

Culturally Responsive Built Environments
Dr. Ram Sateesh Pasupuleti
Department of Architecture and Planning
Indian Institute of Technology, Roorkee

Lecture – 39
Pluralism in Built Environment Education

Welcome to the course, Culturally Responsive Built Environments. Till now, we have talked about a variety of context of culturally responsive built environments, starting from the scale of a small dwelling to the scale of a large settlement and even much bigger the landscape of imaginative landscapes. So, today we are going to cover about in the education especially in the built environment education; how what are the issues we do have in understanding the culturally responsive built environments. And also how we can make as a teachers, how we can make students to understand better the culturally responsiveness in the built environments.

So, I have titled this lecture as pluralism in built environment education. In fact, one of the important contribution on this aspect is (Refer Time: 01:25) comes from school of planning and architecture, Bhopal's journal *spandrel* the very first issue which was issued in 2010. And that was focused absolutely on pluralism in built environment education. So, it covers a very wide range of holistic and philosophical aspects of the architectural education, and also the practical issues within that.

So, I will be covering a few of it. At the same time, I am also going to cover about one of my Ph.D. scholars ongoing work, I will be showing some of his literature work what he was working on, and then my own experiences I club into how I have started working on to it through these learning's. So, this is how I am going to frame this lecture.

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Pluralism means

- Holding more than one office, esp. and ecclesiastical office or benefice at a time.
- A form of society in which members of minority groups maintain their independent cultural traditions.

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So, if you look at the dictionary meaning the pluralism means, holding more than one office especially and ecclesiastically office or benefice at a time. The second meaning talks about a form of a society, in which members of minority groups maintain their independent cultural traditions. So, why I brought the second meaning is, that is where it talks about how these smaller groups also maintain their independent cultural traditions. At the same time how they are also having a kind of network and the connectivity and how they work together. So, that is how we try to relate in the architectural education.

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In architectural education, if you look back from the roman times the master builders they are the master builders. There is no technical qualification of architecture or engineering they are all the master builders, artist and if you look at dome and even the Vatican City huge plazas in the Michelangelos work, you look at the Brunelleschi's work when I was visiting in (Refer Time: 03:20) I come across this small drawing of Brunelleschi's drawing of the (Refer Time: 03:25).

And I was very much impressed you know the kind of proportion the kind of understanding of that scale and the proportion the way the people have imagined of that time, with that kind of scale and proportion and human scale into it. And, it was really superb, in it without any computer simulations and without any you know architectural any other tools. So, it just a human mind the intellect which has imagined all such global spaces. If you move on to the modern trends of architecture that is, where we talk about Frank Lloyd Wright, Louis Khan.

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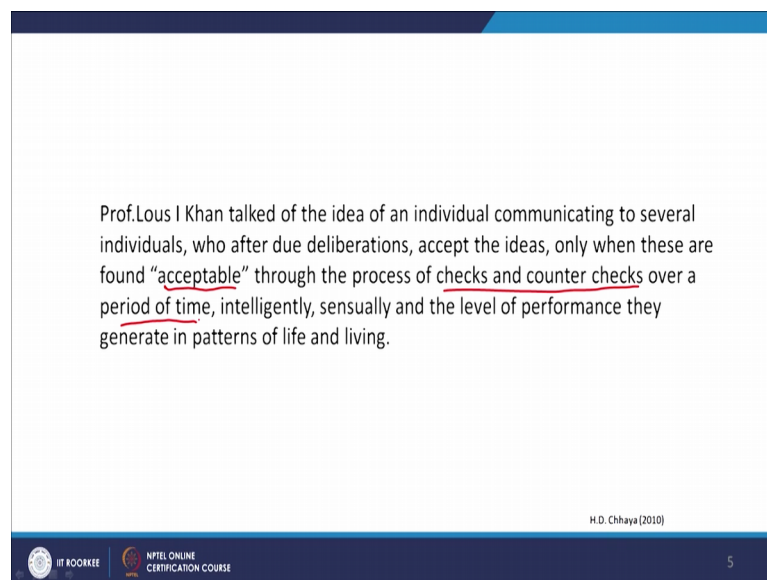
Furthermore, Chandigarh Le Corbusier works so in fact, there are some few photographs where I could get from internet of Frank Lloyd Wright with his students you know. So, there is a master and how he interacts with the students, and how they learn from him and he becomes a kind of a role model of you know how to work on and how to learn.

So, that was a system of education. In fact, H. D. Chhaya in his article in Spandrel, he talks about he brings the Louis Khans quotations of schools began with a tree with the

man under a tree, who did not know he was a teacher discussing his realizations with a few who did not they know they were students. So, it is basically the mutual interaction between a teacher and student and neither a teacher is not understand, he is not aware of that he is a teacher and the student is also not knowing that he is the student.

So, that their realizations have shaped beautiful experiences and learning's. And in today's world you know if you look at it in that time the students used to look up on him. And they used to see you know even the child their children need to follow up on their masters. You know that kind of respect and ideologies do take care. But now in today's, generation that whole classroom environment is now standardized and that whole intimacy has gone is mostly forgotten.

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So, Louis Khan he talks about an idea of an how an individual communicating to several individuals. Because you know it talks about the capacity of how one communicates his ideas and after due deliberations accept the ideas. So; obviously, you communicate your ideas and you might have to deliberate up on the ideas. And only these are found acceptable sometimes it may not. Through the process of checks and counter checks over a period of time, intelligently sensually and the level of performance they generate in patterns of life and living.

So, what he talks about is a kind of communication how you interact how an I become we, you know. So, and how one individual start interacting with his society learn their

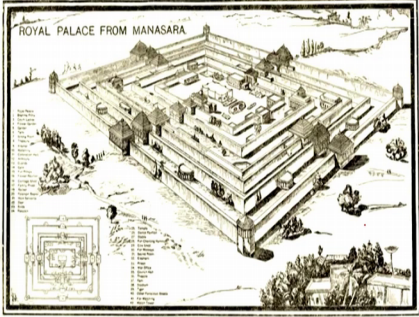
needs and how they deliberate upon it, how we convince it. And how it is acceptable and through a trial and error process how it how it is realized further.

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So, from that if we move on to much more further of bringing into the cultural context and the environmental context, if you look at the Renzo pianos work the Jean Marie Tjibaou cultural center, which was a kind of it was built on the kind of for a connaught tribes. And what it is representing is you know though the architect might have been skilled in a different continent and different contexts, but then how he is representing the local context of it the cultural context and the environmental context, and blending with nature. And that is where the vernacular process how he understood that and how he blended with the kind of modernized understanding.

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Text into Form
Dwelling, Cosmos and Design Theory
in Traditional South Asia

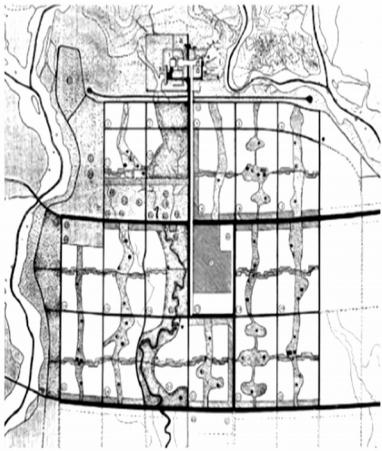

as depicted in Acharya
(1946) showing nested quadripartite plan.

Bonnie G. MacDougall

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So, I think in our previous lectures, we did also talk about how our traditional principles of town planning which have talked about the generic layouts of the bazaars and the towns, and especially with the Bonnie MacDougall's work in Text into Form where he talked about the Sinhalese traditions, and the Tamil traditions in the Manasara what they have talked about. So, how this hierarchical order how the society has been represented in the special orders. So now coming to the post independent era of Indian planning and architecture; so, if you look at the Chandigarh.

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Planning the Chandigarh

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That is why the democratic thoughts and how different philosophies, we know, when we talk about architect it is not just an artist who can become an architect. And it is not just there is an engineering component in it, there is a sociology component in it there is a geology component in it, there is economics component in it. So, this all together you know that is how it contributes that is where the pluralism. You know they are not individual on their own, but they contribute to the whole set of a building as a product as an outcome you know. So, that is where how different professions has to correlate with it.

So, but in the present context, if you look at it when we are planning for any kind of settlements or any habitat level works, and much of the work has been mostly talks about the engineering or the service orientation or the architectural aspect. And maybe it marginalize to economic aspect of it, but the lot of things which we can learn from the geography sociology and because that is where we study about people. You know how people what kind of things people need an aspirin how they relate how change is addressed.

So, this is where we talked about Chandigarh, you know how to sectoral planning approach has been developed and more of the standardized models and application of that new technology of the prefab and concrete technologies. So, if you look at the way the architect work this is the drawing board, and this is the live models the physical models which they used to visualize. So, just come from Brunelleschi's sketch and today, what we are working in the Chandigarh is about. So, basically the whole stretch we are talking about the physical manifestation you know.

So, people are drawing drafting things people are detailing it out, but that is where, when we today we are talking about urban design and many new courses are coming into the picture and sometimes the very many of the courses they do exist for a short time and they mould it to a different way and different from the demand and need of the society. But, I want to bring to your account, when we talk about urban design or anything today when we are talking about this, but I would like to see that it is one of the first course, which was started in university of Liverpool which was established.

