Knowledge Management
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Lecture 10
Capturing Tacit Knowledge
(Contd..)

Ok, so you have seen that we have been talking about how to capture knowledge using certain methods. In the process, first method we are discussing his about the interview and we are seen that how interviews with the experts can help the knowledge developer to elicit quality information.

Now, there are certain problems that could be associated with interviews and as a knowledge developer you make sure that these problems are encountered well so that you are going to get quality information which could be used, right. So, these are some of the problems that could be encountered when you are going to conduct interview with the experts and this includes response biases.

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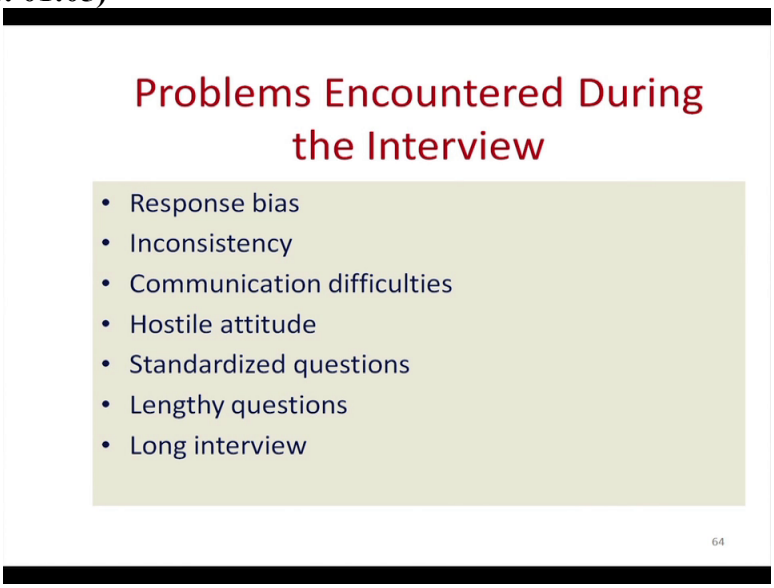

Make sure that he is not going to create any kind of biases when it comes to responses. Suppose you are going to ask questions so rating is either very high on all questions or not very low or sometimes the responses biases could be that they try to respond in the middle way so that it creates a kind of situation where the responses are going to be biased.

Another important issue is consistency. Consistency is needs to be maintained, okay. It means say, for a particular thing or particular question he says yes, but related to similar questions in it if he says no; it means that he is not consistent in his responses. You need to make sure that consistency is maintained because consistency is maintained then you get reliable information.

And also to make sure that there is no communication difficulties. It means that he is able to understand what you are asking and accordingly is able to answer your questions, okay. And do not develop or adopt a hostile attitude. Do not style. Supposing, you are not able to gather information, so do not get frustrated or irritated in the process ok maintain peace, okay and patience.

It is very, very important because if you are going to have hostile attitude probably experts will be very, very defensive and he may not come back or come out with kind of knowledge that he has, okay. It is very, very important to adopt a very, very positive attitude which basically helps the expert and encourages him to come out with more and more information.

Then, you ask standard questions, do not ask those questions uncharted questions which cannot be answered. And standard means that it maintains certain norms, okay. It is valid in the sense it is related to the area and make sure that the kind of information that is coming out is very, very reliable, okay. Similarly you should also make sure that do not ask lengthy questions.

If you are going to ask very lengthy questions probably he will not be able to answer that. So, it is always good to break the questions into different parts. So, instead of asking one lengthy questions what you can do? You can break in three or four questions, okay and that could help you to elicit information, okay.

And do not conduct longer interviews because if you are going to conduct longer interviews then what happens in the process the person loses his interest. So, it is always better to keep as short as possible and I ideally it could be in between 30 to 40 minutes so that the person is able to maintain his momentum and he is motivated and trying to respond. If you linger around and keep it for longer period probably the person may not be motivated enough to answer it, okay.

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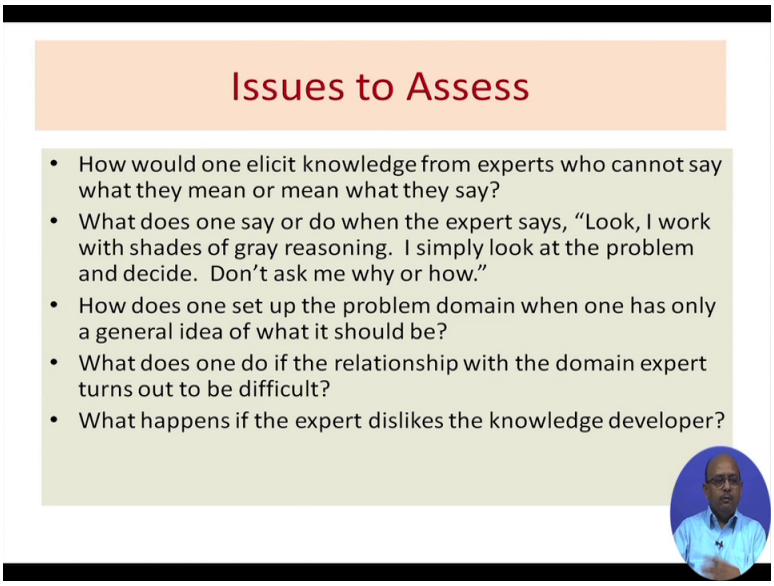

So, there are lots of issues that that need to be looked into when it comes to capturing knowledge by the knowledge developer from the experts, okay. It means that you should able to understand what the knowledge sorry the experts are saying, okay. It means you should be able to understand what he is saying. It means what they mean? You understand that so that there should not be any kind of communication problem, okay.

Suppose experts say look I work with shades of grey reasoning. Reasoning means that there is nothing concrete in black and white. Then, it is very difficult for you to get any kind of information. So there are lots of grey areas, where it is very difficult to get concrete and explicit information, okay. Then, what happens? It would be very difficult for knowledge developer to get the information.

