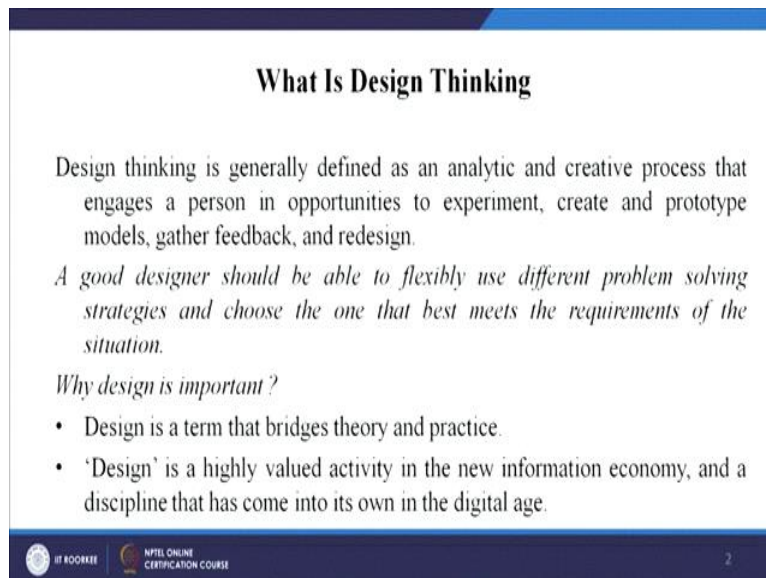


**Training of Trainers**  
**Professor Santosh Rangnekar**  
**Department of Management Studies**  
**Indian Institute of Technology Roorkee**  
**Lec13**  
**Design & thinking in training**

I want to discuss with you another very good topic of which you can use of or for the training purpose and that is about the design thinking. Nowadays whenever you talking about the challenges and issues, when we are talking about the solutions and in the solutions are with the creativity and innovation and in the creativity and innovation, it is very, very important that is our employees, they are having the approach of design thinking.

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**What Is Design Thinking**

Design thinking is generally defined as an analytic and creative process that engages a person in opportunities to experiment, create and prototype models, gather feedback, and redesign.

*A good designer should be able to flexibly use different problem solving strategies and choose the one that best meets the requirements of the situation.*

*Why design is important ?*

- Design is a term that bridges theory and practice.
- 'Design' is a highly valued activity in the new information economy, and a discipline that has come into its own in the digital age.

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2

Now, when we talk about the design thinking, so first we have to understand what a design thinking is? Design thinking is generally defined as an analytic and creative process, we are living in an information era and in the, you the one search word and you will find one lakh thirty-one thousand eight hundred and sixty-two and blah, blah, blah, blah, this type of the websites are there. Now what is required that is the, which is the most appropriate website for me that you have to see and therefore in that case, you can save your time and if you are a good analyst, analytical jobs, if a person along with his job knowledge, along with his HR skills, if along with his conceptual skill, he is also having the strong analytical skill, then definitely he can be a good thinker.

So, therefore the analytics is there, but what the analyses gives? Analyses gives you the results. Now this interpretation of results that is call the discussion and that is the intellectual capital of an organization. It is the question of the brain that is the person is able to make the interpretation properly or not, because thanks to the technology, so they will do the analyses, they will give the results right, person without going into the depth he will get the results, but the results will be accurate that is true, but are we able to make the application of human brain properly on those results and that is a creative process because every person on the basis of his understanding he will interpret this particular responses.

That engages a person in opportunities, better you are able to interpret better will be the opportunities to experiment, to create an prototype models, gather feedbacks and redesign, a wonderful concept and in this concept, you will find that is through this particular analysis you will start the experiments, whatever results you are getting you will start the experiments and not only the experiments, you will create an prototype the models, the models will be developed, a very simple example is this that is when we are using the analytical software's in the Ph.D. programs may be the SPSS or the other softwares.

Then in that case what is the result is coming on basis of when you are creating a model using the structural question modelling and all, then it becomes the individuals, the original contribution and then he will be able to interpret, what he thinks? And then accordingly he will decide, he will gather the feedback, what feedback is there? He will gather the feedback and then on the basis of the, if the feedback because it is not only on the quantitative analysis, he has to also consider the qualitative analysis, I have discussed this in my earlier module of the research, research approach in training and then in that case you will gather the feedback and then you can make the changes in your model.

