Psychology of Learning

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Lecture – 6

Major Theories of Learning

Hello viewers. Welcome back to this NPTEL course on the Psychology of Learning. So, in the last few classes, we have already discussed about the basic nature and principles of learning. So, now, today we will start the major learning theories, major schools of thoughts and what are their major theories in describing the learning and what are the learning process especially exclusively on learning. So, we will be discussing on major learning theories and different schools and from the three different schools primarily we will be dealing with behavioristic school, then cognitive approach, then the constructive purpose. As we have already discussed in the beginning, behavioristic school was primarily dominated by the American   psychologists.

And their approach was of more molecular approach like stimulus or response kind of behaviour one to one connection, connectionism is there. Maybe if there is a stimulus and when we respond to that stimulus, then there is a connection between stimulus and response gets established and that is a result of that. That ends up in learning. And learning should be observable should be measurable. All these kind are the difference and the definitions given by the American psychologist J. Watson, Pavlov, Skinner.

So, many American psychologist were there and their their effort was primarily to establish psychology as a science subject. So, they have also introduced very good concepts like experimentation. Experimentation is introducing the experimental variables all kinds of things just to justify and establish psychology as a science subject. So, that is why so, they do not believe in, they do not accept all these mentalistic concepts of soul or mind or psyche or all kinds of thing. So, rather they define human behavior or behavior which is observable which is measurable that only comes under the purview of psychology. Also, primarily another thing is that during their tenure, they primarily conducted all kinds of experiments major kinds of many of the experiments on the animals. To begin with their learning. So, they have observed through various experiments on the animal and animals they observed how learning takes place, how learning takes place as a result of stimulus response connection and what are the factors. So, that is why they have propounded these basic learning theories like classical conditioning, operant conditioning, observational learning these are the primarily dominant learning theories prescribed by the behaviorist school. So, we will discuss about this behavioristic approach and how they have defined and then slowly we will move on to the next   approach.

So, what is behaviorist school of thought? Behaviorist is a school of thought that is John Watson as the main propagator and as you know Watson was an was a strong believer of the environment believer of the environment and he said that environmental stimulation can bring the changes in the human behavior organisms behavior. So, psychology so, they have the

strong point standpoint as you know psychology was an experimental science and the internal mental processes that it does not have any existence in the scope of psychology and they try to establish the theories different theories on the basis of the different experiments they have conducted on the animals especially. So, behaviorism so, that is the observable behavior which can be observable the behaviors the results which are observable which are measurable only measurable that can only be considered as the under as the scope of the psychology. So, there is a direct stimulus and response association is there connect through connection through connection through association learning takes place. And you know behavior what worthy of the study under the purview of the psychology if it is observable if it is measurable.

So, that means, behaviorist school does not explain any kind of abnormal behavior any kind of even they do not have the any you know any explanation for the children's behavior also. So, behavior which cannot be observed cannot be measured. So, that is that does not come under the behaviorist school approach. So, then so, that is a behavior can also be unlearned the thing that yes behavior can be unlearned can be unlearned and replaced by the new behavior because the new behavior that is possible. So, here J. V. Watson, B. F. Skinner, Ivan Pavlov and these are the pioneers of behaviorism as you can see. So, they say that yes if there is a stimulus and that stimulus provokes evokes any kind of response and that stimulus response connection gets strengthened with repeated occurrences. If the same stimulus with the same response gets repeated again and again then certain kind of change in the behavior takes   place.

So, here is for example, here in the classical conditioning experiment of Ivan Pavlov the natural response that whenever the dog sees that the food is coming up it is starts salivating. So, it is a natural response food is a natural stimulus with the with the vision of this food then automatically the salivation comes in that is a natural response. But suppose that this food is being associated with some other extra stimulus another stimulus may be some light or may be some bell along with the food the one ringing of the bell is also happening. So, then automatically dog associates a kind of association. It associates the bell ringing of the bell with the   food.   So,   whenever   the   bell   bell   was   ringing.