This is one problem that that is encountered by the knowledge developer because he might say yes it may happen or it may not happen. This may provide solution or this may not provide solution. So, there is no concrete answers, so in this that case you have a problem and he says ok this is how it can be or cannot be ok and then he says okay that is I think only think that I can say I do not know ask me anything else beyond that.

So, these are some of the issues that need to be handled by the knowledge developer and then issue is that when you have some general idea about the problem. But you are not specific, okay what needs to be asked, okay. Then, probably you will not be able to get good quality information from the experts.

So, try to identify the problem domain that is very, very important and then identify the current kind of things that are going to ask from the experts to eliciting information, okay. And it is very, very important that your relationship with the experts as a knowledge developer is very very compatible, ok. If it is not amicable and compatible probably you will not be able to get any information.

And that is why if you remember we talked about building relationship with the experts. So, you need to create a very good impression, you should be able to communicate well and you should be able to understand the experts and then probably you will be able to establish rapport, very good rapport to get the information, okay.

But if he does not like you, you will not be able to do anything probably he will not give you any information. It is very, very important to create a right kind of impression with good interpersonal relationship, if you really want to have information from the experts.

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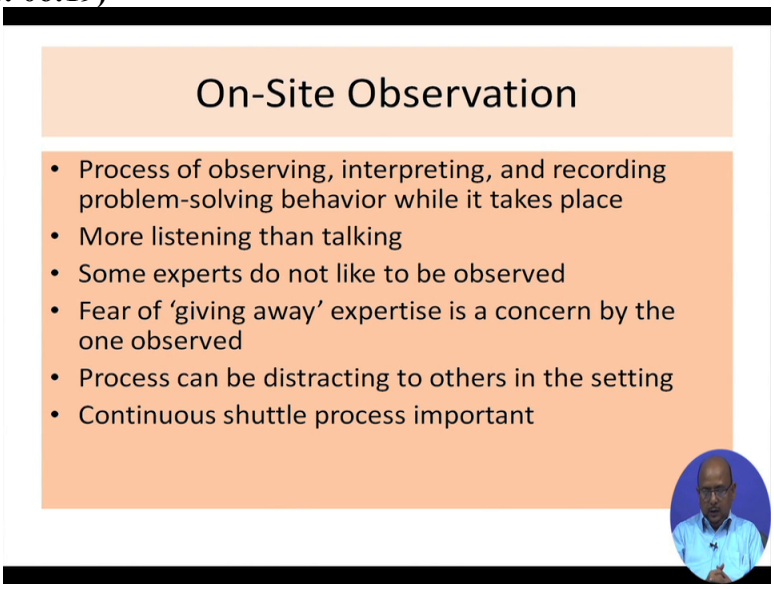

Now apart from interviews there could be there are different methods that could be used in order to collect information. Like on site observation, if you look at interview as a process for eliciting information from the expert it is not always possible to capture all kind of information through the interview process, okay.

And that is where you need to look at other tools and techniques for capturing information. So, onsite observation is one where you actually go to the field where the person is working and then you go for recording and see that how the person is doing the job ok. That is more listening than

talking, instead of asking him question you see what he is doing and then accordingly you see that what is being done and how it is being done.

And then, you go for recording or capturing the process. It is a very good method for capturing those kind of information which is very, very difficult explain why the by the expert or expert is not in a position to explain that and that is where it could be very, very useful, okay. And that is where you go for onsite information.

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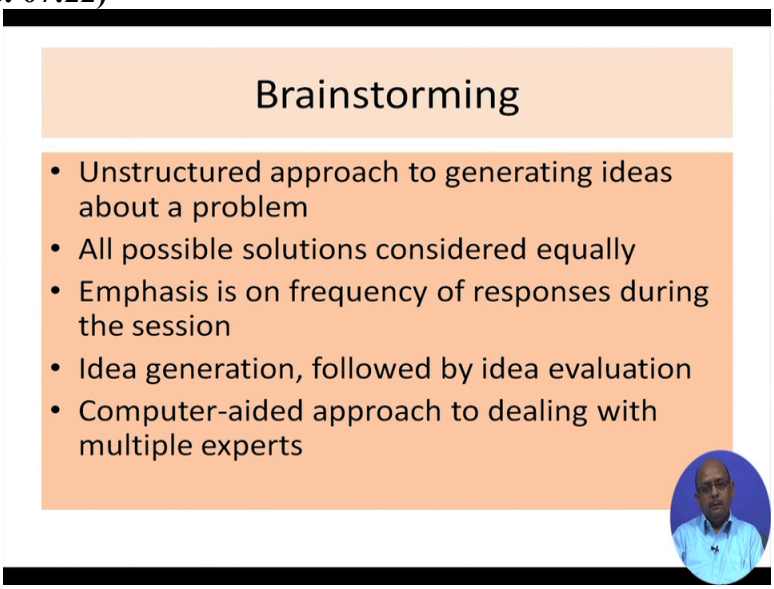

Brainstorming I have already talked about it and again I am going to discuss it with because brainstorming helps you to generate new ideas about the particular problem, okay. So, in the process you try to collect and brainstorm and try to come out with as many ideas as possible which could be useful for solving a problem, okay.

Frequency, emphasis is on frequency of responses to start with okay, not on evaluation. So, first stage is idea generation and then it is followed by idea evaluation. Once through the brainstorming process all the ideas are generated then, you move to the evaluation stage where you are going to evaluate the each and every idea and then, try to build a consensus okay.

These are the ideas which can be ok. Now a days you can go for a computer aided approach to deal with multiple experts. Using multiple experts are there, so use a platform, okay where people are going to be connected electronically and then they come out with as much as ideas as possible and then you can work with multiple experts and see that how many ideas come out and how it can be used to solve the problem.