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The screenshot shows the University of Liverpool website for the Department of Geography and Planning. The header includes the university logo and navigation links. The main content area features a sidebar with navigation options like 'About', 'Research', 'Environmental Change', 'Population and Spatial Analysis', 'Power, Space and Cultural Change', 'Planning, Environmental Assessment and Management', 'Postgraduate Opportunities', 'PhD Studentships', 'Careers', 'Geography', 'Planning', 'Environmental Science', 'Staff', and 'Facilities'. The main content area highlights the 'Civic Design MPhil/PhD' program with its major code (ESDP/ESDM) and a list of program codes and lengths. A quote from a lecturer is also present. Below the program information, there is an 'Overview' section with a red circle around the text 'As the world's first planning school, established 1909'. The footer includes logos for IIT ROORKEE and NIFEL ONLINE CERTIFICATION COURSE.

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Civic Design MPhil/PhD

Major code: ESDP/ESDM

U1 MPhil prog code: MPA155GF
U1 MPhil prog code: MPA155GF
U1 length: 24 years
U1 length: 24 years
U1 PhD prog code: PHD55GF
U1 PhD prog code: PHD55GF
U1 length: 24 years
U1 length: 24 years

Working as a lecturer now, when University of Liverpool so special are t

Umita Thakur

Overview Entry requirements Fees Applying

Overview

As the world's first planning school, established 1909.

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Civic Design is one of the four subject disciplines within the School of Environmental Sciences and specializes in the planning of cities and regions. Our work falls into the following research groups:-

- Analysis
- Design
- Policy formulation
- Management and governance

So, first planning school was established in 1909 that is where they call it with the civic design. So, how we engage the people in it you know how we putting the people in the centre. So, in fact, even today this is the course which you see from the department of geography and planning. And so, putting people in centre is one of the criteria which was there in the early 19th century itself.

And that is where they talked upon the analysis the design and policy formulation. Because it is the decision making and the conducting part of it the management and the governance aspect of it. So, that is where you need to involve various stakeholders into it. So now with the kind of architecture which we are handling is, of to extreme scales one if you look at the top.

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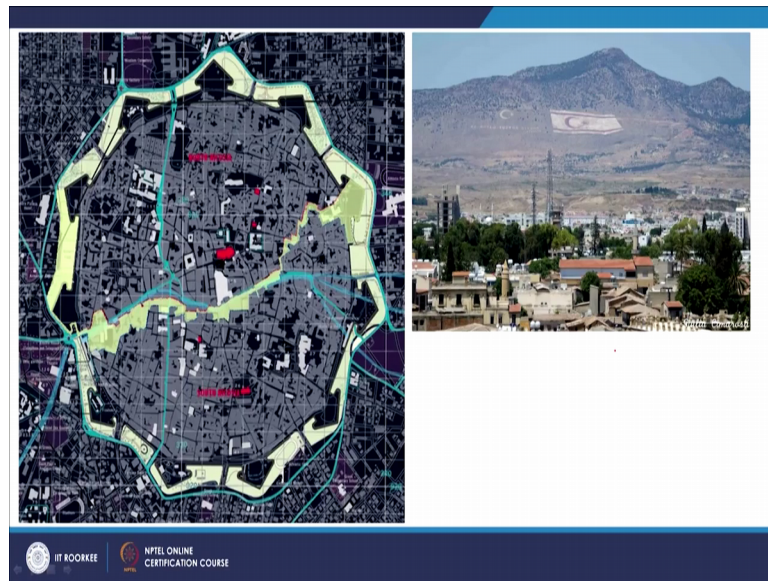


You see Doha and which is was a fisherman settlement and how this whole thing has changed in 50 years' time with the boom (Refer Time: 11:45) and the market you know. So, the challenges and even the thieves urban structures, they do have different challenges especially with the density, when it goes for the density there is traffic issues there is water issues, there are employment opportunities there are economic regeneration aspects of it. At the same time, we are ignoring especially in Indian context even not much of the focus is going on the EWS.

The economically weaker sections and the poor and so, there is a huge gap between the way you are thinking of because the whole the market is coming the architects today, because the client is more onto a business side of it. But if you look at the need of it that is where we need for a rural housing for the economically weaker sections. So, where they may not afford an architect or where they themselves start building up on it. So, that is where the big gap is coming.

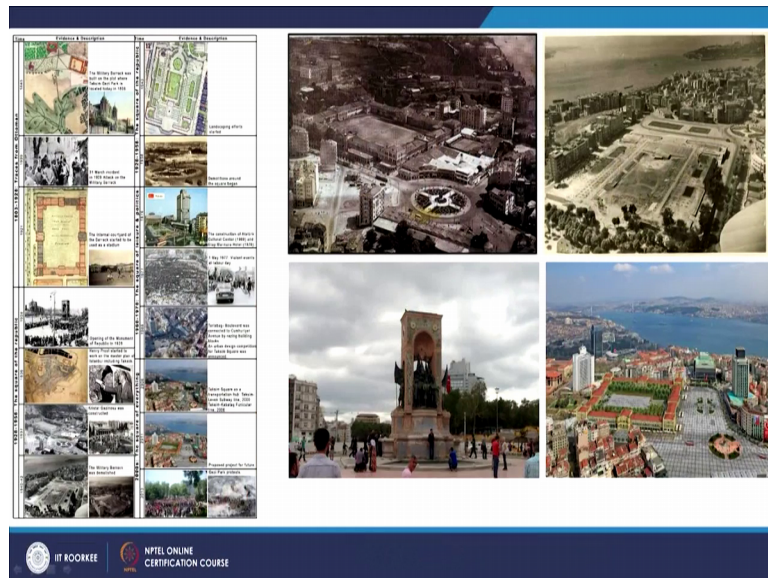
So, this is very important (Refer Time: 12:46) face that we need to develop a culture that you know these are also an architectural issues. And these are also something we should handle and we should train our students to the way use to handle into it and again different ways of entrepreneurs to it. So, today's our cities if you are talk about contexts one we are talking about the rich and poor and one we are talking about the conflicts.

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Like the Nicosia example which I told about the conflicted situations. You know there is a social issues there is a political issues within it and, how the city has been divided into it and even a public space. I thing in our previous lectures we did discussed of the Taksim square issue of how the Gezi park.

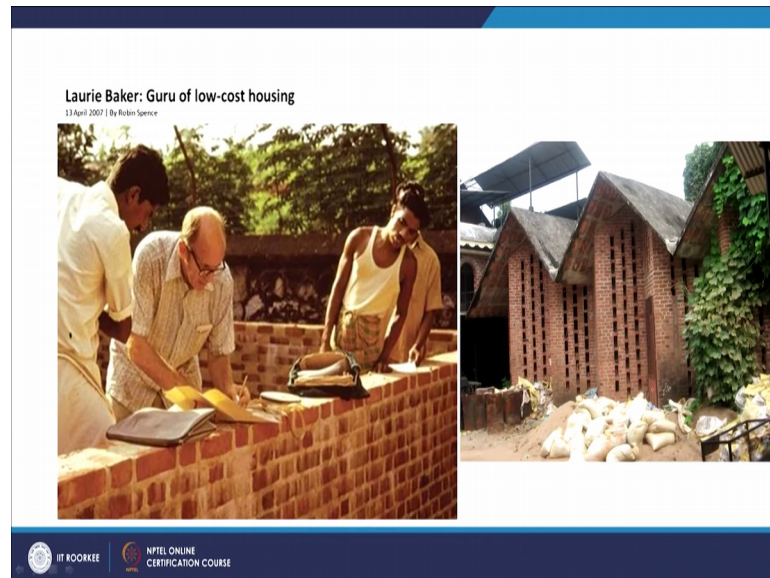
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So, how bringing back this military barracks which was demolished and then again when it is proposed and, how a huge protest rang up so; obviously, this is whole process to do with the communication. And because how a master plan have determined to a park and

again bringing back into it and how the people have responded to it. So, there is a because, that is where if you do not participate those people in the process.

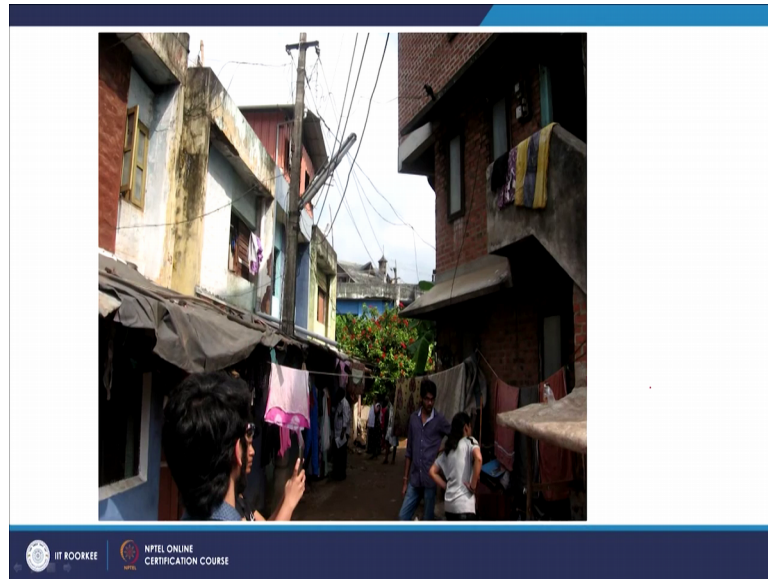
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So, there might be very adverse effects and coming to little the labor level and the micro level and the material level, if you look at the master Laurie bakers work of so, that is where the he talks about the he is referred by guru of low cost housing. And, that is where he focused on the materials the training the masons and technology developing alternative technologies into it.