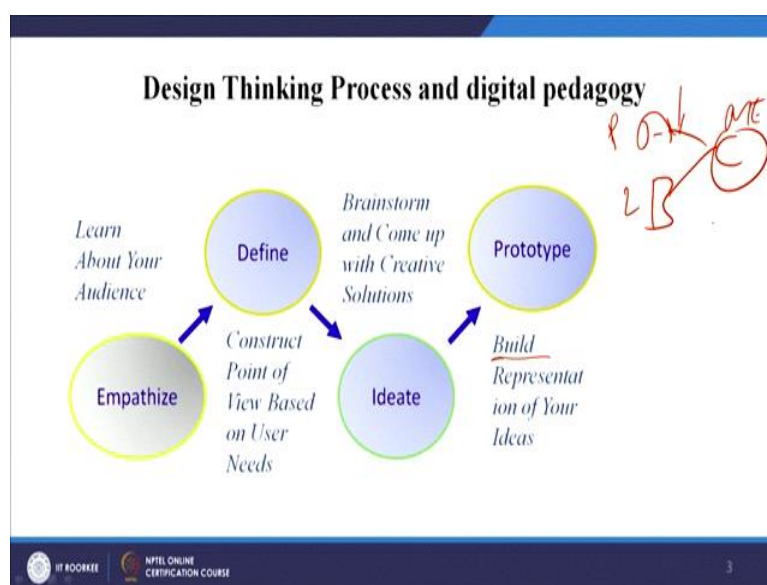
So whatever results are there, you are creating the prototype, you make the experimentation, in experimentation you find there are some other dimensions which are required to be the considered you can redesign that, a good designer should be able to flexible use different problem-solving strategies. Every strategy will not be applicable to the similar type of problems, even for the similar type of problems different strategies are to be applied and therefore in that case there will be the problem-solvings strategies and choose the one that best meets the requirements of the situation and according to the situation they will be able to meet this particular requirement.

So here when the design thinking we are talking about, it is not only flexible, it is not only suggesting the different strategies, giving an stimulus to think differently, so different strategies and choose the one best strategy that meets the requirement of the situation. So you recall the decision-making model and decision-making model also wherever there is a problem, identify the problem and through that problem what we do that is we create the alternatives as much as possible, that is the flexible strategies, what strategy will be applicable to this particular problem? Whether it is a social or political or economical or legal or technological, whatever the spelt approach you make the use and then you find out the best suitable strategy that will meet this particular problem.

Why design is important? Design is a term that bridges theory and practice and therefore in that case, it is the whatever the model you have designed, suppose you are talking about one independent variable, one dependent variable, you are talking about the managerial performance, you are talking about the incentives, then in that case you are creating a design, monetary incentives, nonmonetary incentives then you are using whether there is a mediator, a moderator role is there and then you are coming out with a particular model that is a design.

A design is a highly valued activity, ultimately every research should come out with a design, a model is to be there, so that the model will talk about that is at the field work how it will be applicable, this concept will be applicable. In the new information economy and the discipline that has come into its own in the digital age that we have to see.

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So in design thinking process and digital pedagogy what is becoming is that is the empathize, first and foremost is that is the, we have to understand the properly by the empathizing a particular problem, what does it mean? That is, you are going to learn about your audience, in case of the training what is most important is this? That is, who are the trainees? Who is your audience? What they want to learn? That focus is very much clear and therefore, in that case that is the empathizing with the training is the first and foremost skill learning will be there.

Once you learn that what they want to learn and then you define, define means the contents, whatever the contents you are making, then the construct the point of view based on the user needs because you understood from the empathize that is what the trainee needs and on basis of those needs you have to make the construct point that is the okay, this is the brochure, this will be the contact and this will be the user needs and therefore we will be focusing, we are framing the objectives that this will be the need of this particular audience group.