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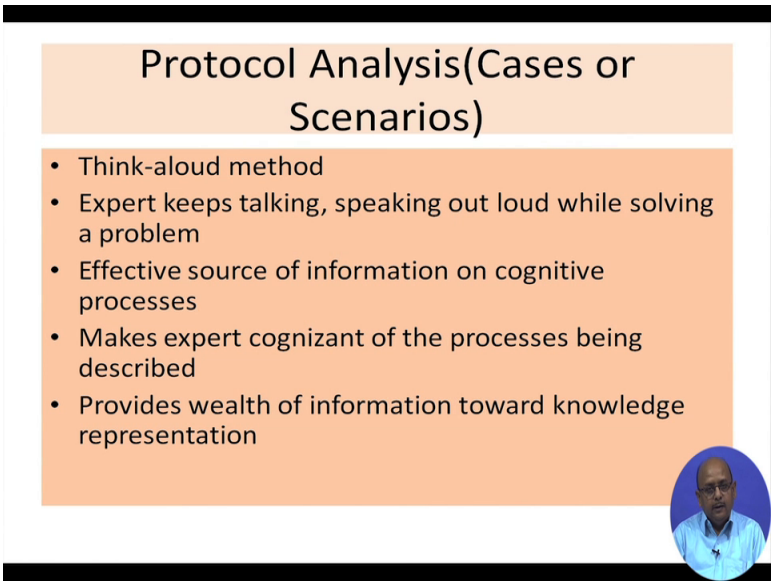

Another method apart from this brainstorming is protocol analysis. That is nothing else but what you call cases or scenarios analysis. So here you have experts basically again here I am talking about multiple experts. So, these multiple experts talk about the problem, okay. And what will happen if this the case, this is the scenario, right.

Say for example very recently the government is decided to demonetize 500 and 1000 rupees notes, okay. What could be the advantages of and disadvantage? It is for the economy, basis of discussion and whether it is good or not you should continue with this or not. Suppose there is a discussion ok.

Now you can create future scenarios, okay. Scenario 1: that experts will keep on talking that ok how this decision is going to solve the problem. There is another expert who says this, this reason is not going to solve problem because it is going to generate a course of other problems ok. So, basically you look into the mind of the experts and see the processes through which they are generated these solutions.

And then, for different scenarios supposed you say that ok this is how it is going to help the economy. Another person says that this is how it is going to affect the people. This is how it is going to affect the environment. So, experts those you are going through different processes to try to understand impact of this demonetization process on people, processes and technology, environment, politics, economy.

They come out with different things and suppose if you are gone for a demonetization today and tomorrow there is a change in the government. The scenario has changed then what will happen

ok. So, you go for some kind of scenario and analysis and provide wealth of information. And then, you come out with these ideas, okay this is what is likely to happen and in different cases or different scenarios, okay.

And then, you follow a particular protocol, protocol means one by one you go to a locate demonetization, this is the result of the demonetization, how it is happening and what will be the different outcomes. So, you create a flowchart, what do you call protocol of events, recording of events, okay through which a particular scenario is going to be built up ok.

And that is what is known as protocol analysis. Another important method that is used is known as consensus decision making. Consensus decision making is that where people have a consensus on how to solve a problem, okay, right. It basically followed by the brainstorming because as brainstorming you come out with certain ideas which would be good, which could be used for solving a problem.

Say for example R and D wing of a company is asked by its top management to come out with a new product, okay. So, for example FMCG wants to introduce good toothpaste in the market, okay which is going to be healthy. Which is going to be healthy for the health, for the tooth, okay which is liked by the people, the perception is good, okay.

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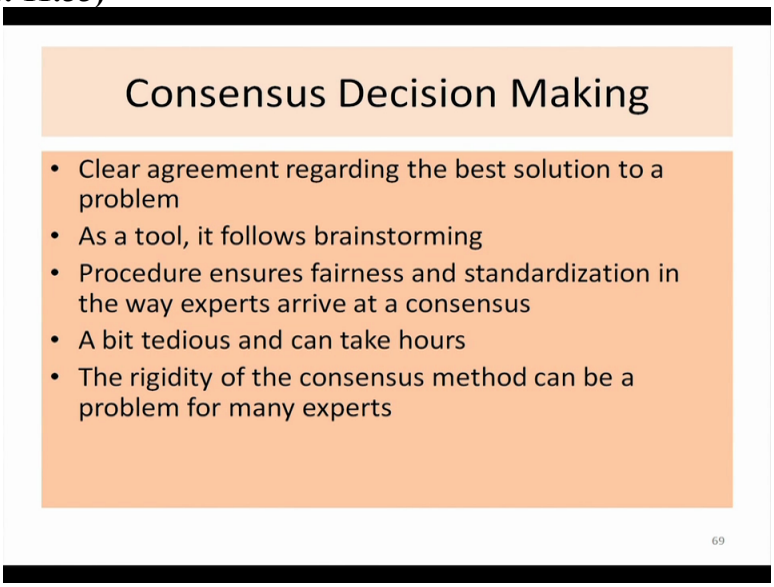

So, they have given you a rough idea, okay that you have you come out with a new tooth paste in the market which is going to compete with other or the existing toothpaste in the market, right. So, you call the experts and then they go through the brainstorming. And you have generated

enough ideas the toothpaste in terms of content and the process and the marketing and the kind of strategy that you are going to adopt is tested.

So, now, once you have decided and then you evaluate each and every process related to its content what it will contain and what will be the features of the toothpaste, whether you are going to market it, what could be the strategy, okay. And other things you decide, okay, this is what we need to do. You try to adopt a based on the consensus ok this is how you can go about it.

So, say for example, about content of the toothpaste, what should be included? Whether it is going to be herbal base or chemical base or it will have salt or something else and why? So, you have a discussion so you arrive at a process which is very, very standardized ok so that you are able to build a consensus on what this new toothpaste would look like, okay.

