Course on Outcome based Pedagogic Principles for Effective Teaching
Professor Shyamal Kumar Das Mandal
Centre for Educational Technology
Indian Institute of Technology Kharagpur
Module 4
Lecture No 17
Lecture 17-Learning Style

Good afternoon. Learning styles. Here what do we do? We mainly do here the cold model and the Felder Silverman's Model. Now first what are learning styles? Learning styles are different methods of learning and understanding new information. One Learner style of learning is different from another learner style of learning. So as a teacher we should understand that the learning styles of the learners are different.

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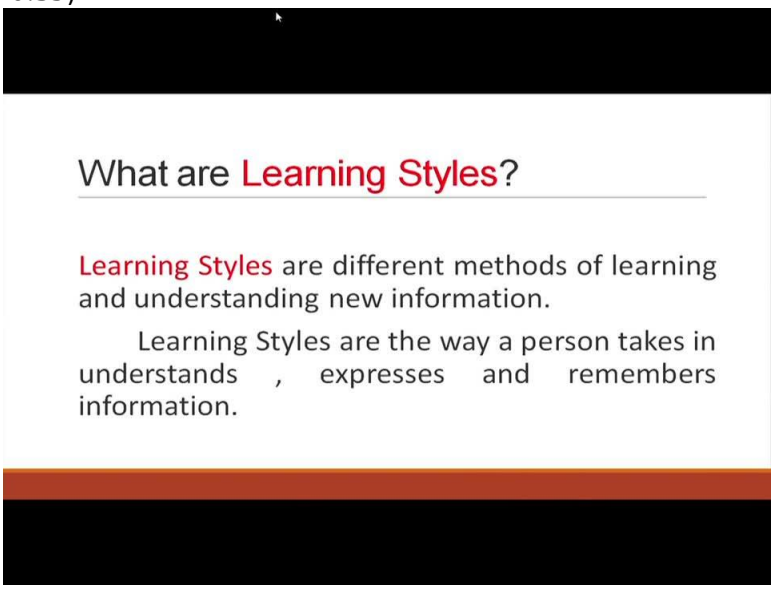

So learning styles are the way a person takes in understands, expresses and remembers information.

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So here in this picture this cooking we have to this lady she is taking step by step and she is cooking this vegetable. So she is following on the step by step method, but this lady you know what is she doing? She the picture idea of this cooking this vegetable it is in her mind.

So she is just cooking you know. So her style and her style, this lady style and this styles are very different, ok. One is following the step by step method, another is following the picture idea of that from her experience she is doing. So David Cole did his Ph. D in Social Psychology from Harvard University and he published and his principles of learning styles in the year of 1984.

Cole shows that how people perceive and process information through a learning cycles and a learning styles, will explain his learning styles and his learning cycles. So the learning styles, cycles it has the four processes and then he developed the four different learning styles. Now David Cole here he mainly number one he believes in constructivism, the six principles he and the experimental learning I will explain the what the six principles of learning he is following.

Learning is the process whereby knowledge created through transformation of experiences, from the experience only a learner is learning not the he is not believe in the outcome based but from the experiences he is giving importance to the experiences. And so Cole explaining ensure

learning theory, learning is the process whereby knowledge is created through the transformation of experience from the experience the knowledge is transformed.

Knowledge results from the combination of grasping experience and transforming it. So Cole experiential learning theory is recognized as launching the Model Learning Styles Movement. So Cole six principles of experiential learning what is that? Number one is that learning as a process, what is that? Learning is a continues process, grounded in experiences. So knowledge is continuously derived and tested out in the experiences of the learner.

Suppose you cannot you cannot do trigonometry if you do not know the algebra, right. So if you know algebra that you can apply in the trigonometry. So so how can you apply this learning as a process? It is the constantly building on previous content scaffolding. So this is that the learning as a process. The second point is the learning is relearning, what is that? Students ideas must be drawn out, discussed and redefined.

So it is you know it is a relearning, ok. Suppose I am cooking something so I am cooking coffee. In a different method I can improve. So from it is I am learning this method of coffee making, another you know so in a different way I can try. So it is nothing but a relearning. So in that case application we can is the group work we can apply, theory testing and the critical theonite exercises also. So it is a learning is a relearning.

