not born with stereotypes; they learn them from their family, peers, media and society."—Discuss. 20 marks [2015]

2014

Q. Distinguish between social learning and conditioning. 10 marks [2014]

Q. What are the distinctive features of probability learning ? How useful is it in real life ? 15 marks [2014]

Q. What is meant by rule learning ? Describe some important rules along with along with description of the concepts related to each rule. 15 marks [2014]

2013

Q. Describe different reinforcement schedules and indicate their effects on the strength of learning. 10 marks [2013]

2012

Q. With suitable examples, critically evaluate both primary and secondary reinforcements and bring out their role in establishing conditioning. 20 marks [2012]

2011

Q. Distinguish between negative reinforcement and punishment. Indicate the limitations of punishment in the context of learning. 10 marks [2011]

Q. Discuss the consequences of learned helplessness as demonstrated in classic experiment on dogs. Find out its parallels in real life. 20 marks [2011]

2010

Q. You are the head of an office in which employees habitually come late and leave early. Suggest a behavior modification plan for such employees. 20 marks [2010]

Q. Comment on the impact of immediate and delayed reinforment on learning. 10 marks [2010]

2009

Q. Discuss various characteristics of probability learning. Prepare an experimental design of probability learning following 'Bernoulli Sequence' When is the behavior of the subject labeled as 'gambler's fallacy' 60 marks [2009]

2008

Q. Poverty and level of economic achievement as a social problem can only be explained from the psychological perspective. Comment with relevant research studies. 20 marks[2008]

Q. Explain Bandura's theory using a suitable social learning task. Extend research support to your answer. 60 marks [2008]

Q. Using the procedure of programmed learning, how would you conduct 'anger-reduction' training for a group of individuals who have been assessed high on anger? The training procedure needs to be as per the instructional design model. 60 marks [2008]

Learning : any *relatively permanent* change in behaviour, or behaviour potential, produced by experience.

Some noteworthy points in this def. are :
1. Learning causes relatively perma. changes unlike drugs,illness or fatigue.
2. It doesn't result from *maturation* of human body or mind.
3. Can be caused from vicarious a.w.a. direct experiences.
4. Changes stemming from learning can be both negative or positive (e.g. bad & good habits)

Behaviourist approach to Learning: Conditioning-Classical and Operant

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Classical Conditioning (CC)/Pavlovian Conditioning
CC is a basic form of learning in which one stimulus comes to serve as a signal for occurrence of another stimulus.
Caveat : In CC, organisms acquire info about relations b/w various stimuli and NOT simple associations b/w them.

Some related terminology :
Stimulus : A physical event capable of effecting beh.
Unconditioned Stimulus (UCS) : A stimulus capable of evoking an unconditioned response the first time it is presented. e.g. food (meat powder) for the dog in case of Pavlov's exp.
Conditioned Stimulus (CS) : The stimulus which is repeatedly paired with the UCS. e.g. the bell in Pavlovian exp.
Unconditioned Response (UCR) : Response evoked by UCS. e.g. salivation by the dog on seeing food (meat powder) in Pavlov's exp.
Conditioned Response (CR) : Response to the CS. e.g. salivation by the dog on hearing the bell in Pavlov's exp.

Basic principles of CC

Acquisition: The process of CS acquiring the capacity to elicit a CR due to repeated pairings with the UCS. It proceeds rapidly at first but then the rate of acquisition slows down and finally levels off. It is affected by :

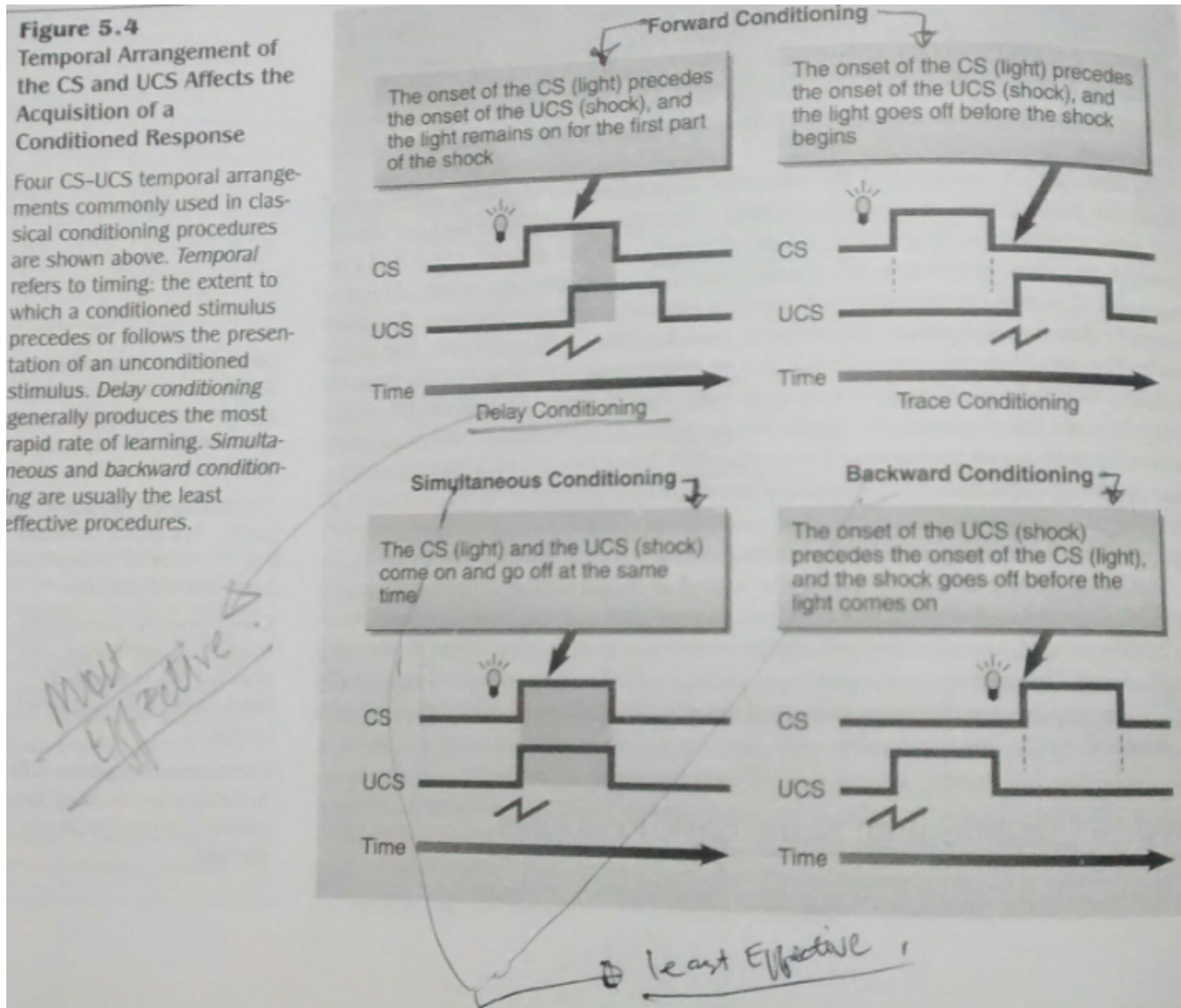Temporal arrangement: whether CS precedes or follows the presentation of a UCS
1. Forward Conditioning:

