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Commonwealth Educational Media Centre for Asia (CEMCA)

Life Skills for Engineers Level II

MOOC

Course Materials



Massive Open Online Course
on
Life Skills for Engineers Level 2
Course Materials



Commonwealth Educational Media Centre for Asia
New Delhi

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About the Course

In the age of complexity and turbulence, resulting from unpredictable factors coming together, one must develop the capability to think, strategize, plan, execute & lead successfully. Globalization, digital technology and a new demographic are colluding to create a new environment of complexity and are demanding new ways of thinking. Inculcating & imbibing Life skills in addition to engineering knowledge is essential, desirable & vital in addressing current and future challenges. Engineering is not just about designing, planning, implementing, executing and measuring the impact of various technologies. A good engineer needs to be a perfect amalgamation of the knowledge in his discipline and life skills. Life skills bring tremendous refinement in professionals' and engineers' behaviour; prepare them for the change and the way to approach their professional work, job market and finally their life. Inculcating Life skills can make youth, students and engineers more positive in their attitude and will bring overall wellbeing to them.

The youth, students and engineers will find this Massive Open Online Course (MOOC) on Life Skills more informative and engaging. It will run over six to seven weeks for each Level and requires approximately three to five hours of time each week. Designed to accommodate learners' busy schedules, the course offers flexibility with options for learning the content. The learner will learn from readings, videos, discussions with co-learners and instructors, meaningful exercises, quizzes and short assignments. Certification is available for those who wish to complete all required exercises and quizzes.

Course Objectives

- To develop communication competence in prospective engineers.
- To enable them to convey thoughts and ideas with clarity and focus.
- To develop report writing skills.
- To equip them to face interview & Group Discussion.
- To inculcate critical thinking process.
- To prepare them on problem solving skills.
- To provide symbolic, verbal, and graphical interpretations of statements in a problem description.
- To understand team dynamics & effectiveness.
- To create an awareness on Engineering Ethics and Human Values.
- To instil Moral and Social Values, Loyalty and also to learn to appreciate the rights of others.
- To learn leadership qualities and practice them.

Introductory Video: https://www.youtube.com/watch?time_continue=9&v=DMkWbHqqOF4

Who should attend this Course

This course is open to All but will bring greater benefits to engineering students and in-service engineers.

Course Duration: Level 2: Six Weeks

Course Structure Level II

Module I: Effective Communication Skills for Engineers - 3 (Interview Skills and Group Discussion)

Module II: Effective Communication Skills for Engineers - 4 (Report Writing and Technical Writing)

Module III: Thinking Critically – 2

Module IV: Teamwork and Group Dynamics

Module V: Engineering ethics 2 –Codes & standards and Case Studies

Module VI: Recent approaches to leadership

Certification

Qualifying learners will be given certificates based on their involvement and performance. Participation certificate and Competency certificate will be issued by Commonwealth Educational Media Centre for Asia (CEMCA) and University of Hyderabad (UoH).

Criteria for Certificates

The learner will be awarded either a Participation Certificate or a Competency Certificate at the end of the course based on his/her active involvement and participation. Certificates are awarded on the basis of:

1. Attendance: Calculated on the basis of the number of videos watched or audios heard or PDFs downloaded. Videos, audios and PDF's are easily accessible from the course platform.
2. Performance: Calculated on the basis of marks secured in quizzes and assignments.

Criteria for Participation Certificate

Should score a minimum of 50% in Attendance and at least 40% in one of the quizzes & assignments.

Criteria for Competency Certificate

Should score a minimum of 70% in each category, i.e., Attendance and Performance.

The learner's attendance will be counted only if learners access the videos and audios on the Course Platform.

