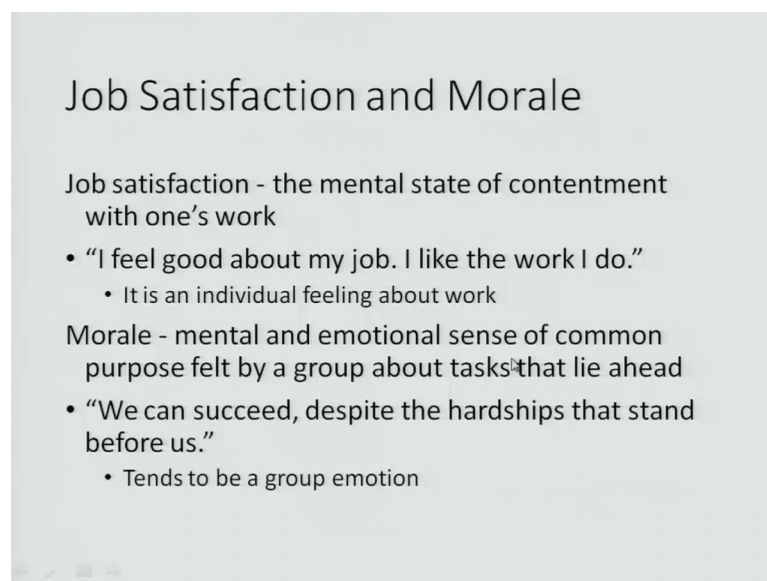


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Module – 04
Lecture – 16
Job Satisfaction

Hello and welcome to this lecture 16 of Applied Ergonomics. In the last lecture we were discussing the topic of motivation. Particularly motivation ergonomics in the various theories associated with maintaining level of motivation among human components associated with any work system. So, typically we described theories related to the Maslows hierarchy of needs which would give which would establish certain progression in a pyramidal manner from basic needs all the way to the self actualization needs. We also talked about the Herzbergs, theories of classifying every sort of job into a satisfier or a dissatisfier. And then allow the extrinsic factors or the intrinsic factors to determine the various sort of contents of the work enabling the subjects or let us say the human factors to perform at a certain level of motivation.

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Job Satisfaction and Morale

Job satisfaction - the mental state of contentment with one's work

- "I feel good about my job. I like the work I do."
 - It is an individual feeling about work

Morale - mental and emotional sense of common purpose felt by a group about tasks that lie ahead

- "We can succeed, despite the hardships that stand before us."
 - Tends to be a group emotion

We also talked about the macgregors x and y theory where with the negative or a positive approach you can view the worker participation or the human factors participation in the

new work system. Of significant mention was the fact that nowadays organizations are generally tending to use the theory which talks about more ownership or more participation in certain level of decision making process all the way to the smallest job provider or service provider to chain of tasks or jobs listed for that particular organization. So, today we will be more interested to delve into a slightly different area which is about job satisfaction. And basically you can say that job satisfaction really is one's sort of mental state of contentment associated with the work that a person delivers. The typical statement of a satisfied person who is working in a work system and he is a human subject would be I feel good about my job ok.

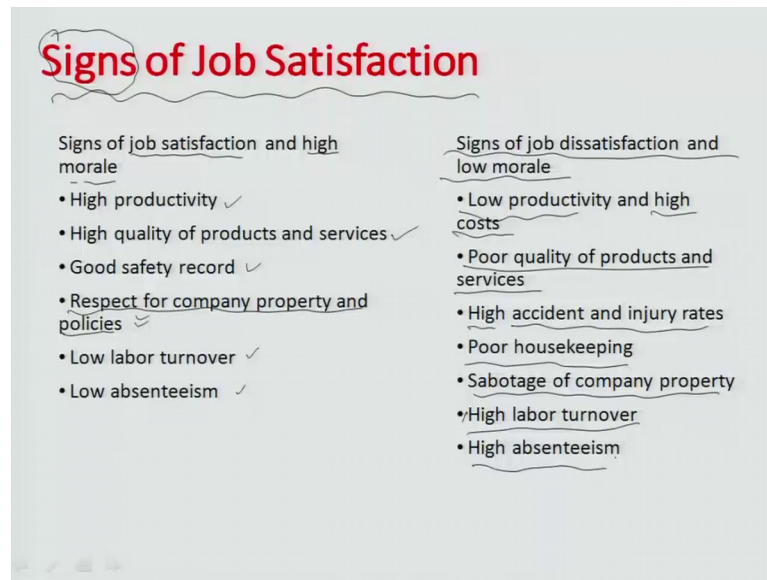
I like to work and I will like to do this, because I feel good. So, it is actually more an individual feeling about the work content that is given for a particular individual in a certain work system. And obviously, the job satisfaction and morale are kind of interlinked they are more or less having a very strong degree of relationship. So, morale is really about the mental and emotional sense of common purpose felt by a group about tasks that lie ahead, there may be tasks where not one but many would participate together to accomplish a goal or a common task. And therefore, if it is a group activity where there are more than one stakeholders involved in the group, even if the jobs are quite hard in nature or they are slightly difficult. Still if there is this feeling of go-getter-ness which is there among the participants of the group then one can actually accomplish the task in a more better in an appropriate manner.

