# B. ARCHITECTURE
# INTERIOR DESIGN (AR6005)
# COMPONENTS OF THE INTERIOR SPACE – FURNITURE
# Lecture – 8

## Furniture & Human Comport:

Furniture and human comfort,

"Ergonomics is a scientific discipline which is concerned with improving the productivity health safety and comfort of people as well as promoting effective integration among people Technology with the environment in which both operate".

So basically Ergonomics is a science which deals with human comfort when it's human when he interacts with the space he needs furniture to interact with the space. So this furniture design is totally has to be in relation with the human ergonomics, say if you have to sit in your place or stand and work in a place or standard discuss with people around you or if you have any specific activity which is associated with this space then the furniture has to be in line with the human ergonomics are the dimensions which also means that we need have enough clearance around the furniture which the person is using or his to be if he is using the furniture for a specific activity he has to be very comfortable using that furniture.

So there is signs of the study which deals with the human comfort and dimensions in relation to the space which is using annulations should furniture which using is called the ergonomics and the various aspects related to it, it improve productivity, if used properly design furniture which matches human ergonomics it improves health and safety and comfort of the people for using this well.

So talking in detail about human ergonomics if this particular subject is very specific to the person who is using it, so that designers, the interior designer's role is to understand the user and then designed the furniture as for the person who is going to be using the furniture.

So for example if you use if you are designing the furniture in India. It might only suit for the Indian conditions which mean the cultural background of a person who is using it, he is standard and ergonomic

dimensions of the race of people who will be using it will be different. So furniture designed for European standards might not fit into an Indian context, so if it's been designed for a mass public then it has to be specific to the region for which it's been designed to and the average human dimensions of that particular region has to be taken account for deciding the space.

The chart here shows standard dimensions for European standards when a person sits what is the dimension what is the height of his head from the floor level when he in squatting position what is a width of both hands folded together, when it's when is leaning against a wall what is the dimensions. So depending upon what the furniture is going to be designed for if you want him, if you want user to sit on the floor or lean against the wall or probably partially lean against a wall or if you want the furniture to be designed for him to lean against when you're standing on the floor then depending upon the dimensions of the person who is using it, the furniture has to be designed.

So the third row here, third column shows standard dimension of a chair and table.

- For a person who using as work top,
- For a person is using as the dining table,
- For a person who is using as a easy chair and
- For a person who is using the same Chair as harm chair.

Similarly working while standing kneeling and sitting or squatting has different dimensions associated with their personal ergonomics and the dimensions design has to be designed first based on that again the same furniture when he is leaning against a wall or when his casually sleeping on the floor it's completely different dimensions associated with the furniture is different.

This particular study is called ergonomics and its very specific study and it has to be done by any designer before designing the furniture for the specific user because each person has its own comfort zone when it comes with dimensions. Tabletop which is designed at 3 feet might be comfortable for me but my client who is who is another person might find it very difficult to use because he is very short. So depending upon the persons personal you know criteria designed as to be executed that's where human ergonomics comes into place.

The slide show another example of office furniture which is designed and different aspects, which needs to be considered while designing your office furniture specifically for a person, who is using his keyboard and monitor and the viewing distance plays important role the viewing angle plays an important role the place, where he keeps stressed to operate the

keyboard and the angle between his arm and his elbow has to be a $90^0$ degree and support from his chair and the lumbar support for a slower back chair and the angle between the lower back and the new position has to be $90^0$ degree and has to form a perfect square. So depending upon all these the chair which is using, the monitor which is using, the keyboard which is using, all that plays very important role and the dimension of the furniture which will be designed for that particular person also as direct impact on the comfort of the person who is using it furniture for.

So items to be considered while your choosing chair for particular client or a user the seat height, the seat width and depth, the backrest seat material, armrest for workstation design the height and depth of the workstation, depending upon the kind of work to users going to be undertaking in that particular furniture and accessories which have been used in the table. Table accessories may play important role, if not using in online kind of business where they don't have to use more of the computer or laptops then the accessories on the table have play important role on the position of these accessories also play very important role.

So each of these have to be considered in the  design will you are designing a particular furniture and this comes this very important when it is more of a personalized space and so very high end and specific user who is very specific about what he wants where in his particular furniture.

## Changing Trends & Lifestyles:

Changing trends and lifestyle and furniture, 1920's it was called as art deco and one classic example of art deco furniture has been shown here, bold colours and patterns play important role the sharp angles and zig-zag also a part of art deco furniture. The deep red, blue, black, teal and orange were colours which art deco used.

This was in 1920's and gradually in 1930s and 1940s is the modernist played an important role one of the examples of modernist furniture has shown it simple and clean contrasting colours and textures.

Colours which have predominant used in modernist age were grey, red, black, white and orange and as improved in 1950's the mid century modern furniture, it is clean and minimalistic lines you can see the chair not design for comfort it's to design for minimal use minimal kind of usage unexpected colours having used brown, green and blue rust and pastels were different colours which are used in the mid modern century.