- Delay Conditioning (most effective temporal arrangement): CS precedes the UCS and stays for a while during the presence of UCS. (bell rings before presentation of meat powder and keeps ringing for a while in the presence of powder)
- Trace Conditioning: precedes UCS but disappears before the UCS is presented (meat powder is presented after bell ringing stops)

2. Backward Conditioning: UCS precedes the CS (bell is rung after meat powder is presented)

3. Simultaneous Conditioning: UCS & CS co-exist i.e. start & end together (bell starts to ring as soon as meat powder is presented and stops ringing as soon as the powder is taken away)

Delay conditioning is found to be most effective. Backward and Simultaneous Conditionings have been found to be least effective.

Figure 5.4
Temporal Arrangement of the CS and UCS Affects the Acquisition of a Conditioned Response

Four CS–UCS temporal arrangements commonly used in classical conditioning procedures are shown above. *Temporal* refers to timing: the extent to which a conditioned stimulus precedes or follows the presentation of an unconditioned stimulus. *Delay conditioning* generally produces the most rapid rate of learning. *Simultaneous and backward conditioning* are usually the least effective procedures.

Intensity of the CS and UCS : CC is faster when the intensity of CS or the UCS increases i.e. faster when stimuli (especially the CS stands out from other background stimuli)

Time interval b/w UCS and CS : Extremely short intervals (<0.2 s) rarely produce any CC. Optimal CS and UCS time-interval has been found to be b/w (0.2 s -2 s)

Familiarity of the CS : In contrast to laboratory settings where stimuli selected for study are quite novel, many potential CS found in the environment are familiar to us in our daily life e.g. background noise and are highly unlikely to produce any CC.

Extinction: The decline and eventual disappearance of a CR in the absence of a UCS

Reconditioning: Rapid recovery of a CR to a CS-UCS pairing following extinction.

Spontaneous Recovery: Re-appearance of a weakened CR in response to a CS after an interval of time following extinction has elapsed.

Stimulus Generalization: Tendency of a stimuli similar to a CS to evoke conditioned responses. (e.g. fear generalization of insects if fear has been conditioned for one particular insect)
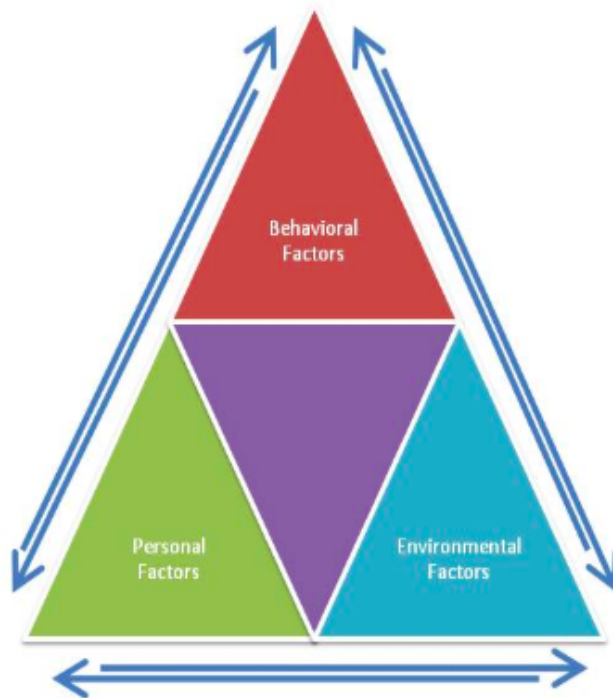
Stimuli Discrimination:

How variable timing reinforcement is useful

Bandura's Triadic Reciprocal Determinism

E-inspection boosts attendance in Bhopal schools

Surprise weekly visits by "Jansainiks"keep teachers on toes, bring down truancy by 20%. A programme led by DM of Bhopal.