Psychology of Learning

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Lecture – 4

Psychology of Learning (Contd.)

Hello viewers, welcome back to this NPTEL course on the Psychology of Learning. So, in the last class, we were discussing about the various principles that govern learning. So, to continue with that, now let us discuss about the what are the other principles of learning. So, learning is based on context. So, generalising learning to a new context is not spontaneous, but instead needs to be facilitated. We have already discussed that even though we try to apply it in a new or a similar situation, it should be promoted, it should be facilitated.

So, deliberate practice involves attention, rehearsal and repetition over time and leads to the new knowledge of the skills that can later be developed into more complex knowledge and skills. Deliberate practice, that means, rigorous practice involves attention. If you want to excel, if you want to excel in particular content or any skill etcetera, then, you need deliberate practice, intentional practice, perseverance, focus, efforts and more effort. So, it involves attention. We need to attend it because with every practice there must be some change, some improvement.

So, it involves attention, it involves rehearsal, it involves repetition, it means analyzing the errors it involves. So, gradually we move towards acquiring the new knowledge and skills. So, then that knowledge and skills can be enhanced in the future into a more kind of complex ability, complex knowledge and skill attribute etcetera. So, deliberate practice, focused attention, rehearsal, repetition these are, you can say, the mandatory skills. These are the prerequisites we can say for enhancing our knowledge and skill. Then, principle 5 is acquiring the long-term knowledge and skill, which is largely dependent on practice, if we want to retain that knowledge and skill for our future use. Like for example, suppose teaching is a skill, IT skill, technical skill, then or mechanical skills etcetera. If we try to want to retain that skill for the long term purpose, long term use, long term job and professional career, then it definitely requires practice, rigorous practice, updating our self and effort and having that passion to learn the new developments in that area. These things definitely should be there. Then clear explanatory and timely feedback to student is important for learning. Clear explanatory and timely feedback. Yes. feedback has been a very important component of learning.

Even if the teacher teaches the students he also needs the feedback and the learners too, for their own performance, they need the feedback. That is why evaluation processes are there. That is why we are having this unit test, class test, this test, that test, you know different kinds of quizzes, assignments etcetera. And at every moment, with every task we need and we expect a feedback. Feedback is actually the knowledge of the result of whatever task we have been assigned to. And when we have accomplished the task, we need the result of that task. So, it should be feedback. Feedback should be very clear, it should be very clear and explanatory in the sense that it should be explained in which that means, in what are the flaws, what are the

plus points, what are the why where we have failed, how we have we can improve our things, how we should have written everything this is a clear explanatory weeks.

  Like for example, it is not just yes, no or good, bad nothing like that, but it let, but clear explanation of our performances and where it can be enhanced, where we could have done a good or where our approach and perspective was different from the questions etcetera. And timely feedback like the moment we complete a task, the moment we give an exam assignment etcetera. So, within a short span of time the type of feedbacks would be given like that is a formative evaluation, summative evolutions are the summative evaluation are you know at the that means, annual or the semester exams etcetera, formative or the intermittent exams, evaluation processes may be class test, unit test or lab test whatever. So, within short span of time feedback is very much important feedback should be very clear and should be clear and there should not be any you know there should not be any ambiguity in and it should be explained. Explanation about explanation about not on our strengths not only about the that means, failures like the wrong points or the wrong answers in the absolute statements, but rather   how   it   should   have   been   written   in   a   better   way.

  And again our strengths also the learner strengths also yes this process you have highlighted is very good how it can be enhanced, but as per the requirement how to map our answers as per the requirement of the questions all these kind of detail explanation should be given to them. So, learning can be increased when the students receive regular, specific, explanatory and timely feedback on their work. So, timely feedback regular it should be regular it should be specific to the point as it has been a specific to the point and explanatory giving detail analysis of and timely feedback it definitely is going to help the students and the learners in enhancing that the skills and competence. Especially actually especially it is very very important very when helpful in the developmental stage of the school education is very very helpful. So, principle 7 is that of a student self regulation. Now, here is how the student's self regulation assist   learning.

 Self regulated skills can be enhanced especially through the direct instruction modeling support and classroom organization etcetera. So, here about like for example, self regulation we were discussing about how that means, how the student can develop a habit of practice of self reflection or you know reflective thinking reflective analysis, then evaluating their own knowing our own learning, evaluating their own failures, evaluating their own strengths and weaknesses, evaluating their you know every exercises and self check exercises self evaluation kind of thing. So, in this process when the learner becomes more independent, independent learner and he better understands himself better in the way of his strengths and weaknesses and understands better his own his own study skills, how he can monitor and regulate his own learning behavior, how he can analyze his own learning success and failures and how that is all kinds of self analytic requires us reflective thinking, reflective analysis, self self you know self learning habits and being independent. So, if this automatically when he becomes used to and competent in this monitoring, managing his own learning lessons activities and managing his time and understanding his own abilities and failures and interpreting it and changing the study habits and you know capable of preparing new learning strategies for betterment for improving and developing the competencies and going through the going through the different learning resources and even seeking out the help of the tutors and seniors etcetera. Slowly and steadily when he become independent, see he can control, he can monitor, he can regulate his own   learning   process   then   that   comes   a   student   self   regulation.