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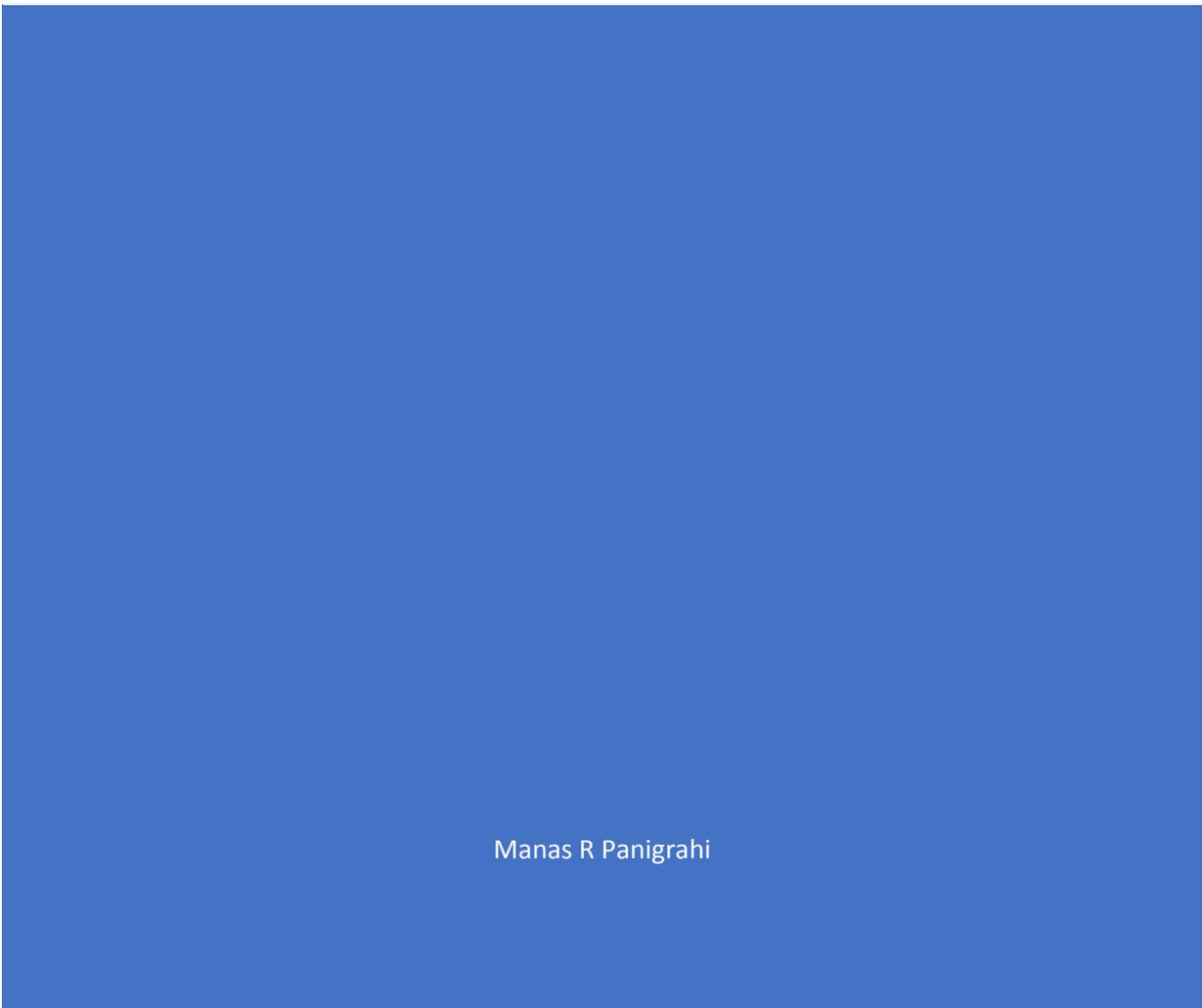
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Week One

Module 1: Effective Communication Skills for Engineers - 3 (Interview Skills and Group Discussion)

Instructor's Name: Prof. C. Muralikrishna



Manas R Panigrahi

Module One

Lesson one: Introduction to Interview skills

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1481>

Video Length: 10:48

Hello dear learners welcome to this Massive online open course MOOC on life skills for engineers. We are beginning this level 2 and week 1 module 1, it's titled effective communication skills for engineers with specific focus on interview skills. As you all remember I am Professor Muralikrishna. I teach and research in the Department of English, Osmania University, Telangana State, India. Hope all of you are doing well. This time again I am one of the instructors here and I welcome you all to learn and participate in week 1 module 1 of level 2 of this MOOC on life skills for engineers. A couple of words about this module 1 / Week 1. The six lectures of this week would begin with the definition of an interview and the different perspectives on the word Interview. Next, it would also emphasize in detail the major purposes of Interviews; it would then outline briefly some important interviewing techniques; furthermore it would look into the dynamics of preparing for an interview, in terms of time management, appearance body language, and the rest of it. It will also examine the kinds of questions that can be expected at an interview. Finally, it would discuss the interview process and the general norms for assessment of candidates appearing at interviews. Web links for more information on interviews will also be given. At the end of the week and module 1 you are advised to attempt an evaluation quiz comprising 25 questions. One of the takeaways is... this module would be of great help to you all in understanding and internalizing the dynamics of interview skills in the context of communication in English. I wish you all a very enjoyable and productive learning time.

Lecture one- Introduction to interview skills. I would begin this with a quote by PV Young, he says I quote, "Interview is a systematic method by which one person enters more or less imaginatively into the inner life of another who is generally comparatively stronger than him." Now if you analyse this quote it implies that the person who is being interviewed is the stronger of the two and that the person who is interviewing wants to know more from that man. But, sometimes it can be the other way around. The person, if he is a candidate is the weaker of the two and the person who is interviewing is the stronger of the two. You know interview is for admissions or for employment, as a term it is derived from the word from the French word *entre voir* which means to get a glimpse of the other or one another; glimpse in the sense peep into the self; peep into the other person's nature. Now, what are some of the perspectives on the term interview. The mention of interview creates uneasiness in many people I'm sure you all agree with that; there are not many who remain calm at the idea of facing an interview. In fact, in our daily lives we go through interview like situations very regularly without being conscious of them, for example, when you are sitting in a railway waiting room for your train to arrive you may possibly start a conversation with the person in the adjacent chair ; you may talk about your names, destinations, occupations; very often our long-term friendships or just our our life acquaintances start like that; you pick up conversations; so in a way, you go into the interview mode; when you go to your doctor you're once again in an interview mode- the doctor asks for all the details of your problem in order to diagnose and treat you. So you see we naturally go through these dynamics of interview but because we are not conscious of the

