

Psychology of Learning

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Lecture – 2

Psychology of Learning (Contd.)

Hello viewers. Welcome back to this NPTEL course on the Psychology of Learning. In the last class, we were discussing about the principles of learning and to continue with that, we will be discussing other aspects. For example, the next principle that we are going to discuss is that learning occurs in a cultural and social context. So, in the last class, we discussed how the environment also plays a very important role in the classroom and school environments.

So, here cultural context means the culture in which we live. The social context, the group context, the cultural context. It also influences our knowledge and experiences as well as the interpretation of our knowledge and skills and those concepts. So, culture influences the knowledge and experiences of the people both within the classroom, outside the classroom, in the playground, everywhere and accordingly we communicate. So, because culture is again a part of a socialization process and it is a kind of life-learning or lifelong learning in the sense that we have knowingly or unknowingly adopted those practices, those habits which have been a part of our culture. So, that influences our behavior, our communication style, our expectations and our bonding, our relationship. All kinds of things.

So, the culture influences significantly our knowledge and experiences and the way in which we communicate and we communicate and the expectations that have for the new learning and how learning takes place, how we have developed the learning styles and how we have been used to different learning experiences and practices and study habits- all these things. So, the social context created in the classroom, that is, creating the classroom environment or the culture that is the educational culture, or academic culture within the classrooms. So, social context within the classroom plays a very important role in the communication style, teacher student communication, the roles they are playing, the freedom they are getting, the opportunity for collaboration and how the learning takes place. Whether it is in a very structured way, that is, how the contents are being delivered, or unstructured, that is, whether the environment is very democratic and open ended. Which means whether it is a kind of learning where the learners are being encouraged or they follow a strict outline or guideline of teacher oriented classroom content (classroom behavior) or they have been given enough freedom to go on to explore and to discover their own thing and construct the new knowledge.

So, that is the social context of the classroom: the way in which the teacher student functions, operations, their roles, their responsibilities, their duties and their collaborations, their interactions, their communications are taking place and how much freedom, how much opportunity, how much encouragement they are getting while they are engaged in different kinds of activities. So, here learning as a culture is in a social context in the sense that it is not just about our culture, that is, the culture of our country, our community, but the school environment.

So, then you can see that the people learn in different ways. Yes. Every learner has some specific choices, and preferences like primarily some learners are visual learners, while some are the auditory learners, and then there are kinesthetic learners. Some learners prefer to learn better when they see things through visual stimuli or visuals. So, they prefer the visual learning mode. Some of them prefer to remember things while listening to the things, while listening to the talks, listening to the lectures, listening to the audio content etcetera. Some people learn better while doing it themselves. So, similarly, their abilities also differ. Some students are like children who have keen interest and special ability, special skill in musical competence, musical sense, musical ability competence. Similarly the sports person. They have specific athletic abilities, you know interpersonal ability, sports abilities, special abilities etcetera.

Similarly there are people who are linguistically very competent. Likewise, there are children or the students who are very competent in logical and mathematical analysis abilities. So, these are all the specific learning abilities special skill specific intelligence we can say. So, learner learners also possess that, besides the general academic intelligence, general ability to grasp, to understand, to comprehend the learning content etcetera. Every individual learner has got his or her some specific ability musical sense, some musical ability specific ability in sports or in drawing or painting or language etcetera. So, that is every learner has some specific ability.

So, people think about their own learnings and their feelings also matter like for example, for example, when were we learning something or some subject, suppose whether we like that subject or not and while learning where learning that content or the subject whether we are enjoying the learning process or not or whether we are attentive to it or not whether we really listen to it or not whether we like it or not or whether we reflect on it or not how do we feel while learning the subject. Some certain subjects like for example, it appears to be very difficult and very monotonous for all of us. So, because it primarily it depends on our individual choices individual likings and dislikings and somewhere or the other way it is also related to our personality attributes and the traits because whether we prefer to learn that subject or not. And whenever we are learning and do we really reflect our own learning in the sense that whether we are able to understand it, whether it seems to be very difficult or easy for us or how we feel about it. So, here we can say our feeling and the thoughts both are related to each

other whether content wise and the cognitive part content wise. Whether we are able to understand the content or not and feeling and the feeling on the affective side do we really love to learn the subject or not. So, it again it is also primarily related to our you know our special ability specific ability like the people who are very are having the some specific ability special ability musical sense a good very magical sense they will be more keen towards you know that kind of you know musical or artistic or artistic or this kind of content whereas, the others who are you know they have the different kind of you know specific ability temperament they are more tilted towards you know technical learning or maybe IT savvy maybe sports savvy maybe you know mathematically very competent etcetera.