Though it is tedious and takes longer time, it is always good because here you are going to pool the knowledge of multiple experts. And if they arrive at a consensus it is always good, okay.

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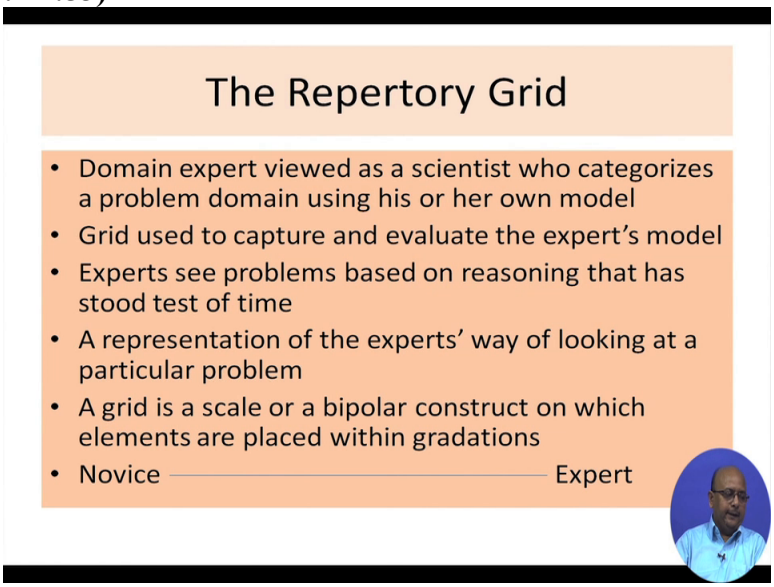

Then repertory grid; repertory grid is basically that is the expert is going to define the problem depending upon the kind of knowledge or the kind of critical framework or that kind of experience and the learning that they have ok. The idea of using the grid is to capture the expert's knowledge. For example, for a similar problem two experts come out with different idea solutions, right.

And the solution is based upon, how the person is reasoned out, how the person has cognitively processed the information and come out with a solution. So, repertory grid is nothing but is a

representation of expert's way of looking at t a particular problem, okay. Say, for example, you have a problem of retention in the organisation. People are leaving the organisation now.

Suppose, this is the problem and you want the expert opinion, so, how to retain people in the organisation. So, different people will come out with different solutions, right. Now, this solution is based upon their experiences, their learning. The recruitment manager will have different kind of perspective; the line manager is going to have a different kind of expert, right.

So, the representation of experts right the line manager is also expert because he is working, he is the boss. The recruitment manager the recruitment manager has gone through the process and so he is expert in the recruitment, right. Suppose these two people are going to look at this particular problem of retention, ok. So, you are going to create a grid. That is what known as bipolar construct on which elements is placed with gradations, okay.

So, it starts with if you are you are novice in the field or expert, then, you also have different kind of experts in the field, okay. And then you have, say for example another example I can take apart from novice and expert, satisfied and not satisfied. Suppose you ask, how good or effective are the recruitment policy is.

Based on his experience, the recruitment manager will say that he is satisfied; he has evaluated the recruitment process and satisfied. The line manager since he is facing the actual problem may not be satisfied. So, you can say no, no, no since the people are leaving, so he is not able to make use of them. So, may not be satisfied.

So, basically on this bipolar construct you are going to see that how the extent to which the person is going to use this perspective to put things at that place. And then, they try to summit up and see that whether you are able to arrive at a solution or not, okay.

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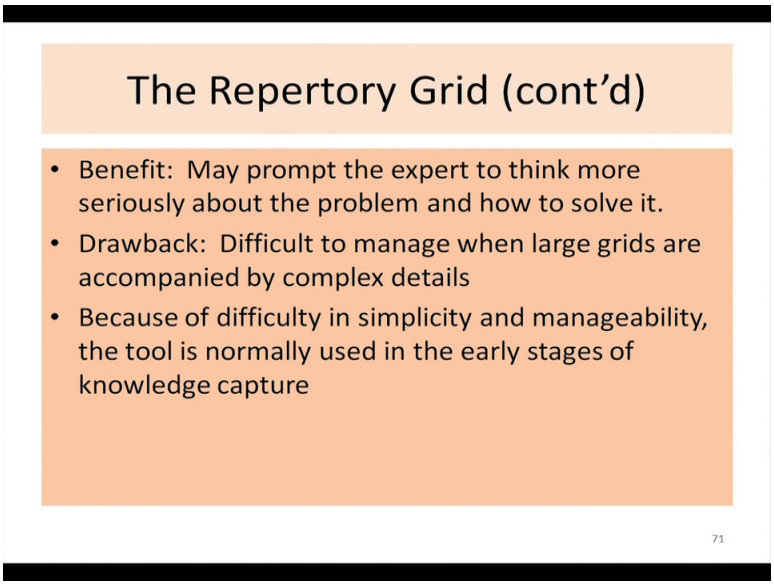

The benefit is that okay people can think more seriously about the problem, different kind of perspectives are coming. But the drawback is before large grids which are accompanied by complex details and then it is very difficult to accommodate and simulate them. For example if you have 7, 8 experts and they are giving different kind of things; then how to accommodate it and simulate them into a single process that becomes very difficult job, right and that becomes unmanageable, okay.