So, automatically the dog expects that over the probably food is also coming up. So, that kind of association initially this ringing of the bell was a neutral stimulus it does not have any ability any power to evoke that kind of natural response. But with the association with another stimulus that is natural stimulus then automatically it gets the characteristics features. So, it can evoke that kind of response that means, it acquire the capacity of evoking that response so that means, it is the kind of conditioning that has taken place. So, as you can say food automatically in this picture food automatically creates salivation, but food along with the stimulus that is suppose the ringing of the bell that then when automatically when food get associated with the stimulus some after repetition some association takes place and then only with the bell only only with the bell alone can also produce salivation that is the conditioned   response.

That means, initially when the bell was associated with the food it acts as a conditioned stimulus. The stimulus is being conditioned with the along with the unconditioned stimulus or natural stimulus, but after sometime after repetition after sometime when you drop the natural stimulus. So, only ringing of the bell can also produce the salivation that is the this is called the conditioned response. That means, response here the stimulus is there and response is there, but these two these conditions the stimulus is been conditioned artificially created the stimulus and that artificial stimulus can also create that another conditioned response on the new kind

of learning response. That means, even the originally does not have any capacity to evoke that response, but with the association of this condition with the natural stimulus then it has also acquired   the   characteristic   feature   that   is   the   conditioned   response.

 So, here in this way learning takes place in this way learning takes place. So, that means, learning can take place through conditioning also through conditioning. So, there are they have also conducted some experiments on human behavior especially in case of the children and how that means, an artificial fear can also be created among the children, how through this conditioning process how the children's behavior can be modified as all these things they have also conducted different experiments. So, here in this classical conditioning actually the principle is that that salivation takes place with the natural stimulus which is the piece of bone or the any food item or the flesh etcetera. So, bale initially does not have any ability to create a response, but with the combination of bale and food that is full is the natural stimulus that is why   it   is   called   the   unconditioned   stimulus.

 That means, it is a natural and it creates the response is unconditioned response, but when it get associated with the bell then it gets conditioned. And the second stimulus that is the bell gets conditioned to that response. So, here the thing is that key terms which are being used stimulus is means it can be anything it any physical event is the stimulus. Unconditioned stimulus means the stimulus which can evoke the response without any extra effort without any conditioning without any extra it is a natural stimulus. Unconditioned response similarly is the natural automatically towards this stimulus the response which is natural that is unconditioned response, but whereas, the conditioned stimulus is that the stimulus has been conditioned   to   create   some   kind   of   response.

 So, unconditioned stimulus (US) means if we get it associated with the natural stimulus automatically after sometime it get conditioned. So, it can also get the power it can it is it acquires the power of creating that response that is a conditioned stimulus. Then condition response means after sometime that stimulus itself that artificial stimulus itself itself can create the response that is the conditioned response. So, here the thing is that especially learning takes place because with the with the ringing when the animal when the animal dog was just listening about the ringing of the bell means some kind of expectation some kind of you know response whether like this salivation started because it expects that is whenever it is this bell is there means food must be coming up then some kind of expectation is that that why because that bale the ringing of the bale has been associated with the natural stimulus. So, it is the this is the conditioning learning that artificially when getting it associated with the natural stimulus or learn stimulus and presenting it again and again repeatedly over a period of time then it slowly and steadily acquires characteristics or features of the nature of the original stimulus natural stimulus that is called the conditioning conditioning process.

 So, conditioning is also a part of the learning process. So, so there are again with the variations with the variations of the time gap again here the time gap is very important. See the unconditioned stimulus is the food and condition is the artificial stimulus. So, that if both the things are being presented at the same time definitely association is more standard. If the timing is timing is varying that means, suppose delayed is that that the first unconditioned stimulus the first the bell is being ringing on and the conditioned stimulus food comes after some time. So, that time gap is also here the time gap has the has an impact because when these association in order to strengthen the association the time should be very closer that means, both the stimulus occurrences time should be very closer.

Then it is delayed that means, it has been given previously and the food has been delayed that means, the time gap is there. So, then what could be then maybe that the conditioning the strength of the conditioning will be weaker. Simulate press condition with the so, by varying the timing gap timing and gap in space of that stimulus then they have analyzed the conditioning that in which condition conditioning takes place the strength of the conditioning is stronger. Backward conditioning already food has taken place food has come up much earlier and the stimulus conditioning stimulus is coming a much later. So, just to clarify all these thing here is and they have narrated delayed conditioning is that unconditioned stimulus begins while the conditioned stimulus still present.