So, here both our cognition and our emotion thoughts it is their understanding comprehension thought relates to our cognitive aspect and the emotion. So, both thought and emotion both cognitive aspect cognition and emotion that shape the learning processes. So, the next is that little bit about history of psychology that we are not going into the depth like as we have said that initially it was structuralism and functionalism thereafter the behaviorist school which is primarily predominantly you know dominated by the western psychologist American psychologist out of his among with John B. Watson.

J. B. Watson J. B. Watson was a strong behaviorist. You can say, he was the founder of the behaviorist school of thought and he was a strong believer in environmentalism. So, in one of his famous quotes he has said that “give me a dozen of students, and I can make them so and so and so, engineer doctor and even any other person depending on the changes in the environment”. So, he was a strong advocate of the environmentalism.

So, his work is that psychology as the behaviorist views it.. So, here all the behaviors are the result of the learning processes. Now the behaviorist main focus is that how can we know that learning has taken place we can understand it only through behaviors. So, all the changes that has taken place the learning should be reflected through our behaviors which can be observable, which can be explicit, which can be conspicuous. So, behavior changes in the behavior is the evidence is the proof of the learning processes.

So, all the behaviors as a result of learning processes ok. So, behavioral changes that has taken place ensures or defines that how much learning has taken place. So, psychology the behaviorist called is that the scientific study of observable and measurable behavior. So, now, behaviorist another thing is that American psychology behaviorist they try to you know establish this subject psychology as a science subject scientific subject. They have also introduced many you know experimental labs, experimental variables because in order to you know to establish as a scientific subject they have introduced some scientific measures, representation, different vary variables also scientific variables that can be that means, in a

like just like in lab experiment where how can we control the different variables and how can we conduct the experiments and how the results can be measured scales.

So, that is why they have introduced many scientific methods because they try to establish it as a scientific subject. And as history says that, it has emerged from philosophy. So, they completely denied the existence of anything like mind, soul or etcetera etcetera, but try that rather try to establish as a science scientific subject scientific study of behavior. So, that is why they have introduced that whichever is observable, whichever is measurable, whichever can be later on that can be repeated that means, so conspicuous repeated observable measurable that can only be that can only be considered under the scope of the psychology. So, Wordson works he has also conducted a small experiment with little Albert, Albert was a very small child and you know how can he artificially create that learning you know by introducing a kind of the moment the child was exposed to a white rat, white rat or rabbit suddenly all of a sudden a noise certain noise takes place.

So, the child the child got frightened. So, in the with the repeated occurrence repeated presentation of the rabbit with the loud noise. So, he has created artificial conditioning process like the child learned that maybe that this rabbit is causing this kind of loud noise. So, and he got he used to get frightened. So, automatically with the rabbit with the looking of the vision of the rabbit itself white rabbit itself he got frightened.

So, that is in this way learning can also be artificially created. So, these are the you know principles of conditioning that will be following in the next classes. So, here behaviorism dominated the psychology much for much of the early 20th century almost 20th century. So, and they tried to establish behavioral school they have significant contributions influences in the psychology even modern psychology also we have still we are adopting some of their principles like you know in self instruction learning materials in you know even distance learning materials all kinds of things some of the mechanisms like behavioral schools thoughts and principles of learning also are also being used. So, here the thing is that thereafter, but however, thereafter after the as the behaviorist that is their approach is more of a molecular approach if one stimulus is there then the response will be there.

How the connection between the stimulus and response can be strengthened with the strong connection between stimulus and response then the learning takes place. So, it is a kind of very you know very molecular kind of one to one kind of you know very linear kind of relationship through which they want to explain the psychology. And similarly like for example, they do not have any you know very satisfying you know interpretation of the mentalistic concepts like thinking or imagination or kind of all these kind of things they do not have any significant contribution like satisfactory definition of thinking. So, when we say that it is a vocal talking

because how can we think you know measure the thinking like some body change bodily changes that takes place in our thought processes because of the sub vocal talking kind some kind of changes in the rhythms and in the body physiological changes. So, in this way they are defined.

So, they completely reject this mentalistic concept. However, later part later on as they were criticized by the later psychologist like the Gestalt group of psychologist they were primarily German psychologist their contribution has been very significant in learning and perceptions they have also contributed in you know in formulating and saying that these are some of the universal principles of perception how do we perceive. Similarly they have introduced the learning like insightful learning like suppose sometimes when we have been trying it out again and again again and again, but we are not getting the any answer and all of a sudden the Archimedes kind of thing. So, whenever it comes to our mind that is all of a sudden we got the idea that is insight that is the insightful learning takes place and that is a purely cognitive concern. So, they were the Gestalt school of psychologist they criticize the behaviorist school.