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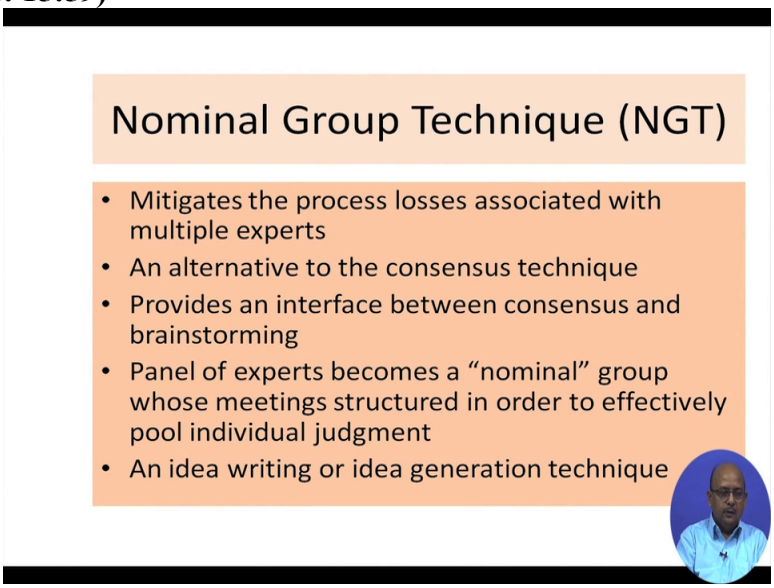

And then, you have nominal group techniques. See, when I am talking about nominal group technique, it is basically a process of decision making, okay. So, nominal group what happens? You try to arrive at consensus, okay. It basically provides you interface consensus and

brainstorming, okay, right. What do you mean by nominal group? Nominal group means you are going to put them into a particular category.

You nominate the ok, for example whether this problem is related to this domain or that domain. So, you are going to classify them or categorize them, okay. So, that it is very, very structured. So, accordingly, you can find out who is going to be the expert and who is going to solve this problem, okay. And it is again a idea writing and ideology generating scheme where the group is going to identify, classify the problem into different categories.

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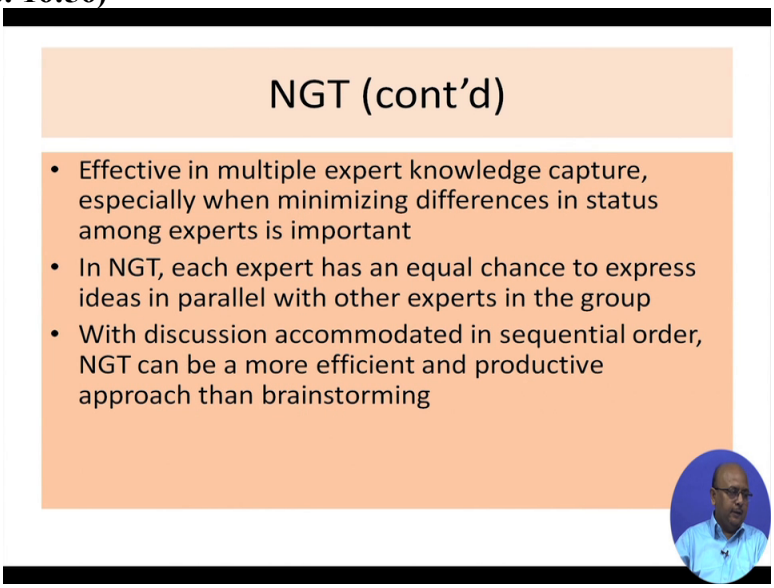

And then accordingly you can find out one who is going to do what, right. Basically when you have multiple expert knowledge capture, okay you can minimize differences because you are going to classify them. So, each expert is going to work in one area okay, so each expert as equal chance to express ideas in parallel with other experts in the group. Each one is going to talk about what he is going to say, okay. So, it is an efficient technique but it is not as good as brainstorming.

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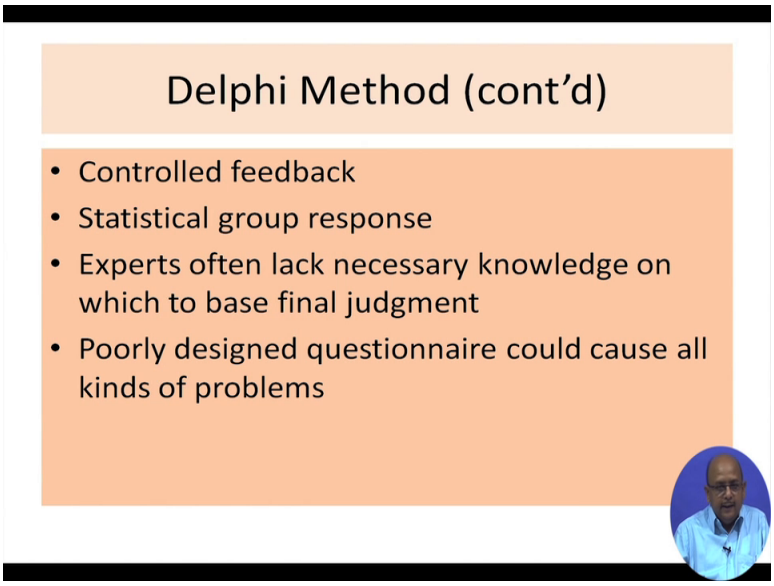

Now, another decision making technique is known as Delphi. Delphi is basically a very important technique. It is a very qualitative technique that you have subject matter experts and they have a brainstorming session, you can say, on a particular problem, okay. And then, in Delphi Technique what actually happens is that you brainstorm a particular issue; And the first session goes on.

And after that what happens? The result of the first session is distributed again among the experts. And then, they again discuss it unless they arrive at a decision. So, it is a multistage process and each stage whatever the result of the group is distributed to all the members.

And then the members go through the results of the group. And then, they look at whatever the opinion and then they see whether how much they accommodate adjust with the consensus, that is arrived by the group. And it goes on unless there is a total consensus on them, right. That is what is known as Delphi.