So, typically morale can be defined as the mental and emotional sense of common purpose felt by a group which is bound by some tasks lying ahead. And the basic statement there would be that the morale lifter would typically sound like we can succeed despite the hardships that stand before us. So, this is something like a sort of a direct derivatized form of the psyche or of the group or the emotion associated with the group to accomplish something. So, if the morale is very high then there is a very big possibility that the job could be accomplished in time at the right quality and vice versa. So, therefore, job satisfaction and morale are kind of going hand in hand in any work system. Because if typically the workers are quite satisfied with the job ambience the job environment the job description that they have the job content.

That is there intended for them then the morale is completely on the higher side. And even if there is slight changes in terms of the hard shift that they would face or some

variations still their go getter ness to do something would be completely persistent, and it will help to achieve the central theme the task and of the work which is ahead. So, let us look at some indices for what can be considered to be job satisfaction.

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And maybe these are you can say signatures for the human psyche which determines what could be possibly a satisfactory environment for a certain job or a certain tasks. So, typically job satisfaction and high morale could be associated with high productivity of a work system. So, everything goes in order, there is no quality issue, or there are no lapses at any place whatever is being produced.

Whatever is being delivered whatever is being intended by work system gets done in a timely manner the right quantity right quality. Then also there is high quality of products and services which are again signs of job satisfaction and high a morale. Would safety record there are hardly any accidents, if on a work system which can indicate that is generally an overall job satisfaction level and a high morale of undergoing tasks. There is general respect for company property and policies this again is a very important factor which would give you a signature indicating that people are generally satisfied they have high morale of working. Low labor turnover and low absenteeism are again to very critically shows.

So, these are sort of yardsticks of parameters or signatures through which a work system can be categorized to have relatively high morale among it is human subjects and

relatively higher level of job satisfaction among the human subjects. You can also see what happens on the other side what are the signatures associated with when there is general dissatisfaction with work or low morale. So, they can be a very, very low productivity and higher cost which indicates that people are not really happy about working or doing something. Poor quality of products and services this is again another very interesting you know sign of job dissatisfaction, or the injury rate or the accident rate could increase typically because they are not happy. So, they will not be in their good state of mind and they will do something which is non compliant.

And they will do something which is unsafe and it may lead to higher levels of injuries or accidents. There can be generally poor housekeeping, all the material handling issues materials not available at the right time because they are kept somewhere and can not be traced at the time when they are needed. So, these are all indicators of people are generally dissatisfied or they have a low morale of working in a certain task structure. Also there can be cases of sabotage of company property including life and limb law sometimes because of such sabotage people may burn down things or people may be agree or mobbed people in the administration so that again is indicative of high dissatisfaction level among the human subjects you know, associated with the work system. There can be high labor turnover or high absenteeism from time to time. Just jeopardize the overall routinized processes behind a functioning of the work system wwhich can also be again indicator.

So, these are some signatures which would indicate if people are generally satisfied or generally dissatisfied about a certain job that they are performing. The other issue which I would like to mention is the job specialization. And In fact, this is very important in terms of an organizational principle where you will see that there are some workers which will specialized in a limited range of tasks.

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Job Specialization

Important organization principle in which workers specialize in a limited range of tasks

- Work content is simple, task time is short
- High efficiency and productivity
- Often viewed negatively by workers because tasks tend to be routine, boring, unappealing, and unrewarding
- Alternatives to job specialization:
 - Job enlargement and job enrichment
 - Job rotation

And a typically specialization again if you look at the principles of organization design or structural design, I think I had just illustrated it a few lectures back. Job specialization could also be a basis of creating an organization structure. You group together people with similar kind of skill sets or socializations together for a certain end goal or a certain part of the work associated with the work system.