fact that we are being interviewed or we are interviewing others. We don't get tense but if it is a very formal interview for admission or for job there is a tendency in most candidates to feel tense. Such situations that is, informal situations happen all the while and we feel we can deal with them easily and quite free of tension. However while facing a formal interview this is what I was trying to tell you while facing a formal interview for admission or recruitment we are very conscious of the situation. Such interviews demand a great deal of mental preparation. Before we go into what exactly demands, let me give you a much commonly accepted definition of interview an interview is a one-to-one interpersonal role situation in which the interviewer asked the interviewee specific questions with the purpose of assessing the interview suitability for the purposes for admission for recruitment or promotion or for opinion. So broadly and a few more other purposes are also there; hence an interview is a psychosocial instrument- it's an instrument to gauge, to measure your psychosocial mental makeup. It's an organized method of contact with a person to know his or her views it is regarded as one of the important methods of data collection also underlying that. Now having defined interview, let's see what are the major purposes of an interview. One of the major purposes of conducting an interview is called face to face information gathering; now as the term suggests, it is basically information gathering and so one-to-one, face-to-face situation; and interview is a direct technique of accumulating data by the interviewer. Its advantage is that lots of information needed in social and scientific research or assessment can be compiled from the respondents only on the basis of direct questioning so you see whatever information we need for social and scientific research or related assessment. This face to face information gathering is possible through the interview process -this is one of the major purposes. The second purpose which we would move on to is called the formation of hypothesis. An interview is an investigative device to help identify variables and relations to suggest a hypothesis and to guide different phases of the research. Be it any field of research, one of the effective means of getting data and getting a perspective on the topic, getting some investigative insights into the topic is through the interview mode. So this is relevant to interviews for research. Then we move on to value oriented qualitative facts. Social facts are essentially qualitative in nature; by quality we mean opinions, feelings- they are not quantitative they are expressed in the form of ideas feelings views faith beliefs. I'm underlining this; very important information of an individual is elicited by the technique of interviews; otherwise normally you don't get to know what is the mental makeup, what the views are of a person. These social facts are both individual as well as collective; the interview method is an effective way to collect qualitative facts; so qualitative facts can be gathered very effectively by the method of interview. Then the other major purpose called is supplementary information. I just marked this; by this method we can accumulate additional information, supplementary information as you would know is the additional information from respondents that we often get through normal schedule or questionnaire. So interview actually complements or adds additional value to a questionnaire which you had administered earlier. There are persons who are capable of providing additional information or suggestions and this can be done well through interview method; this is possible as there is a direct dialogue with the respondents. Where there is a direct dialogue, respondents as in the interview method, then you get lot of additional information and you may in your spare time go to these web links there are about three links which are good. There is wonderful information which will further enhance your idea about interviews.

Thank you.

Module One

Lesson two: Interviewing Techniques

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1483>

Video Length: 08:28

Welcome to lecture 2. Lecture 2 is titled Interviewing Techniques. Having discussed the definition and perspectives about interviews in lecture 1, in lecture 2, we would look at what are the different techniques that people adopt while interviewing. The different types of interview techniques that are normally designed. Companies and government organizations, autonomous bodies and private organizations shortlist candidates in a variety of Ways. The different interview techniques that are generally used are series interview -first one- is we call them as series interview. Now what exactly is a series interview. A company or a government organization selects its candidates through a series of interviews where the candidate has to face several people individually in succession rather than facing them all in a group. So instead of facing a group of people who interview him, the candidate will go to each individual expert of a company and that is called as a first step in a series interview. Each interviewer submits his or her report and the reports are compared to arrive at the final decision; this is the second stage. The series interview is useful if there are a number of candidates to be interviewed for a job; it would be difficult for a panel of experts or senior managers to interview all of them in a limited time. So this gives them lot of flexibility and they also manage the number of candidates well this way, if they are interviewing them one by one. This is called the Series Interview. Next one is called the Filter Interview. In this, the applicants who do not have the minimum required qualifications are filtered out. This is part of the initial scrutiny that they do. Those who fail to make the benchmark of eligibility they are filtered out; then if there are a lot number of candidates who qualify, the minimum criteria are revised in order to recommend not more than a fixed number of candidates for further selection Procedures. So if more number are found Eligible, they will revise their eligibility criteria and take in only those number of candidates for Interview. The filter interview may be done face to face, by phone or by any of the other method. Then we move on to the third kind of interview; this is called a Set Interview. In such an interview, the interviewers ask all the candidates the same set of questions There is a set of questions and they are repeated. Computers may be used to store retrieve and compare the data provided by the candidates. So a lot of technological help is also taken in a set interview. Candidates do not talk to one another and do not disclose the questions and is very structured. So somehow it is seen to it that the candidate who has finished his interview does not interact with those who are still waiting to be called for the interview so the questions are not disclosed to them. This is called the Set Interview. Then we have the Simulation Interview. As the word itself suggests, simulation- this is an attempt to simulate the conditions under which the job needs to be done so given a situation like that the requirement the candidate has to respond. The interview is carried on a situation that is imaginarily created and the candidate is asked to demonstrate his or her skills and deals with the situation. Here again the interviewer poses lot of if and when questions, hypothetical questions to the candidates for reactions. Such interviews consist of just two or three situational Questions. The answers need to be given carefully. It is better to express lack of knowledge about the situation than