So, even the lot of manuals which were published from costford, and which could be easily understandable by a common man and where he can implement it and development it. So, this is where you know one has reached to the level of the locals, and started learning from there and developing it, from there like the same costed when I have took my students to Chengalchoola.

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In a kind of slum where Laurie bakers work himself have done some buildings there, but today one has to look at it like this. You know after many years how the same place have responded for a in a different way, because the needs are changing people are changing generation is changing so; obviously, like this house on the right hand side and you see the left hand side how they have been in contrast.

And how they are used in a different way especially with a light and ventilation aspect of it though it is efficient by inside it is very cool and by technology it is fine, but then see how people have adapted to it that is one important learning one we have to look at it. So, in the recent times we are looking at more we are moving towards more of the participatory approaches, that is where we are learning with communities of Kutch that is where the Hunnarshala work talks about how they engage from start to end process of the whole building process.

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WHO WE ARE?
We are a group of socio-technical development organisations having deep relations with the local communities for over 15 years.

- **Hunnarshaha** - works with traditional organic and building techniques.
- **Khanir** - with crafts, heritage and cultural ecology.
- **Sahjavan** - works with sustainable and bio-diversity.
- **Arid Communities and Technologies** - revives water systems.

We organise tours for short as well as long durations as per the requirement for students in agegroup of 10-16 years.

Organised by
hunnarshaha FOUNDATION
B-16, Mahadev Nagar - I, Bih Valds, Nagar,
Near Mirzapur Highway,
Bhog - Kutch - 370001
Gujarat - INDIA
Phone : 02832 654014

Contact : Nilam Sampura
Mobail : +91 9876010209
www.hunnarshaha.org
hunnarshaha@yahoo.co.in

LEARNING WITH COMMUNITIES OF KUTCH
Educational Tours

Logos for Sahjavan, AIT, and Hunnarshaha Foundation are also present.

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And, the decision making process how they can enhance them and how they can empower the communities so, this is how the lot of works has been moving on. So, what we have discussed now is it is like we are moving from a singular vision, to a shared vision. So, we are in the architecture is now taking as it is not just one man's dream about it, but it is about a shared collective responsibility how we communicate what we want and what we need. And how an architect takes that and how we can address that in a collaborative way.

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Chapter 10

Harry Seidler

SHARED VISION

SINGULAR VISION TO SHARED VISION

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That is the most important challenge. So, even in our education engaging our students in with the people understanding their local issues their domestic issues and for instance you can see some of the workshops.

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Which were conducted we design for blind people and we designed for differently abled people, but have we ever experienced that how they feel about it. So, this is one of the training which we were giving in workshops of united differences and the design for all workshops. And then where the students were tied and they asked to roam around to experience how a blind person could experience a place. And that is how you know an architect as an architect you really understand what really you they need alright.

And similarly I myself was been part of a intensive community participation techniques and I used to live like a fisherman for some time, because when the moment I started living with them everyday day by day it is every day is a learning process everyday it is moulding me. And I am learning in details you know and even how my learnings what I learnt during my masters and PhD, and how I have transferred into my education system if you look at my students Piyush Sharma who is just a bachelor student, but then he was designing a hamlet in the disaster affected areas of Uttarkashi. So, what I did was I ask him to why do not you go and live with the community and learn with them what were the problems they had, and then how you can work

So, this is one of the community participation exercises we did in the village. So, he made a small module designs and he explained to them and he they tried to negotiate and they tried to say few suggestion few alternative and some modifications and that is how a model has been adjusted. So, maybe when it is built in real in a real sense may be further get adjusted, but at least in that process he understood what are the existing venerable conditions.

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And in my own study what you see is when the architect does not address local traditions. So, you can see a Pooja room a worship area, is now converted into worship area, but actually it was a toilet given by the built environment professions that this toilet, but when denied it in that particular time because of Vastu purposes and they converted it as a worship area and see how the transformation took place.

In Tamil Nadu so, that is where the culture plays an important. So, we need to make our students to understand how this adaptation process that is where we talk about adaptation because, we only talk about giving a solution ok. But with that solution how people tend to adapt. So, that needs a longer time observation. So, we need to make our students to engage with that process, and they need to understand that adaptation process. Because so, that they do not commit the same mistakes what their elders have done.

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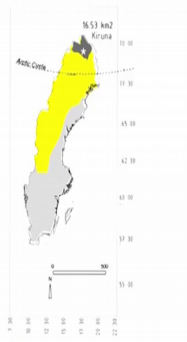

... environments are thought before they are built, and design tries – however imperfectly – to reach some ideal embodied in an image, schemata or model...



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So, Amos Rapoport again he talks about environments are thought before they are built and design tries. However, imperfectly to reach some ideal embodied in an image or schemata or a model. So, one need to understand the culturally responsible built environments, we need to understand the culture of the people and the society then only it will be easy for you to understand they are built environments.

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So now look at this stage where we are moving with the advance of technology cad tools with the virtual reality many other techniques which are coming. So, this is one Kiruna example which I already explained in your previous lectures.

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Anyone can become urban planners

An even more exciting challenge will perhaps be when ordinary people can sit at the kitchen table and create advanced 3D simulations showing their cities and towns with new added bridges and buildings, and then share this material via social media. That vision is actually not far away, it is already here. This will of course put a little extra pressure on the companies working professionally with these issues.

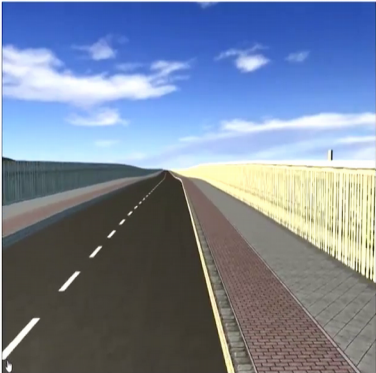
- Hopefully we will get a dynamic creative development of all these opportunities, says Tim Johansson who beside the work on the new Kiruna also is working on an alternative solution for another construction site - *off the record*.

Contact

▶ **Tim Johansson**

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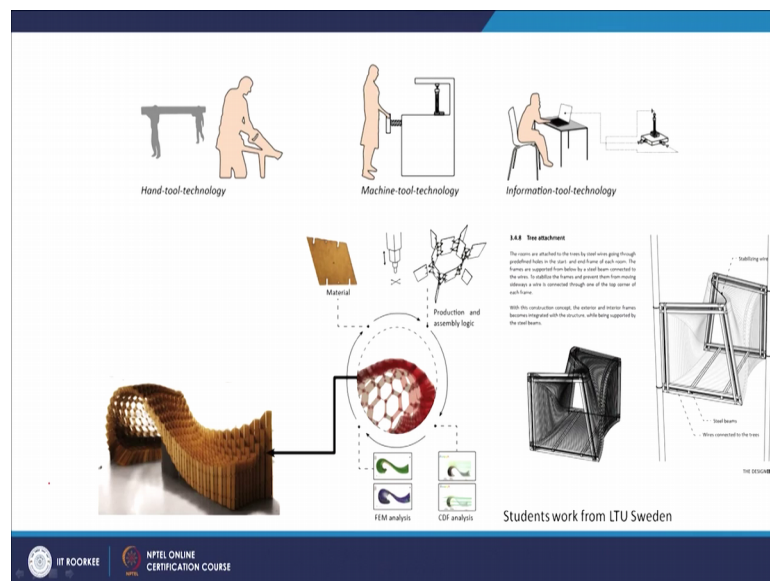
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So in fact, if you look at it with the virtual that without any of so, what you have just seen is a kind of visualization of the Kiruna highway which they are proposing and you know. If you see what the researchers are thinking with the kind of tools which we have anyone can become urban planners. So now, the whole urban planning situation has

come to your desktop almost your laptop right. So, from understanding a side at a bigger level and working with various people and various agencies and various stakeholders, but now it has hardly narrow down to a desktop that is a irony. So, if anyone can become urban planner, because it is only a tool, but in reality how it works how it is vanished. So, how we negotiate how we deliberate upon it

So, that itself is a process where a student learns into it. And this one is from the Leo University of Technology where I have previously worked. So, similarly again this is also from the same university, we have now the digital architecture which is now very popular in many of the countries and many of the schools which are focusing much on the digital architecture requirement. So now, it is actually if you look at it from the hand tool technology.

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How we moved on to the machine tool technology. And now we are moving to the information tool technology. So, this whole process you know earlier a carpenter used to work and cut down and make all these swellings, but now the mechanized process of it has been convert have industrialize the whole production process. But now, it is just sitting in a computer you can you know how you can format certain forms and how you can actually produce various artistic forms, at the same time all the details of it the connection with more precision.

