

## Psychology of Learning

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### Psychology of E-Learning (Contd.)

Hello viewers. So, welcome back to this NPTEL course on Psychology of eLearning. Last class we were discussing about the benefits of eLearning: digital classroom open source of eLearning sources and its impact its advantages etcetera. So, so to continue with that. So quick delivery of lessons when the it takes time to design the courses as per the learners requirement etcetera, but once it is prepared once it is done then quick delivery quick delivery prompt you know prompt feedback access then you know prompt assignments all these things are very prompt very quick.

So, quick delivery of the lessons as per the learners can determine their own speed and learning, but thing is the delivery the lessons readily these are available readily available and the learner can find out can find out his own time and own speed of learning this learning this materials. So, it saves the times for the students because it may not have to unlike the physical classroom it may not have to repeat have to be repeated again and again by the same students by the teachers, but it is there already in the repository and it when in. So, at any point of time even while traveling while not working even while that means, taking relaxing also the learner can go through the content etcetera and consistency. So, it also ensures the consistency in the sense that it tends to enable the teachers to reach the millions of students in one go like at a time at a particular moment particular time that teacher the tutor the instructor addresses say addresses the mass audience mass students and communicate the message to the target audience at the at one go.

So, that is why it maintains a consistency it does it does not it does not affect it does not bring any kind of variations or the changes in the modalities or the or the meaning etcetera. So, consistency maintains is being maintained because at the same moment it is being accessed by it is being accessed by the large audience. So, all the students get the same training at the same time at the same quality with the same enthusiasm and vigor etcetera. So, the so, everything so, equal access equal access opportunity and the learning resources are available. So, reduce the cost because as because it is cost effective in the sense that it reduces the cost of all extra cost of you know cost of traveling cost of course, material physical learning material classrooms trainers accommodation all these things.

So, these all these things can be curbed down. So, it is cost effective. So, initially for the installation for the technology development etcetera initially there is a there is a there is a initially there is an investment, but later on this cost slowly and progressively reduces. And it is more environment friendly because E-learning is the paperless it is it is that means, it creates a zero carbon it is a kind of zero carbon it is everything is online. So, it is eco friendly it is environment friendly it is very conducive because it involves primarily the paperless learning processes.

Now so, here the thing is that yes another advantage of this e learning platform is that the

slowly and steadily learner becomes very self motivated. So, self motivated means is the thing while going through the learning going through the different learning contents and the resources and materials. And he tries to identify he exercises his own analysis of what I what do I need what I do not need what to and enhance my understanding what I do not require. So, all these kind of differentiation the learner himself can do it and in this way he becomes also more motivated self reliant self responsible for his or her own learning. So, it facilitates the learner to incorporate learning around their lifestyle similarly it is not just confined to only the textual knowledge only the content knowledge or only the domain knowledge etcetera.

But with regard to other aspects of the life the for example, about the person the hobbies the lifestyles the entertainment everything can also be can also you know can also be provided to the learner. So, it facilitates the all learner's complete understanding and development and the lifestyle also like whether the whether he needs a new skill to learn and what would be the usability applications of that new skill where do I can apply it what are the different types of jobs available a to z information are available. So, learners learn more here more here learns learners learn more by using the computer based instructions like for example, for as you know for going through this online quiz online trainings online professional training courses to prepare themselves for all international test from national test all kinds of different professional test like test like the medical test engineering test all kinds of. So, high higher level of preparing for the higher level of competitions test examinations and the professional jobs etcetera the learner can also rely more on more on or can learn through computer based instruction primarily as and students and they perform better in their online classrooms on an average because you know they those who are taking actually of course, it is it makes the learner more independent; more responsible the more motivated that learner will be its learner will be more benefit you will get it. Because maybe that some at the of course, during the children primarily the classrooms the children were you know more teacher dependent or were very much habituated to traditional classroom or who rely more on the teacher or who actually who get motivated by being a part of the physical interaction face to face interaction, but slowly and steadily like this covid actually helped us in even at the school level also the children are introduced to introduce the online classes.

