Management Information System
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Lecture No. # 12
Learning Organization

So, in the last lecture we have discussed about the knowledge management aspects. Now in this particular hour we shall discuss about learning organization.

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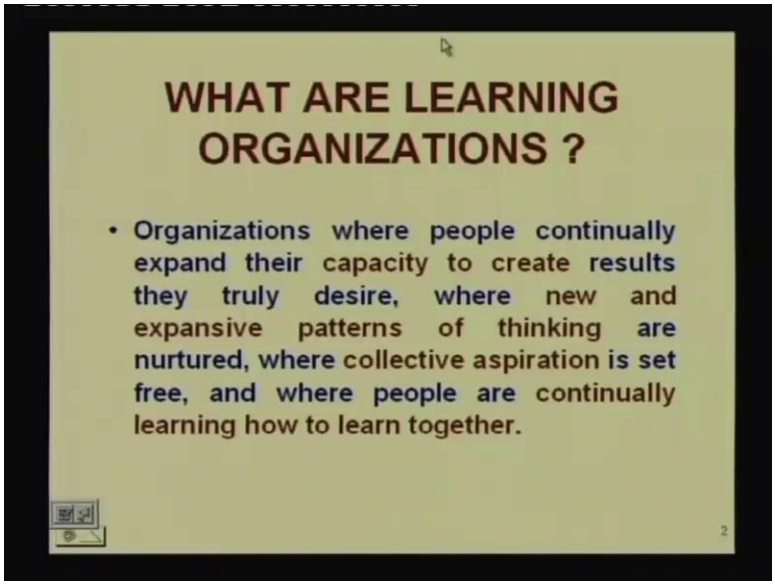

See, the learning organizations are organizations where people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together. So, this is like a definition of learning organization. Essentially what we need to understand is that a learning organization is a kind of organization where people are continuously learning in the sense that it is not that that people do not have any knowledge or they do not come with any set of implicit knowledge but if you see today's world the product life cycles and shorter and shorter, the new products are coming up almost every day. And what is basically required is that not only you have expertise but you continue to build expertise in a continuous manner, alright.

Having a given set of expertise is not enough until unless you also are able to develop new expertise in a continuous manner. So, in the changed business place of today's only those companies will survive which not only have expertise but which can also build expertise quickly, right. So, that means organizations which are learning all the time, so that's how the learning word is so much stressed upon and what we like to explore in this particular lecture on learning organizations that what are the mistakes the learning disabilities that are usually seen in the organizations and how this learning disabilities can be removed, what are the essential requirements to build a good or a kicking learning organization and what are the usual archetypes, they are called system archetypes.

The basically models of common situations or pitfalls where organizations invariably falls and what kind of knowledge or wisdom we can get out of it, so that you can improve upon your information systems not only that your knowledge management process in an organizational context. So, these are different issues which we shall discuss in these particular lectures in our discussion on learning organizations.

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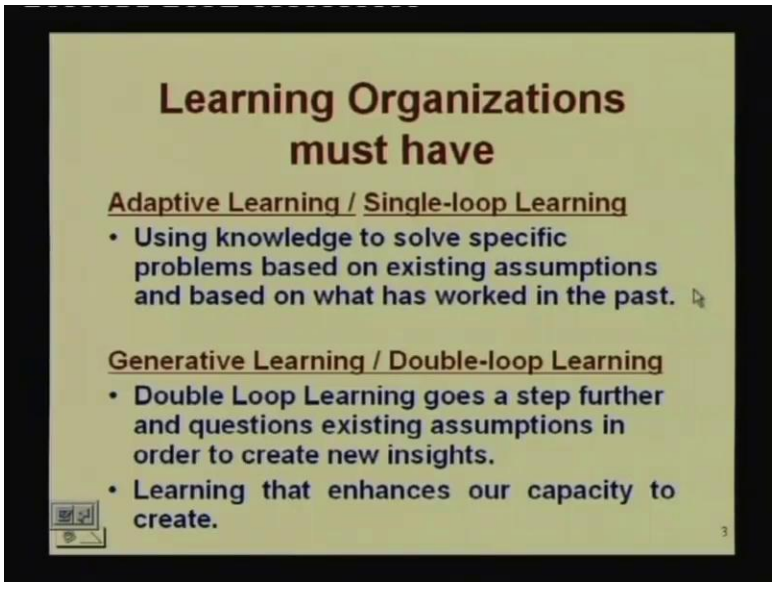

Let us repeat once again about the slide we had on the single loop and the double loop learning in our previous lecture on knowledge management. So, the single loop learning also known as

the adaptive learning is using knowledge to solve specific problems based on existing assumptions and based on what has worked in the past. The double loop learning or the generative learning on the other hand is the double loop learning goes a step further and questions existing assumptions in order to create new insights. Learning that enhances our capacity to create. See, you can only enhance your capacity to create only when you understand not only the cause of a particular effect but the structure that goes with it, alright that you have many assumptions like the example we gave about the earthquake killing people is not really earthquake that kills people is the falling buildings that kill people. So, we have to not only understand earthquake but also we should understand how buildings fall and you know how they kill people. So, how can we better design the buildings and gain from it. So, that's an important thing about learning organizations.

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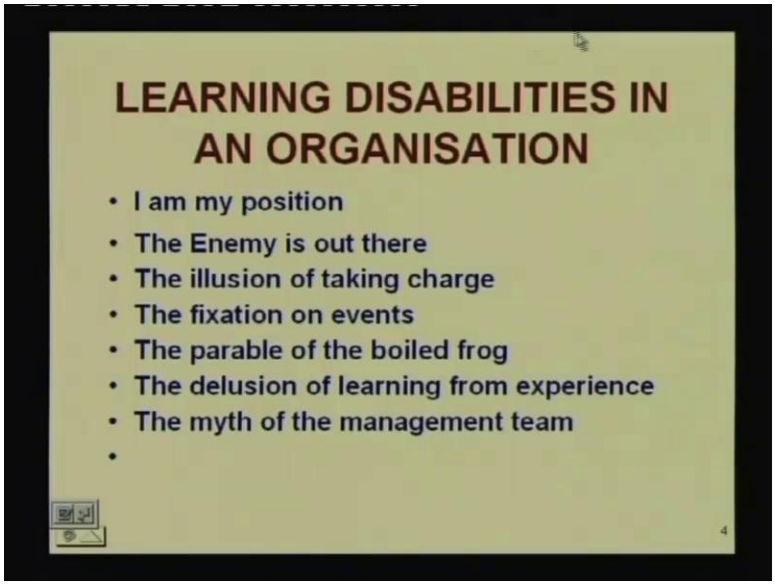

Now comes the important thing about the various learning disabilities that an organization usually shows while in a learning organization. See, some of these things are that I am my position, the enemies out there, the illusion of taking charge, the fixation on events, the parable of the boiled frog, the delusion of learning from experience, the myth of the management team and so on. You know these are the 7 important learning disabilities.

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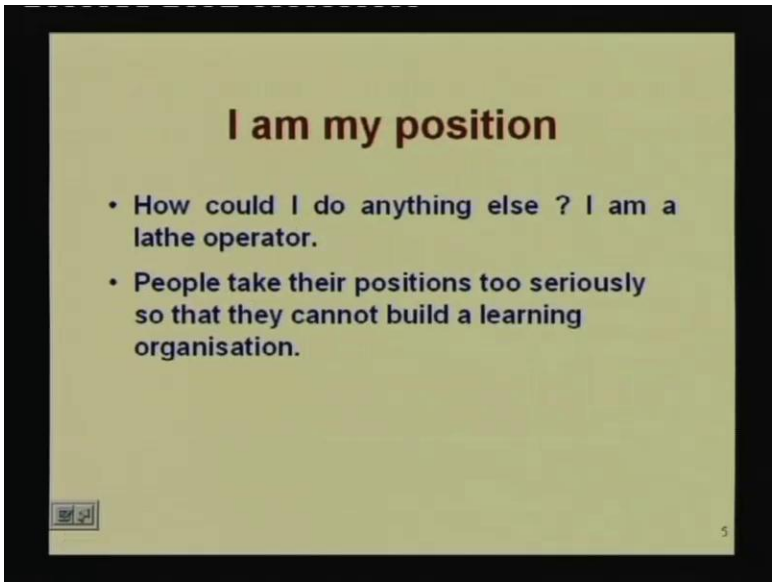

Now let us discuss them one by one. First of all I am my position. In every organization, we'll find people they are continuously asking how could I do anything else, I am a lathe operator alright. So, people take their positions too seriously so that they cannot build a learning organization. Please understand to build a learning organization, you not only need horizontal and integration, you also need vertical integration, alright. So, essentially if you simply say that you know I just confine myself to the management level is not enough, you have to integrate all the workers, the employees, the lathe operators you know in to your fold. The lathe operator is actually operating on the lathe and he knows the nitty-gritties about the machine in the best possible manner.

So, suggestion should come from him, he should not think that he is just an operator and he has nothing much to contribute towards the organization. In fact most of the quality management systems, the quality circles essentially the stress is given all the way down to all the workers, the operators and everybody, so that you can really improve quality and it doesn't just become a slogan or you know something like a movement which is only existing on paper. So, that's the first disability of organizations that usually called I am my position.

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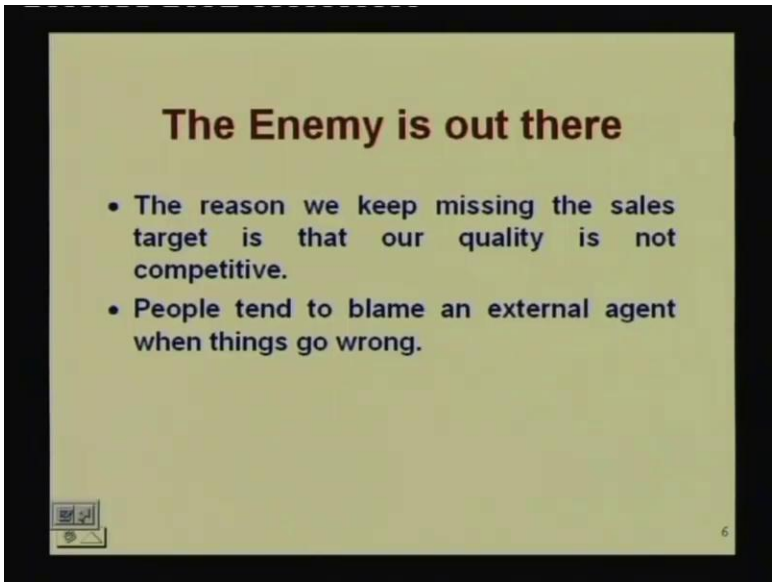

Then the enemies out there. Most often we see we say that you know it's not really us, it's somebody else, an external agent that external agent is responsible why things are going wrong alright. The reason we keep missing the sales target is that our quality is not competitive but you see that our quality is not competitive, we cannot blame on somebody else. We are responsible for it because we are producing our product, so if the quality is not good it is us whom to blame. So, something should be done about it by us rather than by the competition, alright. So, the enemies out there, we always try to find out some external agent who is responsible for our behavior but really speaking our behavior is generated by us and not somebody else. This understanding has to be understood, I mean they has to come first that is called the enemies out there.