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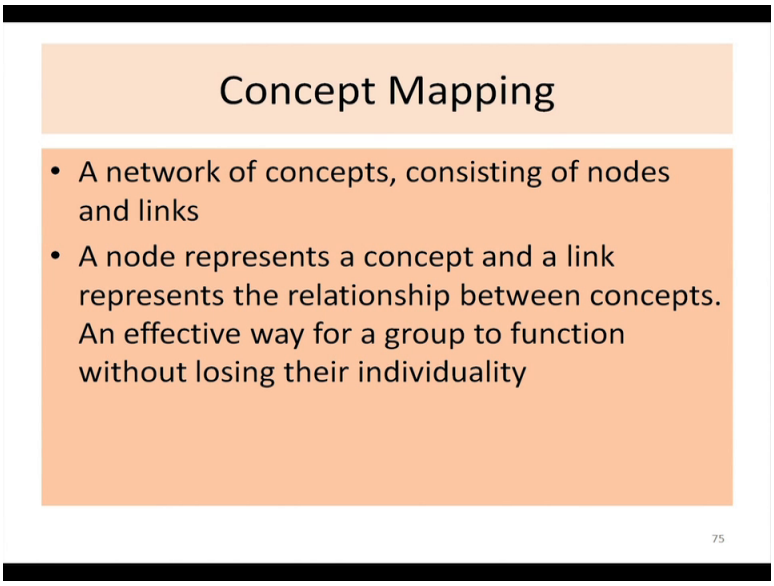

Next is what is known as Concept mapping. In case of Concept mapping what happens, basically you try to conceptualize things, okay. It is defined as a network of concepts consisting of nodes and links. So, suppose you are using a concept and this concept could be defined something that could be a concrete thing or a abstract thing. Say, for example, I am going to write this.

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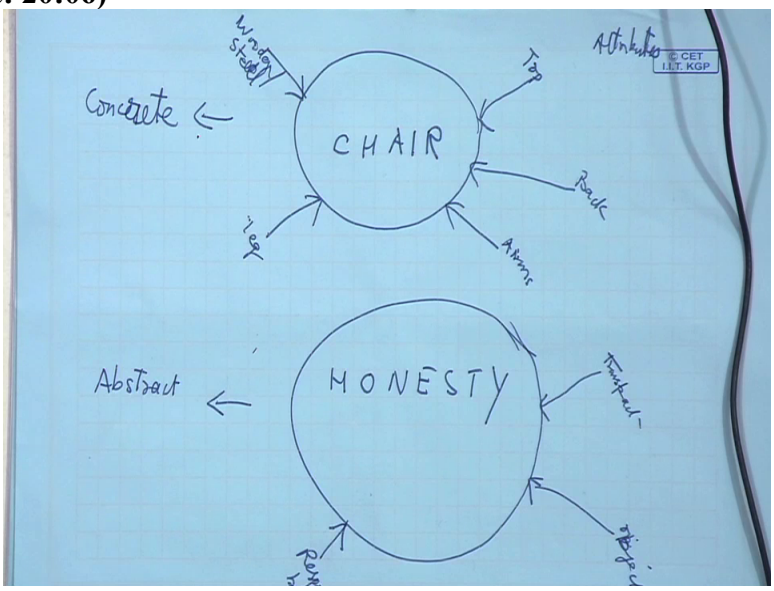

I am going to use two words CHAIR, right. And I am going to use another word as a concept HONESTY. If you look at chair and honesty both are the term or concepts. When you are going to map this concept, both the concepts you need certain attributes to define it and how those attributes can be linked with these two concepts.

One is abstract in nature, it is an abstract concept while this is and concrete concept right. Now when it comes to defining these two concepts, that is an abstract concept and concrete concept

you need to identify certain attributes. What could be the various attributes which could be used to define concepts, you can find out number of attributes, okay.

Like chair as a top, it as a back, it has an arm, right. So, we can write that. Then, what else? So it could have a top, a leg, okay and it could be made of wooden right, it could be steel, anything like that. So, you are going to use these attributes in order to define concepts. So, these are the nodes and they are linked with this right, all of them are linked with this. That is how you are going to define the concept.

Similarly when you are going to define an abstract concept, then, it is going to be very, very difficult because you do not have a visual image for this kind of concept, right. So, what you do? You give certain examples ok, the honest person does this thing, right. For example, you can say that he is more transparent, he is very, very objective right; he is account, responsible, right. These could be different kind of attributes that you are going to associate.

And these are the different nodes that that you are going to link with this particular concept, okay. So, when it comes to concept mapping, it is very, very important to identify nodes and the links that is associated with this one, okay because this is going to show the relationship, okay.

So, I am given a simple example here because unless the concept is defined properly, okay you cannot go for understanding relationship with other things further, in order to identify your problem and its solution, right.

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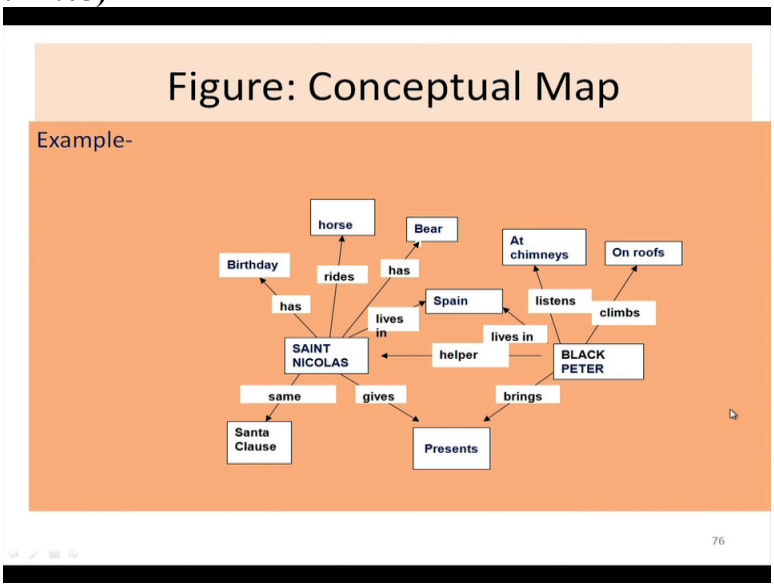

So, there is another example that I have taken here. See, there are two people you can see in the figure: A saint and his helper. His name is Nicholas and his name is Peter, is helper. If you look at the node, he is the helper of this person, right. And now, these are some of the things that associated with this person. He lives in Spain and he also lives in Spain, so that is how they are related.