So, equally there the slowly and steadily there also learning that this is also another way of interacting with our teachers. So, slow so, younger children they slowly pick up this sense of responsibility or doing better in the online platform or getting self motivated, but how about the adults learners adult learners they if they are self motivated. So, they can learn anything and they can prepare themselves from any kind of exam and it also allows sitting for a long time or for a long time are being committed to the online courses or getting spending more time with the computer. It also enhances their level of motivations motivation especially intrinsic motivations then their patience then resilience then their focus of attention their goal oriented behaviour all these things are also slowly improved in case of the adult learner. If the learner is a independent learner self dependent learner motivated learner and adult learner and however, for different types of learner there are different approaches also.

So, some learner, but again the complete freedom is that learners and if he wants he can sit together at a time 4 hours 5 hours at a stage to go through the go through the content or he can select his own time if he is a professional if he is a working professional he can identify his own time. So, flexibility is there and immense flexibility is there and larger learners they use this computer based instruction as they as it suits them along with the jobs or in the relax time or at a continuous later time. So, it depends on them how flexibly they use it. So, here the most powerful learner variable is again here important thing is that if they want to exceed in any

particular course etcetera to measure most important variable is the prior knowledge how much they have already known about it. So, most powerful learner variable is here the prior knowledge if they are already familiar with or they are already have the prior knowledge basic knowledge about the particular content then they can go on. They can prepare.

Otherwise if suppose they are they do not have this prior knowledge or background or experience and now they exposed to a very highly technical course. So, they cannot cope up with properly. So, that is why so, what is emerging most clearly from this technological explosion is that refocusing on the people like earlier people were also learning going to the colleges preparing for the exam etcetera, but here now all together our focus again the people are the learner are our focus, but all together the shift has been changed that our focus has been changed. That means, we are refocusing reframing our all educational paradigms educational frameworks educational platforms etcetera all together by refocusing the people. Earlier we are using in the we are focusing them we are trying to put them into the studies in different way.

Now, with the technology as a tool how we are refocusing reorganizing revising the whole or revisiting the same educational platform in a different way. So, now the thing is so, a recent thinking on the cognitive psychology they places the individual firmly at the center. So, learner individual learner has always been the center of the educational situation or learning experience of the classroom discussion. He has always been the center, but now in the e-learning platform it becomes more important because the individual learner now the online learner e learner he becomes more focus and more focus as becomes he is the nucleus he is the main key factor on which the whole course the learning experiences revolves. So, in that is why individual they create their own understanding of the knowledge at the world.

So, when the individual they will go through the knowledge resources and other things. So, they are not that whatever they are learning going through they are taking it as it is and without reflecting on it or without critically evaluating. No, they are going through the different resources, but again redesign it, customize it, construct is as per their understanding and understanding and prior knowledge. So, here it again it creates all together interactive environment of the e-learning resources, the persons constructs also then the learning context, e-learning resources, learning tools, learning information given in the things and how all these things how all these things they interact with each other. So, by interacting with their environment the individual constructs or investigates and modifies the cognitive model of the world in an iterative fashion.

So, every time when they come across they get exposed to new kind of things information they always keep on changing their own understanding or construction of own knowledge in this world. So, but anyway here the thing is how can we improve e-learning. So, like this the ordinary physical classroom also every for every class the teacher was designing his lesson plan in a new way different way he was he was modifying trying to use some innovative pedagogy some how to motivate primarily to motivate the audience, motivate the children, make them understand, make them understand, make them acquire the learning skills having that means, acquire the masteries of the learning methods. So, every time they in the physical real life situation also classroom also the teacher was doing it teacher used to do it in the every classroom. But in online platform as it has become more challenging in the sense that because here we are not just online platform the teachers the instructor is not dealing with only your group of handful of the students, but whenever he is designing keeping in mind all the whole lot of like crores of all across the global professional global students.