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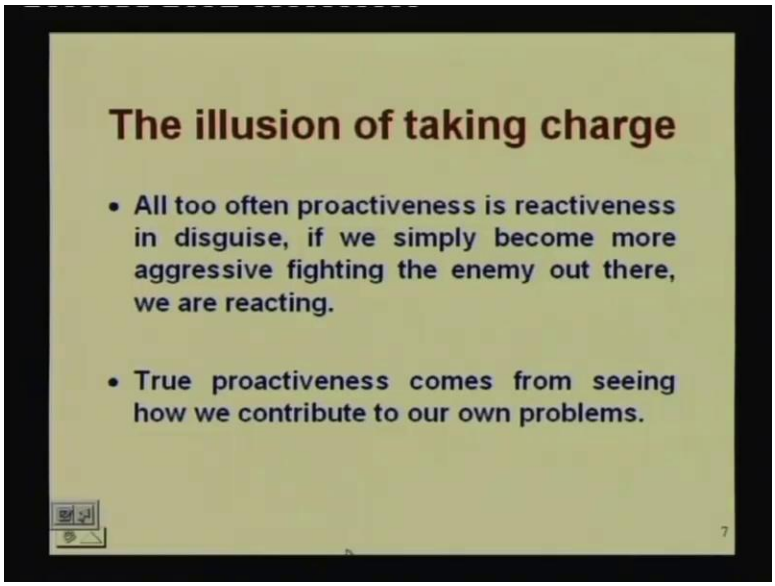

Then the illusion of taking charge, alright. See, we often think that we are in charge alright, all too often proactiveness is reactiveness in disguise. If we simply become more aggressive fighting the enemy out there we are reacting. True proactiveness comes from seeing how we contribute to our own problems. See, we always say that we need to be proactive and how? Say for example when we say that our competitors are having better quality and we are suffering because of that, so we start a negative campaign that are the really speaking the competitors quality is no good, it is our quality that is better although we know that our quality is poor. It may appear proactiveness to some people that we have started a negative campaign against the others, so the market will understand that their quality is not good and therefore we shall survive. This is definitely not proactiveness.

You see the very fact if we really look at why our quality is bad, we can understand it has nothing to do with our competition. Our quality is bad because we are not following quality procedures; we are not following the nitty-gritties that must be maintained to deliver our product in the right quality. So, we should really concentrate on how to improve our quality, how to do things so that we are competitive and not really start a negative campaigning. So, the negative campaigning part is not really a proactiveness, it is also a kind of reactiveness. So, this is called the illusion of taking charge.

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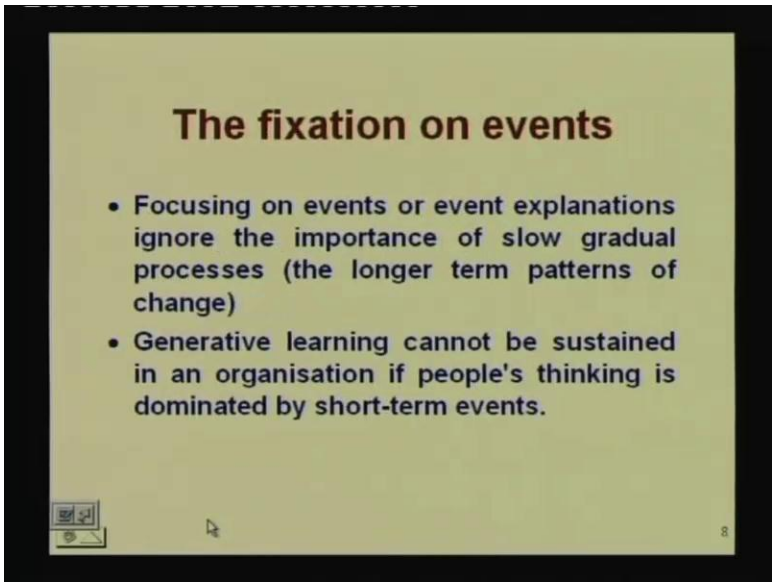

The next one, the fixation on events. See, many of us we are really too fixed on the events that happens, alright. So, focusing on events or event explanations ignore the importance of slow gradual processes, the long term patterns of change. Generative learning cannot be sustained in an organization if peoples thinking is dominated by short-term events. Here 2, 3 important things are there, one is that of slow gradual processes and the second thing is you know the fixation on events. See, whenever we find that there is an event that is occurring, the event could be that we could not supply our material alright. The event could be that our company has become sick.

Now see if you really look at it the fact that we could not supply our material this time, it has definitely something to do what we have done in the past. Maybe for every time we fail to supply there are 10 times when we have been able to supply just by a wise guy or by an act of God or basically by chance, by fortune, everything happened just like that and we are able to supply. But you see you will not get the chance, you will not be able to get the supply of you know the help of fortune or the luck every time. The time will come then your luck will run out and when your luck runs out you will fail. So, the very fact that every time we have been successful in supplying the material in spite of our poor processes as a logic will not hold. A day will come and you will not be able to supply.

So, if this you really we look at it that we are unable to supply, it's a slow gradual process. People are becoming more and more slack our delivery systems are failing, alright. We are not producing things on time, suppose the last date is 20th we are on the last hour we are rushing things on 18th, on 19th and our transport systems are always working on expediting mode. So, you see that you know every time you cannot expedite a person, you cannot say that you know this is very important, it's a rush work and you have to do it in a short period of time okay. So, this is basically you can call as a fixation on events, the very fact that we have failed this time will not fail next time that's not the question. The really, the question is that we have not really observe this slow gradual processes that means that our delivery system is becoming poorer and poorer day by day, we have not observed, alright.

So, this is where you cannot sustain double loop or generative learning in an organization, if everybody is thinking about events and nobody is taking really charge or responsibility that the slow gradual processes, we all are responsible for it that if we are not supplying on time everybody has a role to play, so that particular thing has to be understood rather than highlighting the event that we just failed this time.

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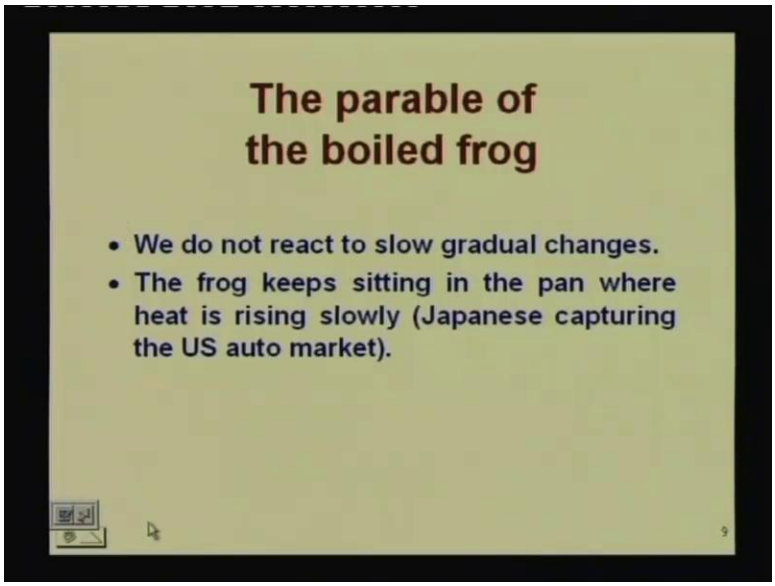

The next one is very interesting the parable of boiled frog. You see a frog that sits on a pan where heat is raising slowly will be fried or boiled, alright whereas if the heat is raising fast, very fast on the pan the frog will jump out of the pan. So, this is interesting that if the, because the change takes place in the slow gradual manner, people do not react. So, same thing happens that when Japanese captured the US auto market to begin with they have a very very small share, a very poultry share of the US market, auto market specifically but as time pass, time passes the Japanese auto companies they slowly started to capture in a very very slow and gradual manner 0.01, 0.02, 0.03, 0.1, 0.15, 0.2. Suddenly, when the US auto people really understood the impact of what has happened, probably it is late, alright. So, that's the important thing that we should understand that slow gradual changes every day, see when we are all born, we have born as a small child we don't realize the day comes when we are old, alright.

So, now if you are looking at yourself every day, you don't understand this change, it's a slow gradual process, alright. So, but anybody who observes you after certain period, they say that okay you have changed. Now, we should really understand that most of the things that happened in our world are basically results of these slow gradual changes and therefore we should take advantage of this rather than face it. The fact is that we should try to have those kind of slow gradual changes which are beneficial to our organization.

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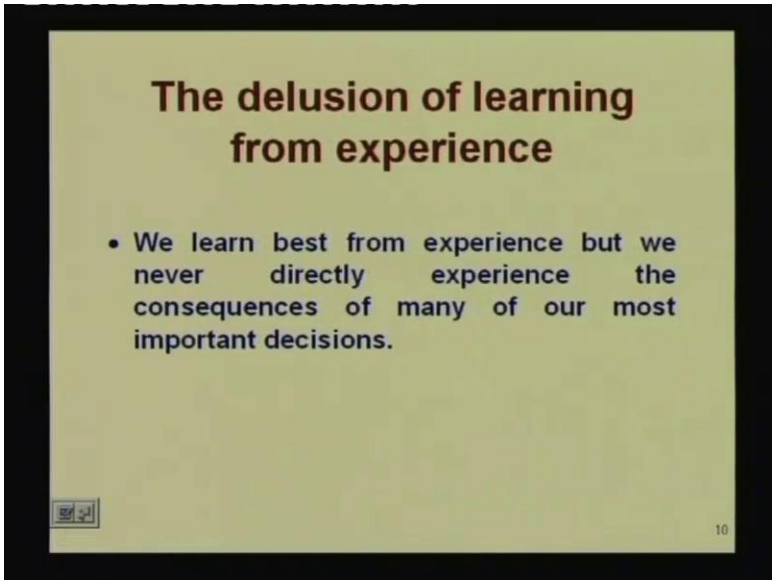

The delusion of learning from experience, so we learn best from experience but we never directly experience the consequences of many of our most important decisions. It is a very interesting thing. We all think that we are learning through our experience, we have taken a decision, we have hired a person. There are 10 people and we have hired one of them but what about the remaining 9? Do you really know whether those 9 would have been better? We only see the person we have hired and maybe he has become better but who knows the remaining 9 could have been even better, alright. So, we have no experience of that. So, many a time, we think that we are learning from experienced but we may not be.

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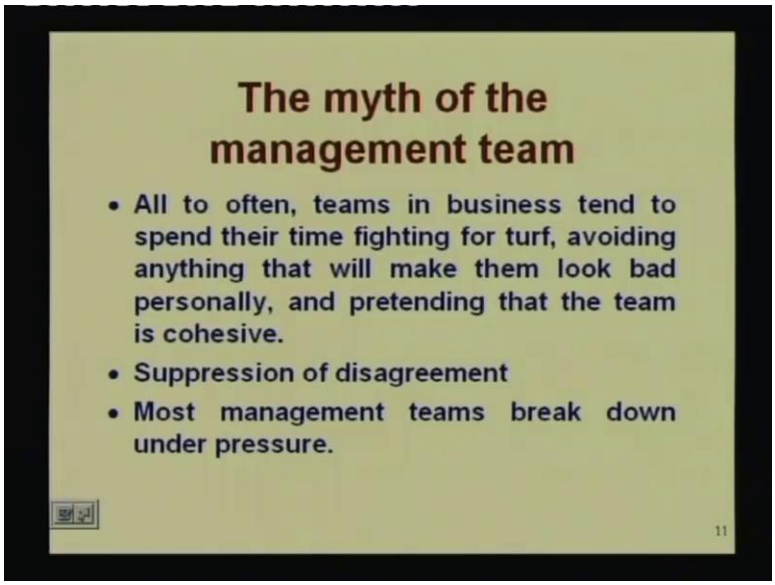

The myth of the management team. All to often, teams in business tend to spend their time fighting for turf, avoiding anything that will make them look bad personally, and pretending that the team is cohesive, alright. So, it's a kind of separation of disagreement most management teams breakdown under pressure, so this is another issue that must be looked into.