 So, this self regulation regulating on his own his own own learning behavior activity by the

learner that is self regulation it helps a lot. It helps a lot in improving and enhancing the learning ability, writing ability all kinds of thing even, but again at the same time the self the student self regulation of this self regulation competence can also be trained, can also be taught, can also be you know can also be given to them, educated to them through different kinds of support system either through mentoring support system or modeling or maybe in the classroom organization also like the monitors or the group leaders or the dividing the whole class into different teams and groups and assigning them different task and giving opportunity to every learner to reflect on their group task and individual task. So, this kind of various strategies that we can also both direct and indirect strategy we can also apply in the classroom that is comes that comes under educational management of the classroom management for developing other kinds of skills besides academic skills other social skill, emotional skill, management skill, leadership skill. So, this kind of thing self regulation behavior self regulated learning can also be taught through different arrangements like instruction modeling and classroom organization etcetera. Then another then students creativity is the students creativity can be fostered by making it an important outcome of the learning process for the students and educators.

So, here so, not just in with education policy new education policy, but also previous education policies also were emphasizing on you know inducing this kind of critical thinking and creative thinking from the very early stage of education. That is from the very beginning when the childhood from education preschool education itself the students would be not just will be given should be given enough of exposure and reach learning environment and with playing with the toy giving them opportunity to playing with the toys different things etcetera to that means, to discover their own ideas concepts about the objects in this world about the shapes about the colors about the size and different living or non living everything is from the very beginning of their life, but in the school level primary school level itself also they should be exposed to different kind of activities different kind of co curricular activities. So, that not just that they will identify themselves that yes they have the temptation they are the liking they have the skill. So, not automatically besides the academies they also capture slowly develop a kind of specific ability maybe in horticulture maybe in painting maybe in dancing maybe in some other field. So, not to so, that is also a learning experience to understand yourself the learners start begin to understand themselves learner begin start to understand himself that what   I   like   what   I   do   not   like   how.

So, he is self learn that means, self learning this is a self learning and experience and self learning that also that also enables the learner to not just study the content the school subjects, but besides that he can also develop other kinds of skills. So, it in this process he becomes an independent human being having the choices having the taste having the likings and dislikings and specific abilities etcetera. So, in this process what happens in this process so, they become creative. So, they can explore their creative aptitude. So, when they start thinking of or doing something extra something beyond the books they start that then pursue the start to begin to pursue that thing maybe in singing maybe in painting maybe in some other skill.

So, that automatically can be if that will be identified that creative aptitude will be identified from the very beginning and can if it can be nurtured facilitated and it can be you know encouraged and it can be enhanced through training and different kinds of scholarship etcetera then that that that can be the that creative input creativity can be manifested through different kinds of you know activities performances or the similar kind of the products. So, this creative, but this creativity cannot happen overnight it has to be built in built in the system in built in the behavior academy in built in the school activities in built in the in the socialization

process or the activities educational process itself from the very beginning. So, as we have discussed about the reflective thinking whatever we are going through coming through coming across or learning or listening or reading somewhere. So, we need to reflect on that similarly critical thinking and creative thinking should be encouraged should be from the very beginning. So, let us embed it in the curriculum.

So, let us embed in the curriculum, but it is only embedding in the curriculum will not suffice, but you have to monitor it you have to nurture it you have to evaluate it you have to you know like it is like watering a plant watering a plant. So, it is a continuous process. So, in this process only in this process only the individual creativity can be explored can be flourished etcetera. So, here then another thing next here comes our another important factor that is the motivation motivation, what motivates students. So, see yes motivation again itself is an another factor another important component of human behavior psychology.

So, but here we can say that motivation from the basic level now motivation can be two types one is extrinsic motivation another is intrinsic motivation. So, intrinsic motivation is that inner satisfaction inner satisfaction inner joy something like that and extrinsic motivation yes we are being tempted towards some external incentive like good grade position some scholarships some you know some awards something like these are the external there is external factors that incentives are there which attracts us which motivates us to work hard to make more effort etcetera. Whereas intrinsic motivation which are inherent which are innate implicit in nature. So, here the students tend to enjoy the learning and do better when they are more intrinsically rather than extrinsically motivated. But extrinsic motivation like from the young beginning stage like in school stage etcetera yes extrinsic motivation has some impact because all the students suppose they want to be the the topper class leader class leader so and so they are motivated.