Now third point is the emotional learning, emotional reflection. What is that? Learning request are resolution of dialectically opposed modes of adaption of the world that the learners must move between opposite modes of reflection and external feeling of thinking. Suppose what that? Suppose in the class suppose in the I am in the history I am teaching. In that case I can ask the of my learner that is anybody in your family is suppose I am in the history I am talking about the freedom fighting that time you know, is your anybody in your family is the freedom fighter so what is your.

So I can involve them you know emotionally and that is in that way they can and I will allow time for students to reflect. So after any discussion, I can discuss the and understand their emotional reflection. So have learner skipped journal. So that is very important in the emotional reflection in history, sociology anywhere in different subjects.

The fourth point is the holistic learning. What is that? learning affects the entire learner. The total holistic learner, ok uses a cross disciplinary curriculum. Suppose I am teaching economics right if I am teaching economics with that I can give I can see their maths background or if how, so because the mathematics and economics is related so total of the holistic things.

If I am teaching them English literature or I am teaching them social studies with that I am talking in the English grammar and these things. So it is like that the total one holistic approach. So in the cross disciplinary curriculum I can use. So always improve every aspects of the learner's education. So always I will try to improve the all the aspects of the learners education.

Environmental. Here any biological science or not only biology, in the engineering also in the environment how you are using, ok. So we should emphasize, as a teacher we should emphasize them. So learning involves interaction between the learner and the environment and how I will apply along time for experimentation in the environment where they can experiment and applications the learner's idea, learner will think on their own and they can apply it, right.

The last is the constructivism and Cole believe in that constructivism is that constructivism views that learning as a process in which the learner constructs knowledge they builds they constructs knowledge based on their past experiences. So knowledge is constantly building up on itself. So how application? You know account file we can see the different viewpoints, ok between the students.

So each student's experiences is constantly growing right. With the learner's experiences constantly growing and creating and the unit lens for the student. So these four things so whole experimental learning theory sets out four different learning styles or preferences which are based on four stage learning cycles, ok? What are those learning cycles?

One is concrete experiences, two the reflective observation, third one is abstract conceptualization and the fourth one is active experimentation. Now the just see here.

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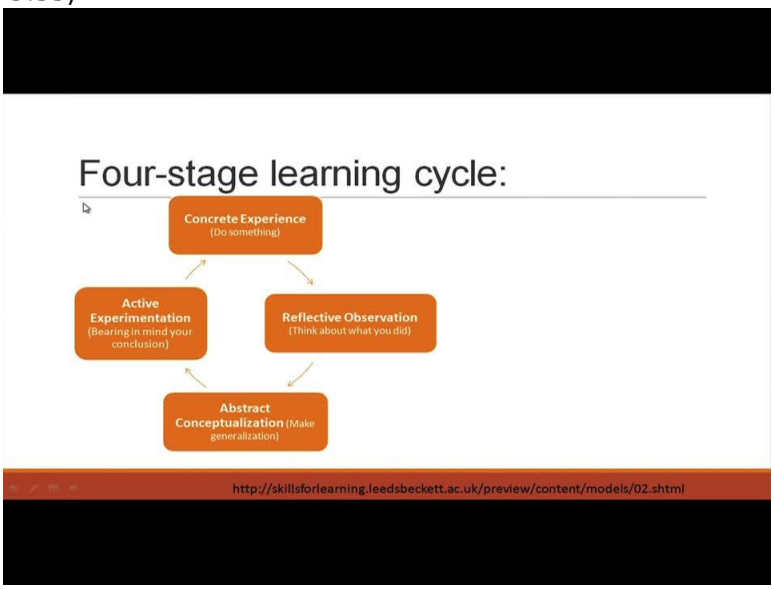

Here the four stage of learning cycles. The first is the concrete experiences, what is that? Do something. So here life is full of experiences we can learn from right. Whether at home or at the work or out and about there are countless opportunities for us to kick-start the learning cycle, so the first is to do it. The do things that is the concrete experience do something.