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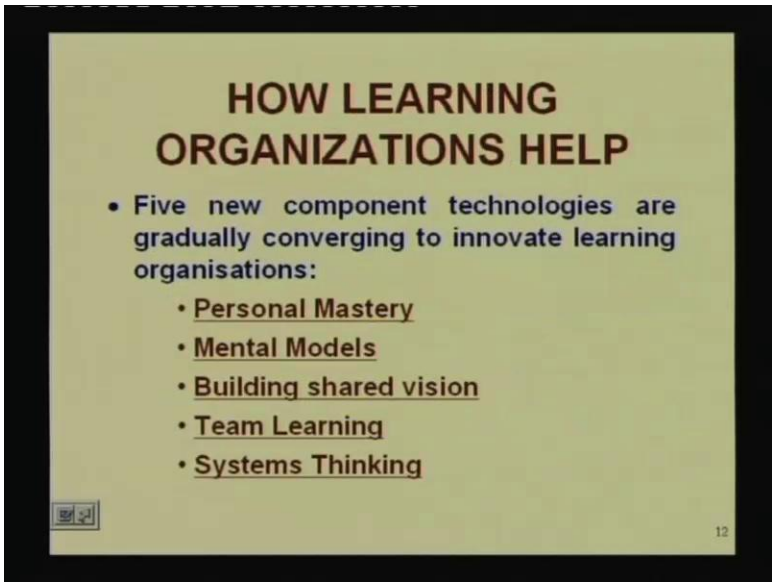

Finally, we understood the disabilities. Now, the question is that what should be done? Basically, if we have to develop the generative learning and we have to build the learning organizations, essentially we have to focus on five new component technologies, right which are converging to innovate learning organizations. These are personal mastery, the mental models, building shared visions, team learning and finally the systems thinking. So, these are five important components of a learning organization. Let us understand them one by one.

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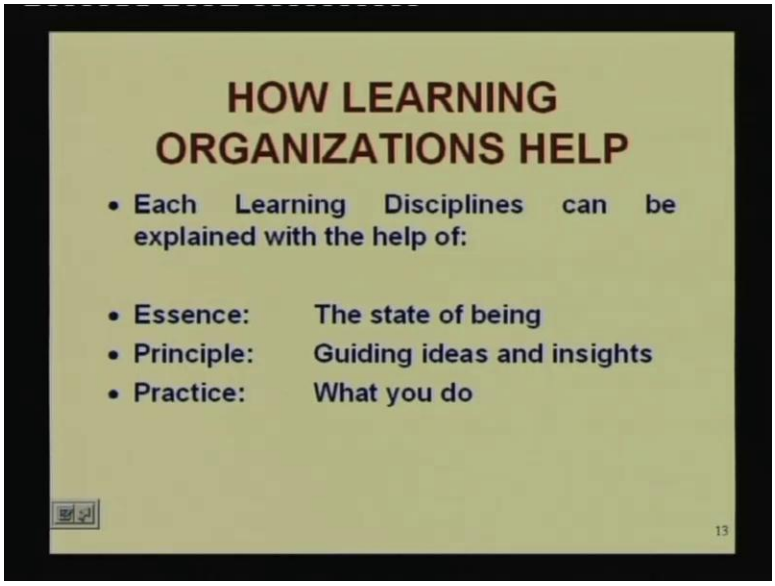

So, each learning discipline is explained with three things the essence- the state of being, principle- the guiding ideas and insights and practice.

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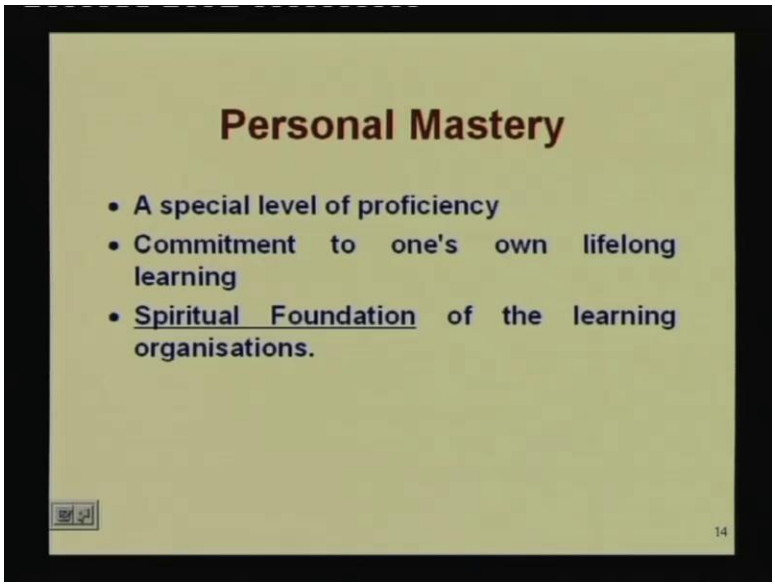

So, let us see the first the personal mastery. The personal mastery can be called a special level of proficiency commitment to one's own lifelong learning, right those spiritual foundation of the leaning organization. So, you see for any learning organization to work personal mastery is a must. You must have individual experts in every discipline, you must have people who have the necessary skills, who have the necessary proficiencies available with them.

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So, some essence being generativeness then connectedness, one should have vision, there should be creative tension versus emotional tension in the subconscious then clarifying personal vision, holding creative tension, focusing on the result, seeing current reality, making choices, alright.

So, not only you have personal mastery but one should be able to create that personal mastery that means you should have people who takes pride in their work, alright who have the required skills but not only that they have creative tension in them. So, that's the first thing that's very important.

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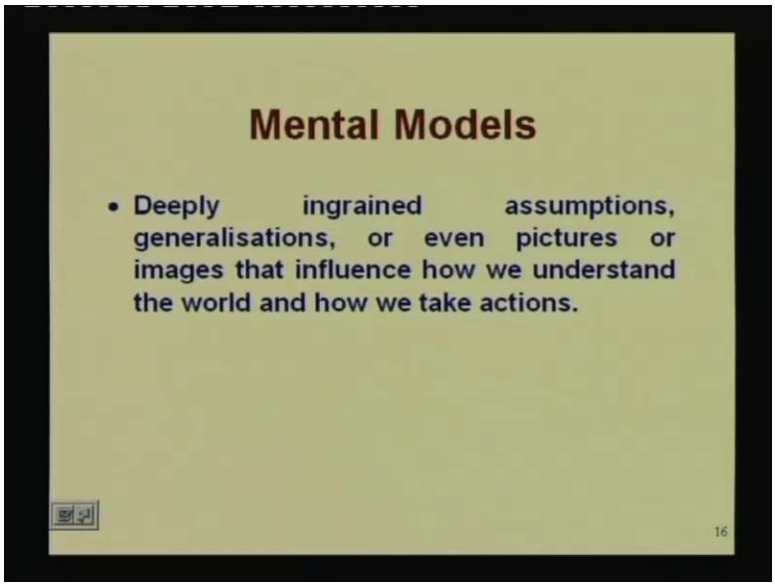

The second thing there should be mental models. See, the mental models are deeply ingrained assumptions generalizations or even pictures or images that influences how we understand the world and how we take actions, alright.

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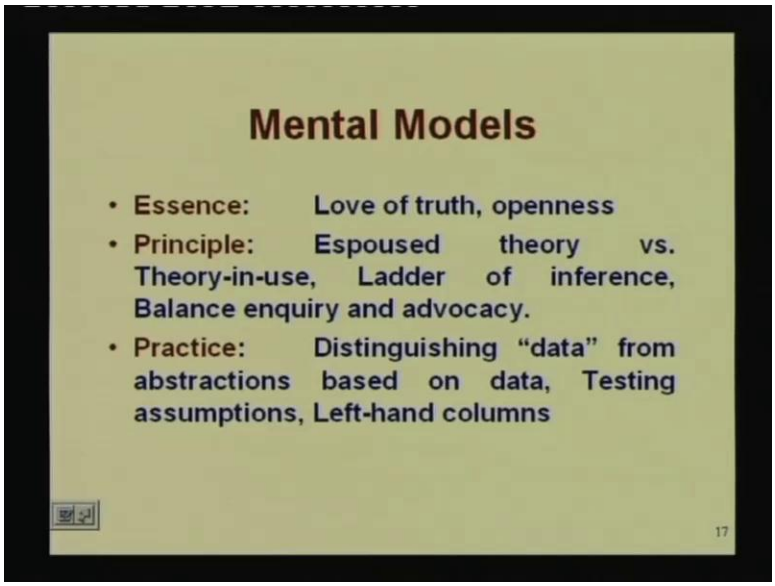

Essence -love of truth, openness. Principle- espoused theory verses theory-in-use, ladder of inference, balance enquiry and advocacy, distinguishing data from abstractions based on data,

testing assumptions and all that left hand columns. So, see the mental model basically mean that we should have people who have mental models, we don't want people who have no vision in them alright people with vision, people who think, people who have a structure of things in them alright who believe in something, who wants to do something.

So, basically if you have people who have low mental models, who have no generativeness in them, who really do not want to develop anything they will do work like a machine, like a robot, alright. So, but the point is that is good for today's thing but that is not good for tomorrows thing because technology is changing, systems are changing, things are changing. So, you see if we have automatons who continues with that tragedy with every day's job, you cannot build a learning organization. To build a learning organization you have to have people who are having models in them, mental models in them who observers, who understands the gradual changes, who understands the importance of process innovations, who understand the things that must be done for the future, the kind of things that must be embraced, the old things to what extent we should embrace them and when to through them out, alright. So, these distinctions should be there in the mind of the people and that we are calling really the mental models.

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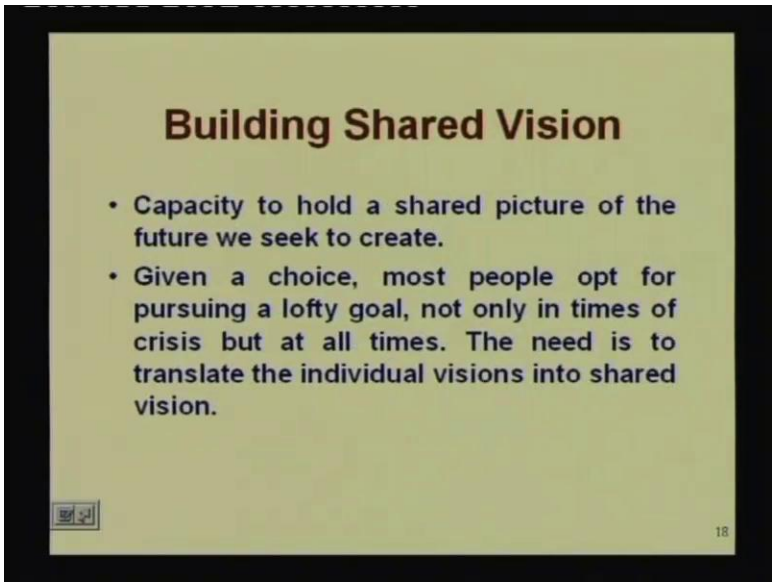

Then these mental models and the personal mastery must be shared, so that it's not that I have my vision, you have your vision but we should together build what is called as shared vision, alright. The shared visions is possible only when we have the capacity to hold a shared picture of the future we seek to create. Given a choice most people opt for pursuing a lofty goal, not only in times of crisis but at all times. The need is to translate the individual visions into shared visions. So, this is where the most conflicts the rise also. You see that I have my vision, you have your vision, the company has his vision, if these three do not meet we really cannot build learning organizations.

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So, essence- commonality of purpose, partnership, shared vision as hologram, commitment verses compliance. So, visioning process, sharing personal visions, listening to others, allowing freedom of choice and acknowledging current reality, all these must be done.

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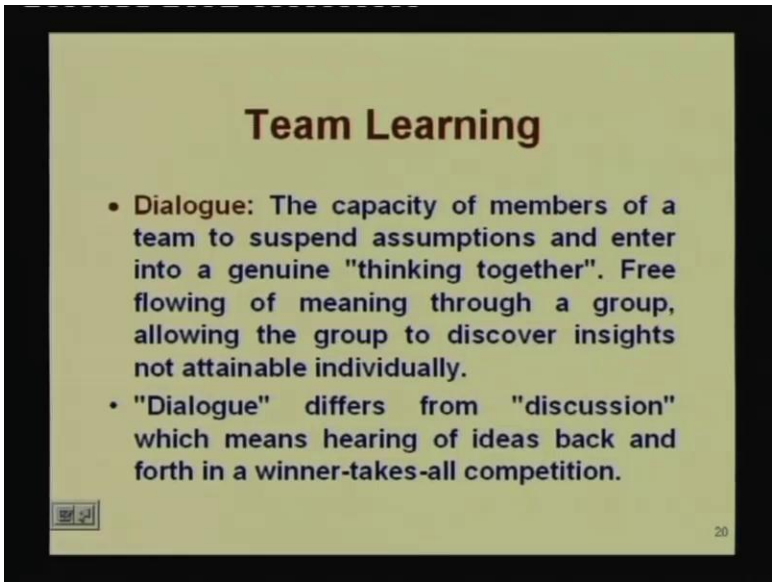

Next is the team learning, so okay fine that we have mental models, we have visions and we decided to share them also but how do we learn together, right. We have our shared visions that is the static thing but how do we go for the dynamic thing where we are learning together and this is possible through dialogue. What is the dialogue? The capacity of the members of a team to suspend assumptions and enter into a genuine thinking together. Free flowing of meaning through a group, allowing the group to discover insights not attainable individually.