to pretend knowledge because you are watched very very carefully in all these Interviews. So these hypothetical questions you cannot answer them in a gambling fashion you have to be very sure or admit that you don't know. Then we move on to the fifth type of Interview. It's called on spot calibre interview. This kind of interview tests the candidate's mettle or the talents or the capacities to find out how he would respond to difficult Situations. In this the chairperson after the initial formalities indicates to a panellist to begin the interview; then the candidate is subjected to stress by one or more of the following methods. The candidate is subjected to stress. I am underlining that deliberately; they make they bring lot of stress on the candidate to see how he would respond how he would manage the stress. Now how do they subject the candidate to stress. One is asked many questions at a time. Then there are further questions. Without being given adequate time to respond; then being interrogative in a dominating tone and voice the panellists take the liberty of trying to dominate the situation and that they assume a very dominating tone just to see how the candidate is managing stress; then being asked an irrelevant set of questions sometimes deliberately the panellists ask very very unconnected questions if just to check if the candidate is losing his temper or getting irritated. Then again being asked a provocative set of Questions, they probe the candidate by deliberately testing his emotional Strength; in this, it is better to stay calm in such a situation when your calibre is being tested, the candidate is best advised to be calm and ask for time to answer the questions; the tone must be very very guarded; the tone should be not...should not reveal the stress; should not reveal the irritation and there must be no retort or retaliation or angry responses not even to say that I've just told you no sir you can't say phrases like that I have already Explained; this kind of an irritating response is something that they are trying to know, see in you; so you should never fall for this kind of a stress question. Then we have what is normally called as panel interview or a board interview or a committee interview. This is the most common type of an Interview. A committee is set up with members from administration finance management subject specific experts the chairperson of the panel conducts the interview with the help of the members and experts. So much for the different ways of interviewing candidates. I have here listed a few websites; you may go to them for further reading I've also suggested an interesting book by Hari Mohan Prasad and on how to prepare for group discussions and interview it's a very good book and I recommend that you go through this.

Thank you.

Module One

Lesson three: Preparing for an Interview

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1484>

Video Length: 08:47

Welcome to lecture 3, which is titled Preparing for an interview. The following points must be borne in mind when presenting oneself for an interview. Firstly we have Time management. Here, you must ensure that you are punctual. You must report for the interview at least half an hour before the given time. Punctuality creates a good impression and if you are on time you will be cool, calm and collected. If you find that you are going to be late for the interview, try to inform the concerned office so that the interview can be rescheduled. Be polite to everyone you meet both before and after the interview as this will also help you retain your balance. Then secondly, we have Appearance. First impressions are immediately formed by our appearance. Well it means, a smart and pleasant appearance enables you gain a favourable impression from the board. It is essential to be well dressed and well groomed. The clothes you wear must look neither too casual nor uncomfortably formal. They must have a washed and ironed look. Footwear should feel comfortable and be polished. The next factor is the important factor of Body Language. Here, a candidate's body language tells us a lot about personality type. For instance, stooping shoulders and bent-forward back are signals that signify subservience and a lack of confidence. So, you should walk into the room and sit down with a straight back posture. Ask permission to sit by saying, "May I sit down?" Also, shake hands with a firm grip while maintaining eye contact and a smile. Your handshake is a basic act of friendliness. Therefore, a domineering handshake will irritate the interviewers who will subconsciously feel intimidated. Also, if your handshake is floppy, you could be considered a weakling. A pleasing appearance with a little smile enhances your personality. They say, that a smile is like an antibiotic to many of man's problems...a frowning, tired, or harsh expression can irritate the interviewer. You must therefore try to look cheerful and confident. It is also very important for a good interviewee that he listens keenly, is alert and is able to draw the interviewer's attention as well. Well, attentiveness means being in tune with the other person's needs, wants and questions. It is being sensitive and treating each and every person in a special, distinctive way that recognizes his/her individuality. Good listening skills are vital if one wants an interaction to be effective because most people in general love to talk to those who listen to them keenly. Furthermore, remember ... Do not sit in your chair in a very stiff or in an overly relaxed way..Do not get too near to the interviewer. Do not keep hands in your pocket. Do not cross arms like this. Do not get your hands or fingers over your mouth when you speak. Do not avoid a reasonable eye contact with the interviewer. Finally, you may in your spare time go to these web links and read the content for your enhancement.

Thank you.

Module One

Lesson four: Preparing for an Interview (cont'd)

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1485>

Video Length: 13:59

Hello. Welcome to lecture 4. Lecture 4 would be a continuation of the preparatory requirements that a candidate has to take up before he faces an interview. So we've spoken about body language, about appearance. So in keeping with that we continue about what are the other qualities. Now, the candidate has to also prepare in terms of effective communication skills. So once you start speaking in the interview it improves upon or negates the first impression made by your appearance and body language. So the impression that you make accounts a lot. Hence effective speaking includes both content and delivery. So you need to prepare well in terms of content and also how you deliver at the time of the interview. Now, what does delivery mean here? -First, your tone your voice, choice of words and phrases. Now tone is your high pitch and low pitch. Sometimes tone also has a metaphoric meaning it also reveals your attitude -- whether you're angry, whether you are frustrated or whether you're very forthcoming or withdrawn. So tone is a very weighty word there. I'll underline that - Delivery refers to your tone. Not everybody is blessed with a great voice but whatever voice nature has given, you should make the best use of that. Choice of words- the vocabulary is very important. You should try and use formal words, avoid slang expressions and Phrases.. A candidate can make a better impression if the pitch of the voice is modulated. I'll underline that- modulated. Well, based on syllable stress and context. Now let me explain this a little bit here; modulation refers to high pitch low pitch variation. So you should never speak in a monotone; mono tone leads to monotony --only one pitch can be off-putting for the listener; so sometimes you can be high like this. Sometimes you can be low like this and also your syllable stress like --if there's a word like psychology you have to say psychology you cannot say psycho 'logy as most people tend to do that or the word 'remember', you have to stress the syllable 'mem'. So a simple care -steps like that- will give you a better edge in the interview; the other quality is enthusiasm ; you should show that energy during the interview- doesn't mean that you try to be hyper about everything but you should have a very very noticeable energy level ; the candidate is given more quality attention from the board if he or she expresses more enthusiasm during the Interview ; it has a very infectious kind of an influence on the board if you come up with enthusiasm you are bound to elicit more questions or compliments from the board members ; enthusiasm is reflected in the energetic way you express your ideas you need to express your ideas in a very firm, assertive way full of energy; it should not be dull ; you should never be laid-back. A laid back casual playful attitude, what in India we call as 'chalta hai' attitude will not help. You should maintain all along a cheerful disposition and a pleasant appearance so this is a combined effect that will actually make you look very enthusiastic. The other characteristic feature is brevity; now Shakespeare once said the great writer, 'brevity is the soul of wit' whereby what he meant was if you are brief enough it really is a sign of intelligence . So effective communication does not mean speaking in a garrulous and flowery language for a long time; it's not that's more to do with talkativeness, authentic communication means speaking briefly with clarity and unambiguously. So an unambiguous manner