So, slowly and slowly and gradually the other schools of psychologist also emerged like humanistic psychology, biological psychology, cognitive psychology, sports psychology. Now, now still now so many aspects so many branches of psychology these are all primarily you can say the applied branch of the psychology like sports psychology, health psychology, military psychology, a number of psychology, clinical psychology is already there. So, now, thereafter all emergence of all aspects of the aspects of the branches of the psychology emerged. So, this is just a brief history. So, now so here we will be going to behaviorist primarily we will be dealing with behavioristic school of thought, cognitive school of thoughts, cognitive cognitivism and the constructivism which is the latest one.

So, here psychology of learning provides a necessary theoretical empirical data regarding the learning process. So, when the behaviorist started their own experiments, own theories etcetera these are being supported by some theoretical data not just theoretical, but empirical data also. And they also describe the different principles of learning, how motivation strategies like they have introduced the behaviorist they introduced the concept of reinforcement. So, reinforcement that means, how motivation plays an important role in learning processes what about defining the motivational strategies, then how learning transforms shifts from takes place from one place to another place, application of learning, transform of learning, how memory retention all aspects of cognition etcetera cognition and emotion also plays an important role then behavioral aspects. So, again so this subject again it is also useful in understanding the fundamental problems or the emotional development, motivation, social behavior, personality types etcetera.

So, generally we can see to some of like for example, the human behavior or human behavior. So, again another things behaviorist primarily they have conducted many experiments on the animals animals. So, that is why that is where their theories are primarily dominated by the animal behavior. So, that is they define whatever it is valid it is then it is feasible for that that means, so they have developed their theory and practices on the basis of animal psychology or animal experiments on the animals. So, but later on the psychologist they say that this animal experimentation theories and practices cannot be valid and cannot be applied in the case of the human learning process.

So, that is where they are also rejected. They are learning processes. So, the primitive learning processes like you know conditioning then different modes of conditioning, classical conditioning, operant conditioning, how the learning can be created artificially with a conditioning process. These experiments are conducted by the behaviorist by taking the animal subjects. So, which was rejected by the other psychologist later on because it cannot be on the basis of that we cannot develop a system theory or empirical work which is equivalent which is through which we can understand the human learning process. More of human than human learning that means, human beings are the you know most sophisticated sophisticated creation of this of this world of this universe like for example, there here all these by mind that means, with generation wise our minds our brain gets more enriched more more you know smart etcetera then emotions and the you know our emotions and the feelings and emotion also plays a very important part and then the behavioral manifestations.

So, here all the complete blending of perfect blending of cognition that is thoughts, emotions and behavior that is emotion the cognition, affection emotion that comes under the affection that is affect that is emotion that is cognition, emotion that is affect cognition affect and the affect and then the cognition. Cognition is that motivation aspect willpower passion. So, cognition, affection, affect and the conation, conation that is the willpower that is the motivation. So, all so, it is a very human that means, individual learning process is a very complex system of complex system which cannot be you know segregated like how learning takes place only through observable behavior this behavior that behavior. So, but it has now slowly and steadily the new theory is also emerge.

So, to sum up the learning now till now we have discussed about the you know just about the brief principles that govern the learning process and how what are the factors that influence learning. So, to sum up we can say they to acquire a novel idea or the experience to a situation. So, learning is described as a process through which we learn a new idea or we learn some either in the novel idea or we learn something out of our experience from a situation and it retains and applies to the ideas, skills and knowledge in solving different problems,

confronting developed problems, solving different problems or maybe applying it in the new situation similar kind of situation. And also it also we also learning how learning can bring modification in one's behavior. So, we can use learning and express the experiences is that to modify one's behavior by the experience gained in the past and making some changes that is permanent.

So, we can say here experience, environment that is the context socio cultural context, environment, experience these are the major you can say factors that influences our learning. And through learning so, through learning experience through learning as a result of our interaction with the environment, with the experience, with the culture, with the work cultural culture, classroom culture, with the type of activities human interactions. So, all these things whatever change we bring in our behavior that may be relatively permanent. So, either we frame new ideas, skills and knowledge etcetera, we capture or grasp new ideas from the experience, we develop and learn new ideas, skills and knowledge or we modify somebody's behavior from our past experiences which are relatively permanent and relatively permanent. So, now this is we can say when we talk about learning this is a continuous process learning cycle you can say for example, we learn something then we try to apply it in certain institutions.

