Discussion On Classical Conditioning As An Explanation Of Learning Essay, Research Paper

We use the term “classical conditioning” to describe one type of associative learning in which there is no contingency between response and reinforcer. This situation resembles most closely the experiment from Pavlov in the 1920s, where he trained his dogs to associate a bell ring with a food-reward. In such experiments, the subject initially shows weak or no response to a conditioned stimulus (CS, e.g. the bell), but a measurable unconditioned response (UCR, e.g. saliva production) to an unconditioned stimulus (UCS, e.g. food). In the course of the training, the CS is repeatedly presented together with the UCS; eventually the subject forms an association between the US and the CS. In a subsequent test-phase, the subject will show the conditioned response (CR, e.g. saliva production) to the CS alone, if such an association has been established and memorized. Such “Pavlovian” conditioning is opposed to instrumental or operant, where producing a CR controls the UCS presentations.

Therefore, classical conditioning involves learning by association – where you simply learn by associating two events that often occur together. Conditioning, in general occurs more rapidly when the conditioned stimulus in unfamiliar rather than familiar.

High order conditioning is when a CS can be used to produce a response from another neutral stimulus (can evoke CS). There are a couple of different orders or levels. Taking Pavlov’s dogs as an example, where light is paired with food. The food is a US since it produces a response without any prior learning. Then, when food is paired with a neutral stimulus (light) it becomes a Conditioned Stimulus (CS) – the dog begins to respond (salivate) to the light without the presentation of the food.

One of the principles of classical conditioning is extinction. If a CS is repeatedly presented without the unconditioned stimulus, the CR will disappear. In Pavlov’s case, if a dog learns to associate the sound of a bell with food and then the bell is rung repeatedly but no food appears, the dog will soon stop salivating to the bell.

Another principle to classical conditioning is the spontaneous recovery. Supposing that a response is classically conditioned then extinguished. If a few hours or days later, the CS is presented again, the CR will probably reappear. As spontaneous recovery is a term used for this temporary return of an extinguished response after a delay. Thus, the elimination of a conditioned response usually requires more than one extinction lesson.

Pavlov’s dog who was conditioned to salivate to the sound of a bell of one tone may well salivate to a similar sounding bell or a buzzer. Stimulus generalisation is the extension of the conditioned response from the original stimulus to a similar stimuli. The conditioned response to a similar stimulus is not as strong as the response to the original stimulus; the less similar the weaker the response.

An animal or person can be taught to ‘choose’ between stimuli, that is to discriminate stimuli. For example, is a dog is shown a red circle everytime he is fed, then he will salivate at the sight of the red circle alone. However, the dog will usually generalise this response to that they may respond to circles of other colours. If we only feed the dog when it sees a red circle but not an orange one, then it will soon learn to respond to red but not orange. The dog would have learnt to discriminate between the two colours. Relating this to humans, we discriminate consistently, relying on everyday life. Such as knowing someone’s voice.

John Watson and Rayner conditioned a baby (Albert) to be afraid of a white rabbit by showing Albert the rabbit and then slamming two metal pipes together behind Albert’s head. The pipes produced a very loud, sudden noise that frightened Albert and made him cry. Watson did this several times (multiple trials) until Albert was afraid of the rabbit. Previously he would pet the rabbit and play with it. After conditioning, the sight of the rabbit made Albert scream — then what Watson found was that Albert began to show similar terrified behaviours to Watson’s face. What Watson realized was that Albert was responding to the white beard Watson had at the time. So, the fear evoked by the white, furry, rabbit had generalized to other white, furry things, like Watson’s beard.

Behaviourism overall is a good scientific theory. It is simple and parsimonious, with the approach of ‘cause-and-effect’ idea. Therefore, it is not necessary to invent hidden processes of learning (e.g.. Freud) to explain why behaviour happens

The behaviourists believed that behaviour is caused by environmental events (stimuli, reinforcers). With this idea, it cannot be controlled. Behaviourism is deterministic, as we do not control our own actions, and so therefore cannot be responsible for them. However, it becomes possible for others to control our behaviour by manipulation of environmental events.

Behaviourism assumes that human behaviour should be studied using the same methods applied in the physical sciences – that assuming psychology should restrict itself to studying only those things that can be studied directly. In this way, it means that anything that can’t be observed cannot be studied and that w cannot fully explain human behaviour and the complications behind it.

Silfe and Williams 1995 added that although stimuli, response and reinforcement are essential in behaviourist explanation of behaviour, they are never observed directly.

Although we can readily observe events in the environment, we have no way of knowing if they act as the stimulus for given response nor indeed whether they are acting as a reinforcer.

Similarly, we have no way of knowing whether a particular response has been caused by a given stimulus.

The notion of reinforcement poses considerable conceptual problems when we apply it to an explanation of human behaviour.

If reinforcing serves to strengthen the bond between stimulus and response, then it supposes that whatever we do we do it because it brings some pleasant consequence. Applying this to human behaviour, i.e.. Altruism/other aspects of self-sacrifice, then behaviour theory might suggest that somehow this behaviourism are in fact producing pleasant consequences for the person manipulating them.