is lacking in kind of an indefinite lacking in definiteness it should not have led to multiple meanings like if I say my friends are outstanding they're referring to friends standing outside that's the wrong word to use; and 'I went to the market to sell my land along with my wife', that is very ambiguous now what are you selling there the land or both wife and land so avoid expressions like that. A talkative person is often taken lightly so if you are known to talk briefly and to the point you are taken seriously but if you are a chirpy and garrulous kind of a person then there is a tendency for people to take you lightly then Again needless to say listening carefully very often people do not exercise patience to listen to others as they are anxious to speak or express themselves in their anxiety to express themselves finish their work; there is a tendency to be impatient and they don't exercise good listening skills; listening as I say is the mother of all communication as it pleases the speaker as well as orients you positively; it is it cuts both ways; a good listener complements the speaker and it also helps the listener to orient himself properly you can also understand the question properly and give appropriate response ; try not to speak before the question is completed ; so a good Listener- one of the hallmarks of a good listener is he will never interrupt the other person speaking - he will never interrupt when a question is being asked that can be very irritating when the interviewer finds that you are interrupting his questions by answering in haste. So be patient and listen carefully and a very vital characteristic feature here is trying to be honest ; you should never attempt to deceive the interviewers by telling lies that can be easily ...that can be your undoing; people can find out if you're lying ; if you do not know the answer it is correct to acknowledge it admitting that you are ignorant about a certain thing in fact, gives you better points; you gain respect for integrity and honesty ; you can tactfully steer the interview to areas familiar to you; there is this a very intelligent strategy that you can adopt you can always end your answers on topics from where you can speak further because very often the next question is based on the last point you have mentioned so that way you can steer your own direction in the interview if you know on what topic to end so that is called steering around to familiar topics adapting yourself . It is always useful to keep the interests of the interviewer in that one who is interviewing you, should find the interest levels going down, an element of enterprise is always helpful in facing an interview so you should now and then surprise them with quick free witty answers ; not rude answers but something very very creative and witty you must have an idea about the interests of the interviewer and talk about it, should also be empathetic with their interests the board members; if the interest of the interviewer seems to decrease you can trigger his interest by making appropriate change in your tone by lowering or raising your voice or by speaking faster or slower ; this kind of a variation of your tone pitch or bringing in an element of surprise would make that is how you adapt yourself and that will help you to sustain the interest of the interviewer then of course maintaining proportion and poise you should answer informatively but not consume much time so content should be very dense but it should also not take too much time . the interviewer may ask a general question such as I would like you to talk a little about your home background now just because is every question that is familiar to you about your home background you should not go at length to talk about your home background it should give the gist of it briefly and to the point do not give mono syllabic answers or ramble on the other; you should also not not answer in yes/no all the mono syllabic words by being very you know to the point less than to the point actually just using a word or two that also is not going to cut the ice with the interviewer yet do not talk so much that you may weaken your candidature so you need to strike a balance between talking too little and talking too much; somewhere you have to make it balanced make it interesting and to the point; then our interview is also an occasion where you need to demonstrate your leadership qualities you ought to exhibit

initiative willingness and resourcefulness you should take the initiative in certain topics you should express that you are willing to do certain things and you should also express that you don't lack ideas you are resourceful you ought to demonstrate team spirit willingness to work in teams cooperation organizational skill cooperation strength of character and more importantly a strong decision decision-making ability the decision-making ability is what a leader stands out for whether a decision there are times when things decisions are very difficult to take because both the decisions not doing a certain action or doing a certain action doesn't seem to give you any kind of a light so at such times you need to take some decision and have confidence in that diffidence lack of confidence selfishness and if withdrawn nature will be counterproductive so these have to be avoided by the candidate preparing for an interview we should he should never appear diffident you should never appear withdrawn and selfish as these would go against him so for a quick recap remember walking smartly and cheerfully . I am connecting what we discussed earlier shake hands firmly without crushing their hands maintain a reasonable amount of eye contact with the members give him or her or them your full attention listening and observation modulate your voice such that your reply is audible to every member of the interview board neither raise your voice rudely nor speak in a low tone do not be in a hurry to answer speak distinctly in normal accent and pause to make points effectively. If you observe some great speakers and lead they know how to use the pause... that creative silence... they are called masters of the pause. So an interview can actually make use of puzzles to maintain the interest of the panel ; do not move your limbs aimlessly ; so body language has to be very controlled ; restrain the movement of your limbs keep them to the minimum and I've also listed some links; very good links you may benefit from this, thank you.