But if that means, if you analyze this long term effect ok. So, extrinsic motivate motivation is you can say that a relatively time bound time bound like for this class for that class, but if the student learner they have got the intrinsic motivation no I want to because I want to qualify it I want to achieve it because it gives more gives more satisfaction more happiness inner happiness. Like suppose if I could successfully complete this difficult task that means, I feel like yes I am capable of it enhances my self-efficacy like it enhances my yes I am good I am good I could I could really I can really do these things. So, I am capable of I am competent. So, these kind of things gives us some more intrinsic.

So, intrinsic we try to induce we try to inject this kind of intrinsic motivation among the students slowly and steadily, but yes, but these intrinsic and extrinsic motivation are not contradictory to each other rather complementary. That in this young age in the young stage may be that in the school stages primary or secondary level school is the students the learners they may start with extrinsic motivation, but gradually they can be taught they can be motivated that can be facilitated to towards intrinsic motivation or having an intrinsic goal. So, that how they can enhance their competence and performance how it can go in a long way for enhancing your career all kinds of. So, that can also be slowly taught to them or you can say guided them that how from extrinsic motivation is there it is ok, but how can you achieve your goals how can you adopt an intrinsic motivation develop intrinsic motivation because it is more sustaining it is more enduring. And even in the absence of any extrinsic reward or incentive you can also go on because it is a like kind of passion it is a you can it is a kind of flow that will energize you in towards competence towards the knowledge etcetera acquiring the knowledge and skills.

And another 10 principle 10 is that students perceived in the face of challenging task can process information more deeply when they adopt the mastery goals and the performance goals. Here two types of goals what is mastery goal what is performance. Performance goal is that when we can completely perform it is completed. So, performance goal we have performed it done it well we have completed the task as per given the as per given within the time frame etcetera. So, that is we have performed.

Mastery goal is that I have not just performed I have to achieve excellence in that field. So, that I keep on working I keep on working I keep on practicing there is a unless and until I achieve that excellence level par excellence level that is called the mastery goal. So, if the students will be more tempted more motivated towards the mastery goal. Now I want to be a master I must have mastery complete control mastery over the subject then they will go on they will go on. So, that is called the mastery goal.

So, when a kind of the students those who are more targeting more towards mastery goals towards they are fixed targeting themselves towards achieving the mastery over a subject. Mastery suppose is on over the subject on mathematics mastery over the subject like geography. So, that is the mastery if they have performed well they have secured the good marks etcetera, but they are not silent they are not they are not they have not stopped there. So, now, they are going to have an excellence par excellence skill aptitude that is called the mastery goal. So, if the students are motivated deeply engaged towards the mastery goal then that is more enduring that is more you can say rewarding than the performance goal because performance goal is time bound it is timely time bound.

Once you have done it is for it is only you are just waiting for the exam to get over or the grades or the assignment performance goals means somehow you have to perform it. Mastery goals means you want to have an mastery achieve the mastery par excellence. So, principle 11 is that setting the goal that are short term proximal specifically moderately challenging that enhances the motivation instead of you know establishing long term. So, the here again two types of goal two types of one is the short term goal and the long term. So, how to set the goal that is again another kind of exercise also that is like for example, it is a kind of guidance to be given by the tutor, tutor, teachers or the parents.

Like set the goal you have all of all the children they has the group they have different types initially they will be maybe some in a confused state, but slowly and steadily they capture their goal carrier goals especially maybe that they want to doctor, engineer or so and so. So, what is that? So, long term goal and suppose long term goal and short term goal. Suppose if the distant goal long term goal is very difficult suppose they long term is very distant as well as very difficult, but even though they want they have set a long term goal in order to achieve that goal also they need to develop fix some kind of develop some kind of short term goal. But if these short term goals are specific goals moderately challenging not too much difficult so that it is beyond their capable beyond their reach. So, moderately challenging short term goals that is from time to time monthly one month goal two month goal quarterly goal or time bound small time on proximal goals.

Specific goals moderately challenging goals that enhances motivation because they have this small small target. The small time short term goals are the small targets one when the moment they continuously they could succeed in achieving those small time targets small targets one by one etcetera and that keep on mobilizing them energizing them keep on keep on them as in

a moving way in a flow way so and that enhances their motivation. So, here setting the goals that are short term if even though there is a big long term goal, but how to break it down that that mentors the tutors the advisors academic advisor this would say that yes even though it is a goal long term goal. But in order to achieve that you need to have frames at these short term goals and how to map how to design the short term goals and how to approach it and how to fix it. Even suppose and again when you are fixing the goal you must map your own ability that means, the learners ability students ability skills etcetera.