Dialogue differs from discussion which means that hearing of ideas back and forth in a winner-takes- all competition. So, when the team discusses, it's not that it is the my idea verses your idea, it's not that we are having a competition, it's not that who wins and therefore really gains over the other. It essentially means that we are thinking together my ideas and your ideas we are sharing, it's not that my ideas to be over you or your ideas to be over me not that, so we have to have a method of dialogue.

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So, how this method of dialogue can be built? Through a process of collective intelligence or alignment, right. Integrate dialogue with discussions, defensive routines, suspending assumptions, acting as colleagues, surfacing own defensiveness and by practicing. It's not easy, it's extremely difficult to create a team learning process, it requires the individual barriers to be removed and really very very difficult but if the motivation is there, if the really the people really wants to have an organizational vision and wants to achieve something, it's may be possible.

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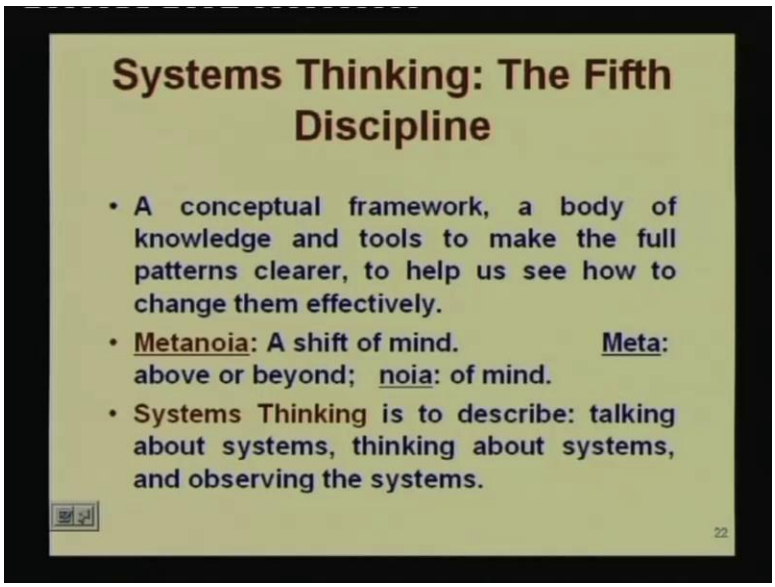

Then finally but not really the last, the most important thing is the systems thinking the so called the fifth discipline, right. It is fine to have all the other four components of learning organization that is we should have personal mastery, we should have mental models, shared vision, team learning but there should be something that should bind all of them together. That is actually called the fifth discipline alright or called, so called systems thinking right a conceptual framework, a body of knowledge and tools to make the full patterns clearer to help us see how to change them effectively, okay. So, it requires a shift of mind, so called Metanoia alright so behind and beyond that is the concept above or beyond and that of mind.

So, not only just look at the system but look beyond the system, look behind the system that means look at the subsystems, look at the super systems. So, if our organization is a part of a bigger system that of the market place, competition, customers, government regulations understand the bigger system. So, understand all the subsystems of the system that is what is inside the system also look what is outside the system. When you have understood all this super system, system and the sub system only then we can understand our system better, alright. Individually if we simply try to understand our system, we may not be able to understand it fully. So, this is essentially what we call systems thinking, alright.

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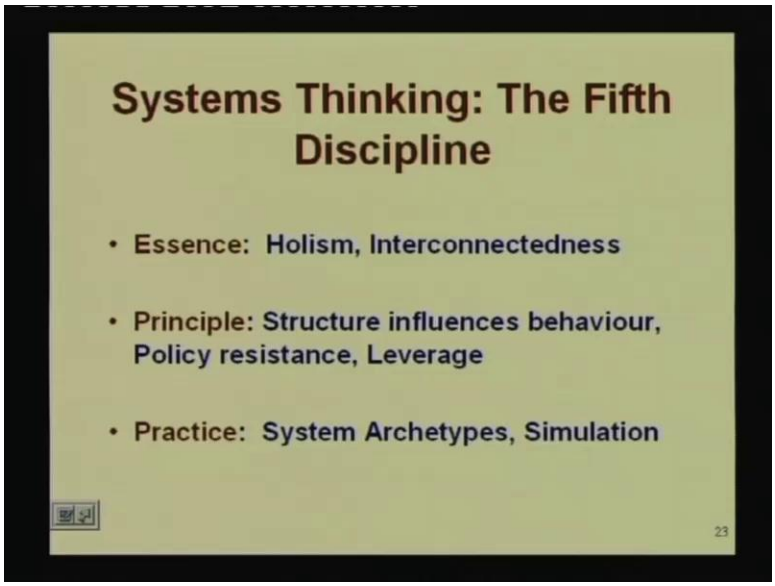

So, it has the concept of holism, so called interconnectedness, principle- structure influences behavior, policy resistance, leverage and practice- system archetypes and simulation. So, will understand what exactly all of these means. The first of all the holism essentially means that you know if the whole is greater than the sum of the parts that means if a system is composed of individual parts, we cannot understand the system behavior by any amount of understanding of the parts alone, alright. Say for example if you try to understand how a car moves, you can definitely break that car into smaller parts, you can understand each of the components of the car, a static car mind you but you will never understand the feelings that you get when you actually drive a car because for that you have to drive a car.

Now, same thing you know basically is true for almost any system. So, there are certain properties of a system which cannot be understood by understanding the parts and you can call those are the emergent behavior of the system, alright. So, those emergent properties are to be understood and we have to so called basically build what is known as synergy. So, the holism essentially says that a system is greater than the sum of its parts and it is greater than by two things, one is the so called your synergy and the other is emergent behavior. Synergy essentially means that if you optimize the sub systems, you never get the whole system optimization. So, if you have a system of production and marketing, production does what is best for them, marketing does what is best for them may not be best for the company.

So, even if production, basically they should complement each other not only doing best for itself but doing best for both. So, these complementing has to be understand and when this complimenting is possible that is called a synergy is built, alright. The other important concept is that structure influences behavior. By this essentially what is meant is that a system structure is composed of its cause and effect relationships. So, whenever we talk about a system, the system is built up by its cause and effect relationships and the feedback loops. So, the behavior of the system is dependent on these cause and effect structure and the feedback loops. If you make a change in these cause and effect structure and the feedback loops then the behavior will also change, alright.

So, in other words the behavior is a property of the feedback loops that the system contains. If you want to change the feedback loops, if you want change the behavior you have to change the feedback loops. For example we have so called VCS loops, alright. So, you take more money on loan and to really become better in a sense what will happen not only your spending not reduced but because you have taken money on loan you have to pay more interest. So, you get poorer and because you are poorer, you take further money on loan which makes you further poorer, so it's a VCS kind of loop. Now if the behavior pattern you want to change you have to break this VCS loop. How to break, that if moment we ask this question, we have started looking to the solutions of the problem.

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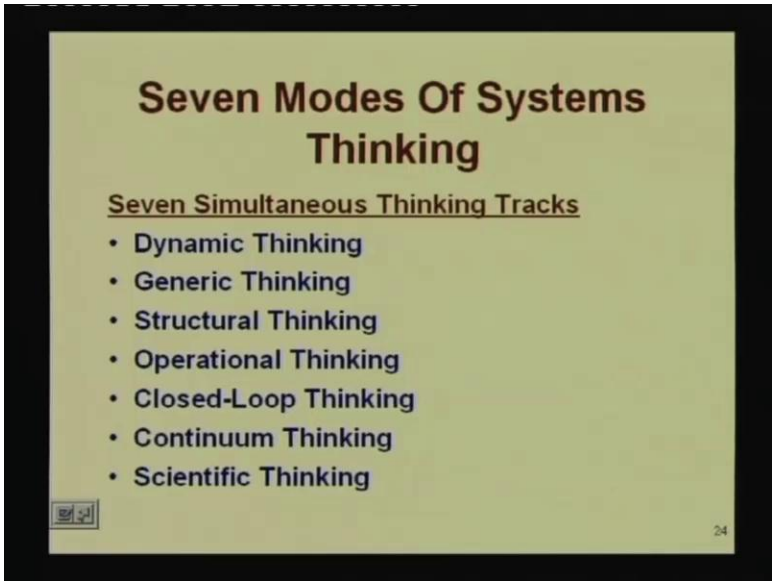

So, the systems thinking essentially have seven simultaneously thinking tracks, the dynamic thinking, generic thinking, structural thinking, operational thinking, closed loop thinking, continuum thinking and the scientific thinking. The dynamic thinking is thinking about the dynamics that means a particular system how will it behave, what will be its behavior over time, alright. So, if we can make or make an understanding of that that's called dynamic thinking. Generic thinking, we have to understand how the systems of similar types behave, right. So, if we have an understanding of that we can also tell since our system falls within the generic group, it also may behave in a similar manner. Structural thinking, we should basically it's a kind of

understanding the dimensions of a system, understanding that conservation of a system what goes in must come out alright, it's also about that we should understand that apples and oranges do not mix. That means if you have apples as input, you cannot get oranges as output. So, this must be understood. Operational thinking how things really happened, okay. So, we should really try to understand the process rather than understand on a shortcut empirical formula which may hide facts which we may never understand, alright. The closed loop thinking, thinking about feedback loops and the behavior of the feedback loops. Continuum thinking, thinking that things do not happen over all in a day, it's a part of a slow gradual processes. And finally scientific thinking we all know is that to develop experiments and to verify results and really look again and again experiment and believe things only on which you have proof and not otherwise.

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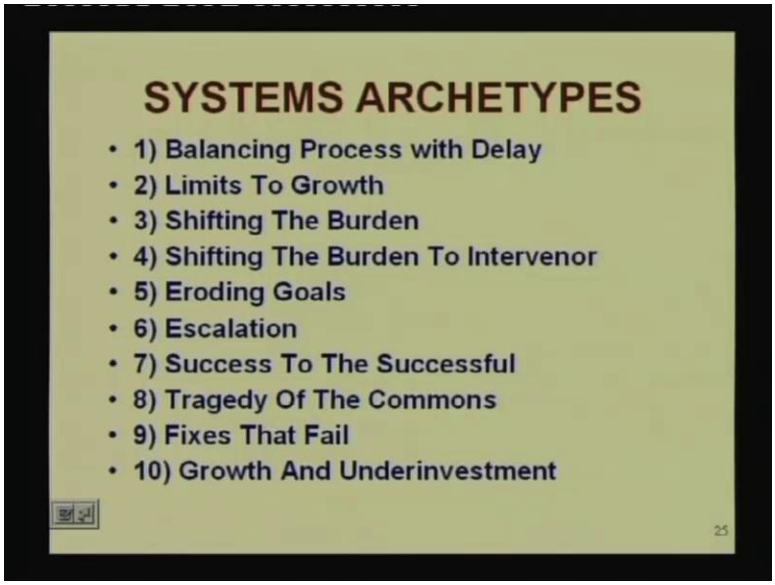

Now comes the structures, the so called system archetypes which are essential structures which are basically the kind of structures to which we know usually people fall prey and as I said the double loop learning, the generativeness is possible only when you look beyond the obvious, look beyond the obvious. So, here as the ten system archetypes will try to understand how understanding of this ten system archetypes develops specific advantages. The balancing process with delay limits to growth, shifting the burden, shifting the burden to intervenor, eroding goals,

escalation, success to the successful, tragedy of the commons, fixes that fail and growth and underinvestment. Let us understand one first, right.