The next one is the reflective observation, what is that? 0it is nothing but think about what you did, you just think first concrete experience you are doing without thinking and here the reflective you know think and do it. So here reflection involves thinking about what we have done and experienced. So in that some people are naturally good at this but others train themselves to be more deliberate about reviewing their experiments experiences and recording them. So this is the second part.

The third one is the abstract conceptualization, what is that? This is the thinking thing means logical analysis of ideas and acting on intellectual understanding of the situation. So logically you are analyzing, this is the third part that is called the abstract conceptualization. And the fourth is the active experimentation it is just doing. So here ability to get things done by influencing people and events through action includes risk taking.

So I will just give one example, suppose learning to ride a bicycle, ok. So here reflective observation is that thinking about riding and watching another person ride a bike. You are

thinking and you are watching that another person is riding the bike. So this is the first part we call is reflective observation.

The second one is that the abstract conceptualization what is that? Understanding the theory and having a clear grasp of the biking concept. How you have to understand the theory and the concept. The third one is the concrete experiences, what is that? Receiving practical tips and techniques from a biking expert. You can ask that how you are doing this, how you are biking this thing. So if the practical experiences from the person and the last one is the active experimentation is that user leaping on the bike and have go at it. Suppose another learning algebra, here abstract conceptualization I can say that listening to explanations on what it is.

So this is the abstract conceptualization, concrete experience going the step by step through an equation that is the concrete experiences. Active experimentation is nothing but practicing and reflective observation is recording your thoughts about algebraic equation in the in a learning cloud. So these things now Cole learning cycles has one the one is the east west axis we call the processing continuum and the north south axis does the processing perception continuum.

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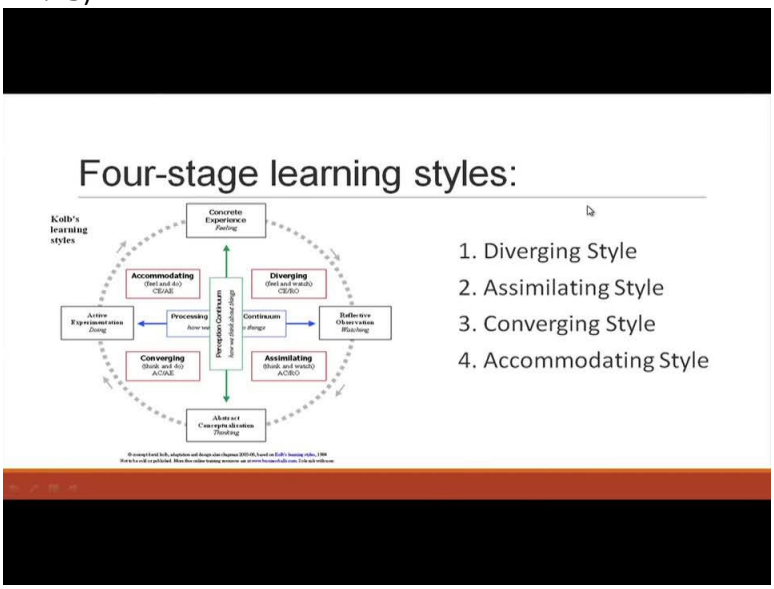