So, what you see on the left and right hand side are some of the students works from I t u Sweden and this is actually a live model which was Kanmani Anbodu was one of my colleague we used to work on especially on the material aspects of it. And how we can work on different shapes and this was a masters project especially on the tree hotel project where he developed various you know frames, how they can made as a accommodative space.

So, these are some of advancements which are going on, but now with the kind of tools like at least when I started my architectural those work AutoCAD was in the very beginning stages, but now today many software's coming flowing everyday software is coming up and you can see the sketch up.

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The renders they look like a very in real renders, but they are actually done in a software right. So, whether it is an America whether it is New York I mean UK or whether it is India also the software is more of a kind of it standardizes the whole of a textures and it is outcome. So, this is in Sweden and where some of my students worked. So, one of the important person when we talk about pedagogy is especially we have to talk about Ashraf Salama; where he extensively worked on the trends in the architectural education especially the pedagogic aspects of it

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Knowledge and Design: People Environment Research
for Responsive Pedagogy and Practice

New Trends in Architectural Education
Designing the Design Studio
Ashraf Salama

Mechanistic Pedagogy → Systematic Pedagogy

Schools
Curriculum
Grades
Subjects
Courses
Exercises/lessons

Schools
Curriculum
Grades
Subjects
Courses
Exercises/lessons

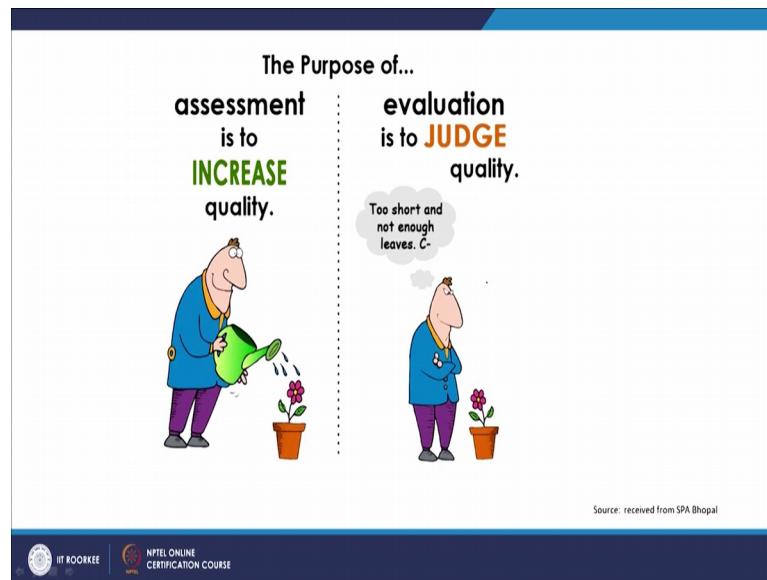
How are they relevant to society?

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And I tried to simplify in so, basically how the shift from mechanist pedagogy to systematic pedagogy. So, when we talk about our architectural education, which is very unique from the engineering education. We have the schools different schools have different thoughts processes and different schools have different admission procedures, how they are recruited and how the students are recruited what are the eligible skills they need as a basic requirement of architecture education. And the way the grades were tallied you know they also make a big difference and the way the subjects are organized the way the courses have run the way the lessons were formulated.

So, all these actually formulate even here in systematic pedagogy also yes they are the same thing, but what is the most important thing is how are they relevant to the suicide, because whatever we are learning in the studios you know how we are relating it to the society.

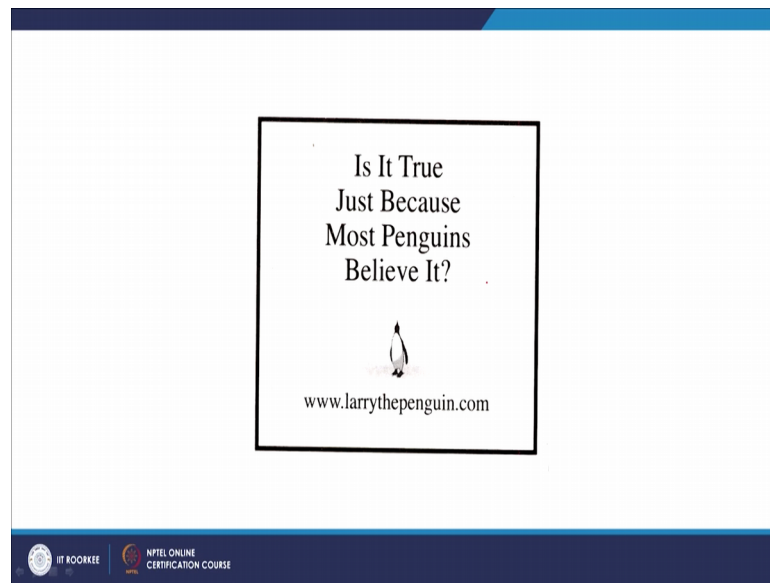
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So, how it would be implicable so, that is where we can get a real time learning. So, here we need to differentiate about you know especially when you are talking about grading and things like that the purpose of assessment and evaluation. They both sound similar, but they have very fundamental difference. In evaluation what we do is we judge the quality by looking at the plant I do not know who made this cartoon, but I got it from S P A Bhopal and it says that too short are not enough and gives a c grade or c minus, but now the other side of it the assessment they you put water or you put some kind of manure in it and then. So, that you know it can be increased the quality could be enhanced.

So, that is where assessment talks about the continuous assessment which talks about the increase in quality. Whereas the evaluation it cuts off there you know you are this you are this, you are this that is the thing, but the fundamental difference one has to understand. So, I think as a teachers we need to look on the left hand side of it the assessment how we can increase the quality of it yeah this from again one of my favorite slide. Is It True Just Because Most Penguins Believe It?

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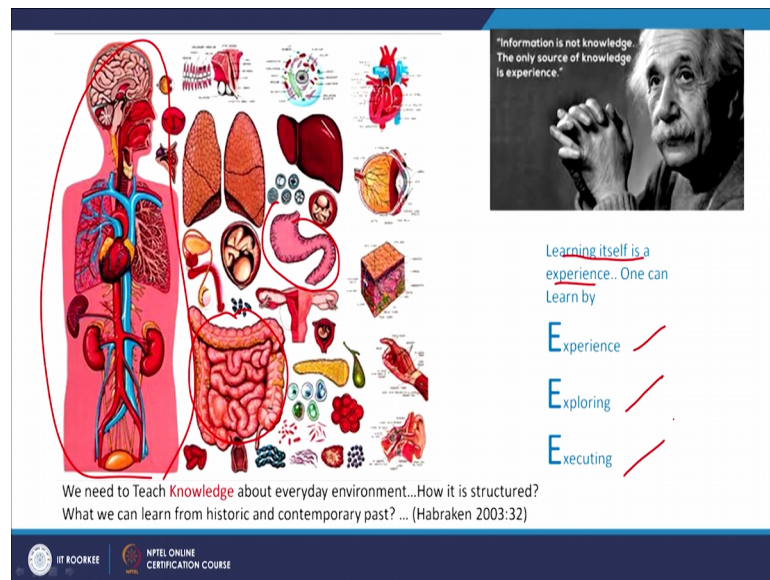


So, in our education system of course, from starting from a masters, we never questioned our masters or anything like that, but, but in the present context if you see if someone says something and if you just follow it right without having a understanding, whether it is true or not whether it has some any other impacts or any other alternative to it. So, that is where a student thinking has to start that is where the research capacities will build up on it.

So, you have to judge if someone even if your senior or a boss or your professor talks about it you need to really understand and think about it whether it is workable in this context or not. And then you need to pose the questions that is where the self-realization you know the realization aspects comes that is where the communication opens between a teacher and the student, but if you just blankly believe he said and then I just follow it is correct it might be correct. So, it may be wrong in some aspects. So, that is where your intellectual will come out of it.

So, but we are looking is now as we said about the pluralism. There are many components within the built environment educations one is HVAC one is society aspect one is the technical aspects of it one is the drafting one is the artistic aspects, but you know what we are doing is we are learning each segment by segment.

