

Behaviorism

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The Assumptions of Behaviorism

Psychology should be seen as a science. Theories need to be supported by empirical data obtained through careful and controlled observation and measurement of behaviour.

Behaviourism is primarily concerned with observable behaviour, as opposed to internal events like thinking and emotion. Observable (i.e. external) behaviour can be objectively and scientifically measured.

People have no free will – a person's environment determines their behaviour

The Assumptions of Behaviorism

When born our mind is 'tabula rasa' (a blank slate).

There is little difference between the learning that takes place in humans and that in other animals. Therefore research can be carried out on animals as well as humans.

Behaviour is the result of stimulus – response (i.e. all behaviour, no matter how complex, can be reduced to a simple stimulus – response association).

All behaviour is learnt from the environment. We learn new behaviour through classical or operant conditioning.

Scavenger hunt

- Get into small groups
- Each group assigns a presenter, a timekeeper & a secretary
- ONLY do the readings assigned to your group. (15 mins)
- Prepare a ppt presentation (less than 10 slides) on your reading topics (15 mins)
- Present your findings to the whole class.

Presentation guides

- Bio data of the researcher
- How was their experiments conducted
- Their major findings or theories
- Their achievements
- Implications of their findings

History of Behaviorism

• **Pavlov (19th cent)**, a Russian physiologist discovered classical condition thanks to dogs.



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Pavlov movie questions

- How does the dog react to offered food?
- What is the problem in the experiment? How it is fixed?
- What kinds of stimuli can be used?
- What conclusions can you draw from the movie?

Before conditioning

NS



orienting response



UCS



UCR



During acquisition (association)

CS

&

UCS



CR



After conditioning

CS



CR



Classical Conditioning

- Pavlov noted that the dogs salivation to food in its mouth was an **automatic connection**. A reflex to food being placed in the dogs mouth.
- He called the food an **unconditioned stimulus** (UCS) and the salivatory response and **unconditioned response** (UCR).

Classical Conditioning

- Pavlov noticed that after the dogs had been in the lab awhile, the dogs began to salivate upon the sight of the lab workers who fed them.
- That is, salivation began to occur **before** food was placed in the dogs mouth.
- Further testing demonstrated that the sight of food produced the same salivation effect as actually giving the food to the dog.

...and more History

- **John B. Watson**, an American psychologist is credited as the founder of behaviorism.
 - He believed that all behavior, even that which appeared instinctive, is the result of conditioning that occurs in response to a stimulus.
 - Like E.L. Thorndike, Watson was popular in the first half of the 20th century



“Give me a dozen healthy infants, well-formed, and my own special world to bring them up in and I’ll guarantee to take any one at random and train him to be any type of specialist I might select – a doctor, a lawyer, artist...”

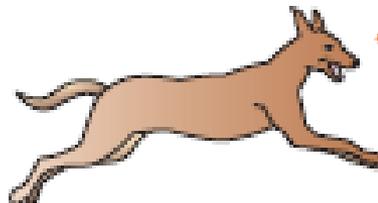
-Watson 1924

Movie questions

- How does the boy react to the stimuli before the experiments?
- What changes happen after the experiment?
- What stimuli cause the changes?
- What conclusions can be made from this experiment?



+ unconditioned stimulus





History of Behaviorism

Thorndike (1900's - 1932) an American psychologist whose theory of

connectionism (forming associations between stimuli and responses) was dominant in the US during the first half of the 20th century.

- Thorndike focused much of his attention on education, especially learning and transfer. He thought transfer happened only when the situations have identical elements and call for similar responses.

... and even more History

- **B.F. Skinner(1930's –1950's??)**, an American psychologist who was also very interested in education.
 - He believed that behavior is sustained by reinforcements or rewards, not by free will.
 - Skinner is famous for the skinner box and teaching machines



Skinner movie questions

- What is Skinner's belief?
- Who influenced Skinner's belief? How is he different?
- What is his major argument?
- What is his purpose in training the pigeons?
- How did he train the pigeons?
- How his theory is used in education?