He is a helper to him. And he had a birthday, so he rides horse, has the beer. So, this person again his attributes are defined; he brings certain things and gives it that is present, because he is acting as a Santa Claus, right. Now, if you see this, it shows that conceptual map what he does and what he does and the kind of relationship that exist between various attributes and these two people, right. And that is how this goes about understanding it.

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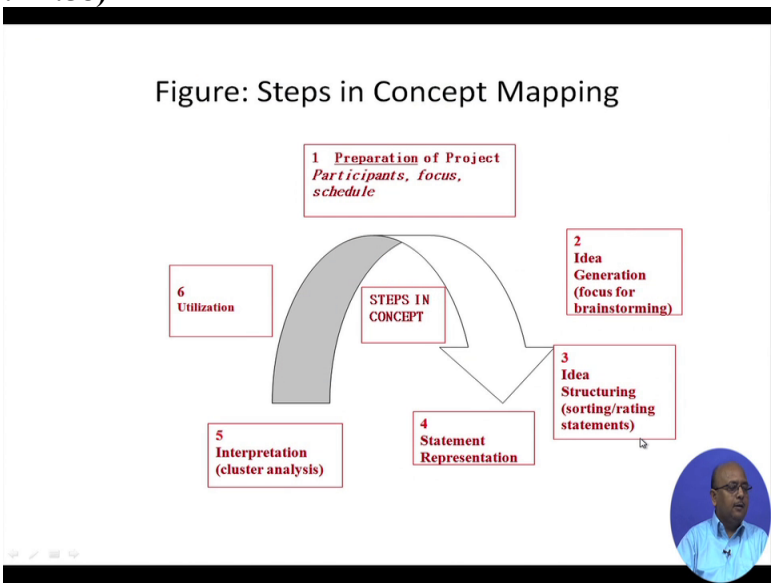

So, when you are going to apply this actually in the area of problem solving, so it is very, very important to conceptualize the problem first. And that is where you go for concept mapping. So, the first stage is, these are the different stages in the concept mapping that is preparation of project, participant, workers, focus and schedule.

The participant identifies the problem, okay and then schedules it. Then you move to next stage that is Idea generation. So here you can go for brainstorming, what you should do right? Or what do you want? Then once idea generation is done, then, you go for evaluation. And then, go for sorting or editing statements. Whatever idea is submitted you go for evaluation of them, right.

Say, for example, when I am talking about this particular statement that is, this honesty. If I am going to ask experts what do you mean by honesty? So he is coming out with different kind of

functions? So, once this idea is generated through brainstorming session. Then, what will do? We are going to evaluate each and every node whether it is really linked with honesty or not, right.

So, you are going to sort and rate each and every statement that is given. Then, you are going to representation of these statements; how it is related with this; okay. And then, interpretation means that these are the things which could be related in a cluster, which could be related to a particular concept. Then, you are going to use it, to define the concept that is what is known as utilization.

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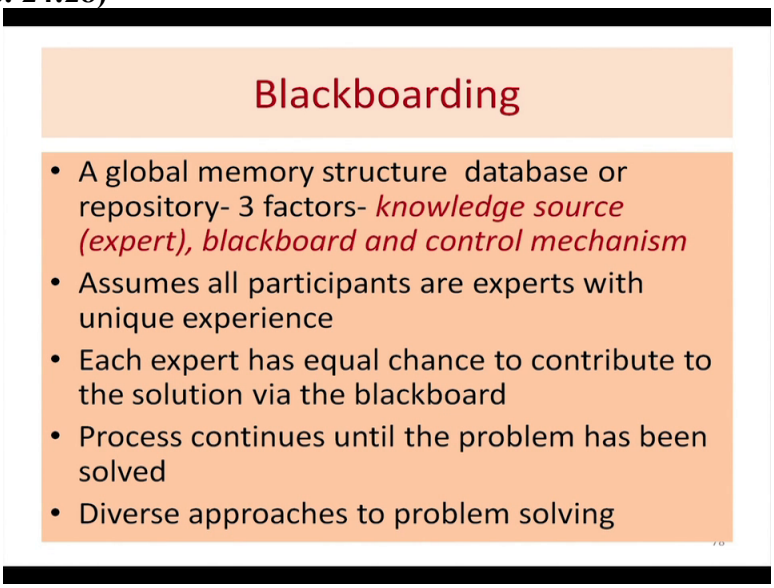

Another term that is used is Black boarding. Black boarding means that you have a blackboard, okay where people are going to write the things and it may include, say things blackboard in the sense it is a global memory storage structure or a database or a repository what you call. And it has a knowledge source, a blackboard and a control mechanism.

The knowledge source is the expert right, the blackboard that is shown over there is like for example there could be blackboard in front of me and all participant here in black boarding are experts and having unique experience and it could be in different domain areas, right. And then, each expert is going to contribute to the solution via the blackboard.

It could be electronic blackboard or it could be manual, physical blackboard which could be used for this purpose. What actually happens? The space is provided for each expert on the blackboard. And then, you ask these experts to represent the knowledge on the blackboard. You talk about the process on the blackboard, okay which could be used to solve a particular problem and this continues with the help of the multiple experts unless you arrive at a solution, okay.

The idea the advantage is that you have a diverse approach to solve the problem. The only thing that basically is instead of people you are using a blackboard. It could be a common normal blackboard or electronic blackboard. And everybody share the common language for interaction because there are experts who are going to discuss it with each other.

And then, you have flexible representation of information because there could be information which could be overlapping. So, you need not write all the information all the time, right. So, this over lapping can be shown on the blackboard. See, this information has come from the expert's right. And then, you have efficient storage and location of information because everything can be visualized properly.