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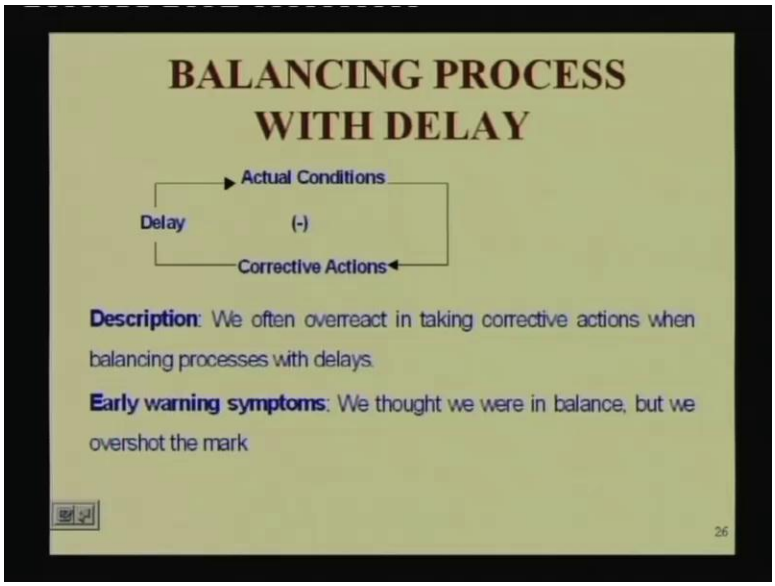

So, balancing process with delay is a simple one. We have the actual conditions and we have the corrective actions but the actual conditions will change only after a delay, these must be understood okay.

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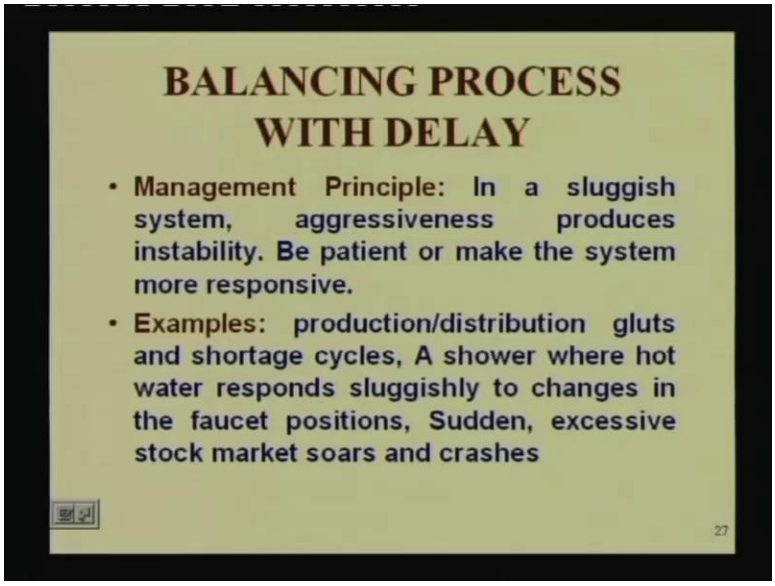

So, an example let us see production, distribution gluts and shortage cycles. A shower where hot water responds sluggishly to changes in the faucet positions, sudden excessive stock market soars and crashes see you try to understand these. Basically, suppose you are mixing hot water and cold water and by changing the faucet positions. What happens? The actual condition is you want water to be a little more hot, the actual condition is not so it's a rather cold. So, you take a corrective action, you turn it turn the faucet a little bit but you see the actual condition has not changed because it takes some time before that faucet you know adjust the flow but you don't want to wait, you turn it even further. So, in a sense what will happen, the water will be hotter than you have actually wanted it to be, alright.

So, this is a very simple thing that there are delays but this can create havoc. One such example is the Bullwhip effect or the whiplash effect that happens in supply chains, alright. There is a sudden change in customer demand not much maybe by 10 to 20% but you being the retailer, you do not understand it fully because you understand the market has changed and therefore you started ordering more down the line but you see any supply chain when you want excess material, it takes time before the material comes back to you. But you get increasingly more worried, what is this I have ordered so much nothing has come but in the meantime customers are asking for more and more and more and there are shortages. So, you order even more, alright.

So, what happens? There is an artificial demand created in the market and these signal gets multiplied as you move from customer to retailer to wholesaler to the production units and finally to the manufacturers, alright. So, the manufacturer feels as if the market has grown very much. In fact at 10 to 20% customer increase, customer demand increase may send a signal that market might have change almost to twice or even thrice, this much distortion is possible. So, in the next stage there will be too much production and there will be a glut of materials in the market place. So, now the market is fluted with lots and lots of materials and but there are no bias. So, the cycle then reverses and you know you see the continuous and down trends in the market, the fluctuations will never die and the market goes out of the gear. But who has created these? It is not somebody else's creation, it's not an external agent who has come and did all these, the customers, the retailers, the wholesalers, the manufacturers together in the supply chain has created this imbalances.

Basically because they have not understood the meaning of delay alright that it takes time before things can actually happen, before the corrections can actually be made. So, the answer really lies in waiting for that a particular action to take place and not becoming too proactive, so that's the idea about balancing process with delay.

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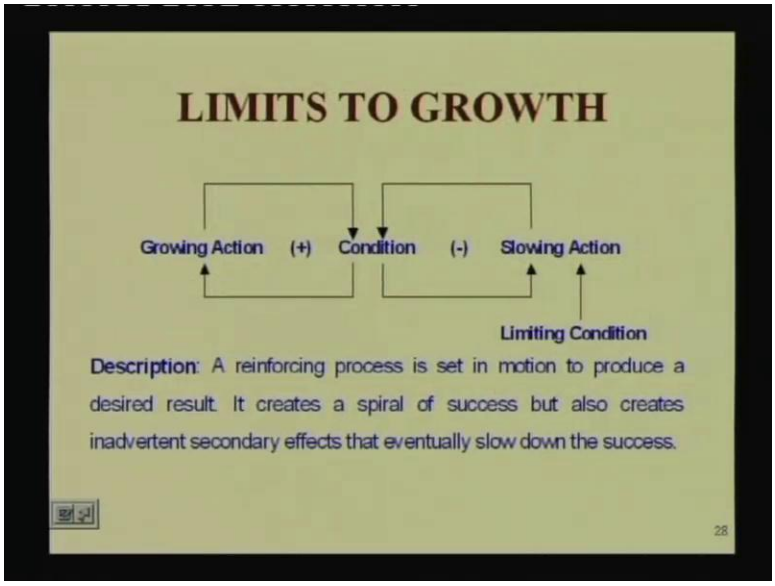

The next one is the limits to growth. See, we all think that if there is a growing action the growing action will continue to grow all the time but it really doesn't happen, every growth has a limiting process. The world population is rising tremendously, we are thinking it will continue to rise like that but it doesn't happen. The earth has a carrying capacity, once the carrying capacity is exceeded and in fact it is already exceeded, the slowing action will start that means a negative loop will start and these limiting condition will ultimately tell that whether the present situation is sustainable or not, alright.

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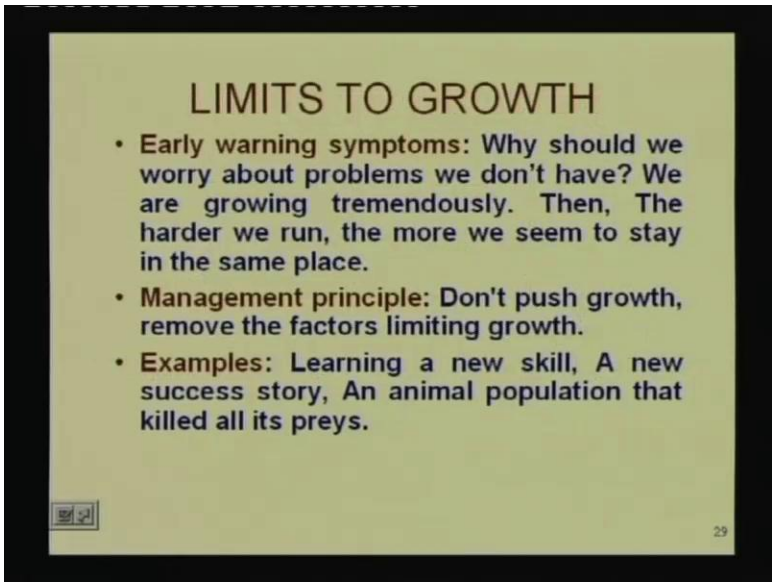

So, example the learning a new skill, a new success story, an animal population that killed all its preys, alright. So, a time will come when you know your growth will be arrested and you cannot have that kind of a positive situation where you have a growing action all the time. The management principle that must be learnt from here in a sluggish system, aggressiveness produces instability. So, be patient to sorry this one the limits to growth is that why should we worry about problems we don't have. We are growing tremendously. Then, the harder we run, the more we seem to stay in the same place. The management principle- don't push growth, remove the factors limiting growth that's the important thing. We'll later see that how these can actually bring further improvements in the process.

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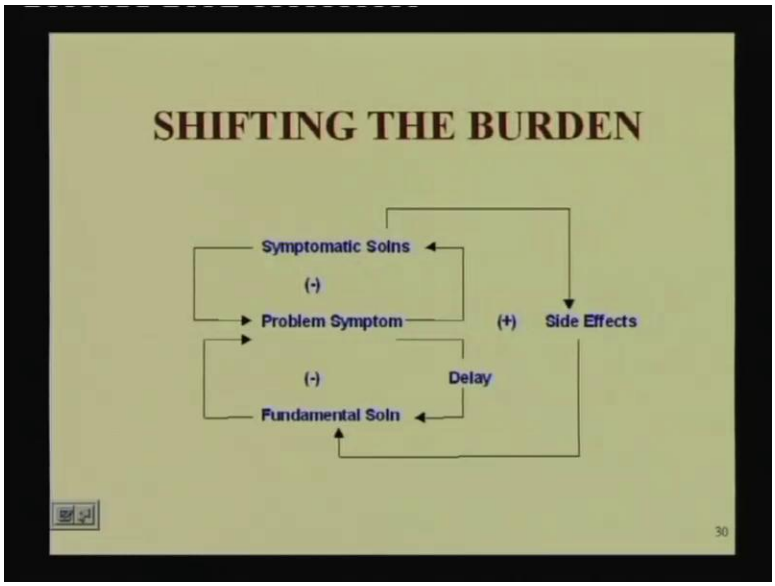

Shifting the burden. See, the shifting the burden is where you have a problem symptom and you have the symptomatic solutions but these has its own side effects and which can actually make your fundamental solutions even worse alright which makes the problem even worse. So, this basically happens that you have a symptomatic solutions for a problem and you have a fundamental solution. What you want, so you want a quick fix solution, so you don't go for the fundamental solution, you go for the quick fix solution but the quick fix solution basically can make the fundamental solution even worse, alright.

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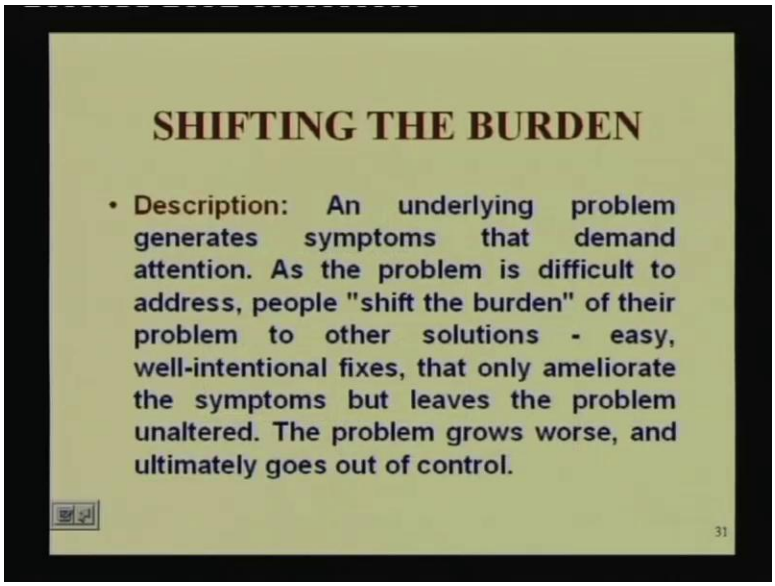

So, an underlying problem generates symptoms that demand attention as the problem is difficult to address, people shift the burden of their problem to other solutions, easy well intentional fixes that only ameliorate the symptoms but leaves the problem unaltered. The problem grows worse and ultimately goes out of control.