That means, delayed condition as you can say see has taken place condition stimulus already taken place and unconditioned stimulus natural stimulus comes much later. So, it is the delayed condition. Similarly, trace condition is that onset of the conditioned stimulus precedes the onset of the unconditioned stimulus and presentation of the CSF does not overlap that means, there is much gap here it has it has there is there is it has already taken place much before and it is it has come later. That is a very there is a does not there is here there must be the delay condition maybe some overlap, but here there is no overlap person the two different events ok two different events. And backward condition is that simultaneous condition when the both the things happen at the same time backward condition is that unconditioned stimulus precedes the presentation of the stimulus.

As you can see as you can see here that see UCS food has already come and the bringing of the bell is coming much later. So, there is no connection that is a backward condition reverse condition you can say. So, so by varying these time gaps. So, they have analyzed the classical conditioning in terms of naming it is delayed conditioning trace conditioning simultaneous conditioning backward condition. So, as we can see in which condition the conditioning is the strength of the conditioning is very high definitely when these are two parallel there is no time gap very close happening close occurrence.

So, thus association gets as and then when these two are these two are happening in the same event in the more most closely that is the simultaneous conditioning. So, now the thing is that there are certain principles of classical conditioning. First is that acquisition how can slowly how the animal how the animal the organism slowly and steadily acquired the acquired the information acquired the you know learning acquired the information of the learning that is these two things are coming together acquisition slowly acquiring the information. Extinction is that when these that means, there is no connection when extinction that means, after suppose this bell and food combinations are coming up and then simultaneous conditioning process it has been strengthened maximally. So, after that what happens after that suppose you are only that you are only ringing the bell, but no food is coming up, but the initial stage there must be some some expectation the still the stolivus as because conditioning has already taken place some responses will be coming up that is the salivation will be all there.

So, slowly and steadily with repeated occurrence of you are only presenting the bell no food is coming up. So, slowly and steadily there is slowly then again there is a automatically it will be unlearned slowly the animal will be realized that no no it is only stimulus it is no food is coming up. So, the slowly that the degree the intensity of that learning experiences will slow down that is and at some point of time it will completely extinct there is no response at all, but that is called extinction that is no response no one no learning no response no no effect of conditioning then recondition. So, extinction takes place when there is no connection no response no association. Recondition after may be there after some time suppose suppose after

this extinction you leave some time, but after some time suppose all of a sudden again you ring the bell then recondition takes place because it was already there in the memory in the system.

 So, all of a sudden I mean all of a sudden that that is that is called the spontaneous recovery there all of a sudden again it starts salivating when expecting that may be that it is coming up. So, again if it repeated then reconditioning can also take place with the repeated spontaneous recovery means after extinction there was no when there was no hope after a long gap of time that even then again that is stimulus comes in the ringing of the bell spontaneous is all of a sudden the recovery takes place that is spontaneous recovery, but slowly and steadily after that we if you try to establish the same condition again. So, reconditioning can also be possible. So, the principles of classical condition is the stimulus generalization the tendency of the stimulus similar to condition stimulus can a work condition as well. Like for example, thing is that suppose the ringing of the bell may be that next time next time the here the CS conditioning conditioning stimulus is that CS is your ringing of the bell may be that if you associate another bell another type of bell or may be that some other stimulus like any color light   green   light   or   some   red   light   or   yellow   light.

 So, this is all the red light is another stimulus and the stimulus which evokes that response that is the ringing of the bell it is the already there. So, if we associate if you associate this second stimulus with the first condition stimulus and present it again repeatedly then again that second stimulus can also acquire the quality in our features of that condition stimulus. So, or maybe that if you vary the even the even if you are presenting the second stimulus of the bell any other sound, but not exactly the same ring tone, but maybe some variety some different ring some different audio system some different kind of audio ringing audio ring bell ring. So, that then the animal will think that may be he will generalize maybe that he will find out that the animal will find out that these are similar kind of things. So, stimulus generalization means that that is the similar kind of stimulus similar kind of stimulus the that is the it has it also it has   the   power   of   evoking   that   condition   response.