Then after applying suppose maybe that we face some difficulties etcetera then we move work upon it. So, we do it to practice it, we do practice it again. Then after certain things then we review we review again suppose with the new strategy we do something with a new strategy we try to experiment or we try to innovate something. Then we try we will review it we will review it whether the process of the strategy is the like for example, whatever we have tried out whether it is been successful or not. Like for example, suppose we when we face a problem we formulate in order to solve that problem we formulate different hypothesis different hypothesis or strategies 1, 2, 3, 4.

So, that is why 1 we go on experimenting on this that whether which one is the most effective one. So, it is a ongoing process learning has been a learning cycle it is a cycle it is a learning process. So, then so, he got again here when we talk about the learning sometimes what is that learning sometimes whatever the thing is that suppose whenever learning is not very observable very conspicuous or very you know external, but still learning has taken place. Like then we can say that the intensity of learning may be very implicit at that moment because for example, we have learned, but it is not very much visible in our behavior. So, but it may be there in our back backups.

So, maybe that you know internally it has made us more competent internally made us improved our skills and etcetera, but it is not very we are not often we are also not very conscious of it. So, when we talk about the learning skills and knowledge and competences.

So, we can categorize it into this four quadrants like for example, competence can be like let us take it competence and the competences are incompetence and whether we are conscious or not conscious ok. So, suppose some competence is like for if we develop this quadrant for example, here unconscious and incompetent. For example, with regard to learning ability learning some specific skill and knowledge we are unconscious that means, we do not know.

And we are we do not know we are not aware of it certain competencies and also we are incompetence neither we have learned that competency we have developed that competency nor we are aware of. So, we are unconscious that means, not aware of that competency even we are also ignorant of that competency that means, we are we do not have that competency. So, here suppose a learner is both incompetent and unconscious especially like for example, in the primarily in the workplaces. So, that means, and the workers the employees those who have joined suppose they will be initially identified on the basis of their strengths weaknesses needs etcetera. Like some people they are neither competent nor they are conscious like sometimes whatever we are incompetent, but still we know that in which way we are lacking ok.

So, that is the conscious incompetent ok. We know that I am I know that I cannot do AI artificial intelligence, but at least I am conscious of that I am incompetent in AI. Similarly, but some sometimes what happened some people are conscious and competent they know they are conscious that what they know and what they do not know. So, they are conscious that suppose maybe they will with regard to AI they can say yes I am very comfortable in machine learning and I am conscious as well as competent. Whereas, some sometimes what happens people are competent, but they are not actually aware of that they are competent.

So, that is called the unconscious competent ok. So, where why do we categorize them in this category because for the training when we think of the developing some training modules, training schedules, training content and set a planning for the training. So, then we have to categorize them in different categories with regard to developing some specific skills and knowledge. So, here the conscious incompetence may be valuable. So, conscious incompetent, but example the person is the know he knows that he is not competent in this. So, that means, he may volunteer he may volunteer when he may instantly be noticed or he may be addressed to address to or given support to attend certain things.

So, conscious the state of conscious incompetent may be valuable at the start of learning experience. Then he may take some initiative that no I do not know these things I have to learn. So, then he may take the initiative to learn certain things. So, conscious incompetent and unconscious incompetent is a very miserable condition unless somebody some trainer some or the employer has pointed it out then on till then they will not take the initiative. And

unconscious competent yes they actually they need some more kind of you know enriched environment some kind of more stimulation etcetera to explore that to explore their talent and ability.

And conscious competent they know that and they can very well map their own competence and skills. So, on conscious incompetent people they can take the initiative for the learning processes and for them acquiring the different learning experiences has been very meaningful. Then what is effective learning? So, effective learning so, here all the things like learning the factors the situation is in how can we make our learning process more effective. So, here effective means the process has to be very reflective the process the outcomes process outcomes learning outcome we can say learning outcome has to be very substantial very significant. And through and also then this learning process can be very helpful in formulating the new knowledge and also can perfectly blend the previous knowledge and experiences.

So, that we can we can formulate new plans future plans for future we can design the future goals etcetera and similarly we can venture into the new domain of knowledge. So, here effective learning is that primarily deals with the reflex reflective activity. So, that is why you know self check exercises are there or self question self assessment questionnaires are there like for example, in self instruction learning material you might have observed that after completing a one unit or two units all the self check questions questionnaires are there. So, that is a kind of you know feedback mechanism mapping mechanism measurement tool like for example, from time to time you can check yourself whether you have learned the subject or not and if yes then to what extent.