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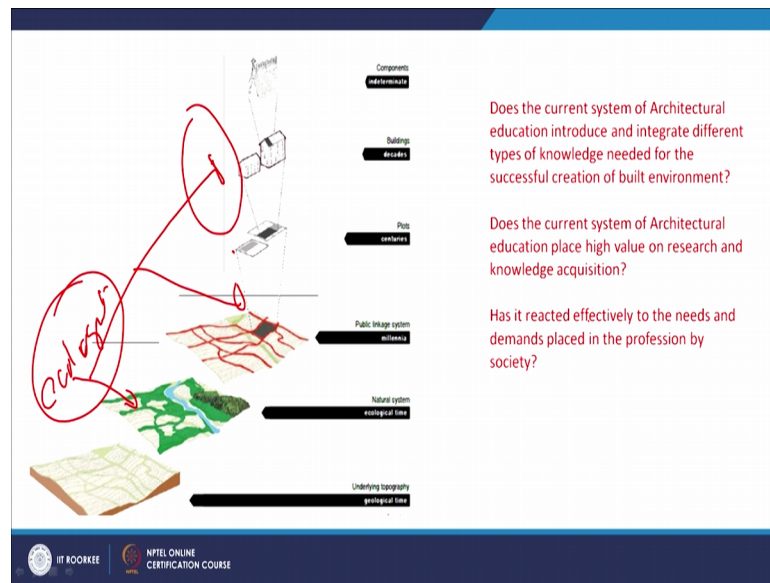


The slide contains a detailed human anatomy diagram on the left, showing internal organs like the heart, lungs, stomach, and intestines. On the right, there is a black and white portrait of Albert Einstein with a quote: "Information is not knowledge. The only source of knowledge is experience." Below the quote, the text reads: "Learning itself is a experience.. One can Learn by" followed by three items: "E_xperience ✓", "E_xploring ✓", and "E_xecuting ✓". At the bottom, there is a footer with the text: "We need to Teach Knowledge about everyday environment...How it is structured? What we can learn from historic and contemporary past? ... (Habracken 2003:32)" and logos for IIT ROORKEE and NPTEL ONLINE CERTIFICATION COURSE.

You know we if you look at the human anatomy, how a intestine works how a stomach works how a kidneys work and how a lungs work you know we are learning individually, but what we need to learn is we need to learn as a system how it is structured and how it works. So, that is where we have see how the cooperative we need to bring the cooperation of different systems together and make it work to make a better product and better manageable product.

So, and as Einstein's quote says information is not just a knowledge, but the only source of knowledge is experience. So, one has to experience it. So, that is where he talks about learning itself is an experience and one can learn by experience exploring and executing E E E. So, in our so, the important questions which we have I am bringing into your front is.

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Does the current system of architectural education introduce and integrate different types of knowledge needed for the successful creation of built environment, like as I bring again my space time framework here. As I discussed you just now the human anatomy what happens when an ecologist, if an ecologist talks about some data whether have you integrated in the planning of your settlement or in you are a procurement of materials you know.

So, which means a knowledge of this level whether it is integrated at this level or not the relevant one does the current system of architectural place high value and research and knowledge acquisition. This one of the fundamental question has it reacted effectively to the needs and demands placed in the profession by society. So, what are the current needs that you know that we are having right now and how we are addressing the societal needs.

So, till now we talked about basic fundamentals of you know how we are moving on from an and artistic aspect and how we are moving from a singular aspect to the shared aspect of it. But then I would like to bring some more philosophical aspects and why I am bringing today now at Martinheideggers work that is where he talked about the being and time.


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WHAT IS A DWELLING?

Martin Heidegger's work in *Being and Time* provides a crucial clue in the search to explain "what ties place and self together" (2001:409). "The basis of the density of engagement between self and place in this world [of the workshop] is the set of *habituallities* by which its rich fabric is woven"

Heidegger's point is that places "are constructed in our memories and affections through repeated encounters and complex associations".

Dwelling is the capacity to achieve a spiritual unity between humans and things" (Harvey, 1996:300-301).



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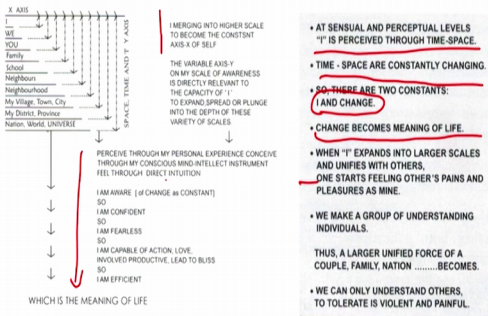
And he will talk about the body and mind. So, the body goes on to the places and then the mind interacts and how you experience it. Because the moment I was talking about experience in the places and executing it; obviously, it is talking about how your mind is interacting and in the same note how in an a holistically.

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VALUE EDUCATION FOR SELF DEVELOPMENT: QUALITATIVE LEARNING-2 PART TO THE WHOLE RELATIONSHIP

THE MEANING OF 'SELF': 'I' VS 'US' **MY EXTENSIONS AROUND 'WE'**
I VALUE **YOU VALUE**
→

EXTENSIONS OF 'I', WHERE 'I' IS THE CONSTANT



EMERGING INTO HIGHER SCALE TO BECOME THE CONSTANT AREA OF SELF

THE VARIABLE AXIS 'I' ON MY SCALE OF AWARENESS IS DIRECTLY RELEVANT TO THE CAPACITY OF 'I' TO EXPAND, SPREAD OR PLUNGE INTO THE DEPTH OF THESE VARIETY OF SCALES

PERCEIVE THROUGH MY PERSONAL EXPERIENCE CONCEIVE THROUGH MY CONSCIOUS MIND INTELLECT INSTRUMENT FEEL THROUGH SENSORY INTUITION

WHICH IS THE MEANING OF LIFE

- I AM AWARE (of CHANGE as CONSTANT)
- SO I AM CONFIDENT
- SO I AM FEARLESS
- SO I AM CAPABLE OF ACTION, LOVE, INVOLVED PRODUCTIVE, LEAD TO BLISS
- SO I AM EFFICIENT

- AT SENSUAL AND PERCEPTUAL LEVELS "I" IS PERCEIVED THROUGH TIME-SPACE.
- TIME - SPACE ARE CONSTANTLY CHANGING.
- SO, THERE ARE TWO CONSTANTS: (I) AND CHANGE.
- CHANGE BECOMES MEANING OF LIFE.
- WHEN "I" EXPANDS INTO LARGER SCALES AND UNIFIES WITH OTHERS, ONE STARTS FEELING OTHER'S PAINS AND PLEASURES AS MINE.
- WE MAKE A GROUP OF UNDERSTANDING INDIVIDUALS.
- THUS, A LARGER UNIFIED FORCE OF A COUPLE, FAMILY, NATION BECOMES.
- WE CAN ONLY UNDERSTAND OTHERS, TO TOLERATE IS VIOLENT AND PAINFUL.

H.D.Chhaya (2010)
Architectural Education in
Holistic framework,
Spandrel, Vol-1, Issue 1, SPA
Bhopal press.

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How H. D. Chhaya, Professor H. D. Chhaya, how he puts up is one is he talks about there are one is from the part to the whole relationship. Because he that is where when we talk about body and mind. So, it is starts from who am I.

So, if you look at it I, and how I becomes we you family school neighbors you know from your. So, how you are related to you know your family your neighbors your society your village your town I think I did explain this in our early lectures of understanding identity place and the identity how our I grow up on it. So, if you look at the I is merging into higher scale to become the consistent axis of self. So, this is our self you know that is gradually interacting with the society. So, that is where the culture talks about how I becomes, and I mean an individual becomes a social individual. And so, whereas, how it performs is that is works in space and time.

So, here if you look at it is a very important aspect this I the notion of I, is changing in time and space the moment he goes to school he becomes he is relating with his school network, but here what you are I have to understand is in that changing I, aspect you have to see that time and space are constantly changing. From school he goes to a nearby job then his circle differs and, but what is there is very key points there are the time and space are constantly changing. But, I and change are the two constants you know I am here and the change is there; so, the change which is a dynamic thing which is still as a considered as a constant.

And these change become the meaning of life. From your family from your individual how you grow to the society and that is how the meaning of life is produced. When I expands into largest scales and unifies with others one starts feeling others pain and pleasure as mine. So, that is where you take the responsibility how you will share the responsibility and pain and the pleasures of others you know that is where you start learning from each other, we make a group of understanding individuals. So, then that is how a group.

Thus a larger unified force of a couple family and nation an Indian as I talk to you about how we become from a local to the global representation. How I am from Nellore I am an Andhraite and I am from a India you know I am from Asia like that you know how a larger representation keeps going. And here if you look at with your experiences you know how that your personal experience and how it can actually been experience through the conscious and in mind intellect instrument. And here if you see I am aware, I am confident, I am fearless, I am efficient. So, which actually talks about your capacity and this comes only through kind of experience and interaction right that is where is the

meaning of your life is used. So, this is from part to whole and in the architectural processes of the world.

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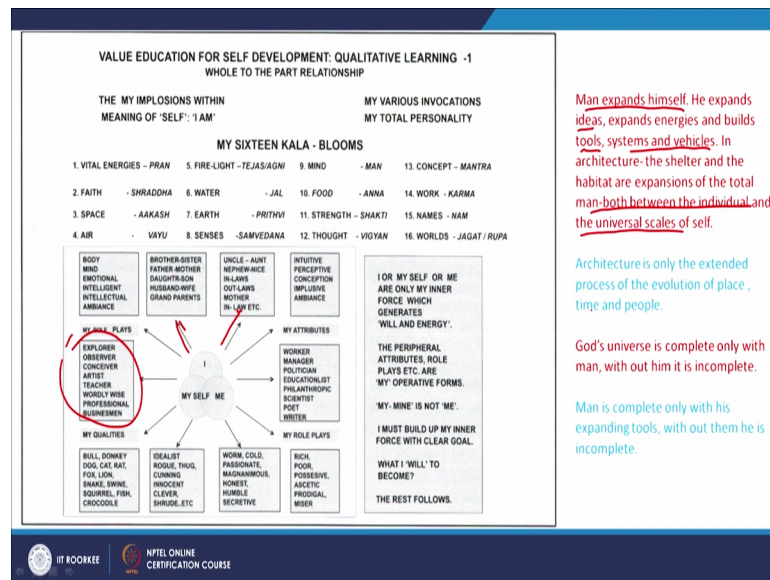
"Architectural process of the world-the process of ordering time, space and forms- the process called **panchi karan'**, the becoming of worlds where the man is the micro reflex of the universal totality at all the existence levels of idea, process and medium of the macro universe.