 So, with then that is we call such that that is higher order conditioning also takes place. That means, if you get associated first with the first conditioning has already taken place with the ringing of the bell and the second time you are associating maybe another ring tone or maybe another color light also second stimulus and with repeated occurrence the same thing suppose red light green light then ringing of the bell then food. If same sequence will be repeated again and again after some time with the green light itself can also evoke that response, but stimulus discrimination is that organization can find out can learn to respond that certain stimulus are similar, but which are not others that is he can differentiate the different stimulus discrimination you can discriminate stimulus then process which organism learn to respond to certain stimulus, but not others because it can find out that now it is different discriminate differentiate that is the stimulus discrimination. So, higher order conditioning that means, like we have we have you know discussed that about the time gap between the first condition stimulus and unconditioned stimulus it is natural stimulus by varying this time gap etcetera then different kinds of conditioning can be can be created simulate first order conditioning is that the learning is obtained through associating the neutral stimulus with unconditioned stimulus that is the first order like is natural. Second order is by learning by pairing the neutral stimulus with the stimulus may be it is ringing of the bell or any colored light etcetera that is the   first   order   condition.

 Second order condition or higher order higher order higher order condition is that learning

acquired by the pairing of the neutral stimulus along with another stimulus just like I just I told you ringing of the bell with the red light or the green light that is the second stimulus. So, in this way so now, with the presentation of this repeated occurrence of the green light ringing up the bell then 4 green light ring up the bell then 4. So, in this process also the green light also act as an condition stimulus that is called the higher order level above one level above that is higher order conditioning that is the similar characteristics of the condition stimulus can the other other stimulus can also acquire this thing that is the higher level. So, as because and this is because of the close happenings close occurrence repetition and the close time gap ok. So,   higher   order   conditioning   can   also   be   created.

 So, that thing is the height can also be created from one stimulus to second another artificial stimulus of the neutral stimulus. So, how so, these are the all the things examples given given about how the unconditioned stimulus and response happens that is the natural things and how especially in case of the children suppose if you want to change their behavior change primarily to control their temper tantrums or to modify their behavior primarily this conditioning processes approaches are being used because children they are at the very tender age and they are they do not have the they have not it reached that cognitive development at the to the to the maturity level etcetera. So, their behavior is very rough and rudimentary kind of thing and in order to change in order to change modify their behavior this method of conditioning can also be you know can also be used. So, either in terms of punishment or reinforcement in this way there are things can be behavior can be modified. So, here two more thing   is   that   two   more   new   concept   is   that   reinforcement   and   punishment.

 Reinforcement is that incentive when you are being rewarded and punishment is that that is negative reinforcement that means, negative negative negative reinforcement or that means, to dissuade them or to to modify their behavior. Now the second thing is that second thing second kind of operant conditioning like another theory is that is B. F. Skinner he said that he is the definition of this learning is that. So, Watson was the first person to describe the basic stimulus   response   models.

Skinner and Latron developed that operant conditioning that is conditioning can takes place operant conditioning is based on the premise that satisfying responses are conditioned. So, condition and others not operant means operate how the animal organism operates in that process how he is being rewarded reinforced accordingly the conditioning can take place. So, here another thing is that how the individual how the organism responds response in the in the environment   and   the   reinforcing   behaviors   reinforcing   response   are   actually being conditioned. So, for example, suppose here it is a rat is there here another is the food palate is there that is the river. So, and the rat has been put in the in front of a lever.

 So, there is a lever this is the barrier then the reward is there outside this if the rat can push the lever in a correct way then it can get the food ok. So, in this way initially rat randomly tried it may not he might not have got the thing, but suddenly maybe that is all of a sudden he got pressed it very correctly then reward has come up. So, in this way actually that is the operant how the operation how the behavior is being slowly shaped modified that is how you operate and in this process of repeating the behavior again and again the moment you realize that this particular kind of behavior gets rewarded then the in then the organisms behavior will be shaped will be modified then the animal the organism can realize that no this kind of behavior can only be rewarded not that every response every random response I will do it. So, it is a little bit conditioning, but it is a little bit different kind of thing. So, here operant concern the mouse pushes the lever and receives the food therefore, he will push the lever

repeatedly in order to get the treat, but he will do it again and again, but by varying the thing, but every time he may not get the food.