So, here it is a kind of also reflective activity. So, reflective activity that which enables the learner actually to draw upon the previous experience that means, he automatically so, automatically try to blend retry what has what has been what he has been he has learned from the past what has been it is there in her in his or her repository previous experiences try to connect connect or try to develop a kind of association with the present learning whether he he he can get some clues from the previous experiences through which through which he can solve this problem present problem especially in mathematical technical thing like past they try to they tell the students they try to retrieve the old formulas or theories etcetera on the basis of what they can resolve the present problems etcetera or previous from previous experience also helps us in understanding and evaluating the present problem present situation context and so, that that means, it helps us in comprehending understanding the new challenges or the present variables or situation. So, then only they will be able to formulate different ideas and the strategies to resolve that situation to resolve that problem as well as to go ahead with the future plan of action. So, here so, we can say the criteria of learning is that learning inverse change yes of course, learning involves change, but yes that is the change is primarily progressive positive changes. When we talk about the non associative learning then means

that is the intensity or the neutral response may take place that is the different types of thing like for example, ticking of the clock alarm clock initial stage in the silent room whenever we enter into the room the ticking sound will it sounds like a very noise it is a noisy things we are very alert that yes something is some noise is coming from some source. But after a long time staying for a long hours within that room automatically it becomes you know invisible or it can it is not just it is unnoticeable that noise becomes unnoticeable that means, which is non associative.

Now this ticking of the clock is not creating any kind of drawing not drawing any kind of attention nor it is creating any kind of response from our side ok, but mostly learning involves changes relatively permanent changes for positive changes. Then learning endures over time it stays over a period of time and with the recurrence with the regularity with the effort with the perseverance then it continues over a period of time. So, learning occurs through experience yes of course, as we are exposed to like is not just theoretical, but when we are engaged in some sort of activities work experiences some kind of thing. So, that experience helps a lot also it also helps a lot because learning theoretically and learning by doing and learning by you know collaborating learning by cooperating learning by practically conducting learning by you know being a participant in the community activity. So, learning and participatory learning collaborative learning also gives us some kind of experiences that also these are the different methods of learning we can say through which learning enhances.

So, it is an activity of construction definitely learning brings positive changes is a type of activity of construction. It is handled with in the context of others like means it whenever we are learning definitely in a particular context. So, it is related to the teacher and other variables or the factors or the stimulus or the individuals and driven by the learners agency. Learners agency is that what is the learners his effort, his motivation, his initiative. So, that is the learners agency is his initiative, his responsibilities and his you know his effort and his interest, his need also that is the learn driven by learners and agency unless and until the learner makes an effort it is not going to happen.

So, learner is the major agent in this process and effective learning is all of those that is, the best that takes place within the best environment, with the best content, with the best experiences, with the best content and exposure, resources. With all these things, learning can take place. Effective learning can take place. But yes monitoring reviewing the reviewing and reflecting on the approaches, the strategies, the best content again and again are actually very much beneficial in terms of proving the effectiveness of a particular goal or the context or the strategy or the things. Nowadays in this present era of the e-learning environment, like we are learning in an online platform, yes of course, online e-learning, multimedia learning, e-learning have immense resources, mechanisms, and strategies. So many pedagogical resources are there. But if we can customize our needs, customize our learning processes according to the resources

given there then we can be benefited immensely. We can benefit from this. But if we don't do that then we are not being able to adapt ourselves as learners to the e-learning environment then we will be the losers. Maybe we feel that we are missing something that used to happen physically in our real classroom like maybe the peer to peer relationship, peer maybe the classroom discussion, maybe the peer interactions, maybe the teacher student direct interactions all these things we may be missing that.

So, if you feel that yes, these things are missing, that means, I cannot compensate for those losses in the learning completely in the learning environment. Moreover technology is also trying its level best to make it as human as possible as possible, but yes of course, perfectly blending learning environment with physical touch with the teachers and the mentor as well as the learning platforms in terms of resources, in terms of content, in terms of mechanisms, in terms IT systems etcetera that is the key. So, a blended learning environment has been the most successful and most effective, but again blended learning also gives us an option, opportunity and freedom to mix and match as per our requirement as per our end. So that we can make the learning process more effective. So, here that is again, a psychology of e-learning also nowadays, when the learner is completely in the online learning environment, what could possibly be his psychology, what could be possibly his queries and questions and comforts and discomforts and psychology etcetera.

So, now, the psychology of e-learners is gradually becoming very important. So, that topic we will take up towards the end of this course. So, thank you very much and I am closing this session right now and in the next class we will continue with other things. Thank you very much.