So, when we talk about job specializations, we need to recognize that the work content is simple task time is short and a it may result in high efficiency and productivity if we wanted to use job specialization as a as a principle of categorizing or classifying the tasks into groups. So, it does not have it is own shortcomings; however, it is not that specialization based allocation of man power into different tasks would always result in high level of productivity or efficiency, because this can always be viewed negatively by some workers who say that some specific few who have a good relations with you know higher up So good relation with administrative controllers would get easier tasks by virtue of the specialization.

So, the specialization is negatively connotated and looked into as something which is a given as a favor to group of individuals, by saying that they are specialized so, they are doing this kind of tasks. So, and then also specialization has some other shortcomings including if it too specialized and the organization structure is designed on the principle of specializations, there may not be much job rotations. So, if a certain worker or a human subject is specialized in doing let say or in applying paint to an automotive, he necessarily may not be a good fit into repair of parts or components. So, at the most what

one can do is can sort of stress this person back into the paint repair issues, or issues related to post assembly defects which are generated because of paint peel off etcetera. But then completely changing domain from paint into assembly or weld structures may not be a very good idea.

So, therefore, sometimes it becomes very routine you know what a person or a worker is doing; routine definitely brings boredom lack of appeal. And then also if jobs are highly specialized and they are not able to have a crisscross player, this always results in a situation where you can not reward because something which has been planned for a certain set of people who are specialized in a certain area depending on the requirement of the task generated by a system would initiate them to work. So, if the work generally is routine in that area then there was no question of higher productivity or higher efficiency, because everything is in a balance. And so, there are hardly any shortcomings in the process and everything appears to be very, very routine or standard; however, if there is a case where certainly there is a challenge in some area of a particular product or let us say an organization where man power needs to be shifted.

And some people are cross trained to work on and they leave this specialization domains to go into another area and then work that definitely considered to be very productive and highly efficient worker. So, these are some negative connotation associated with job specialization as a as a organizational principle structuring principle. And therefore, there are certain alternatives which are there to job specialization. For example, one can look into job enlargement and I am going to treat these subjects individually in the following slides. One can look into enriching ones job by giving some level of decision making control you doing a task associated with let us say fitment of a certain component on to the assembly line of a vehicle, and as a worker you know that this assembly has a flexible system where there are many models, And there is a mix model production.

So, maybe you can have a decision making related to planning of materials which would go into your work station, and through your work station on to the vehicle for the different models in advance. So, if you know that in today's particular shift there would be 30 different variants, it might just give better sense for operator to look into the material availability near m and plan that there are exactly 30 different components of different types being fitted into these vehicles. And if supposing at the beginning of the shift you feel that those materials are not available then he can always raise an alarm to

give his impression that yes I have a decision making authority for a certain sort of job to be interested to be. So, you basically assuming more responsibilities so that system runs smoothly, And it can be a question of again motivating the worker it can be a question of again rewarding the worker if such kind of problems happen on a routine basis.

So, you are enlarging the job sorry, enriching the job on a vertical level by giving or piggybacking more and more responsibilities. A person who is an operator on assembly line after fitment of a product checks and inspects about a something that he has done and maintenance a records this is an additional duty that he is assuming in terms of enrichment of his job at the task that he is otherwise carrying out, some organization and in some cases because of the stringent quality norms available with industry, people will be look at such enrichment tactics across variety of tasks which would help you to argument and go the take the process towards 6 sigma based controls and high quality.

So, there of course, there can be another alternative of rotating people into various specializations. So, here there is a question of training and there is a question of learning curve associated with human factors. Because obviously, if a human being is specialized to undertake a certain task, and he supposing changes the task and he has to again deliver at full efficiency a completely different task. So, not all people are meant to be trained for that people may have a extremely you know, variant learning responses or learning curves and once who have faster responses may be more adoptable to such rotation rather than ones who are less in terms of their learning abilities. So, therefore, there is a question of screening not everybody can be rotated, but a few can be rotated. But then you going you know out of the domain of job specializations when you introduce such tactics of job enlargement job enrichment and job rotation.

So, let us look at individually what they mean.

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Job Enlargement and Job Enrichment

Job enlargement - horizontal increase in the number of activities included in the work, but the activities are still of the same type or level

- Example: worker assembles entire product module rather than just three parts in the module

Job enrichment - vertical increase in work content, so that scope of responsibility is increased

- Example: worker plans, sets up, produces, and inspects parts rather than just produces

So, as I told you that job enlargement typically would mean horizontal increase in the number of activities included in the work. But the activities are still of the same level of type for example, instead of the worker assembling only one component or one part into a product module, he is responsible for assembling all the components which are there in a certain module. So, in a way he is trying to get an extended set of tasks, but he is getting responsible behind the certain assembly that he is making for a certain product. So, enlarging once job module to give them that respect or command or let us say you know an ownership behind the product that he is producing. So, job enlargement typically is done with that purpose; obviously, there is going to be a time distribution it is not that if the total time available to the worker is x you can give him something which is $2x$ or $3x$.