So, here you can say learning how the learning takes place in operant conditioning if it is pressing the pressing the lever and food is there So, then here the speaker some signal light is coming up then only then and then the palate dispenser is coming up and then the then the tube is there in this another and food cup is coming up etcetera electric grid is there. So, here the thing is as you can see the with the right pressure some light will come up and then only the food will come up. So, in this way repeatedly whenever he is doing it maybe there with the red light the food is not coming maybe that in the green light yes then slowly he observes that it observes that with the green light means if the correct response then only food is coming up in this process slowly the learning will change. So, a process through which the organism learns to repeat the behaviors that will positive outcomes the moment he will realize there is that no this kind of behavior that is the green light coming as a symbol of correct behavior this kind of behavior only gives me the feedback that is the that is the reward then only that then there will be a change in the strategy change in the tendency to repeat that positive behavior modified repeated with that correct behavior again and again.

So, that the positive outcome will come up. So, process through which the organism learn to repeat the behaviors that yield the positive outcome he could realize that yes now with this kind of particular way I am pressing it particular way of behavior can only yield me the give me the positive outcomes and permit them to avoid and escape the negative outcomes, but suppose in suppose thing is that for the positive behavior positive response it is getting the food plate. Maybe then on the reverse side with the negative suppose with the negative negative pressing of the or incorrect pressing of the liver then suppose suddenly suppose the rat rat is getting the shock electric shock. So, then he could realize that no no it is it is that means, he could realize it is a negative reinforcement. So, he will try it he will try to avoid that response that which incur the negative outcome. So, in this way behavior the main focus is that behavior can be conditioned behavior that learning can be conditioned, but behavior can be shaped with the positive outcomes and the negative outcomes.

So, here reward system or reinforcement becomes the outcomes becomes the more important. Now, the thing is that here. So, therefore, here the in operant conditioning the key terms are reinforcement. Reinforcement is application of the removal of the stimulus to increase the strength of the specific wear. If you want to enhance a positive right correct kind of behavior then we will repeat it again and again.

So, therefore, reinforcement takes place positive outcomes. Positive reinforcement stimuli that strengthen the response and precedes them. For example, similarly positive positive reinforcement pays reward all the all kinds of even in case of the children also in the classroom for the good grades, good performance, good or disciplined behavior they are being rewarded. So, it is a positive reinforcement. Then negative reinforcement is that stimuli that strengthens the response that permits the organism to avoid or escape the escape the response the   presence.

For example, suppose in order to that we avoid that shock in order to avoid that electric shock if the if the you know if the animal if the rat has learned if the animal has learned how to press the things correctly not to get the shock or the penalty then gradually the learning change. So, positive positive positive similar positive punishment is that positive punishment positive punishment is that for example, in case of children. So, with the application of the stimulus

decreases the strength of behavior. For example, disciplining the behavior suppose by using some kind of penalty some kind of you know punishment some kind of.

So, we try to bring the positive change in their behavior. Negative enforcement negative punishment is that when you remove something in order to decrease the behavior this is called the negative. For example, putting the child in the time out until they can decrease their aggressive behavior. Suppose like negative punishment that means, you have to that means, the child has to get rid of that kind of behavior just is to remove that kind of to drop that kind of bad conduct or bad behavior the negative punishment will be given ok. So, these are how varying the nature of the punishment timing of the punishment then reinforcement here plays an important role in conditioning the behavior shaping the behavior regulating and modifying the behavior that is the basic theme of this conditioning process. So, here you can also find out positive stimulus is the positive reinforcement it is increases the frequency of the desirable behavior it is ok.