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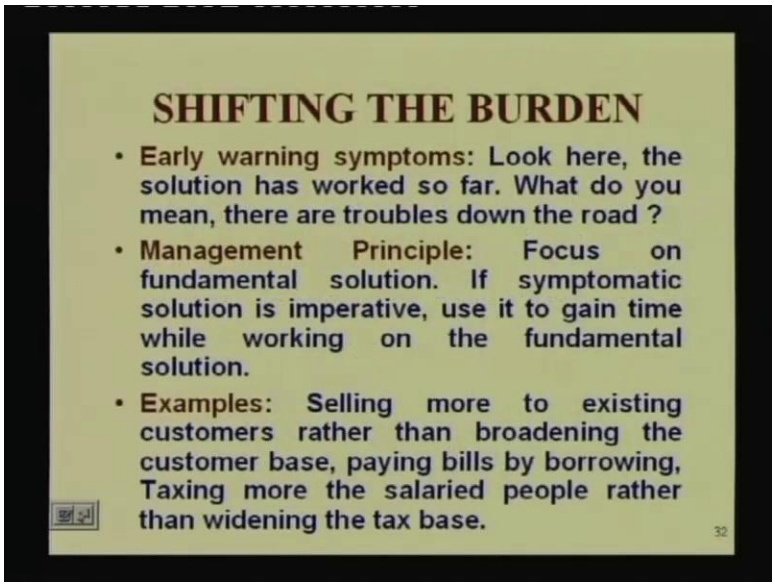

So, look here the solution has worked so far. What do you mean there are troubles down the road, alright. So, focus on fundamental solution if symptomatic solution is imperative, use it to gain time while working on the fundamental solution, selling more to existing customers rather than broadening the customer base, paying bills by borrowing, taxing more the salaried people rather than widening the tax base.

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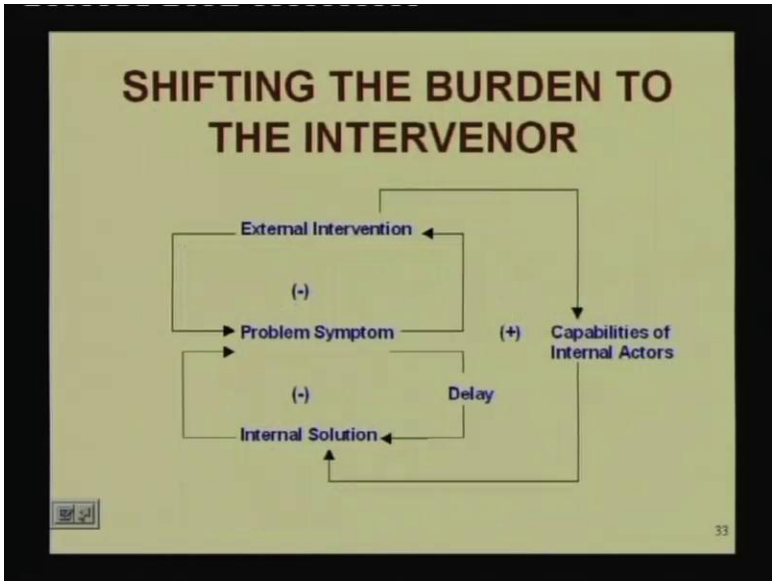

This is the similar thing. Only thing shifting the burden to the intervener it is that, it is like you know outsourcing. So, instead of trying to develop your own skills in house, you are basically passing the buck to the outsourcer and in a sense what will happen, the capabilities of internal actors will fall to such a situation that a day will come when you can never solve your problem yourselves, alright.

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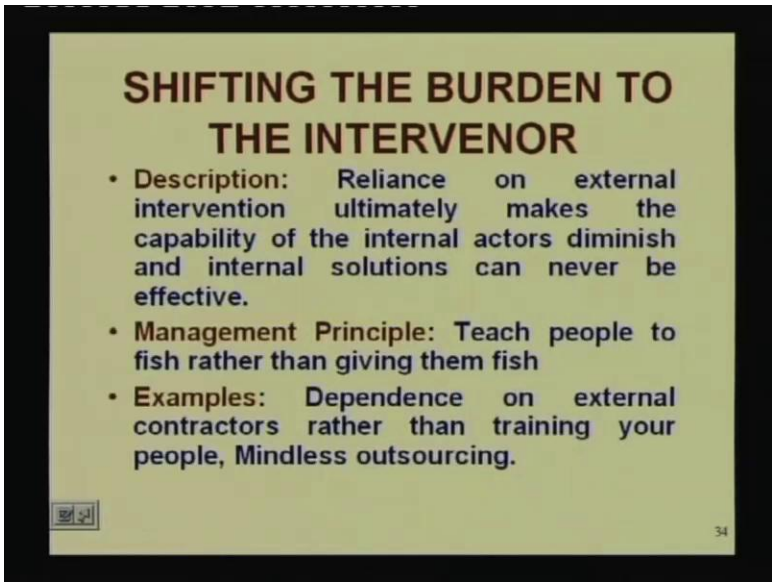

So, this basically therefore says that teaching teach people to fish rather than giving them fish. Dependence on external contractors rather than training your people or mindless outsourcing, so this is called the shifting the burden to the intervener.

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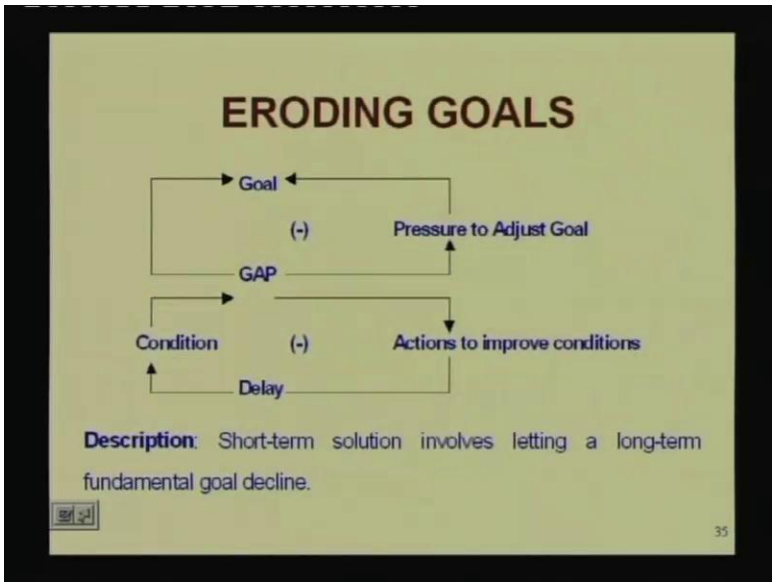

Eroding goals: sometimes what happens, short term solutions involve letting a long term fundamental goal decline. So, it is like you know you have a condition, action to improve the

condition fine but since these takes time what you may do, you reduce your goal because there is a sufficient pressure to adjust the goal.

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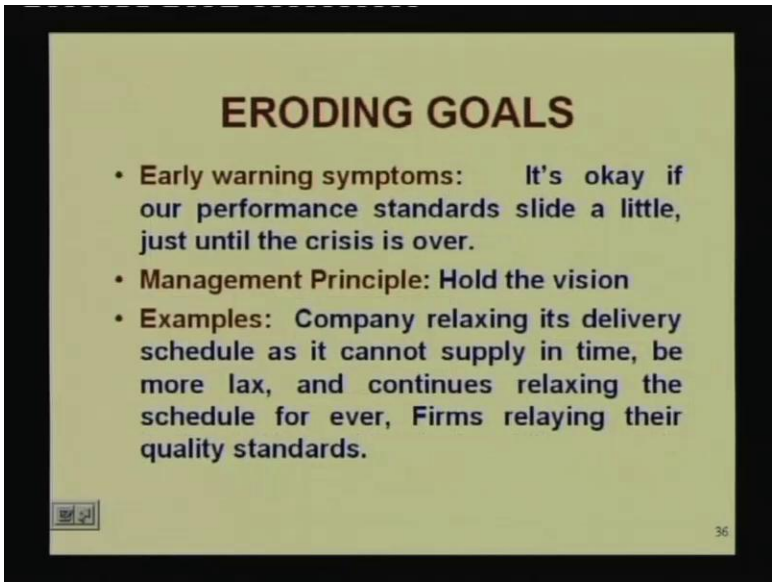

So, it's okay if our performance standards slide a little just until the crisis is over. So, company relaxing its delivery schedule as it cannot supply in time, be more relaxed and continue relaxing the schedule forever, firms relying their quality standards.

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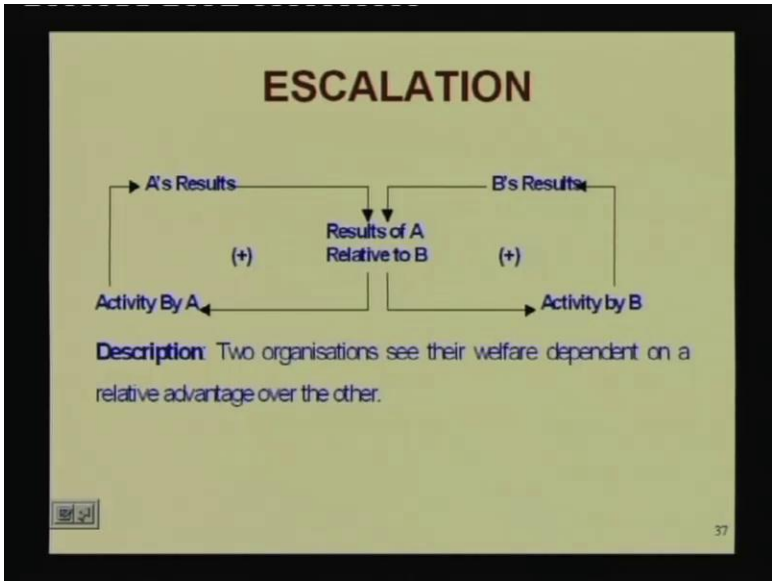

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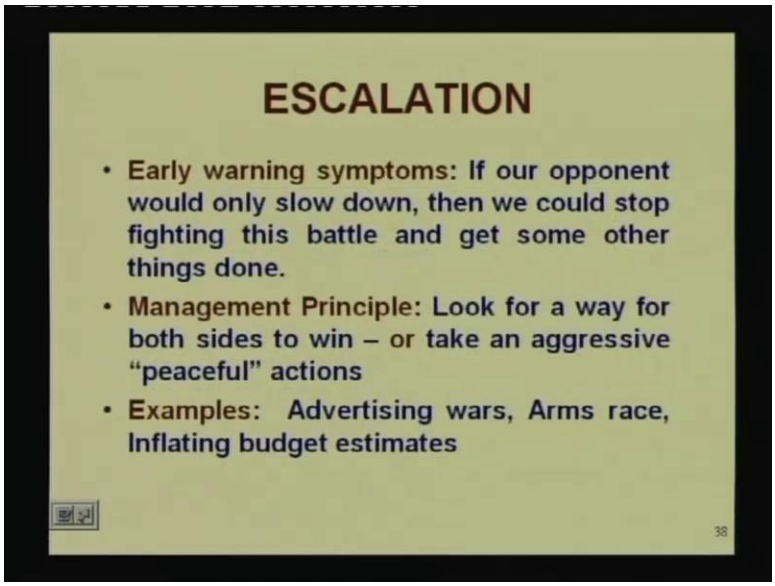

Then there are certain things like escalation, success to the successful.