This theory can explain some of social behaviour and relationships if that is the belief and also its causes us to review our previous acceptance that some people perform act for no personal gain.

To a behaviourist, all relationships must provide people with the opportunity of obtaining pleasant outcomes for themselves.

There are implications of adopting the assumption about cross- species similarity. (We can infer on how human beings learn by studying behaviour of less complex species) Silfe and Williams (1995) pointed out that reducing experiences e.g. ‘loving behaviours’ -behaviourists might argue that all animals that demonstrate i.e.. Parental care, do so for the same biological and environmental reasons. Human’s ‘loving behaviours’ such as parental behaviour towards children do not leave the same meaning that we thought they did, but are a product of our biology and our conditioning.

Learning theorists see abnormal behaviour as being caused by inappropriate conditioning e.g. rewarding unwanted behaviour, or forming associations between stimuli and responses which are inappropriate e.g. spiders and fear.

There are several types of behaviour therapy. :

Systematic Desensitisation (S.D) involves presenting the feared stimulus in a controlled way in increasingly threatening forms, starting off with the very mild. For example, from having a small picture of a spider, to gradually to having a spider on your hand. It can also be done using imagination instead of actually physically present objects.

Implosive therapy or flooding works in two ways. Firstly exhaustion so the anxiety level goes down and then the fact the client cannot make the usual avoidance response. Wolpe forced a girl with a fear of cars to drive around with him for 4 hours. This method turned out to be very effective with agoraphobics.

Aversion therapy is often used on alcoholics and drug abusers, where therapists used emetic drugs such as antabuse or apomorphine. It also used to be used in the 50’s and 60’s with homosexuals. The pairing of alcohol and sickness became associated so that there becomes an aversion to the alcohol. The emetic by itself has no effect.

Operant conditioning can be defined as a type of learning in which voluntary (controllable, non-reflexive) behaviour if it is strengthened or weakened if it is punished (or not reinforced). Thorndike introduced the law of effect. This is where a response that is followed by pleasant consequences becomes more probable and a response that is followed by unfavourable consequences becomes less probable.

Skinner based his work on Thorndike’s Law of Effect. He developed machines for operant conditioning, which are named ‘Skinner boxes. Rats and pigeons are most often used. In one experiment, when he placed a rat in a Skinner box, it had to press a lever to receive food, and thus obtain reinforcement in the form of food. The rat will then press the lever more often and this has become a conditioned response. Skinner expressed Thorndike’s law of effect in different terms involving reinforcement. “Behaviour which is reinforced tends to be repeated. Behaviour, which is not reinforced, tends to be extinguished”.

Punishment is anything that decreases the probability that the event proceeding will occur again. Therefore, punishment is the opposite of reinforcement. The main point to punishment is that all reinforcement increases a behaviour, and all punishment decreases it. Skinner’s work has revealed that positive reinforcement (e.g. food, warmth, drink…) is far more effective than the punishment in regulating behaviour. Punishment has its problems therefore, as both punishment and negative reinforcement may take the subject hostile, fearful and anxious. These emotional side-effects may then generalise to the entire situation in which punishment occurs; the location, the person administering the punishment, the circumstances may all elicit anxious, fearful and angry responses through classical conditioning. This can create more problems than it solves.

Punishment also indicates that a particular response is wrong, and doesn’t indicate what action should be done correctly. A young toddler could still be clueless about how to use the potty, and still be smacked for messing himself. Adding to this, it can be in human nature to overreact to a response, such as shouting, physical violence. The recipient may see that the punishment would still not have its clarity to why the response was wrong.

Punishment often has the opposite effect of that desired because it may involve a powerful reward in the form of attention. This is a particular problem in the classroom, as some children misbehave in order to receive extra attention from the teacher, rather than from the quieter students who behave appropriately in a classroom.

Social learning theory is about learning by observation and imitation of others and by imagining what would happen if that behaviour were imitated.

Social Learning Theory was formulated by Bandura. Unlike Watson, Skinner and any other behaviourists, social learning theorists concentrate mainly on human learning, especially the acquisition of social and moral behaviour.

It is not that people act and copy everyone they see or every act they witness. Bandura has laid down the specific circumstances under which imitation occurs.

Unlike the behaviourists, there is no scientific approach of the ‘cause and effect’ of learning, it is by learning through imitation and what motivates us would be the attraction of success, such as our media heroes or heroines, the same-sex parents and same-sex peers. The model that individuals imitate are likely to be attractive, successful, high status people, people who are similar to ourselves and with whom we are familiar. The social learning theorists take account of the cognitive aspects of learning. The emphasis on cognition is shown in other aspects of the theory. Bandura points out, that as children grow older they begin to guide their own behaviour rather than using others for guidance and they begin to reward and punish themselves. Children can also start believing on their characteristics and own abilities. Low expectations effect the way an individuals approach a task and this in turn affects performance.

Bibliography

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