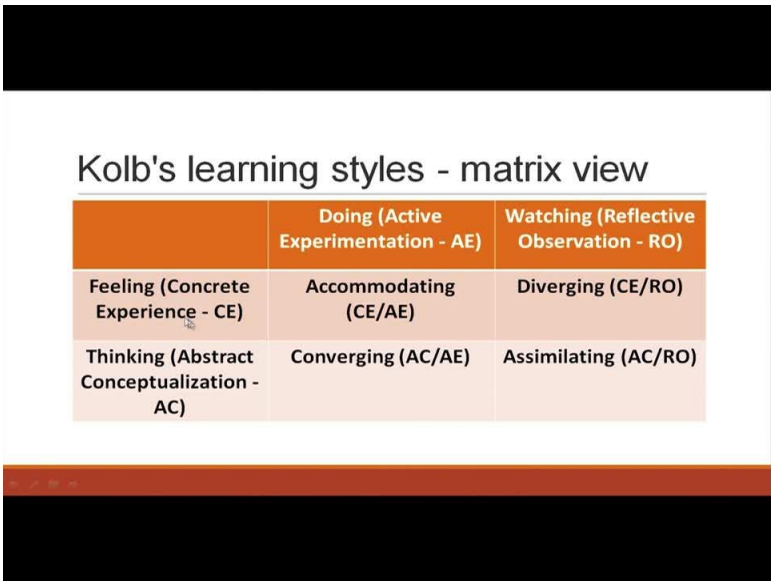

First I will see this picture here. Here just here the concrete this in this picture concrete experience is nothing but here, here four stage learning style just see the picture. Concrete experience and the abstract conceptualization, so this is nothing here and here the reflective observation and active experimentation that is doing. So here filling and watching, so here this is fill and watch this is called the diverging style.

Here reflective that reflective observation that is watching and abstract conceptualization that is thinking in middle we call that assimilating cycle. Assimilating cycle means think and watch. This side active experimentation that is doing and abstract conceptualization that is thinking in the main here this is converging style that is thinking and doing.

And here concrete experience that is filling and active experimentation that is doing here accommodating that is fill and do. So there are four different learning styles, diverging style, assimilating style, converging style and accommodating style. So here in that matrix I can see here filling experience concrete experience doing active experimentation so accommodating is CE and AE. Watching that is reflective observation here filling and watching that is diverging styles.

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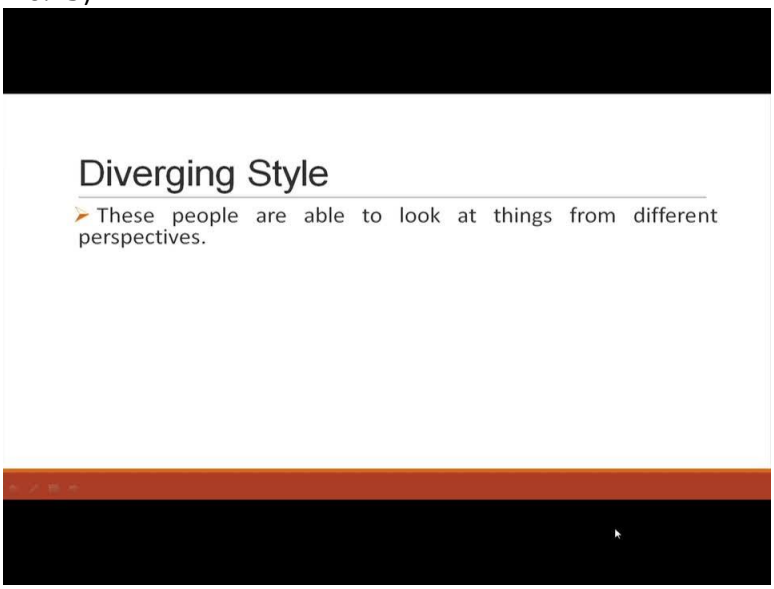

Thinking and doing that is converging styles and thinking and watching that is assimilating styles. Now I will explain now what are the different styles, ok. The diverging styles here these people are able to look at things from different prospective they are sensitive. The learners who are in the diverging styles they are very sensitive. They prefer to watch rather than do.

Tending together information and use imagination to solve problems, they are best at viewing concrete situations several different viewpoints and these people inform better in situations. That require ideas generation for example brain storming, right so these are the diverging styles. Now the assimilating styles what is the assimilating styles? They prefer the learning preference to be the concise logical approach where ideas and concepts are more important than people, ok.

They these people require good, clear expansion rather than practical opportunity. So they just want clear explanation, they excel at understanding wide ranging information and organize and organizing it as a clear you know logical format. And people with this assimilating learning styles are less focused on people and more interested in the ideas abstract concepts, they are most interested in that.

So people with this style are more attractive to logically sound theories than approaches based on the practical value. The third style is the converging style people with converging learning styles can solve problems and will use their learning to find solutions to practical issues. So they prefer

technical tasks and less concerned with people and inter personal you know inter personal aspects.