So, it is the so that means, the number of students is vast that is means for everybody. So, here the strength the size of the size of the audience increases enormously. So, that is it has become more challenging. So, when we are designing some e-learning courses we cannot limit it that we cannot think that we are just doing it for you know 1000 or the 2000s. No. It is you do not know we do not know how many students will be there. So, just think of for the complete that the whole you know whole universe you are designing.

So, that is it is become more challenging. So, how to improve this e-learning features? So, learning is based primarily is of course, for every learner even all even though is a e-learner etcetera for every learner learning is based on primarily his past knowledge existing knowledge prior knowledge and experience whatever he has got. So, existing knowledge and experience or you can say these are the primary the backups are already there the background is there. So, the primary prior knowledge experiences that the learner brings with them towards the e-learning platform or etcetera. So, on the basis of that they interpret the new knowledge.

So, whatever we already know about the content and subject etcetera our existing knowledge our exposure our experience on the basis of that we try to interpret understand the new concept new knowledge new course etcetera. So, we try to make it is a human tendency it is a general tendency. So, whatever whenever we encounter a new concept we try to interpret it on the basis of our past knowledge and experiences, but now so, that is why it is very much essential that the prior knowledge is very much activated. So, how the learners' prior knowledge can be very much activated. So, that is a the so, that is why by using the different metaphors by analysis using analysis mirror marking the parallels and the existing knowledge etcetera how can we improve this e-learning content e-learning you know e-learning impact e-learning performance outcome.

So, learning is idiosyncratic. It is very peculiar. It varies not only it varies from individual to individual again it also varies as per the nature of the subject it also varies as per as per the requirement of the target audience. So, learning is very peculiar very idiosyncratic. So, we cannot map it and put it fix it in a particular framework it is very individualistic and is very unique. Now, here you can say as the learning depends on learners prior experience and the previous knowledge etcetera on which we do not have any control because we are preparing suppose the preparing the content for the 1000 or the universe students, but we do not have any control about that past experience or past knowledge or prior knowledge we do not have. So, we have to make it in a you have to design it in such a hierarchical way sequential way that a 0 learner with a minimum prerequisite abilities minimum understanding or minimum basic knowledge about the content to the competent to the most talented or most elite students.

So, we have to organize it keeping in mind the range of diversity that may happen that may take place. So, that is why we have to cater to the thinking that all the all the universal learners are different and even though they are different how can it be made more comfortable and how can I customize the thing is to suit different types of learners and different types of not just learning styles, but different categories of learner. So, that is that the program that is where the program must offer the different perspective on the subject matter it is it cannot be like for example, I am designing a course it cannot be only confined to one subject content or one perspective or one hypothesis like this you have to put the diversity as a feature. So, here the program must contain the different pathways through different materials by using different tools different subject content different examples. So, we have to introduce. The instructor has to introduce the different perspective diverse perspective it is of the subject matter.

Now, then another feature is the learning is goal oriented. So, learning is goal oriented in the sense that when the adult learner approaches a learning approach the learning approach is that approach the learning it is very specific and objective in his mind if the learner is an adult learner. So, so they need to realize that these activities they undertake are related to real life requirements. So, when the adult learner selects a particular course. So, he has already he has already he has his own choices goals specific objectives in mind.

So, he just searching the different courses like going through the content going through the overview and objectives etcetera whether it actually perfectly matches with my requirement my goals and objectives or not ok. So, because why he is matching he keeps on mapping it because he thinks that whatever I will be learning from this course is going to be really helpful for me in the real life context. Suppose if it is a professional course. Yes, I know something things, but what exactly I need to know I want to know and this course must provide those things. So, that after going through this course I will be capable enough I will be competent enough to apply these things in my real life situation or work workplace etcetera. So, it is so it is primarily that is why the courses are primarily focused in a situated environment in a professional environment particular contextual environment primarily related to more problem centered environment more problems problem based problem centered area environment.