So, it has to be time balanced. But then you can give him stake holding at different levels where he feels an ownership of what he is doing, within the same time frame that he is suppose to do so that job enlargement they can be job enrichment, which is about vertical increase in the work content I think I mentioned sufficiently about this area. Work appliance he set sufficient machinery produces he inspects you know, all these things associated with his basic task are appendages for which he allow to have time so that is how you enrich his job. So, just right just rather than producing just parts he is making different aspects associated with producing those parts also as a part of his responsibility. So, vertical increase in work content so that scope and responsibility is increase and then of course, job rotation where training is performed of several different tasks, But each task is relatively simple one, similar task associated with the job specialization.

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Job Rotation

Worker is trained to perform several different tasks but each task is a relatively simple one, similar to tasks associated with job specialization

- Example: assembly line worker is trained to perform tasks at several different workstations
- Job becomes more interesting
- Probably increases worker's self-esteem
- The term *cross training* refers to the situation in which a worker is trained in several different tasks

So, example could be that assembly line worker is train to perform task at different work stations. Or the job becomes more interesting, probably increases more workers self esteem. So, you trying to do some rotation on the local level by introducing this term cross training which refers to a situation where a worker is trained into several different tasks at least of the similar type for similar nature.

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Work Organization

Graphical depictions of (a) job specialization, (b) job enlargement, (c) job enrichment, and (d) job rotation

The diagram consists of four parts labeled (a) through (d):
(a) Job specialization: A single box labeled 'Task A' is circled.
(b) Job enlargement: A horizontal sequence of five boxes labeled 'Task A', 'Task B', 'Task C', 'Task D', and 'Task E'. A triangle is drawn above 'Task C'.
(c) Job enrichment: A vertical stack of three boxes labeled 'Plan', 'Task A', and 'Inspect'. 'Task A' is circled.
(d) Job rotation: Three boxes labeled 'Task A', 'Task B', and 'Task C' are arranged horizontally. Curved arrows show a clockwise cycle from Task A to Task B, Task B to Task C, and Task C back to Task A.

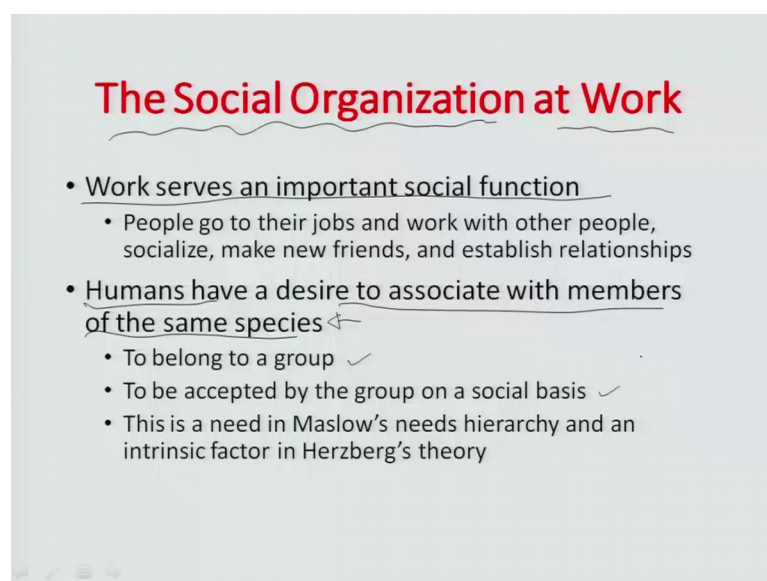
So, let us look at diagrammatically how you will represent this. So, this actually is the simple job specialization approach one person doing Task A. Another approach here right

here is job enrichment where you are within the same time limit giving a variety of tasks at different levels So that he is generally feeling a ownership of about the product that he is manufacturing A.