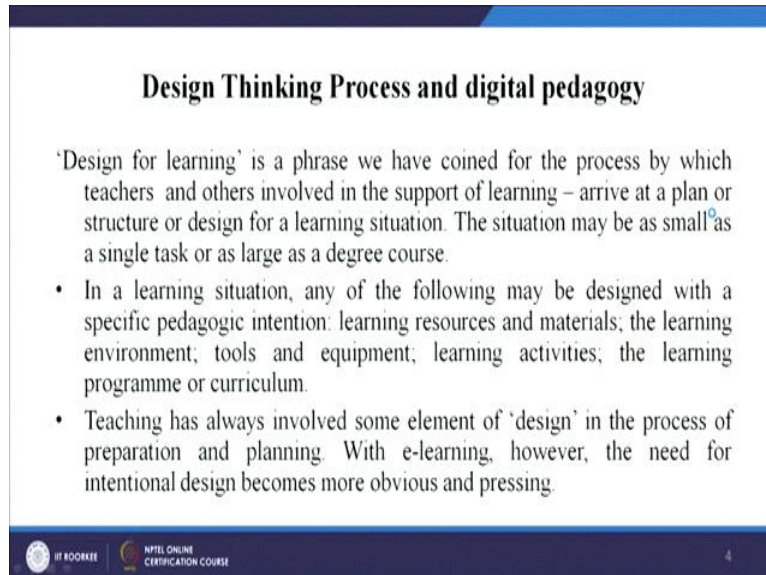
Then we will go by the ideate, ideate means brainstorm, I have discuss one session on the brainstorming on also that is how one can moderate the brainstorming and then come out with the creative solutions. Simple example you have must have seen in a when I have discussed about the case study analyses and during the case study analyses there also, there is a brainstorming and that the groups are syndicate method is used, there will be the group of the people, participants and then they we will discuss on that particular problem and then they will come out with the creative solution, what should be the creative solution?

Once you are come out with a creative solution, then you have to prototype that particular solution, prototype means build the represent ant, representation of your ideas, for example you want to create a particular model, then in that case this particular, the building representation of your ideas, you may say like this A and B both will go for the C and then here there will be the any role of the other dimensions, so therefore, in that case this prototype are the designing the model which has been created, so if here we talk about the managerial effectiveness and we talk about the role of the personality and leadership, that what will be the role of personality and leadership on managerial effectiveness? One model has been developed.

Now, this will be having the different dimensions, on basis of the, this dimensions they will come out with the dependent variable, so that is a prototype will be develop. On basis of the prototype you will making the testing, now this particular model whatever has been designed in that case, you have to go the testing at the workplace, so does really the personality and the leadership they are making the difference on the managerial effectiveness and then you will

go to the organizations, you will take the survey, you will find out, you will make applications there, may be as a project, or maybe as a consultant that you will go through this particular ideas and then on basis of that you will be coming finally the design thinking process and digital pedagogy.

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**Design Thinking Process and digital pedagogy**

'Design for learning' is a phrase we have coined for the process by which teachers and others involved in the support of learning – arrive at a plan or structure or design for a learning situation. The situation may be as small as a single task or as large as a degree course.

- In a learning situation, any of the following may be designed with a specific pedagogic intention: learning resources and materials; the learning environment; tools and equipment; learning activities; the learning programme or curriculum.
- Teaching has always involved some element of 'design' in the process of preparation and planning. With e-learning, however, the need for intentional design becomes more obvious and pressing.

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So, designed by learning is a phrase we are coined for the process by which the teachers and other involved in the support of learning like the trainers, arrive at a plan or the structure design for a learning situation, so therefore is a simple example is designing a training program, that is how your design your training program, we have discussed about the brochure but then we have to talk also about that is what will be the situation? The situation may be as small as a single task or a large as a degree course, so therefore it can be related to a particular small assignment or it can be related to the overall co, designing a course curriculum.

In a learning situation, any of the following may be designed with a specific pedagogic intentions that is the learning resources and materials, that is how you design your material and learning processes, learning techniques and methods, then learning environment that is what will be the learning, enabling conditions, enabling conditions means that is the not only the physical conditions that is the noise free conditions.

But it will be also having the allowing people to ask the questions, let them understand, let them share their knowledge, in the panel discussion if you recall in that particular module I have talked about that is the how you can make the use of panel discussion to extract the