Negative stimulus means it is a removes the stimulus negative is the punishment. Suppose for your negative behavior it has been withdrawn you are not being given any reinforcement. So, here positive punishment is the decreases the frequency on the undesirable there positive punishment means something some punishment is being given to you for, but for positive improvement in the behavior ok. And the negative punishment is thus done that means, negative punishment is the punishment for you know for dropping out any negative behavior. So, how reinforcement seduce the work? So, here I can say that reinforcement whatever it is being given to you either.

So, it is connotation it is frequency it is occurrence changes like suppose if you are getting the reinforcement like suppose the if the rat would have been getting the reinforcement for every wrong and right response. So, the rat would not have learned that which is the correct response is the right wrong response is equal he would not would not have learned it. So, but to make him to make him learn or to teach him all these kind of things then the we have manipulated the reinforcement. Reinforcement I either it has it can be given as the continuous respond reinforcement without any variation or maybe that for the correct response we can give the complete reinforcement and the incorrect response withdrawal of the reinforcement then maybe partial reinforcement whenever slightly you are developing. So, in this way the by varying the nature of the degree and degree and intensity of the reinforcement we can also regulate the behavior similarly.

So, reinforcement be continuous or partial maybe partially or maybe sometimes you can drop in sometimes you can drop in sometimes continuously sometimes partially sometimes you can drop in. So, that is to regulate to monitor to regulate change the behavior. So, schedules of so, in accordingly Schener has also formulated different schedules. Schedules like continuous reinforcement schedule that continuously then it was the behavior of the continuously particular kind of for every occurrence a particular behavior is been enforced with the continuous. Fixed interval with the time gap here time is important with the time falls fixed interval interval has been given suppose time 10 minutes break with a 10 minutes break you are getting the reinforcement.

So, here another thing is that factor time is there time interval is there and the reinforcement is there. So, you are getting the reinforcement with fixed time interval that is the 10 minutes. So, variable interval you are getting the reinforcement, but there is no fixed interval the intervals of time gaps varies. Fixed ratio means after how many how many repetitions how

many times you are attempting how many times you are we fixed number of responses how many times you have attempted etcetera after a ratio of maybe one is to first you have you got the feedback reinforcement then after 3 or 4 types repetition of the behavior then fifth time you are getting. So, here the ratio is the repetition types of the fixed number of responses that you are doing performing.

So, that is the fixed ratio after every sixth every sixth response time is being response is being rewarded. Similarly or maybe a fixed interval is that after 10 minutes every 10 minutes you are getting the interval. Similarly, you can change the interval as the make it variable similarly you can change the response as a make it you can also variable. So, variable ratio schedule is that variable ratio is varieties are variables are there and ratio is there a schedule of reinforcement in which the reinforcement is delivered after a variable number of response there is no fixed then. So, there is you cannot predict you cannot assume that after fifth every fifth response then you will on the sixth you will get it you will get it.

So, the animal will do that quickly and recuringly it will 1 2 3 4 5 then he will voting for the sixth response. So, here ratio or ratio is that, but there is no variable even in the occurrence number of responses occurrences also there is a variable. So, you cannot predict after how many how many responses I will get the thing. So, here ratio is not fixed it is a variable. So, by changing the schedules of reinforcement how learning can be control how behavior can be modified or how learning can be that means, this can be learning can be possible through conditioning process.

So, that can be done through conditioning apparent conditioning behavior. So, these are the things that the reinforcement Skinner believe that the in this way the apparent condition certain habits can be developed. Skinner believe that habits that each of us develop as a result of our unique apparent learning experiences like maybe that how many times we are doing it correctly how many after what is the time gap what is the things all by evaluating all these things positive and negative reinforcement etcetera we learn certain things. So, so here thing is that reinforcement that is different positive and negative that is one aspect and the time also is also factor time in this process also habits develops habits of learning develops. So, so you know so now, another thing the extinction decreases the probability of response by continue and withdrawal of previous reinforce stimulus that is the thing extinction is that that when there is no when there is no extinction is that when there is no response no feedback no enforcement even if you are doing initial stage you are getting it, but now after repeated behavior of similar things corrected behavior correct response also you are not getting. So, automatically after certain point of time it will be extincted in the next things and text place means there is no response.