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The process of ordering time space and forms the process called Panchi Karan is, panch is 5; the becoming of worlds where the man is the micro reflex of the universal totality at all the existence level of idea, processes and medium the macro level. As I said this is the man I and how interacts with his family with his neighborhood with his nation with his continent. So, that talks about the universal totality you know how he interact with the all scales of it. And the second aspect which Professor H. D. Chhaya talks about is the whole to part relationship. So, as we he talks about the I myself and me.

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Man expands himself. He expands ideas, expands energies and builds tools, systems and vehicles. In architecture- the shelter and the habitat are expansions of the total man-both between the individual and the universal scales of self.

Architecture is only the extended process of the evolution of place, time and people.

God's universe is complete only with man, with out him it is incomplete.

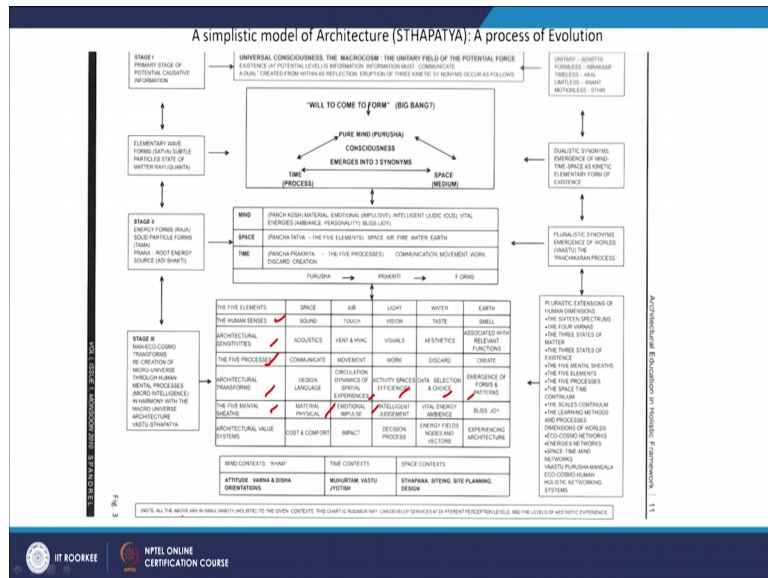
Man is complete only with his expanding tools, with out them he is incomplete.

And basically the whole the body and mind processes and the relationships which you have with your family with your neighbors with how your attributes and your qualities you know and how what is your role you know. So, all these things which actually generates the will and energy that is where I talked about in the previous slide that of the capacity to attain your will and energy, to do something and this is where we have to understand and a man expands himself.

He expands ideas he expands energies and builds tool systems and vehicles in architecture the shelter and the habitat and expansions of total man both between the individual and universal scales of self. So, that is what I explained you in a previous slide. So, architecture is the only the extended process of the evolution of place time and people. So, that is the product the productive nature of it.

And this whole process why we are talking as god's universe is complete only with man and without him it is incomplete. So, just imagine if man does not exist on this earth what happens to the earth. So, man is complete only with is expanding tools without them he is incomplete. So, how he expands his energy ho he expands his surviving tools, how he interacts with the nature how he makes his identity process that is where he develops his tools and services you know. So, without that he is incomplete.

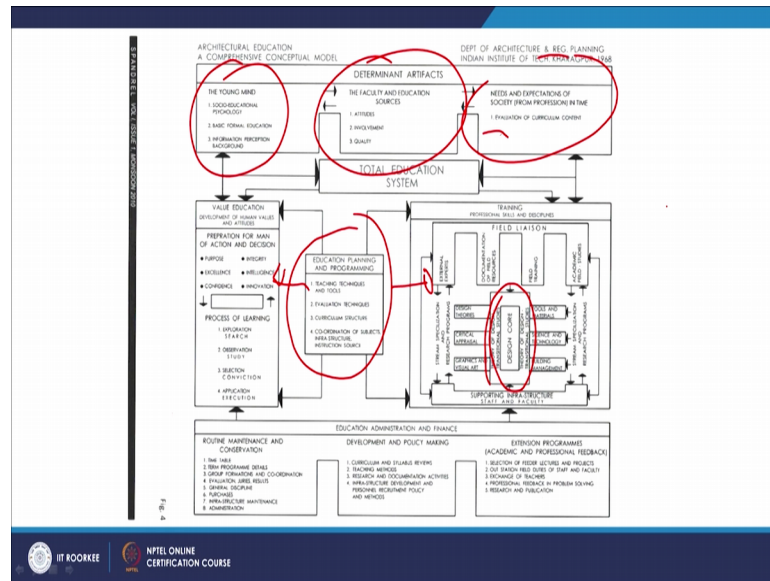
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So, then he develops a kind of preliminary model is not to be read as it is, but it is very in a rudimentary stage where he talks about how the 5 elements the space air light water earth. And how the human senses the sound touch smell and then how each of these are represented with the kind of architectural sensitivities acoustic aspect of it a ventilation aspect of fit, the visual aspect of it the aesthetic aspect of it. And again the 5 processes how we communicate how we physically move, how we work, how we discard, how we create.

And then the architectural transform how it transforms into a design language. And the circulation dynamics and spatial experiences activity spaces efficiencies data collection and choice emergency forms. Similarly, the mental sheaths the material how the material will give certain environmental in a shooting environments, how it can impulse certain emotional aspects of it and intelligent and judgments. So, like that it talks about how this whole process into a man interacts with it and how it the space and time provides you know different experiences within it. And, then we make say from the Indian Institute of Technology Kharagpur this is a kind of comprehensive conceptual model.

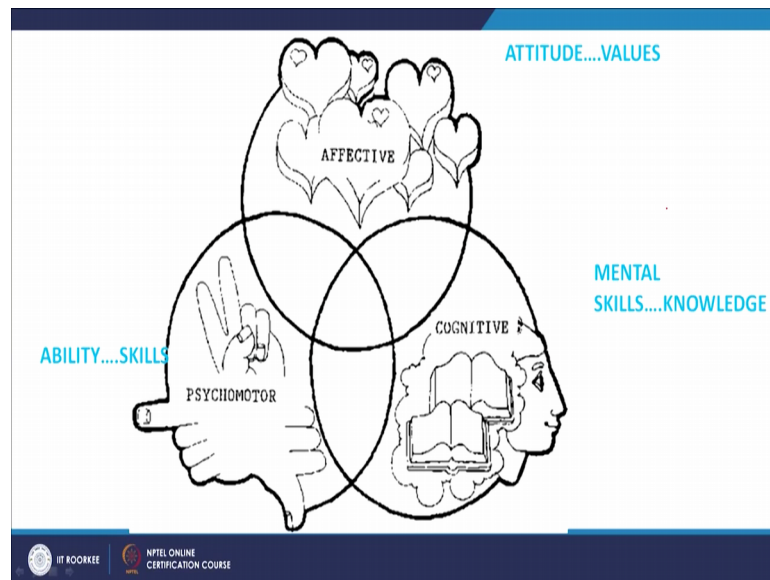
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You know of the total education system you have the young mind who wants to learn the built making of built environment. And then you have the faculty and education which are the sources and you have the needs and expectations of the society from profession in time. So, that is where you have the evaluation of curriculum content and then you have got the how we programmed it talking about the techniques and tools of teaching evaluation methods, the curriculum structures and then that is where we how we import the value education and what kind of necessary training.

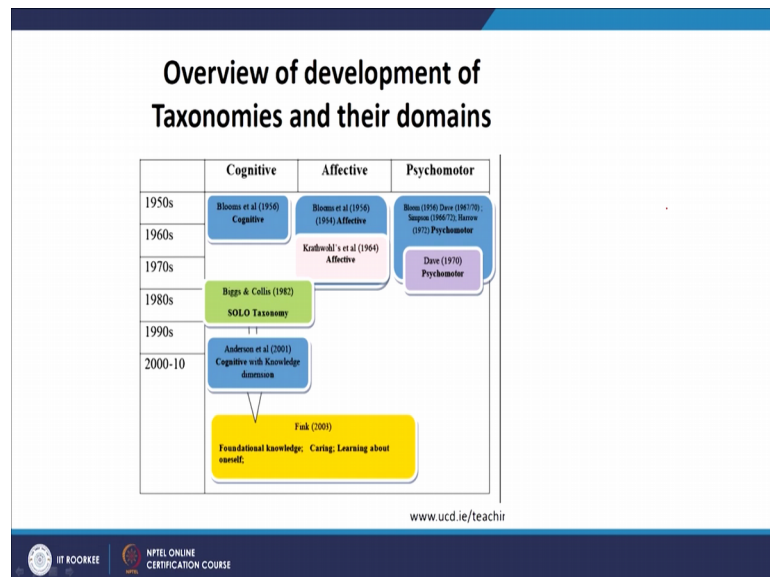
And if you look at it in a design this is a design core and then how the parallel things add on it and supplement and that is how the whole education the curriculum is been managed. And this is a simple model just to understand the structure. And I want to bring you to the most important aspect now it is especially the c a p the visuals of cognitive and affective and psychomotor skills.