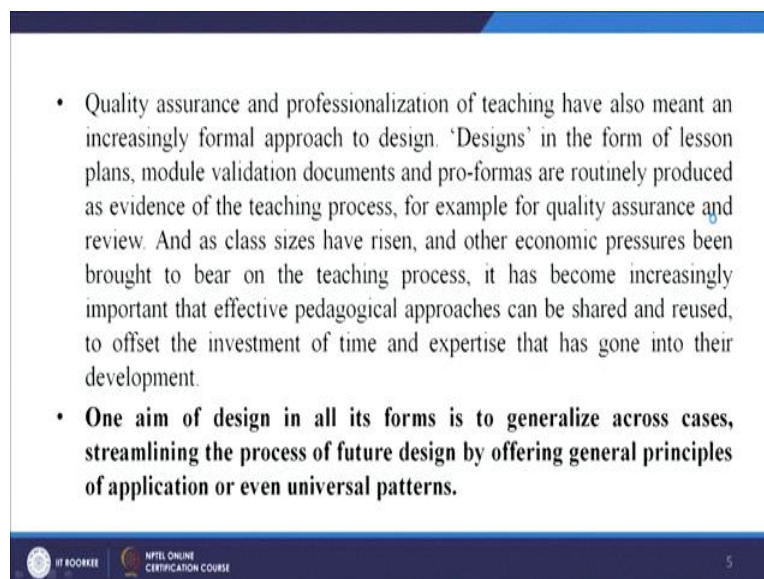
knowledge from the trainees and let the other trainees, peer learning let that happen, so therefore this will be the learning environment which we create in the classroom.

Then the tools and equipment's, that what mechanism we are going to use? Maybe the survey methods and therefore there can be a question I have, that will be the tools and equipment, learning activities, like the group activities or business game, so that is also that can be there, that is why, in every trading program we talked about designing the materials, we talk about the creating the environment, we talk about the brainstorming, group discussion, panel discussion, making the survey methods that is the questionnaire are given, skills are distributed, interpretation of that, then the learning activities, business games are included.

So that the people by learn with the activities and the learning program are curriculum that is designed, on the basis of this different sessions are there. Now that we have, on the plate from of the University of the training and development, announce the programs that is the training of trainers TOT, so in that particular program that is the, the other trainees can ask directly the questions and they can be discuss in length about the particular issues.

Teaching is always involves some elements of the design in the process of the preparation and planning, like session plans, so therefore we have to plan the sessions, now how much time you will distribute, what will be the content? With e-learning digital pedagogy, in the need for the intentional design becomes or the more obvious and the pressing, that I have discussed at the time of the design thinking.

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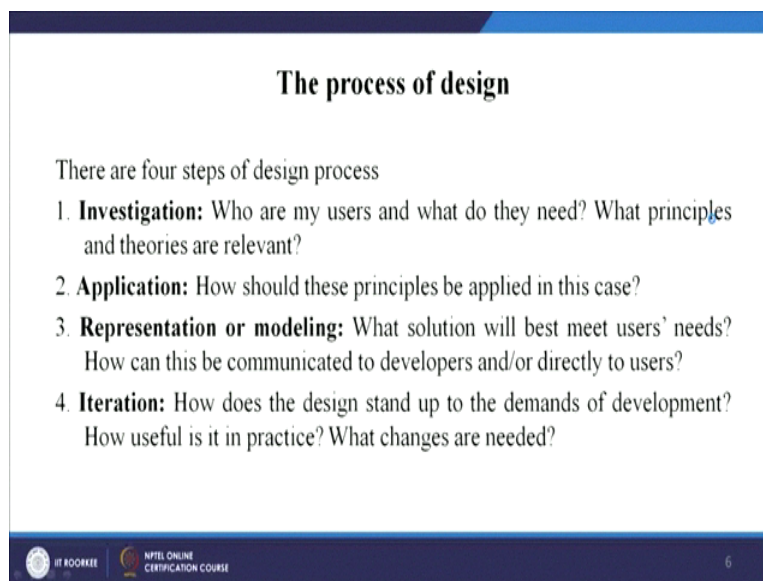
- Quality assurance and professionalization of teaching have also meant an increasingly formal approach to design. 'Designs' in the form of lesson plans, module validation documents and pro-formas are routinely produced as evidence of the teaching process, for example for quality assurance and review. And as class sizes have risen, and other economic pressures been brought to bear on the teaching process, it has become increasingly important that effective pedagogical approaches can be shared and reused, to offset the investment of time and expertise that has gone into their development.
- **One aim of design in all its forms is to generalize across cases, streamlining the process of future design by offering general principles of application or even universal patterns.**

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Quality assurance and professionalization of teaching have also meant an increasingly formal approach to design. Designs in the form of lesson plans, module validation documents and the pro-formas are routinely produced as evidence of the teaching process, for example for quality assurance and the review we are using this type of the designing process and as a class sizes have risen, now the suppose in the class there are 80 students and more and other economic pressures have been brought to bear on the teaching process.

It has become increasingly important that effective pedagogical approaches that can be shared and reused and that, therefore, there is the role of the design thinking, so there, if we are making the proper investment of time and expertized it that will go on into their development, one name of design in all this form is to generalize across the cases and stimulining the process of future design by offering general principle of application or even universal patterns.