Module One

Lesson five: Kind of questions expected at interviews

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1486>

Video Length: 10:41

Hello dear learners, welcome to the MOOCs on life skills for engineers level 2 week 1. We now go to lecture 5 which is titled -kinds of questions expected at interviews. Now when you are trying to understand what goes into interviewing, what goes into attending interviews, you need to also look at, anticipate the kind of questions that are generally asked at interviews. I'd begin this lecture with a quote from Alec Roger a well-known HR expert. He came out with a discussion on interviews and said that interview questions fall under seven headings. I actually uncoated that and put down the seven headings here. These are one Physique, two Attainments, three Intelligence, then four we have Aptitudes, five Interests, six Disposition and seven Circumstances- seven very vital qualities that are assessed and these seminal qualities that are assessed, determine the kinds of questions that you can anticipate. Now let's talk a little while about these seven vital qualities- physique - it consists of health, appearance, manners, and other related aspects of personality; so one needs to take care of health, appearance, manners, politeness, and the rest of it and other very friendly aspects of personality it comes to attainments ; it includes educational achievements and experience; what are the educational achievements you have come with to the interview and what has been your professional and academic experience ; then general intelligence is seen as a broad area of common sense -unfortunately common sense is not so common as they say- so general intelligence is tested, but the kind of common sense you bring to questions come into play; then aptitudes comprise mechanical, verbal, musical, or artistic skills; now each of us- each candidate like the rest of the others- they come to the table with a certain talent, skill- set, certain ability. Now that comes under aptitude it could be mechanical aptitude where people could be good with mechanics, people could be good with language- verbal; there are people who are musically gifted - musical aptitude ;people are excellent at sculpture painting sketching and instrumental music so artistic skills ; so the mathematical aptitude. So these are the various intelligences that can come under aptitudes so you are tested in that. Then you are also tested for your interests, outlook, comprising your world view and what are your creative hobbies- like maybe you are good at collecting old paintings, good at collecting old sports records or reports etc. Then we move on to disposition - disposition includes personality and related aspects like acceptability whether you are self-motivated whether you are dominant or submissive and extrovert or introvert so basically your personality type is what we mean when we say disposition. Then circumstances- give a pointer to the interviewer to put your achievements in a perspective so what is the context that has brought you to the interview and with what achievements have you come there at all. These all comprise the circumstances factor. Having said that, based on whatever we discussed, the expected questions would fall within four groups one is the first group of questions are those questions which are called leading questions. Now these

questions generally have a response built into them normally; the chairperson begins the interview with these leading questions like how do you find the atmosphere in your state as of today? -so most people would know the response to it; so how would you express that response? An interviewer is usually friendly and cooperative he would like the candidate to feel at ease so in order to make you feel comfortable, make you feel at home he would ask you certain questions for which you have information and which are very very familiar topics. So these are leading questions- such questions help a candidate feel comfortable and confident to do well. So it's unlike the other kind of interview where they were trying to put you under stress. Here the leading questions are put to make you feel at home and bring out the best from the candidate. Then we have the open-ended questions these questions; they usually come after the leading questions; the purpose of these questions is to help a candidate to talk explain and illustrate something that he or she knows or has done before so a lot of content, expression of content is possible here because open-ended questions ask of the candidate lot of information. So whatever the experience has been, you need to express well. Usually these questions begin with the words what /where/ and why. Then we move on to the third type of questions - probing questions- these questions measure your depth of understanding; these questions are intended to test how you would react to a situation or how you would organize follow-up questions. So basically -how and what's your response to a situation; something akin to the simulation type of interview. So they are trying to get at, trying to understand the depth of your knowledge in that particular chosen area. Then, the close-ended questions- these questions try to elicit information on specific items and to test your knowledge of facts and figures where there is a lot of information content, statistics are involved, dates are involved, so they are trying to elicit this kind of a information on specific items so they are called close-ended questions, which is the opposite of the open-ended questions. Having discussed that, we now move on to the process of the interview - the interview process; there are a few steps involved in the whole interview process whatever be the type of interview. Step 1- now what does step 1 include here - the interview gets initiated, the interviewers task is not to fool or confuse the candidate, but to get the best out of him. Normally, therefore, the interview begins with encouraging, lively questions; there are many methods of initiating an interview some of them are as follows: So initiation based on candidates background; initiation based on the candidate's interest in hobbies, on general knowledge, on academic topics, on tricky questions also. So, all these is to make the candidate feel slightly familiar and make it possible for him to give out his best. So this is step one; step two would be investigating the tenor of behaviour of the candidate- now what kind of a behaviour he is or she is capable of, what is the personality type, what is the structure of his mind set - all these are investigated in step two -very important for the board to take a decision whether to admit you, give you a job or give you an admission. Then we move on to step three- assessing the candidates knowledge and understanding- this is a domain based question where your knowledge and understanding of the subject are tested ; then step four -assessment of interpersonal and social qualities- how is the candidate socially disposed , how is the interpersonal ability of the candidate- that is measured in this particular stage that is step four and step five is, all in all assessment- the overall assessment of factoring in all these steps -what kind of a assessment you can make of the candidate. So this is the last stage and I have listed here a few important websites... kindly go to these links and benefit more from the websites.