So, here similarly with the you know in the observation learning also by modeling modeling somebody we are observing he acts as a that that person that stimulus is the model for us models are through modeling through shaping the behavior through queuing also observational learning takes place. So, here so now, coming to the modeling is also known as the observation learning suppose we watch some people as a role model role model by observing their behaviors their way of talking their communication style their behaviors their mannerisms their you know their conversations with others. So, we observe observe all these things and we also learn certain things after things. So, modeling modeling is known as observation as in also known as observation while observing the behavior or behaviors of the models role models may be some you know some volute models may be some you know motivational speaker may be some political leader may be some statesman etcetera by

observing those people there as a model then observation learning takes place and shaping is that how slowly gradually we can change change the quality of response. Like for example, in this operant conditioning how slowly by you know changing the reinforcement varying the reinforcement giving maybe that introducing some negative punishment like shocking shock electric shock etcetera slowly how can we modify or shape or save or modify the behavior towards the more accurate response.

So, shaping is the process of gradually changing the quality of response that means, yes now this is the exact until unless and until the steam of the animal or the organism reaches to the correct most accurate response slowly and steadily that manipulations can take place and slowly we are shaping that is the process learning process itself from gradually changing the quality of response from the completely wrong response from now to the most accurate response. Similar queuing is that giving some idea some clues queuing is that is providing the child with a verbal and non-verbal cue like maybe some kind of sign some kind of sign language to you know a cue for the appropriateness of the behavior. Maybe they suppose the some outsider some visitors have come to our come to our house and and we are offering them some we are in the process of you know offering them some snacks, food etcetera and in between the child has randomly come and started something doing some tantrum something like that. So, the mother and or the parents they are only just giving some visual clue some kind of signal some kind of sign some kind of clue etcetera they can also you know that that they can also control is behavior modify is this that is a queuing giving some clue. So, behavior modification takes place it has basic 6 basic components that means, how the specific specific situation specification of the desired outcome takes place with the increased student participation in the classroom.

Now, its implication for the education context. So, behaviorist school they have what it means practical application and implication for the education. Now, coming to this behavior modification especially in the context of a classroom environment. Specification specification of the desired outcome infuse the students participating in the classroom. And like for example, this often sometimes the teachers they they spell out they they narrate that these are the desirable behavior the all the student they should be in the discipline they are supposed to do these these things these things they are supposed not to do these things some clear instructions are there. So, that is the then increase a students participation and classroom discussion also the similar kind of you know information any kind of instruction can also takes place.

So, development of the positive nurturing environment similar positive positive and nurturing environment that means, giving them giving them the opportunity, giving them the enriched environment, giving giving giving them the freedom to discuss analyze. So, that kind of nurturing environment is also it can also act as a place for the modic behavior modification. Identification use of appropriate reinforce intrinsic and extrinsic. Extrinsic rewards may be that in terms of you know certificate, in terms of surprises, in terms of extrinsic. Intrinsic is that intrinsic is that that is to strengthen their ego to you know to motivate them to encourage them.

So, here also intrinsic reward the when the teacher praises it is not it may not be some something like any substantial gain in terms of prize or money or any kind of external you know gift etcetera. But intrinsic by praise itself the teachers praise the teachers good good that means, good feedback that also acts as intrinsic motivation rewards to you know to motivate the learners children to to adopt particular kind of behavior or to to work hard for the performance better performance. So, reinforcement of the behavior patterns develop until the

student has established a pattern of success. So, reinforcement of behavior patterns develop until the student unless and until the the child the student has learned that particular expected learning outcome or the behavior that will this this kind of reinforcement of the pattern behavior pattern will go on continue. Reduction in the frequency of the rewards rewards a gradual decrease in amount to 1 to 1 on in 1 in the review.

Like reduction of the reduction in the frequency of reward suppose you are being initially you are being given the reward. But with the that means, suppose we, but you are not adopting to the adopting the criteria you are not got adopting the rules and regulations and and the behavior accordingly slowly and steadily the frequency of giving the rewards the feedback will be decreased. And then thereafter decrease and and thereafter rewards it may it may proceed towards the gradual increase the decrease of amount of the 1 to 1 review kind of things. So, evaluation and assessment, evaluation assessment also like the feedback giving the feedback effectiveness of the approach based on the teachers expectation and the students result evaluation is the.