If it is beyond his capacity if it is beyond his ability and level of intelligence or understanding then it is difficult to. So, moderately challenging it should not be too easy because challenging task gives a kind of self satisfaction is self efficacy in the sense of self efficacy that yes I have done I could do it. But if it is too difficult too challenging it is not possible and repeated failure also creates a kind of you know in constants of incompetence or the complex inferior complex etcetera. So, short term goals specific goals, but moderately challenging goals so that it enhances the motivation because here the feedback here the reward here feedback is also reward. So, feedback is you know the frequency of feedback the happenings or the occurrence of the feedback is very fast in the same from time to time.

So, in this way feedback is there. So, this kind of goals will help in enhancing the motivation and they should learn to become intermediate risk takers. In these process in this process of its achieving the short term goals or preparing the preparing themselves for more moderately challenging goals etcetera. Similarly, in this process they also develop a kind of kind of you know ability you can say thinking skills and aptitude in that how to take risk because the moment they are approaching the moderately challenging goal means it involves one some or other types of risk. In this process slowly become acquainted they slowly become acquainted how to take intermediate risk risks intermediate not too difficult not far reaching intermediate risk takers they slowly learn how to become intermediate risk takers from time to time how can they take some small small risks. Then principle 12 that is learning is situated within a within the multiple social context is not multiple social context in one situation in one situation one with one context it is one type of context in another it is a multiple social context not just confined one fixed kind of thing.

In this classroom that classroom it is an different peer groups different teachers different subjects different infrastructure different lab equipment different exercises. So, learning is situated within the multiple social context and moreover learning is very much social is a social activities it is contextual. So, we cannot ensure that with the best learning most effective learning can happen only with the best content or best teacher or best whatever you know it is more contextualized. Then principle 13 is that emotional well being influences the educational performance learning and development as we have already the emotion it influences because primarily emotion and motivation controls it controls it regulates our learning behavior. So, cognition the cognitive part that means, the thinking focusing attention thinking analyzing reflecting all these things are, but how to do how to engage how to you know sustain our attention that depends primarily on our emotional the willpower our emotional.

If emotional you are not sound and not healthy you are not happy. So, it is very difficult to sustain the attention. So, emotional well being that means, socio emotional skills emotional well being positive emotions then support system like learning environment definitely learning environment then been situation. So, that there should not be any disturbing factors stress factor etcetera. So, that is a if the person is emotional if persons in the emotional well being is

there it definitely influences his educational performance because it enhances the you know enhances the passion the spirit the energy the motivation for achieving this task.

So, again how to assess the student's progress? We have already discussed things like formative and summative assessments. Among assessments, formative is very important because we get feedback from time to time. So, feedback is nothing but knowledge of the result. So, formative assessment from time to time, evaluating the performance, can be qualitative. It can also be quantitative varieties of things that we can do and formative in evaluations are assessments and they are more important for learning process because it gives time-to-time feedback. Feedback actually enhances the performance, the skills and learning skills and learning strategies etcetera. The summative assessment is towards the end of the thing. Summative assessment may be best at the end of the semester end of the thing. Even though we conduct summative assessment, at the end of the term but timely and frequent occurrence of the formative assessment can also help out, not just help out, but also you know it accumulates. That means it gives a cumulative effect and the result can be visible in the - summative assessment. If a person performs better slowly and gradually improves day-by-day with every test, every assignment every kind of assessment etcetera, so, their skills, competencies and strategies are improving. So, definitely, it is going to give them back in the summative assessment with good result and performance. Thus, student skills knowledge and abilities are best measured with an assessment process grounded in the psychological science with well-defined standards qualities and fairness. It is of course, for measuring the academic that is content knowledge, to test student's aptitude, knowledge, skills and abilities. Besides these, other factors like their personality attributes, their emotional skills, their study habits, their self-regulatory skills, their collaborative skills all these kinds of personality attributes traits and emotional attributes, skills and abilities can also be assessed through different kinds of psychological tests like we have psychometric test, we have well defined qualitative test etcetera. These tests should also be there. So, in the educational setup, besides your academic content test etcetera, that bookish knowledge, we should also have cells such as the guidance cell, educational guidance cell where all these kind of standardized tests and psychological tests should be there to measure, to evaluate, to assess the specific attribute of the learner like there may be some learner who might be very good in mathematical aptitude and mathematical intelligence etcetera. So, that can be measured, that can be identified through standardized test instead of just giving a statement on these and that and giving the opinion or judging it in a random way. We can check if the student has this specific skill, knowledge, and attribute by applying all these kinds of psychological tools and psychometric tests.

So, now, this is the thing. It is that we have completed this up to this principle 15. These are the basic principle of learning very often this these things it governs it governs a learning behavior. Now, we are we have just have some brief background knowledge about what learning is how what are the principles what are the factors that influences learning processes and how. So, we need to understand all these processes, all these factors, and all these principles. Then only we can better understand our own learning process. So, next class, we will move towards other aspects of this learning. Now, thank you very much.