Thank you.

Module One

Lesson six: Norms for assessment of a candidate taking an Interview

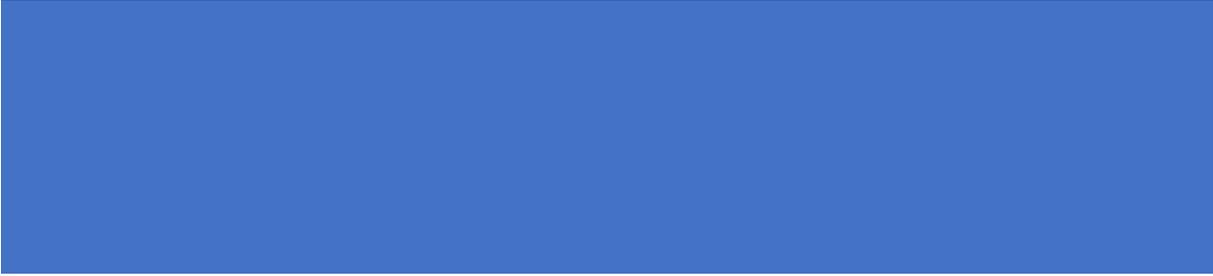
Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1487>

Video Length: 09:32

Hello dear learners welcome to lecture 6. Lecture 6 deals with the norms for assessment of a candidate taking an interview; so against what norms or parameters is a candidate assessed during an interview. We look into these parameters; the first of such parameters is disposition as we discussed it in the earlier lecture here the candidate is tested for the appearance the social manners the dynamism mental power and overall impression. So appearance -something to do with hygiene with neatness, with pleasant not very jazzy colours of clothes, but clothes that are very moderately coloured and having balanced social manners interpersonal relations dynamism initiative taking capacity mental power the power of .. the tenacity to pursue topics and to express certain concepts with clarity ; overall impression about the person- all these comprise the parameter called disposition. Then of course we come to the next parameter, that is knowledge, here the candidate is tested for many aspects relating to the knowledge component; first is the range of knowledge is the extent of knowledge, how wide is the candidates knowledge, and then they go into the depth, how deep is the knowledge of the candidate, then is it just theoretical -so that will be known by the application of knowledge to real situation -so what is the applied knowledge that the candidate brings to the table -then while expressing all this how coherent these thoughts are -that comes under coherence of thought ; clarity in thinking and expression; then again the overall impression under this category called knowledge. Then we move on to communication skills- here the kind of language that the candidate is using whether it's very informal, casual, or improper kind of language or is it appropriate is it formal, so language and what is the kind of vocabulary that you are using- any important relevant idioms you are using -then what is the kind of voice, tone, and rhythm; is there a certain harmony to his speaking ability; what is a tone? the attitude, the pitch of the voice ; and voice clarity is whether you have very good voice or a very weak voice should be secondary, but basically the voice should convey the words properly -so is that being done- so all these are tested. Then is there clarity and logic in the whole expression, the use of language -some people have good vocabulary but at the time of speaking, they bring in too many words and phrases and somehow the clarity gets spoiled ; so while expressing good vocabulary, doing it in a good voice -is there clarity, is there a certain logic. Logic is organization of thoughts- is there a unity to the whole thought process; then speech should also be able to be persuasive- the convincing power- is the candidate carrying a certain conviction, and again the overall impression under this domain- communication skill. So all these are assessed. We move on to the next parameter that is, the leadership quality- what are the traits, what are the qualities of leadership? Does the candidate exhibit all this; does he take initiative, does he or she look like the initiative-taking type; they can make out by the way you take your stance, by the way you give your opinions, do you think the candidate can organize events seminars or big occasions with skill; is there organizational skill in the candidate; decision-making-

deciding power. Many people have talent but somehow they seem to withdraw when it comes to the time where they have to make decisions; so is the candidate good at decision-making. Character - when you talk about character, you are talking more about integrity honesty talking about ethics whether he is abiding by rules and regulations or is he a violator so you can make out by the way they are responding whether he has a tendency to violate guidelines or he has a great capacity to abide by guidelines; so character is revealed in such talk when you are expressing yourself on other matters. You are actually- people there on the panel -are closely observing you for these small hints by which they can make out whether you're a good leader or not- so here again the overall impression under this category -they assess- so each basic head or the parameter can be allotted marks -they do have a certain marks allotted under each category and they score you against this and negative marking also is possible in some of the interviews. So it can always cut into your positive side. Then a quick recap -remember interview is an interpersonal role situation with the purpose of assessing the interviewee's suitability for admission recruitment or promotion or for an opinion ; so the person out there who is interviewing you is testing you, is actually asking you questions to assess whether you are suitable for getting into some course, admission, whether you are suitable for a recruitment, for a job, or within the job do you deserve a promotion, or is your opinion really worth asking ; interview, remember is a psychosocial instrument- it's an instrument it's a very vital instrument to give you / give the interviewer a peep into the interviewee's personality. So a quick recap- here again preparation for an interview involves improving aspects relating to one's time management appearance body language communication skills enthusiasm brevity listening honesty adapting maintaining proportion and poise and demonstrating leadership qualities . so all these, we have covered in our lectures and these are very very vital categories- so whenever a candidate is going to go for an interview to face an interview, he needs to work on himself, he has to do some kind of an inner engineering, to go up to advance in these different aspects of his personality and then he can make a difference; make his interview performance very impactful. interview questions range thus over those seven headings like physic attainments general intelligence aptitudes interest disposition and circumstances and lastly I have brought in some more links here ... so go to them and enhance your knowledge of interviews.