Of course, the Task A b c d and e combined together should be the same as the tag time of the worker who is responsible for fitting or assembling things into a product enrichment where there is a vertical level growth. So, you have planning inspection along with the task came being implemented. And rotation where you have actually carrying out 3 tasks in a rotated manner. So, person is specialized in 3 domains, by training and getting additional inputs. So, he is having more ownership or stake holding. So, when we talk about the macgregors theory why about workers are generally positive or human factors are generally positive and they need to be sufficiently motivated to work this. In fact, job rotation gives you a positive impetus, because it helps you to develop more ownership privileges at more decision making kind of abilities Among the smallest stakeholders of any work system which in a ways very motivating in nature.

So that is how you can categorize the different aspects or alternatives available I mean alternatives available to job specialization. And let us look at what does you know the social aspect of an organization do at works.

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The Social Organization at Work

- Work serves an important social function
 - People go to their jobs and work with other people, socialize, make new friends, and establish relationships
- Humans have a desire to associate with members of the same species
 - To belong to a group ✓
 - To be accepted by the group on a social basis ✓
 - This is a need in Maslow's needs hierarchy and an intrinsic factor in Herzberg's theory

So, I would call this topic the social organization at work. So obviously, works serves an important social function, you all realize that people go to their jobs and work with other

people socialize with them make new friends, establish relationships, they can also have certain choices you know in terms of let us say, grouping together as belonging to the same region or same place or same language. You know, they can also have many kind of groupings you know, including people belonging the same set of tasks together who are regularly interacting with each other on a task mode.

So, there are various possibilities which would emerge when we look at the social aspects when such task structuring is being done. And obviously, the whole need for all this socializing comes from the basic human need who has a desire to associate with members of the same species. So, generally this is a very common behavior among all human subjects that they would like to flock in groups of people who are associated with either same set of activities or same something which they feel to be very important to get connected. And so, therefore, they generally would like to belong to a group, they would like to be accepted by the group on a social basis. And of course, there is a need base psyche which is there need base psyche directly coming from Maslows hierarchy of needs or even Herzbergs theory.

That the reason why they would like to associate in this manner in group is that in a way there is a one hand a fear that if something happens wrong then it is it is a sheared sort of you know blame that falls on everybody. Or on the other hand they also feel that they can do better. So, you know if you look at both the theories or of the negative and the positive motivation. They could do better if they come together as group and be well performing in the other sure otherwise working individually. So, these are the reasons why socialization within a organization starts to take place. Of course, it will have many connotations some of the would be completely negative some of them would be positive. But then one has to realize that we talking about human subjects, And there is of course, a social aspect associated, whenever there are social whenever there are human subjects.

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Hawthorne Studies

- Hawthorne Works of Western Electric Company near Chicago
- The studies were started in 1924
- Initial objective
 - To determine the effect of lighting on productivity and worker fatigue
- Experiments
 - Measured production output of two worker groups: a control group and a test group

So, I would like to share this small Hawthorne studies which were done way back in 1924 at the western electric company near Chicago, which talks about how environmental factors could be also considered in designing something which leads to job satisfaction or motivation. So, this is one of the first time that is such an experiment was conducted and it was about lighting, that if there is proper lighting or effective lighting in a particular place some places brighter which serves as a work you know area. The productivity or the let say the even the efficiency at which work can get carried out would be definitely changing because of such brightness introduced or illumination introduced.

So, this was one of the cases which showed that how the environment of set of a work system is associated with giving enough motivation to people or enough satisfaction to people so that they can perform better on a higher product scale. So, in this particular category the initial objective was to determine the effect of lighting on productivity and worker fatigue experiments were conducted, measured production output of 2 workers groups control group and a test group, where one was given or basically a brightly illuminated in environment. And the other was given the routine environment. And what typically happened is that the output increased, in case the illumination level was increased ok.

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Hawthorne Studies

- **Result**

- Output increased in both groups

- **Conclusions**

- Workers were made to feel important
- They became interested in the experiments
- The social environment was recognized as an important factor at work

So, one of the reasons why the output increased was that worker was made to feel very important by participating in a study.

So, that is one aspect. The other is that they became interested in these experiments and of course, the social environment was also recognized as an important factors towards the people who are working together with the cause of you know coming together for the purpose for the need for the purpose of the experiment to happen they kind of behaved together or similar so that they could have enhanced productivity. So, from the control group which was otherwise having a lower level of illumination in work place to the work groups. The 2 work groups which were constituted you find that there is a remarkable increase just by this idea of getting together into a group to do some observations some experiments that there is a increase in the overall productivity level.

So, I think I would like to close this here this lecture here in the interest of time, but in the next lecture I would typically look at aspects related to job evaluation. How jobs can be graded and evaluated into various categories so that we can have the next level of decision making which is about wage structure, and determination of such structures.

So, thank you very much for attending to this lecture.