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**The process of design**

There are four steps of design process

1. **Investigation:** Who are my users and what do they need? What principles and theories are relevant?
2. **Application:** How should these principles be applied in this case?
3. **Representation or modeling:** What solution will best meet users' needs? How can this be communicated to developers and/or directly to users?
4. **Iteration:** How does the design stand up to the demands of development? How useful is it in practice? What changes are needed?

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So there are the basically the four steps of the designing, the investigation, who are my users and what do they need? What principles and theories are relevant to them? Applications, how should these principles be applied in this particular case or in this particular training program? It will vary from the one training program to another training program, representations or the modelling, what solution will be the best meet users needs? If the program is on the change management, then definitely what will be the solutions that they will be looking for? How can these communicated to developers and directly to the users? So that the process of the communication and that will be making the mode of the understanding in a better way.

Then the iteration, how does the design stand up to the demands of development? Whether, whatever we are talking about the individual development, career development, organization development does it meet or it does not meet, how useful it is in practice, it is should not be the only theoretical, the design model should not be such that which is practically not give you a, one cannot implement because the conditions which you have put on this then that will be a difficult there, so practically may not possible, so that you have to check and the what changes are needed to go for this particular design thinking?

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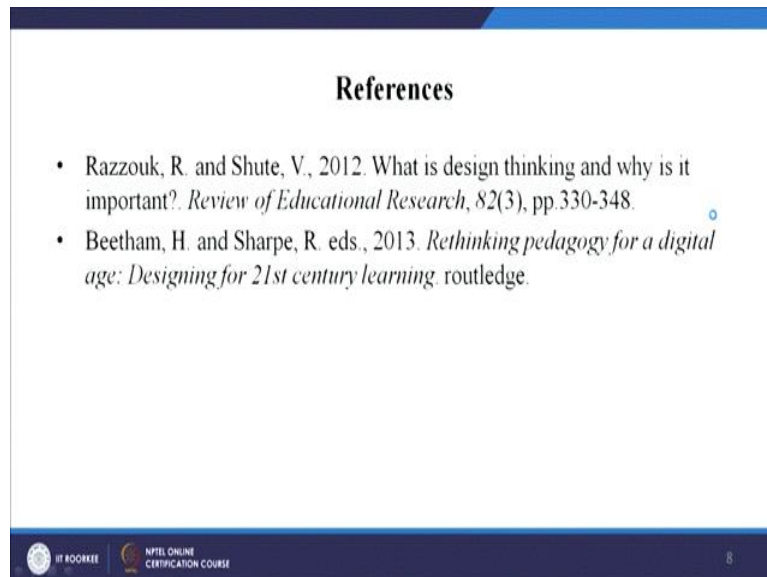


So when we talk about the design thinking and the learning wheel, this becomes very, very important, that when we talk, the learning wheel, the first and foremost is that is the how we are connecting the learners? So therefore three modes of the deliveries are there, technology, enhance learning is there, best features of the traditional face-to-face interaction is there and the save directed learning is there.

This we can attempt with the help of the four modes of engagement, we can go with the collaboration, collaboration between the learner and the trainees, then the learning content, that is very, very important, that is what they are going to learn, that is making the useful and practical, third is that is the how do you communicate with them, so therefore whatever the contents are there that you are communicating to them and finally, that is assessment, that is the if you are able to make it the proper assessment, when you learn, that is how do this particular learning process that has to be documented, that has to be submitted, that has to be evaluated.

So your assessment process is to be very, very much technical, as a result of which with this four modes of engagement as I describe in this learning wheel, there you will find that is the, this there will be three modes of delivery technology, enhance learning, best features of traditional face-to-face learning and the self-directed learning will be there.

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So, these are the certain references, whenever you are talking about this design thinking which I have referred, for to share with you and creating this particular session, so this rethinking pedagogy for the digital is designing for the 21<sup>st</sup> century learning, this will be really a may good help for us, that is to go through this and learn that is the sum concept.

Which will be helpful us to create a design thinking and use of the digital pedagogy also making the proper communication and proper collaboration, basically with the learners, with the teachers that is the trainers and trainees and then as a result of which if we go with this rethinking of the pedagogy and then we connect it with the design thinking, I am sure that is the whatever our objective is there to teach or to train, then definitely that will be very much practically possible, so with this I complete this particular session here. Thank you.