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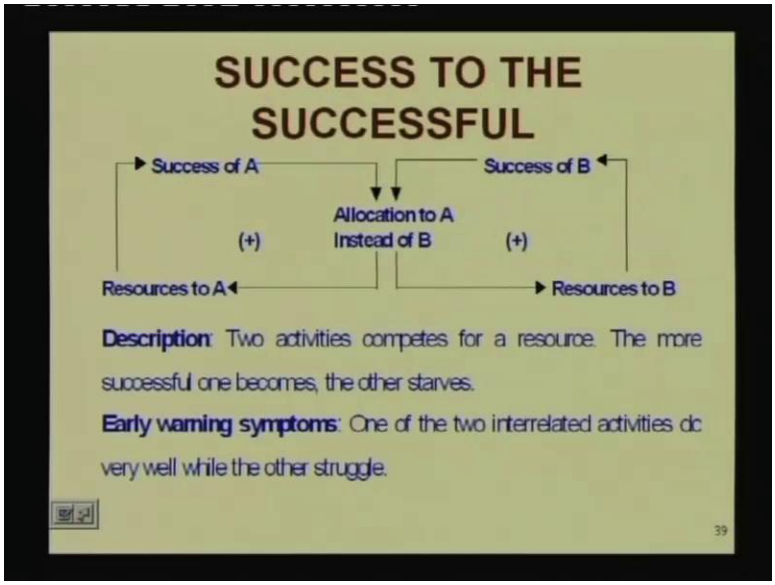

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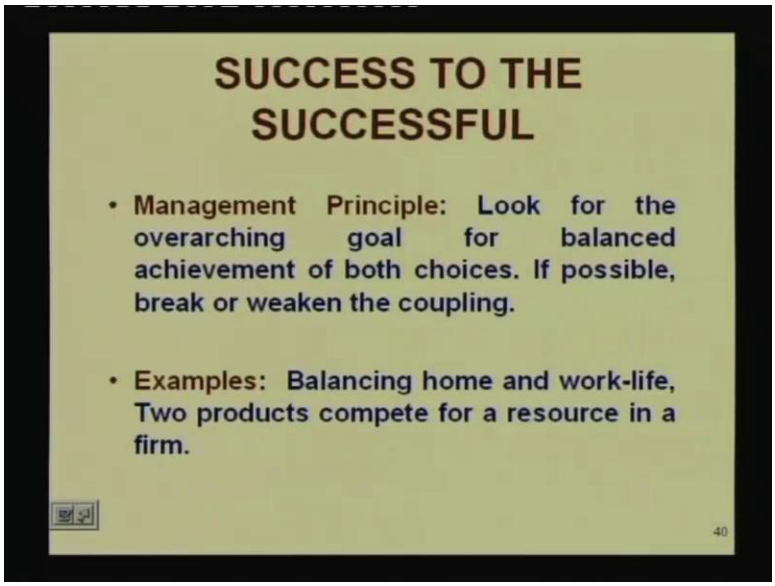

But let us focus on something a little more important that is the tragedy of the commons.

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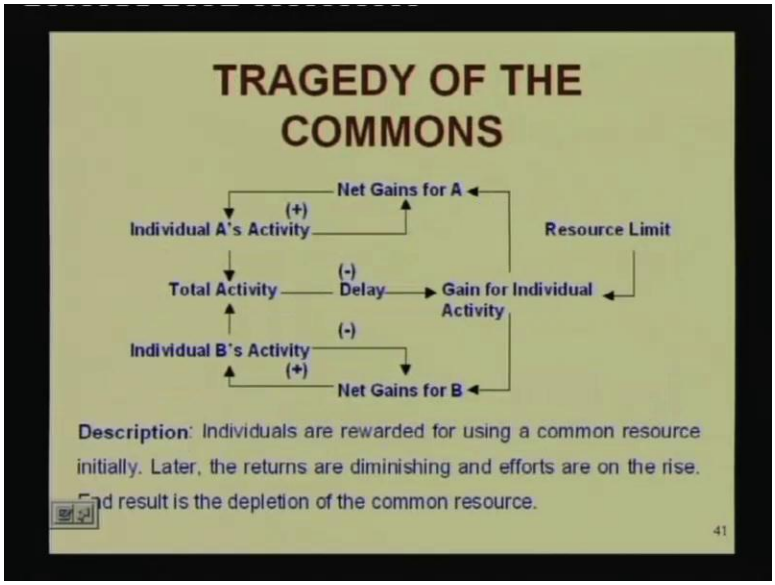

The tragedy of the commons essentially says that you have a common property and these commons is being shared by a large number of individuals. So, what happens since it's a common resource, every individual would like to improve upon or increases its activity for their individual gains by not doing sufficient what do you call sustaining of the common property.

What actually happens, the returns are diminishing and efforts are on the rise. That is because the common resource is depleting. So, a time will come when even with you put more resources, you will not be able to get that much to the thing. Finally if you are not sustaining it enough, you will lose the common property altogether.

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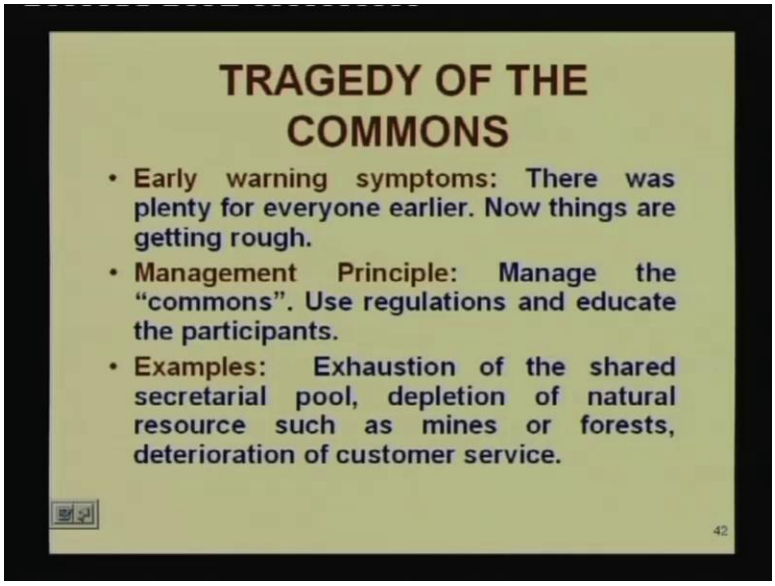

So, there was plenty for everyone earlier now things are getting rough. So, manage the commons, use regulations and educate the partners or participants. Example: exhaustion of the shared secretarial pool, depletion of natural resources such as mines or forest, deterioration of customer service these are examples. Say for example forest is a common property, everybody thinks the forest is their own, so they try to deplete the forest resources for their individual gains but when the whole forest is depleted finally there will be no gain for anybody. So, this is where all these talks about sustainability has come and people are increasingly understanding that we have to sustain our resources and otherwise what will happen is things like tragedy of the commons.

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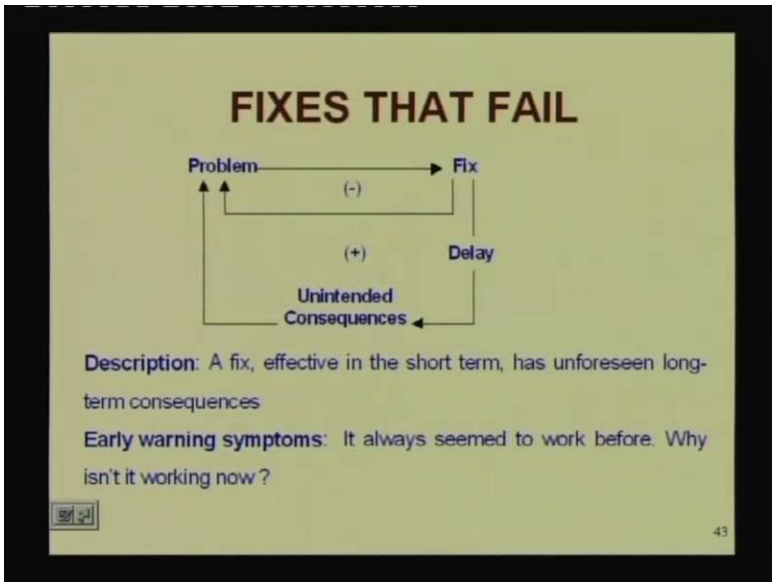

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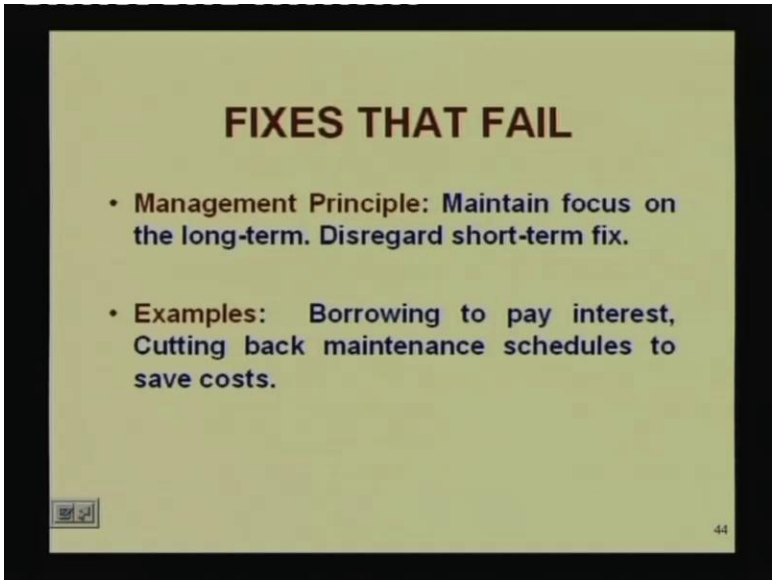

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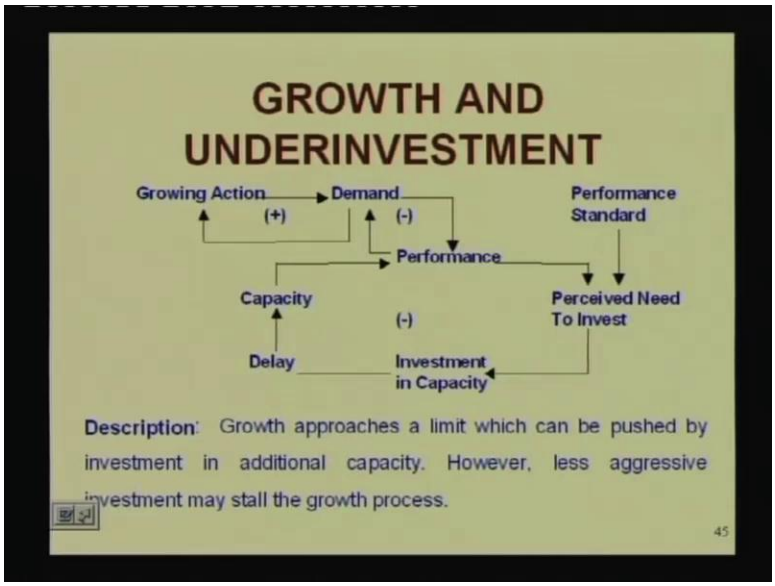

Then apart from things like fixes and that fail, let us look at the growth and under investment. These usually happens in you know the start of ventures which becomes very successful immediately. So, therefore they follow a positive spiral that is demand and growing action, alright. So, as demand increases you have more demand and there will be more growing actions and essentially what will happen that you know it's a positive spiral that it has more and more demand and it grows in a tremendous manner but with growth the performance falls.

So, in a new airlines which is very successful very popular, everybody wants to travel by that airline but with so much more demand the performance will fall and performance can only be brought back to its original situation only when you invest into capacity. The capacity build up process but capacity build up cannot be done in one day it requires time, so delays are involved, alright. So, this is where the problem lies the growth approach is a limit which can be pushed by investment in additional capacity. However, less aggressive investment may stall the growth process.