Behaviorist Theories of Learning

- Classical Conditioning (Pavlov, Watson)
 - Learning is developing a new stimuli-response association.
 - A conditioned stimuli comes to produce the same response as the original, natural stimuli

Behaviorist Theories of Learning: Operant Conditioning

- Law of Effect (Thorndike): Behaviors that are rewarded are more likely to occur again, behaviors that are not rewarded are less likely to occur again.
- Law of Exercise (Thorndike): The more a behavior follows a given stimulus, the more likely it will occur again (habit, no reward necessary)
- Shaping behavior (Skinner): teachers using carefully directed, contingent rewards can create almost any behavior in students. Start simple, increase complexity. -Shape the behavior by starting simple and build up.
- Schedules for reward (Skinner): rewards not only create behavior, but also maintain it. If you reinforce on an irregular schedule more likely to be maintained.

Learning and Transfer in Behaviorism

- Learning is about strengthening or weakening connections between the stimulus and response through reinforcements or non-reinforcements.
- Transfer is based on common elements (Thorndike 1903), where a response learned from one stimuli transfers more strongly to a very similar stimuli than a very different stimuli.

Motivation in Behaviorism

- The best way to increase the occurrence of a behavior is to reward it.
- Motivation is assumed to occur mainly through external motivation (rewards and punishments).
- A reward is only effective to the degree that the person wants it and a punishment is only effective to the degree that the person wants to avoid it.

Critiques of Behaviorism

- External rewards may diminish intrinsic motivation
 - In studies where participants work on an interesting task like puzzles, the experimental group is given a reward when finished while the control group is not.
 - After the initial period, during a non-rewarded time participants are given a choice between continuing to work on the task or switching to another activity.
 - A typical result is that participants in the experimental group spend less time on the activity than the control group.
 - This is taken as indicating that reward reduces intrinsic motivation.

More Critiques of Behaviorism

- Behaviorism could not account for complex learning like language acquisition
 - Noam Chomsky criticized behaviorism for giving a description of the stimuli and responses solely in terms of observable behaviors. There has to be more to learning than what is observable.

Behaviorism in Education

“Traditional classroom learning environments are designed on the principles of the behaviorist view of learning and knowing. They are organized with the goal of students acquiring a maximum accumulation of organized information and procedural knowledge.” — Greeno, Collins, & Resnick, 1996

Behaviorism in Education

Routines for effective transmission of knowledge

- Teachers choose the materials students will learn from and organize student practice. Student efforts to organize learning activities for themselves play little role.

Individualization with technologies

- Behaviorist research showed the importance of individualized feedback to help students learn to give correct responses, this has led to computer programs that teach routine skills.

... and more on Behaviorism in Education

Clear goals, feedback, and reinforcement

- Learning tasks are organized based on their complexity where simpler tasks are prerequisites for more complex tasks and objectives are stated up front.
- Behaviorist curricula does not include irrelevant stimuli that could be distracting, therefore the curricula are practiced in simple contexts removed from the context (math workbook drills without any real life problem or context).
- Many extrinsic rewards (grades, gold stars, extra credit, smiles, scowls, and detentions)

Questions

- What is behaviorism?
- What are the strong points of behaviorism? What about the weak points?
- Are you for or against behaviorism? Why or Why not?
- Find out several Vietnamese proverbs or sayings that approve or disapprove the concepts mentioned in behaviorism.
- Discuss the implication of Behaviorism in language teaching and language learning.

- Environment is everything:
 - Gan muc thi den gan den thi sang
 - Ở bầu thì tròn, ở ống thì dài
- Repetition and reinforcements
 - Trăm hay không bằng tay quen
 - Không thầy đố mày làm nên
- Rewards/punishments
 - Thương cho roi cho vọt
 - Nhân chi sơ tính bản thiện

Exercise

- Design a language learning task from behaviorist views for teaching:
 - The passive voice
 - Tenses: past tense, present perfect etc.
 - Accepting/refusing an invitation

Reflection

- Follow the instructor's direction and reflect on what you have done today.