Yes now here the students that the learners performance assessment. Performance assessment that means, it can be of course, it can be quantitative and qualitative the, but you know continuous continuous and comprehensive assessment like the formative formative evaluation formative assessment. That means, from time to time from time to time to be given feedback to be given to the students or the learners regarding their performance regarding their behavior and that from time to time from performance formative performance assessment is that is kind of regular feedback. Knowledge of the result that how far you have proceeded how far you have made the progress how you should go in which ways it is a it is a you can also say sometimes often we use formative assessment as a learning strategy also for the improving our performance. But however, the criticism of this behaviorism schools are like that over simplifying the complexity of the human behavior because you know behaviorisms they are basic philosophy the stimulus response stimulus response connection. So, suppose suppose a some something is a kind of you know a complex human behavior a complex learning task a complex level of difficulty level of complex and difficult task.

So, if you if you analyze that outcome or the performance or the human behavior how the students have done in that complex or difficult subject. If you break it down into simple over simplify into and convert it to SR, SR stimulus response stimulus response then its meaning will be lost then it will be meaningless. So, that is why behavioristic schools approach was completely rejected because it is this critics critics critics critics say that these are only appropriate in case of the animal behavior because their level of learning their understanding is up to a minimum level where we can analyze the behavior in terms of stimulus response. But human learning is a which is human behavior is much more complex and higher level of higher level in quality and things how can we break it down into the stimulus response and response to connection and SR connection connectivity and how can we over simplify simplify it is not possible. So, human behavior human thought human or complex learning processes cannot be cannot be analyzed through this behavioristic aspect of SR.

So, it so with over simplification simplification of all these things its meaning will be lost. But however, in however, this similar SR connection or behavioristic approach is being used for you know for you know for you can say for learning processes especially for the school level for the school level or the initial primary level of the learning behavior. But even in the in, but it helps its approach its very helpful in terms of developing some kind of skill based course skill based course some kind of you know distance learning course which is with the

you know learning developing how the learning the difficult complexity of the complex learning process can be approach through the from in an inductive way in a progressive way in a step by step way. So, that is the distance about constructing the distance learning materials especially in a way that is called the learning organizations in the from simple to complex in an inductive way. In that way, the learning material for the self-learning or distance learning materials are being developed. So, they actually adopt this kind of approach of inductive approach in a small way to some simple to complex inductive approach simple to complex and from some from this minimum basic step to gradually slowly increasing towards the higher level, but the feedback at every level is needed.

And it ignores the internal psychological and mental processes yes we can observe the behavior from external world that is observable behavior from where we can say that whether learning has taken place, behavior has been modified or not, performance has been improved or not that is whichever is observable. But what is the ongoing psychological changes mental processes that is happening during that period we cannot say it. So, behaviorist theory failed in understanding the psychological underlying mental processes mechanism and the principles of conditioning, but however, this principles of conditioning is not universal we cannot generalize that. That is because it is happening in particular group of organisms of the animal we cannot generalize from the animal learning to the human learning etcetera. So, it's generalizability is very less. So, in these are some of the criticisms now, but however, it has the educational implications that yes that the students they work for the things that bring them the positive feelings and for approval of the people and admiration praise etcetera they work hard.

So, in this case, positive outcome takes place. Behavior can also be learned unlearned and relearned right. Like for example, some of the unwanted things are some of the outdated things can be unlearned and sometimes it can be modified can be relearned it can be reshaped that is happening. Ignoring the undesirable behavior also how can we remove those things, how to eliminate those things that can be possible that can be possible and organizing the time and duration of the learning studying the intermittently like the change the then enforcement we manipulate the reinforcement etcetera that can be possible and you know the similarly the structure of the subject content can also be can also be learned like for example, sometimes it should be learned as a part by part step by step hierarchy, but sometimes after at the end then learning as a whole. So, both part learning and the whole learning. So, all these things can be practiced so, that to make the learning and very effective one.

So, now, I am stopping it here now. In the next class we will continue with other things. Thank you very much.