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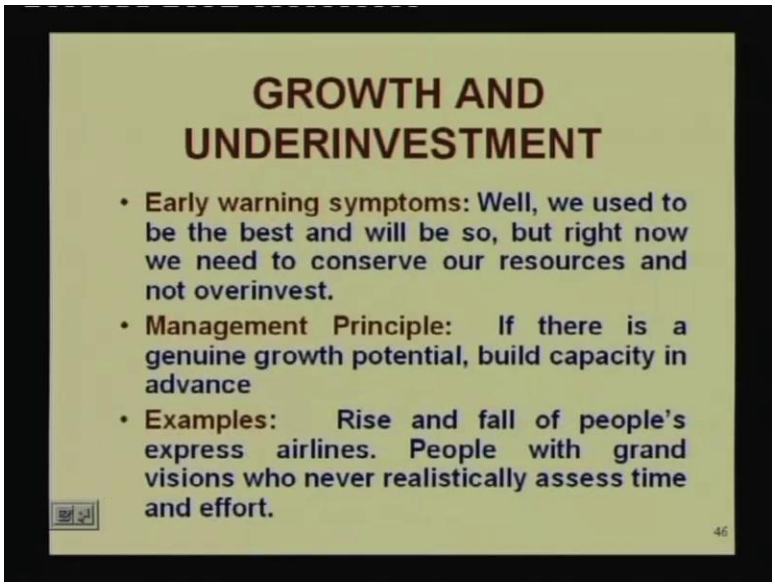

So that's the dilemma, so well early warning symptoms are we used to be the best and will be so but right now we need to conserve our resources and not over invest. So, this is the problem that usually happens. So, if there is a genuine growth potential build capacity in advance, rise and fall of people's express airlines, people with grand visions who never realistically assess time and effort, alright. So, this is what happens that we need to build capacity in advance but you see this basically means money getting blocked but then if you want great returns you also have to invest great in capacities.

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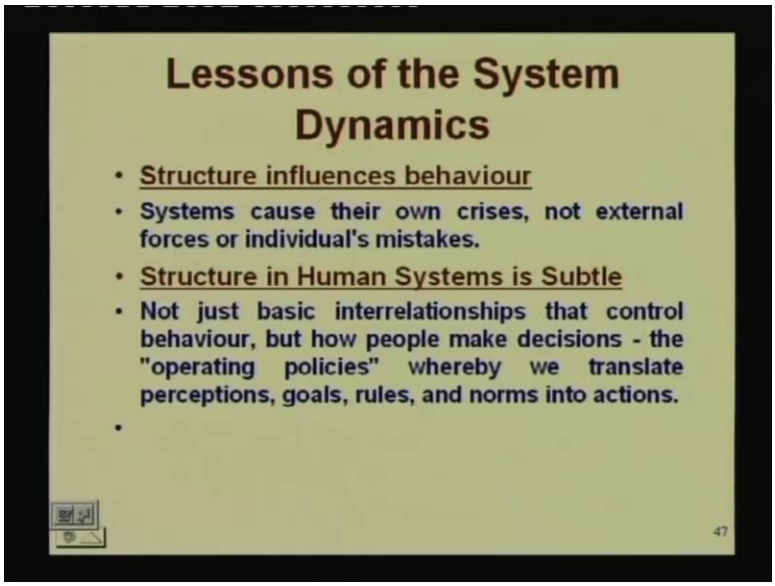

So, here some of the lessons that we learnt from system dynamics, structure influences behavior, system causes their own crisis not external forces or individuals mistakes, alright. So, the most of the behavior is generated internally rather than as an external influence. Structure in human system is subtle that is not just basic interrelationships that control behavior but how people make decisions, the operating policies whereby we translate perceptions, goals, rules and norms into our actions, alright.

So, basically that you know the it is not really what is happening in the system, not I mean the physical system but the decision making process of people they are also part of the structure, the feedback loops, the feedback loops are completed invariably by human actions alright and a small change in the thought process of the human action can drastically change the feedback processes or in other words the structure. And since we know that system behavior is a function of system structure, if we can change the system structure by change of these policies or leverages, we can actually change behavior in a tremendous manner.

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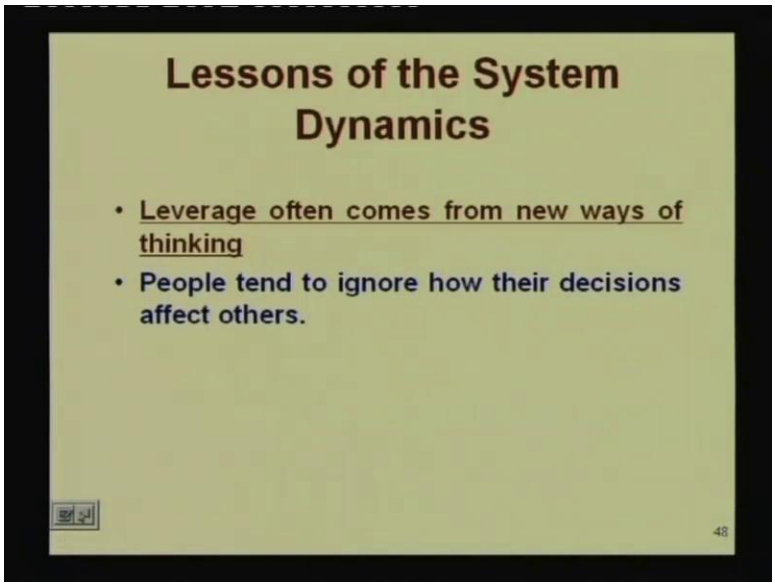

Leverage often comes from new ways of thinking. People tend to ignore how their decisions affect others, alright. So, this must be thought and we should see that we can bring in leverage when we think separately and build feedback loops which are more important or beneficial to us that can actually improve our behavior.

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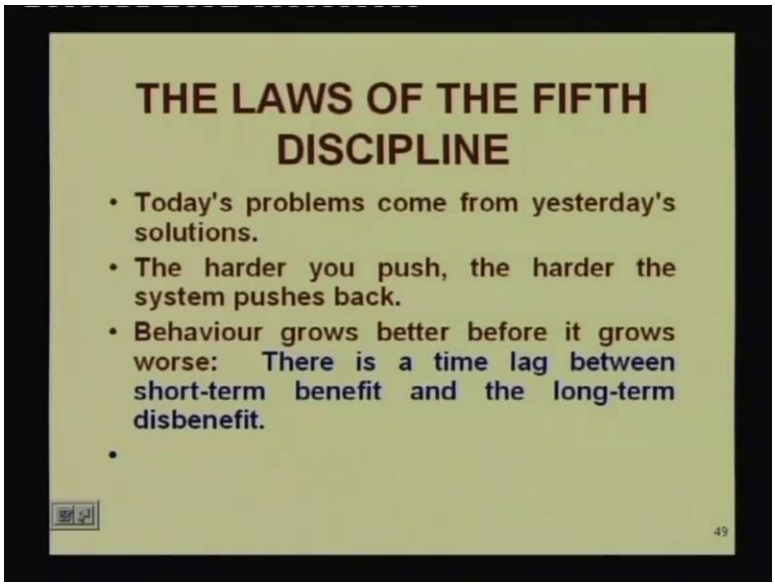

Then finally let us discuss the laws of the fifth discipline, the kind of things which we have learnt from this situation. So, some of these laws are today's problems come from yesterday's solutions. So, basically it is not somebody else's creation, it is all our own creation. The harder you push the harder the system pushes back, alright. So, that means if you are, is a false proactiveness should not be pursued, we should really try to understand the leverage points and act there rather than try to be proactive in a wrong manner. Behavior grows better before it grows worse, so there is a time lag between short-term benefit and the long-term disbenefit. So, you see just because behavior is growing better, we may not have reasons to become happy. It may be just an early warning signal that behavior will become worse afterwards.

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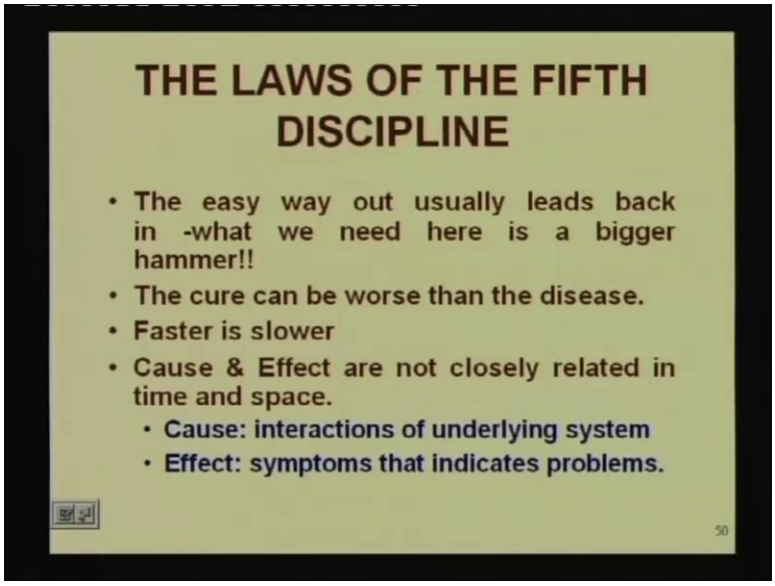

The easy way out usually leads back in. What we need here is a bigger hammer alright. Many a time we feel that a bigger hammer will do the job alright but the easy symptomatic solutions may not be the correct one, what we need is a better solution, what we need is a long term solution, alright. A bigger hammer may damage your nail so much that it can never be put in. so, therefore the cure can be at time so worse than the disease alright that is another learning. Faster is slower, very interesting that means if you want to control the system very fast then ultimately what will happen it will oscillate. Instead of coming to a steady state behavior, it may actually create oscillations like I have given example of the whiplash of the bullwhip effect. What happens, the

imbalance is in supply chains. Then cause and effect are not closely related in time and space. So, we should understand therefore the leverage points very carefully, cause are the interactions of the underlying system and effect are the symptoms that indicates problems.

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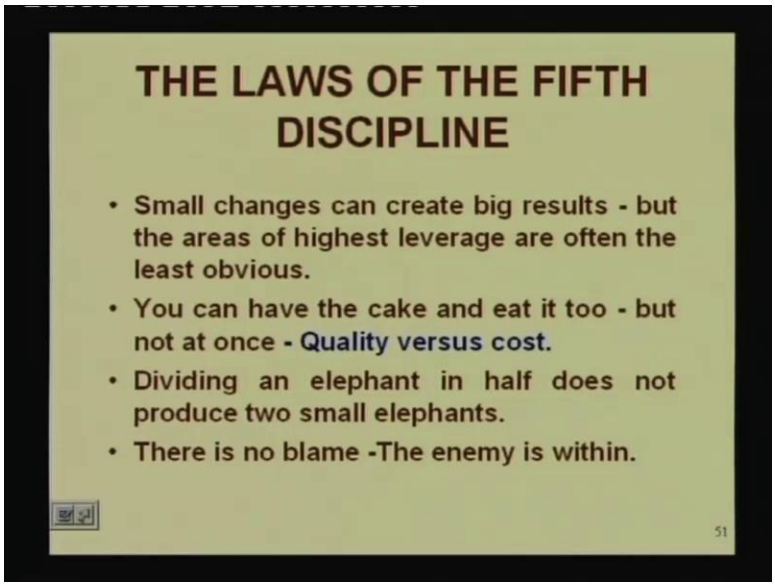

Then small changes can create big results but the areas of highest leverage are often the least obvious, alright. So, we should understand them that where a small change can change or alter the feedback loop altogether and therefore can give us much more gain then we have expected. You can have the cake and eat it too but not at once alright. So, quality versus cost that means that you can increase quality and you can also reduce cost but you have to do something for that. Divide an elephant in half does not produce two small elephants, it's very simple that means there is a connectedness, the system concept says that if you have an elephant, understand the elephant everything has a role to play and it is not really the subsystem optimization which will give you the full total system optimization.

Finally, there is no blame the enemies within alright that means you cannot really blame the external agent for the failures of our behavior. So, this is about the learning organization and you can see that there are learning disabilities and one really try to see create situations where these

learning disabilities can be removed and try to create the truly learning organization which can develop a new concepts and new knowledge for their gain. Thank you very much.