So in that case they are best in finding practical users for the ideas and theories, whatever the ideas and theories you know the assimilating styles their belief but in the converging styles they only they are they just you know based at the finding the practical users for these ideas and theories. And they can solve problem and make decision by finding solutions to questions and problems. They are asking questions, the problems they are you know like that.

So people with this converging styles are more attracted to technical tasks and problems then the social and interpersonal issues. So these are the converging styles. The fourth one is the accommodating style, what is that? The accommodating style is the hands on believe and they they realized that on you know intuition they just believe in the intuition rather than the logic.

So these people use their people analysis and prefer to take practical and the experimental approach. So they are attracted to the new challenges and experiences and to carrying out plans and they commonly act as a get instinct you know rather than the logical analysis. So people with these accommodating style, learning style will tend to rely on others for information than carry out their own analysis. So these are the four learning styles according to Cole.

Now we will go to the learning styles at the Felder Silverman's Model. The Felder Silverman's Model identify five different types of learning styles. One is the processing, there in the processing two parts, one is the active learner another the passive learners. The perception from the perception point of view two different styles, one is the sensory learner another is the intuitive learner.

From the input point of view, one you know the visual learner another is the verbal learner. From the understanding point of view, some are the sequential learner and some are global learner. And from the organization point of view you know some are inductive learner and some are the deductive learner. So there in the net you will get if you will just give a search the questionnaire will come, so from that questionnaire you can get the index of learning styles (()) (21:55) if a write Felder Silverman's Model it will come.

So you are students, you can find out what type of learning styles they are they prefer, ok. So there are many measures of the learning styles but here one we are considering this here the Felder Silverman's Model that is the index of learning styles. The ILS it is developed to help the students and teachers you know of the undergraduate sciences and engineering courses and there already I mentioned that these different learning styles are there.

So the active learners. Who are the? The active learners tend to retain and understand information best by doing something active on it. They are doing it and they are learning it, so this is the active. So discussing or applying it or explaining it to others. So they are actively they are very involved, so these are the called the active learners. So their main aim is the let us try it out, ok and how it works? So they are the active in an active learners phase.

So they prefer group work. In the group work they do work, actively they are participated so they are active learners and they find this is difficult to sit just in the lectures and taking the notes, it is really difficult for the active learners, right. They just want to do that, ok.

So when you are teaching you have to understand that the few are active learners. So for that you after teaching you can give them this work you do it, or this assignment or this problem do it, then they learn quickly. But the reflective learners they retain and understand information best by thinking about it first. Not they do not believe in the do thing they just think it, so they are let us think it through first.

So they prefer they do not love group work, they just working you know they prefer working alone. They are just thinking and they do it. So they need thinking time during lectures. So after the lectures you should give them sometime ok let us think it, ok and then discuss. So this is you know the reflective learners they prefer that only the lectures and after that you should give them some thinking time.

But the sensing learners what is that? Let us like to learn facts. So like to solve the sensing problems using well established methods and you know dislike complications and surprises they do not want that, they do not want any surprises. They just solve the problem well established methods and they tend to be you know patient with details and are good at memorizing, ok.

And facts and they do you know hands on work and they are they are very good in the lab work, or in the project work and in that they tend to be they are more practical and they are very careful. They do not like the courses that have no apparent connection to the real world. Because where they can apply right.

So in that in the real world where they can apply that these learners they prefer there, but intuitive learners they prefer discovering possibilities and relationships. So they like innovation and dislike repetition the same topic they do not want they do not like repetition, may be better at grasping a new concepts very fast and are more comfortable with abstract material and mathematical formulation.

But you know they intuitively they learn it, ok. But they tend to work faster and more innovative but they may be at the careless mistake they make do in the they understand very the total idea they the total concept they can understand but you know in the exam time they can do mistakes.

So they do not like courses that involve you know that the memorization and the routine calculation that they do not like. The visual learners most of the people we are visual learners, ok. You learn best when the information is presented visually from the any power point the point this things you learn in a visually you learn best text books and class notes, list of essentials point.