1960's when minimalists played in very important role it is heavily influenced by the Japanese designers as you can see the more straight and curved lines together. Emphasis was given on negative space to

minimise or negative space was important role in minimalist it was to keep it as many as possible to eradicate the negative space which was created using unnecessary ornamentation in different colours which are used by the minimalist were red, yellow, blue, black and white.

Then came the self expression 1970's combination of Hi-tech and natural elements. This was age when more of Hi-tech Technology played an important role in industrialisation came up and different materials.

The designers expose different kind of materials in different textures and bold patterns were created in self expression and different colours which were used for brick red, gold, green, pink and trust.

1980's is belong to the new modern floral print and patterns played an important role in 1980's, overstuffed furniture became styling and trend burgundy and gold, pastels and mauve which colours were used.

Asset improved in 1990's more individualist art deco minimalist and modernist influence is found in individualist people became more self centred, glass and glass accent were used in more metal was being used this is when Technology was giving hand to interior designers, where they were exposed to different kind of materials. New materials like glass and mirror were becoming exeslusively available and new technologies were used for creating these materials. Grey, beige, hunter green, peach and mint green were different colours which were used by the individualist.

The 21$^{st}$ century the age which we are now the people were more inclined toward the functional and very sophisticated comfort. So it was inclined towards function at the same time it is also towards sophistication and comport, it combines elastic elements with unifying theme different colours which were used for Navy light, blue, brown, orange, soft yellow, purple and olive. These were different new colours which were emerging during this period, one of the examples of the new trending furniture designs as been shown here in the coloured. You can see the as explained in the slide below it is sophisticated comfort at the same time all the functional requirements are taken care, so this is one of the new age trend in furniture example of that.

## Innovations & Design Ideas:

Innovation and designs in furniture, the slide here show and furniture which is being stored against the wall when it's taken apart it can be made into a table.

It can made it in to linear table, square table, dining table, arrangement at the same time, it can be all squeeze down into wall element or a wall unit design.

So this is one of the examples of innovations in design ideas which any designer can think about further different innovations in design included workstation furniture like any starting from 1970's to 2000's.

The workstation ideas for very typical and it always meant that it was a 4 to 5 feet working table and the person who is working in the workstations are the modular work tables have to be leaning against chair and then the monitor been placed on the table. The keyboard trace the pedestal units and overall the networking and the cabling happening through the floor and you know the cable management system operating that way that was the way in which most of the officers were designed more important was given to the functional aspect and the design aspect was always taking a back end.

So breaking all this today is innovation gives us innovation and research and development has taken to an extent were functional criteria is taken care at the same time luxury and comfort of the person, who is using the furniture is also given equal importance one of the examples show in the slide here. Here you have individual workstation with for a person, who is using one monitor screen is having proper posture to sit and he is also at the same time he is having all the comforts she wants.

The slide or image on right shows a person using multiple monitors and this is his workstation personal work station where we can have his foot rest registered. He can have his lean back chair adjustable, you have his position office monitor adjustable, depending upon his comfort either can be taken close or far behind.

So these are some innovations in design ideas, another example of an office space were casual hangout space, where people can you know take their laptops and then come down sit and work, at the same time there's some arrangements of moveable circular furniture, which is it again and retractable arrangement this also for a casual workspace.

These are some of ideas and innovations in modern days were interiors designers able to explore based on were technology is also giving them hand, where you don't need a proper wired arrangement for a laptops to function at the same time. If you have to be connected to a network you don't always need a wired network connection. Wi-Fi is there Bluetooth enabling them to bring the user out of the furniture and then creating a very informal setup were creativity is enhanced, another arrangement of a cafe setup and at the same time casual setup for people for discussion and hang out spaces the kind of lighting. This is another browsing centre arrangement it's not a typical arrangement were linear set of computers and people sitting next to each other doing their job.

This is another typical arrangement innovation in furniture design, when it comes to work stations and people using their own private space for office you can see the different elements which are using designed the flooring is different the kind of furniture and the shape of the furniture which being used can be noticed the privacy as been achieved by putting the monitor inside the inish and individual headphones for users.

The kind of ceiling the colours which are used in the wall, Scott the green pastels green and the grey and white been uses the predominant colours.

The hanging lights and the mirror in the ceiling which reflects the design of the furniture and the opening can also be seen there is also a specific area where have a touch screen and navigation setup for a new person was entering into the space.

These are some kind of innovatives ideas, which are trending in the 21$^{st}$ century and people are moving towards the demands of the end user has become very high and the response given by the interior designers my creating space also more innovation, you can see more book shelf it's been integrated with the seating arrangement that's another set up which is shown the image in the left in the right, which shows more informal seating ideas, this is another typical arrangement for studio kind of a space very small area. Where you can get were the user wants everything, he wants a dining table arrangements and he wants proper queen size bed at the same time he wants integrate his workstation as well in that, so the series of images on your left shows how furniture can be design in innovative way. So that you can integrate everything you are couches is already there you can you know spread out the arrangement to make it into a bed or into dining table and also you have your storage and workstation all integrated in one.