And then, you can club them, cluster them and you can also relate all the information that is there. So, what I mean by efficient storage and location means, all the information is located at one place, on the blackboard and they could be stored using a system, okay depending upon kind of knowledge that is being elicited from the experts. And you can club these information that is given over there, okay.

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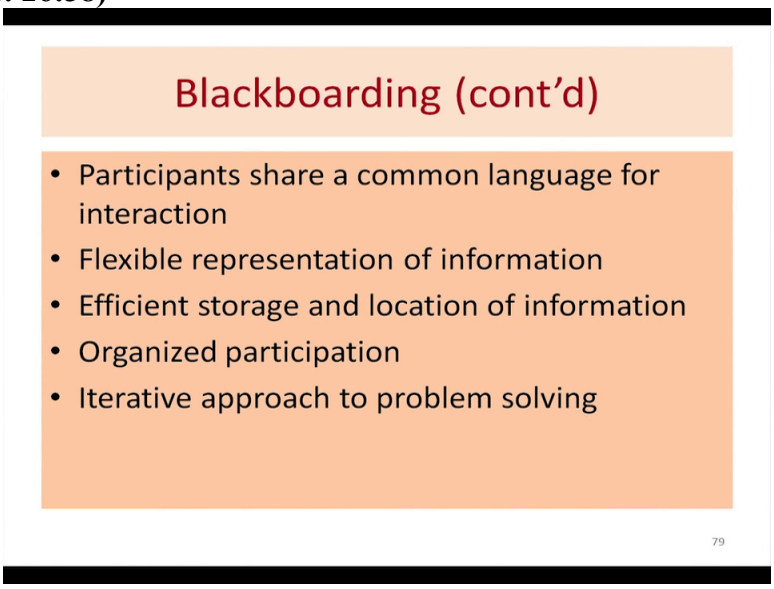

And then, you have organised participant, what is mean by organised participation is that each and every participant is going to contribute to the process in representing their knowledge. The important thing here is that role of the moderator. And who is going to be the moderator? It is going to be the knowledge developer. That is where you have to say, as a knowledge developer, that how are going to use this blackboard.

And of how this blackboard is going to be used by different experts. And because experts in this process are the participants are the experts here, okay. So, you need to control all the participants otherwise, suppose you have a minimum sorry a limited space on the blackboard, okay. Suppose, one participant or one expert want to use maximum space. Then, what will happen? You will not be having space for the others participants.

So, that creates a problem, so that is why if you look at earlier what I discussed is, that you have a knowledge source, a blackboard and a control mechanism. The control mechanism is very, very important. Why I am talking about control mechanism is that the role of the knowledge developer is to somehow control the flow of information and organise them on the blackboard.

So, that each and every expert contributes, right, otherwise what will happen? Some experts may be able to contribute, some experts are going to nominate process or other experts may not come out at all because they do not find any space for them. So, these are some of the issues that need to be controlled by the knowledge developer, okay.

The advantage is that, okay as a knowledge developer you make sure that yes, everybody participates. I am in experts or going to participate and everyone participates to the maximum, right so that everybody comes out with a solution.

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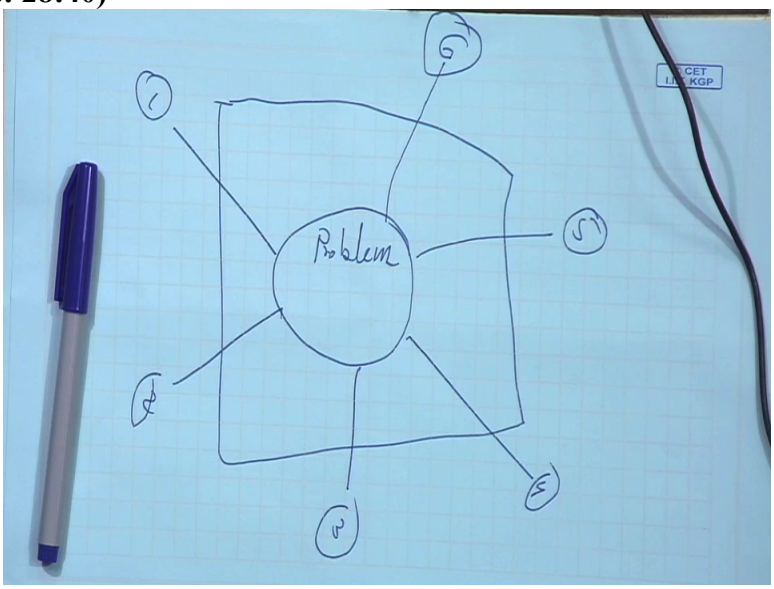

So, for example what you can do in the middle of the page, suppose, you are writing this is the problem, okay. Now, you have different experts, participants, they are the different participants, okay and this is the blackboard. The centre of the blackboard you have the problem. And provide

them enough space for these participants where they can approach the problem and see that how they are going to solve the problem.

So, you are using diverse approaches to the problem to see that outcome and once it is done again you continue with the same process. The process continues unless the problem is solved because now each and every participant or the expert would be able to visualise and see how others have approached the problem.

So, they would learn and neutralize it when they moved to the next stage they might use those inputs in order to solve the problem, in a more comprehensive way. That is the basically, the advantage of using blackboard. So, they are using a common language. They will interact among themselves and try to see that how it can be done.

And then, suppose you find that this person is giving a better solution. You can go for a better flexible representation of the information. You give them more space so that he is able to contribute more. If he is going is contributing less you can give less space, okay. But make sure that it is organized, it is not that do not leave any anybody in the process; everybody contributes.

So, it is a creative approach to a problem solving. The iterative approach is always better because it is much, much more structured and then at the end of the day you could be able to solve the problem. And that is how we continue this, thank you very much.