So, as a result so it has to be it has to be made more usable more effective for different groups different target audience may be that for different professionals because they are suppose they are working in a different field and it has to be more work related it has to be more application oriented. So, whatever courses we are designing. So, first thing is that we have to understand what are the what it is linkage with the real life situation it is requirements like requirements what could be the possible needs of the target audience who will be taking this course and it is primarily focuses on problem centered environment. Nowadays you can see the in the health in the health domain also in the medical profession also even like to enhance the self efficacy or proficiency of the doctors and the practice medical practitioners. So, you know videos or videos you know videos or videos like operational YouTube videos like the robots how they are actually how the operation is being conducted is being done by the experts.

So, those things video recordings and the YouTube videos are being displayed as a learning material to better understand the whole situations and for as because it is more related to realistic real life problems or real life situations. So, it in this way by adding the real life component or professional component or the situated environment learning environment etcetera it can be made more effective. So, learning is always goal oriented and through this how by how can we regulate and moderate and revise the approach towards learning learning towards this early learning resources and the modules. So, that it becomes more relevant for real life requirements and its efficacy also increased it is it is primarily focused on the resolving the problems of the environment. So, that is the contents are more real life oriented contents or the problem centered content and it results in more effective learning.

So, ultimately that that means, it enhances the abilities and competencies of the learners as well as the whole learning content learning context learning content everything has become very effective its impact on the learner is very effective.

So, learning depend learning depends on self awareness of course, learning whenever we are learning. So, every learner should think about not only what we are learning why I am learning

all these things how it is going to help me asking many questions to ourselves. So, it also here learning. So, learning depends on self awareness. So, here these are the basic principles of learning we should also be taken care of in the learning platform. So, here suppose when we go back and just focus on you know actual physical material relationship with existing knowledge application of this new information in our future needs. So, being self reflective and being self reflective being rational being objective and being being an activist etcetera we ask many questions to ourselves. So, that we will be very sure about its scope its opportunity its usability all these things.

So, learning depends on self awareness. So, in e learning also the same thing the e learner should also be should also be very will be self aware self reflective in the sense that by deciding by using the learning resources in a very effective way.

So, learning is social is the says that social constructive is they say that learning is very social even though its e learn in the online courses e learning even in the digital classrooms also it should also facilitate the social dimensions of learning collaborative learning mutual sharing of the knowledge mutual learning all this mutual learning sharing the learning sharing the discussions all the things. So, learning is also social in nature. So, that learning always constructs and reconstructs for the collective mass which even though you learn individually for your or at your convenient time or all together the result is that it should be it is also socially constructive people when the group of people they learn together they create the construct the new knowledge. So, learning is active yes definitely it is not just biologically physiologically when we are learning something some you know biological changes takes place in our neural network, but also active learning is very crucial for the successful successful e learning suppose we have enrolled our self in the learning, but we are not at all active we are not attending it we are very passive etcetera.

So, then in that case the learning cannot be e learning even that e learning cannot be very successful. So, so how to add these dimensions of more active learning. So, like for example, individuals preferences like individual learning styles their preferences how to draw the individuals attention how to enhance increase the interactivity how to you know satisfy their queries how to give them the feedback. So, how to how the even e learning environment context can be situated and many more innovative you know innovative use of practices simulations games gadgets all these things should be should be introduced to the to make it more lively more active. So, that every learner not only learns and participate becomes feel very active very energetic.

So, and in the for that for that matter also in e learning we we introduce multimedia animation videos nowadays new chat GPT then chat box chatbots. So, many new features are also being added AI again nowadays is the age of AI also AI very plays a very significant role you know in mentoring is like an effective mentor cognitive mentor tutor and LMS learning management systems. So, innovative features many. So, innovative features are being introduced to e learning to make it as interesting as human as real as possible. So, here ultimately the goal is that how to make it how to how the key factor is the meaningful use of interactivity.