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Because in cognitive what it is like basically how the mental skills you know the knowledge. And whereas, how we actually memorize from the brain what we understand whereas, in the psychomotor how we have get the ability to do and there is an affective it talks about the heart brain hand and heart; so, the attitude and the values to it.

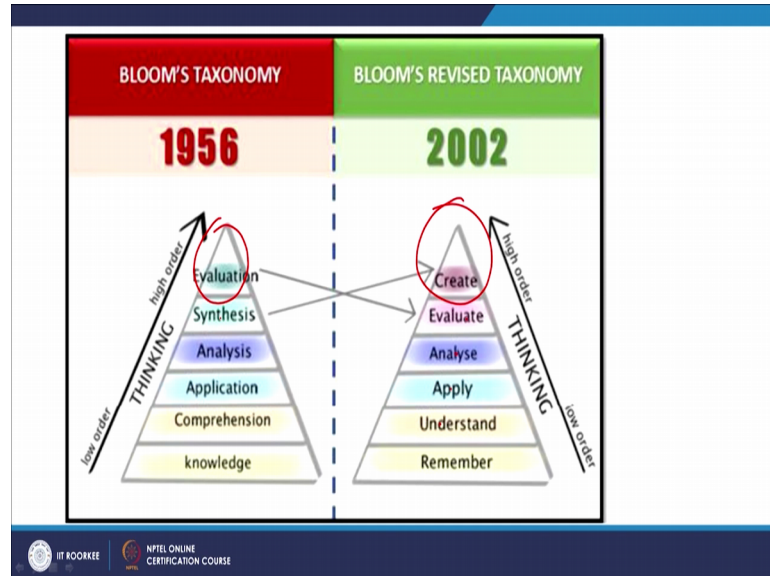
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So, there is various taxonomies, especially how we can especially in the education psychology and one of the aspect which talks about this cognitive affective and psychomotor. We have so many techniques, but I am just pointing on the blooms

taxonomy; which was actually made a kind of pyramid, of which talks about the evaluation which was on the top.

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And the synthesis here, but then in the later 2002 that is blooms taxonomy got revised and that is where the synthesis became the creation becomes into the higher order and the evaluation comes into the later order.

So, the remember understand apply analyze evaluate create whereas now the earlier one was in knowledge comprehension application analysis synthesis. So, that creation was in the top of the pinnacle. So now, in the paradigm shift, in the digital age if you look at there is one now earlier we were thinking about the form, but we are more focusing on the form generation, how we are able to generate and that is where we are using cad tools you know and especially with the animation and the parametric designs.

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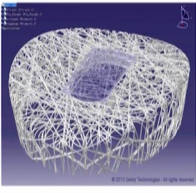

PARADIGM SHIFT IN DIGITAL AGE...

Computer Aided Design (CAD)	Digital Architectural Design (DAD)
Principles, theories and methods	Re-introducing a different medium of conceptualization, replacing paper based media.
Based on imitating paper-based design	Digital form Digital processes

Concept of Form to Concept of Formations

Formation Models

- Animation (dynamic design)
- Parametric Design (Parameters of particular design is declared-not its shape)



Towards creating a new Vocabulary and knowledge

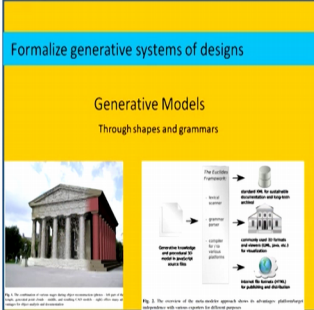
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And if you look at the Frank o Gehry's work of you know one is the digital form, but now that is where we are talking digital architectural design that is where we talking on the digital process how the process there is generate the digital form of it. So, that is more important this whole process is coming from the mechanical the mechanical engineering point of it the material aspect of it and as well as the architectural aspect of it.

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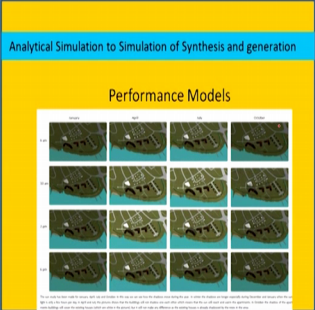
Formalize generative systems of designs

Generative Models
Through shapes and grammars



Analytical Simulation to Simulation of Synthesis and generation

Performance Models



CAD Simulation Model

Generation → Performance Simulation → Evaluation

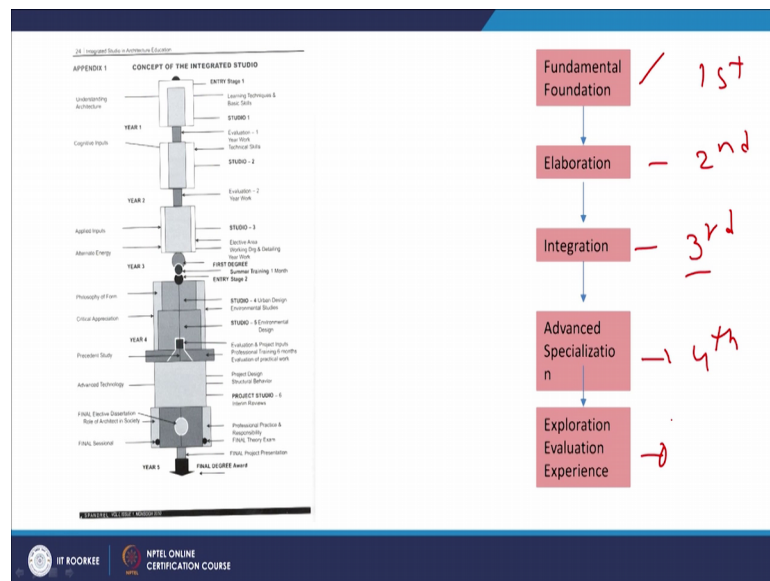
Performance Model

Performance Simulation → Generation → Evaluation

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And again there is a 2 sets one, we are talking about the generative models which is through shapes and grammars how we achieve certain shapes. But the other thing is performance models because especially, nowadays in the last decade the energy focus has been very much emphasized and that is where the how the performance models have increased. So, in the cad simulation model we have the generation performance and evaluation whereas, in performance we have perform performance simulation and then generation and then evaluation.

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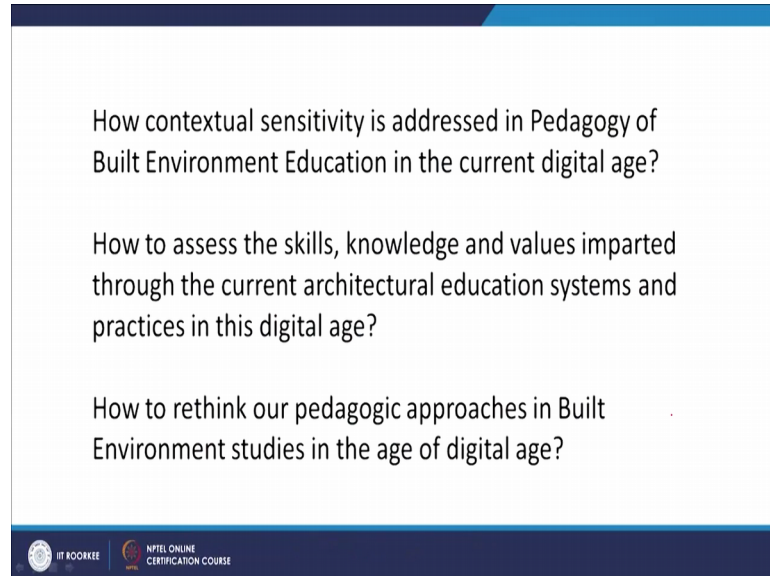


So, the 2 orders are slightly vary and this is how you see in any architectural course we have the fundamental foundation first year and the second year is on elaboration is slightly increase on the scale of it. And the third year which is on the integration we integrate the services we integrate the materials we integrate the working drawings. And then the 4th year we talk about the advance specialization with I want a good urban design or interior design.