So this kind of design ideas also imaging in this age the image on right shows typical bed arrangement for kids room, where he's got all his internal storage with storage Strauss loft, so storage above his open shelves his space for book, space for toys, all integrated and with the wallpaper behind and lighting properly placed.

Another arrangement of recliners and the moving furniture this is another important change or innovation which is immerged in the 21$^{st}$ century. Where science and technology is giving designers more space to create moving furniture, So bed which can be you know stored against the wall and then can be taken down to during the night and the days goes up. So that the space becomes a seating area in the image on the right shows bed come sofa design the image on right shows recliners for a home theatre arrangement for users used as a chair.

## Furniture for Specific Type of Interiors:

More examples of office furniture typical workstations at the same time the side tables be integrated to use as file storage or book storage with draws and space for monitors and keyboard also integrated and different colours being used and different moods being set up with regards to the kind of environment.

We already discussed about exposed fall ceiling different materials being used in the falls ceiling, gloving ceiling, hanging lights expose lux, vibrant colours on the floor for carpets, vibrant furniture on your seating arrangements and different types of wall cladding ideas and patterns which are created using different colours on walls or murals on walls all these ideas which are emerging every day and it keeps improving day by day depending upon the users requirement and the spaces constraints.

Here is another example of a conference room which is design for 20 people with cove light, spotlights and the vibrant colours on the wall and there is other space against the wall which is long kind of a bench were, if space has the same space to accommodate around 40 people another 10 people can squeeze into the space behind. So this is another arrangement for a conference room in an office more example about office furniture, reception being designed for waiting area with my desk and chairs and the oval coffee table and some side table in info graphics on the wall.

The reception backdrop having the logo of the company with different materials and colours were integrated with the same. The blue been used for the backdrop and stainless steel used for the logo, hanging lights with brown and green and red with some rafters on the ceiling as well. The wood being use the flooring and the table also has wood and could you talk with the lights integrated in the same.

So these are some very innovative at the same time very vibrant colours themes, which would been used when it comes to the office space at the same time integrating some wall decals with very motivational quotes on the walls with us again and using different vibrant and contrasting colours in the same frame.

Residential furniture for a kid's room you have draws, open-shelf, space for toys, space for books and then some openable high level furniture, murals on the walls, wall art and wallpaper behind with head proper headboard and bed arrangement. The living room arrangement with wooden falls ceiling and gypsum falls ceiling with lights and accessories at work panelling and we both on the wall.

So children furniture again when it comes to kids ergonomics the dimension of the kid the height, the Width and the overall working space has to be designed based on which age group, take it belongs to and what kind of function is designed for the furniture design.

For example the left side, slide shows with an image of a writing table, colouring table for a kid at the same time it is been designed like a horse and hen with the space for storing your colour pencils and space for the kid to stand and do the colouring work. So all these dimensions place and very important role for the furniture to be a very successful design for the kid to use it in a very comfortable way. So starting from the colours which are being used the dimensions of the furniture and space which is been allocated for drawing space were the storage happens all that has to be taught about by the designers who is designing the furniture. The second give the image of a kind of cradle for a kid and the third image shows working table for a kid again the dimension of a chair, table, light positioning, the ledge positioning everything depends upon the kid's ergonomics, if the kids is happy using it then the furniture becomes a success.

Display systems various display systems available in today's market you go to a Supermarket. You have a list series of racks which been retractable, changeable, moveable up and down all these are different systems in furniture.

The image shows system furniture for a display of retail garments, so again the arrangement is very flexible on the upper part and lower part has some open shelf the image on right shows again display system for retail garments showroom more display systems for retail accessories like shoes and specs and bags and jackets showing different materials which are used for display starting from wood and MDF to steal and Korean or other different arcades solids surfaces and different retail ideas for showcasing your space has been displayed here. Cable systems for displays, the image shows cable system for display for wine racks, cable system for displays of sheets in a museum and again this is a more retractable and changeable system.

Display systems always are design for multiple users for multiple usages, it is not very specific to the person or to the task, and it is something which can accommodate a huge variety of requirements.

So that's when the system's come in place and exhibition system display systems used for exhibition furniture were different items are put on display at the same time the display itself can change to anything more examples of display system furniture where you have removable edges or you know changeable ledges which can be used based on the kind of this display it is going depending upon the display, if it's going to be bigger, shorter, longer, taller.

The display can be adjusted as per what requirement is here you can see

- Display system with movable boxes

- Display system with open shelves
- Display system with hanging jackets
- Display system with ledges and open shelves.