So, here how to make this interactive interaction more useful. So, maybe there someone to how to analyze this thing how to synthesize thing how to problems solve the problem how to categorize it how to introduce the games because games also can not only involve the problem solving applications, but also it also games through using the games also we can make them learn because through game through games they manual dexterity they it introduces the humor

the sense of competence the sense of you know sense of you can say competence and it also enhances the patience. So, the so, how to that means, the how to introduce the new features to the thing. So, that we can maximally unleash the power of human mind how can we put it into this online platform e learning platform. So, capacity of the brain like for example, the dual coding theory says that visual we learn visually as well as the verbally.

So, so, dual coding. So, visual. So, how to use the visual clips and simultaneously identify the select the right words. So, that it enhances the understanding it ensures the deeper understanding. So, to how to expand the neural connectivity actively participate in the and how to engage the learners to actively participate in the experiences learning experiences and so, how to that means, even for example, even while designing the multimedia content e learning content we are we have to also take care of the you know load. Technology is a tool and it has it has it also when it we learn through technology it also create some kind of load some load that we use you know say it has a cognitive load. So, technology itself it is creates a kind of some kind of cognitive load. So, how to and how to minimize this irrelevant load, but how can we enhance the cognitive load how can we enhance the strategic or Germane loads effective loads you that means, positive load.

So, that it enhances our human capacity, but at the same time we have to also take into account the human capacity the brain's capacity. So, it has immense benefits. So, psychology agrees that on many benefits that the e learning offers for the learners well being in terms of flexibility, in terms of convenience, in terms of knowledge retention, in terms of use of interactive media, in terms of repetition, in terms of using the resources again and again mastery learning etcetera. But here another thing is that is how does the brain learns? As the individual learners varies, so, they are functioning of the brain their information processing their capacities their abilities their processing skills it also varies.

So, that has to be taken into account also because you know learning process learning as a process usually brain makes new connection because again it is a neural network it is a network that means, developing the new connectivity. So, how the process information should be presented should be presented given in such a way that it should not create burden on the brain's functioning rather helps them on the brain to establish the new connectivity new connections new connections and the new connections through which the learning can be more enhanced better remembered and retained for a longer period of time and its applications can also be increased with the. So, how the brain how through this the designs and e learning presentations contain the brain connectivity neural connectivity in the brain gets strengthened and it empowers the human mind to use those we use those connections for the better learning better understanding better retention and better usability.

So, that is the learning process starts with the perception these are the memory psychological processes that how progressively slowly it goes on from the simple attention simple perception attention to memory then different types of memory again while designing the e learning processes the short term memory sensory memory long term memory all these things are also taken into consideration because while designing the things because we are designing for the human designing the whole thing for the human mind for the human learner. So, we must take into account their capacities their abilities their disabilities.

So, even how can because ultimately the saving the material in the long term memory using it applying it analyzing it creating something more and retrieval. So, these are the important processes mechanisms. So, to facilitate those cognitive processes how should we design the

learning e learning content and resources.

So, these are the psychological principles of psychology principles of learning principles of human brain neuro psychology of the brain how the brain functions what are the capacities of the brains different processes all these things would be taken into account while designing the e learning content. Besides that there are also other factors that affect learning primarily the learner characteristics primary the learner's level of understanding learner's level of maturity learner's motivation, learner's attention span learner's abilities all these things I mean learners primary in the previous experience knowledge background all these things. So, these are the factors that affect learning. So, motivation is most important factor that involves in the learning processes motivation from the external factors like you know motivation because of certification because of the external rewards because of the external encouragement from the from the from the teachers mentors or family member that is that motivation of the external type and then internal motivation internal factors like the learner himself is very much keen to learn. So, self interest personal interest of the learners interest in the knowledge acquisition interest in learning new skills etcetera.

So, different factors can affect the learning. So, those factors should also be taken into account. So, we will discuss all these things in the next class. Thank you.