And in the fifth year we talk about the exploration evaluation and experience. So, that is where you work under an architect you experience you develop your thesis you explore something you evaluate something. So, this is how the skeleton of it goes on and in this culturally responsive built environment schools, why we are addressing the education is varies because in today's tools. And today's the way the education is going on the

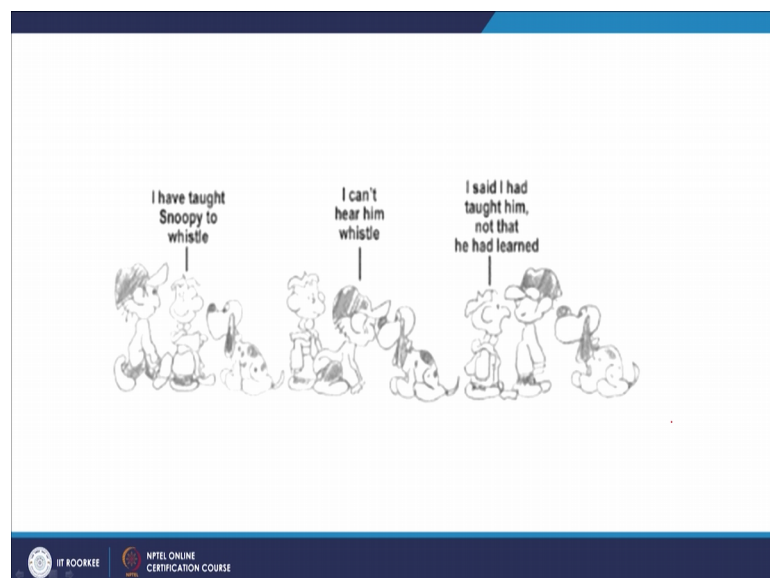
contextual sensitivity how it is addressed in the current pedagogy system and what are the various skills and how the knowledge and values.

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How they are imparted and how they are assessed, that is we have to think and how we can rethink especially in this digital age.

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So, it is a very nice cartoon of I have taught snoopy to whistle and I cannot hear him whistle. And I said I had taught him, but not he had learned that is where the importance

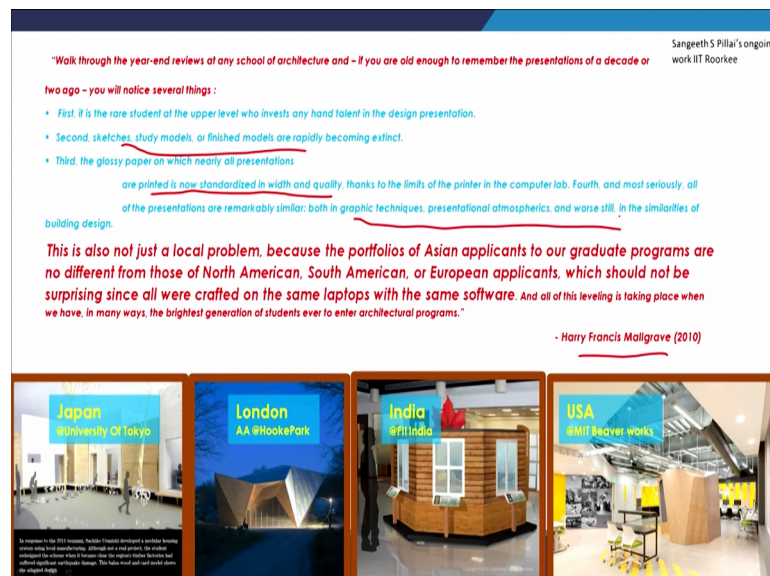
of outcome based education. So, whether he has learnt it or how we can ensure that he has learnt it or not.

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I think in my experience as a teacher in at least in Indian context, in a decade time I am fortunate to see handmade drawing from only 3 students from final years in all working of me. Because, after the card and photo-shops and everything come not many people hardly prefer to do a thesis in the hand; a very few students who worked with the hand; I fortunate to get that so, because that gives a very different intellect all together.

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And similar what I am observing and what the international scholars also the mallgrave also talks about. You collect a variety of architectural products portfolios when you get for admission reports you get from Asia; different from China Beijing you know Thailand, India, Sri Lanka. They keep sending the portfolios, but what they figures out they all look like same because almost sketches and study models or finished models are almost becoming extinct. And they are printed on standardized width and quality because of the nature of the equipment we have and the same graphical techniques the same presentational techniques.

So, irrespective of whether the context is in dessert or in a arctic circle or in a temperate grassland, irrespective of that landscape and geography they are all look same mostly they have the same textures same trees same building same (Refer Time: 45:25).

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Computer Aided Design

"CAD is a large umbrella of approaches, solutions, technologies and tools which utilises advances in ICT and digital technologies for enabling designers in design process"
(Sarcar, Rao, and Narayan, 2008)

CAD Evolution: From Sketchpad, Phd project of Ivan Sutherland >> 2D drafting >> 3D Modelling>> Photorealistic Rendering>> Drafting Automation>> Algorithmic Design>> Parametric Design>> Building Performance Simulation>> Parametric Design >> Building Information Modelling>> Construction Automation.

CAD	Computer Aided
Design	
CADD	Computer Aided Design and
Drafting	
CAAD	Computer Aided Architecture
Design	
CAGD	Computer Aided Geometric
Design	
CAID	Computer Aided
Industrial Design ¹	
CAM	Computer Aided
Manufacturing ¹	
CAL	Computer Aided
Learning	

Sangeeth S Pillai's ongoing work IIT Roorkee

Ivan Sutherland using Sketchpad in 1962

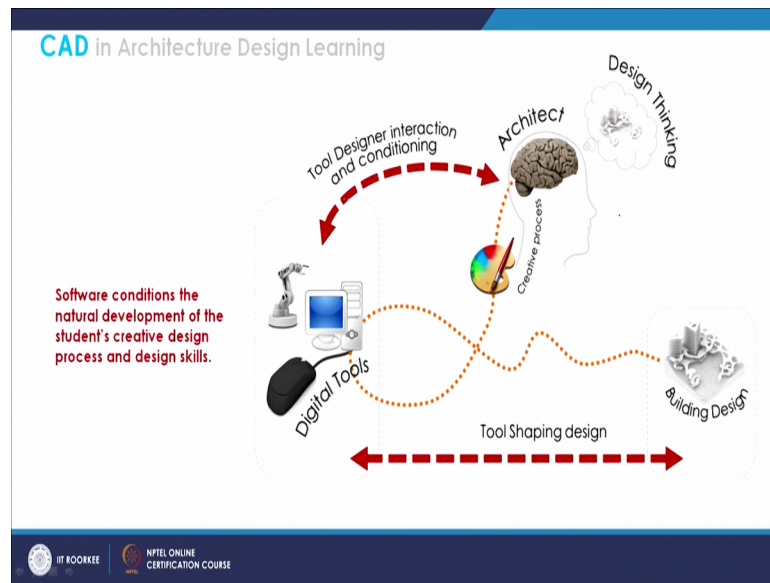
Gesture controlled VR based CAD Interface

Future of CAD

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So, that is where we see the computer aided design how it is improving you know, how it is conditioning the thinking you know the design thinking this, is from actually one of my students Sangeeth Pillai he is working on his work on how this computer aided design drafting techniques how they are conditioning the design thinking process. So, it is not still completed, but I am just showing you the literature work. And how this nature of development of student's creative design process.

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And design skills, you know this computer is enabling and as well as disassembling the thinking process.

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Scope and application of CAD tools

CAD base tools

- offer to simplify various tasks
- condition the design thinking and the process of design
- may not have a major detrimental impact on the already developed design skills of the experienced architect.
- Enables the learner to perform many tasks quickly and easily, with reduced involvement and more automation

Sangeetha Pillai's ongoing work IIT Roorkee

	Conceptual Design	Design Representation	Design Development	Design Integration/ Optimization	Design Presentation	Construction/ Fabrication/ Documentation
Autodesk Sketchbook Desi/Pro, My Paint,	Yellow					
Killa,	Yellow					
Adobe Photoshop	Yellow					
Adobe Illustrator	Yellow					
Adobe Flash	Yellow					
Autodesk AutoCAD,	Yellow					
Google Sketchup	Yellow					
Alkas Designer	Yellow					
McNeel Rhinoceros 5	Yellow					
Maya	Yellow					
Cinema 4D	Yellow					
3dsMax	Yellow					
Autodesk Revit Suite		Orange	Orange	Orange	Orange	Orange
ArchCAD		Orange	Orange	Orange	Orange	Orange
Autodesk Ecotect 2011		Orange	Orange	Orange	Orange	Orange
Design Builder		Orange	Orange	Orange	Orange	Orange
eQuest		Orange	Orange	Orange	Orange	Orange
Environet		Orange	Orange	Orange	Orange	Orange
Space Syntax tool (Depth MapX)		Orange	Orange	Orange	Orange	Orange
Renderers including Vray/Maxwell/Kerkythea/		Orange	Orange	Orange	Orange	Orange

And what he did was he mapped all the existing software's and where these actually software's are used actually from the conceptual level to the construction and the erection side of it. So, what are the various software's we actually use and where are these useful so, you just holistic mapping of it.

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And one is we look at with these tools what we are going ahead with the modernization aspect of it, that where the Neelkanth Chhaya, he talks in his spandrel work also it is the blatant homogenisation and flattening of global architecture.

Whereas, we need to a very strong need to keep architecture culture sensitive to keep it humanized and roots it is context in the same journal, where Akhtar Chouhan talks about we need a humanized approach we need to understand people we need to interact with the community, we need to live with the society we need to experience it and that is how one can able to learn how they can their designs could be culturally sensitive and it could be responsive right.

Thank you very much.