You know after these points you have to cover, if you mention those points you know the visual learners they are ok these points they can keep it in their mind. So color coding and highlighting, ok. Summarize the key information. So visual learners they remember what they see the pictures, the flowcharts and you know timelines, films, demonstration they really all we are visual.

So the verbal learners get most out of written and spoken explanations. Benefits from writing summarizes or outlines of the course material and the working in groups you know here the classmates explanation sometimes with the classmates the verbally they understand that the verbal learner they do.

In most college or classes very little visual information you know is present in the remote only they can use in the remote suppose rural school only they can use the black board, so they have to mainly so the students have to listen the lectures and read materials, ok written on then chalk

boards and in the text books like that but (unfortunate) already mentioned that most peoples are visual learners which means that most students you know do not get nearly as much as they would if more visual presentation were used in class.

So and good learners for them it is visual or verbal they just learn. The sequential learners, what is that? The learners gain understanding in small sub sequential logical steps, this after that this step after that this steps after that in the they just prefer you know step but step so they tend to follow the logical step wise points while problem solving.

So may not understand, you know the material fully right but they are still able to solve the problems and pass the test. So in that case may know a lot about the specific aspects of the subject but may have trouble you know relating them to the different aspects of the same or different subjects. The step by step only they can do, ok they may not relate to other subjects or like that. But a global learners you know the learners seems to learn a large jump, absorbing the material almost randomly and without seeing the connection but they just getting it, ok.

So it is that may be able to solve the complex engineering problems, complex different problems very quickly or put things and together in the novel you know that this is the answer. But in the step wise there may not but the totally you know they can do it. So the strongly the global learners may have severe difficulties in solving problems when they have not grasped everything, ok.

So may have difficulty in explaining you know the knowledge but as a whole they can do it.

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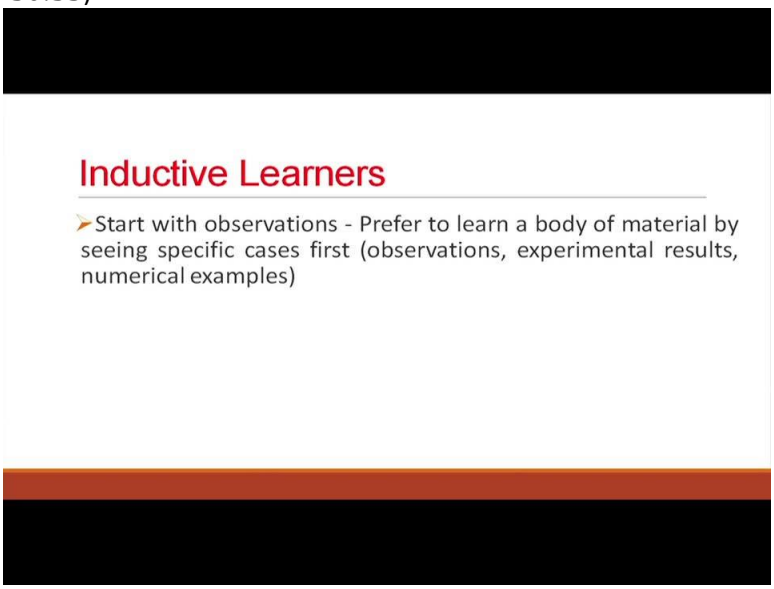

Now the inductive learners is that the starts with observations prefer to learn a body or material by seeing specific cases first. You know the observation, experimental results, numerical examples and they prefer to begin you know with general principles and to deduce consequences and applications.

They infer, explain natural human learning styles and the deductive learners they starts with the principles deduce. So this is the last part the deductive learners they start with the principles they deduce, derive and this is so. In this lecture we understand the different types of learners are there, their different learning styles are there and in the next lecture I will tell you the different types of learner from the learning approach point of view, ok.

This is the different types of learner from the learning styles point of view but in the next lecture learning different learners from the learner approach point of view there are deep learner, there are surface learners and there are achievers, ok. So this is for today, thank you.