Thank you.



Week Two

Module 2: Effective Communication Skills for
Engineers- 2 (Job Application, Oral
Presentation Skills)

Instructor's Name- Prof. C. Muralikrishna



Manas R Panigrahi

Module Two

Lesson one: Theory and Practice of Report Writing

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1602>

Video Length: 10:39

Effective Communication Skills for Engineers- 4 (Report Writing and Technical Writing) Lecture 1 - Theory and Practice of Report Writing Instructor's Name: Prof. C. Muralikrishna Hello learners, welcome to the second week of this level two of the Moocs on Life Skills for Engineers. We are into the second module; the second module is Effective Communication Skills for Engineers -4 with special focus on report writing and technical writing. The six lectures of second week would discuss in detail the theory and practice of report writing, it would then look into the general structure of a written report, next, it would discuss reports of routine nature and reports that are special; additionally, it would also analyse a few methods of reporting. This week also would move on to introducing technical writing and its basics including the writing process it entails; furthermore it will also discuss a few important kinds of technical reports including the empirical research report and feasibility report among others. Finally, it would discuss briefly proposal writing and process description -two important kinds of technical writing among others. Web links for more information on the report and the technical writing would also be given at the end. At the end of this week 2 and module 2, you are advised to attempt an evaluation quiz comprising 25 questions. I am very sure that this module would be of great help to you all in understanding and internalizing the dynamics of report writing and technical writing skills in the context of communication and English. I wish you all a very enjoyable and productive learning. Lecture 1 of this week is titled theory and practice of report writing. The first point I would like to make here is modern management technique puts a very high value on the management information system; the system is essentially based on reporting; so management information system depends a lot on various writing skills - one of them is good reporting skills. Important decisions of the management depend on facts and information conveyed by executives at various levels and at various stages the information has to be accurate and up to date. However that is not enough to make a report impressive; the data collected must be properly organized for further analysis by the management so that the decision making process is helped and not hindered by the reporter. Having said those words about report writing let's now move on to looking into the structure -the general structure of a written report. The structure of the report can be divided into three main parts and what are these three main parts- one, the front matter; two the main body; and three- the back matter. Now let's see what goes into the front matter. The front matter consists of the title page, the forwarding letter, the preface, the acknowledgments, table of contents, the abstract and the summary. Sometimes if there is an abstract, there is no summary; sometimes there may not be an abstract but there would be a summary; so between 6 and 7 it's very often one of them; sometimes occasionally it is both of them- abstract and summary. Now under the front matter we will first look at the title page; the title page of a formal report generally has the following features: the title itself, the subtitle, name of the

author, name of the authority for whom the report is written, the contract- project or job number, the date. Although there is no strict rule as to how the title page should be designed the following is a sample of how it could look now: this is how the title page would look ; here's an example you, see there's a report number there 3 8 9, then the name of the organization- Azamabad textiles corporation; then you have a small heading there ;a report on installing a new production unit prepared for the managing director by KL Kailash- special research officer and the date is given 5th September 2014 ;written by Kailas and prepared for the person who commissioned and he is to be sent the report- this is the title page; Then, we come to the other aspect of the front matter- forwarding letter and preface; a forwarding letter is a kind of introductory letter through which the author establishes a rapport with the reader puts the book or the project in the proper perspective. So basically, it's a forwarding letter - nothing but an introductory warm-up letter. It establishes a rapport about whatever it is -the introduction to the book or the project; then, it also makes some important points regarding the scope contents and purpose of the project or the work or the book. The preface in the report, serves more or less the same purpose; but while the foreword is written by an expert -invited expert, the author himself customarily writes a preface; Preface is generally written by the author; foreword is an invited piece of writing. You normally ask an expert to give a foreword to the report or to the book. Then we come to acknowledgments- in the acknowledgments, we generally list out the names of the people and organizations that have helped in the making of the report as most of you would know that. Then of course, you also know the table of contents- if a report is several pages long and deals with various aspects of a problem it is necessary to have a table of contents; its function is to give the readers an overall view of the report; help them locate a particular topic or subtopic -given below is the structure of the table of contents; note that the Arabic numerals begin only from introduction onwards. Here is an example of the TOC -the table of contents: preface, acknowledgments, summary- no numbering; from introduction you have the Arabic numerals one, two, two point one, two point two, two point three, three, three point one, three point two; four- conclusions; five- recommendations and the page numbers of course. This can better aligned here; okay so this is general pattern in the TOC table of contents. Then the other aspect of the front part is abstract and summary; most reports consist of a synopsis which is called an abstract or sometimes a summary; but there is a technical difference between an abstract and a summary. Let's see what the difference is- an abstract tells what the report is about and gives the extent of coverage, while a summary gives a substance of the report without any illustrations and explanations. However, a summary will give the method of analysis the significant findings the important conclusions and the major recommendations. So in that sense it is slightly more elaborate than an abstract. The abstract is generally about two to three percent of the original content of the report; while the summary is about five to ten percent. So as I said earlier summary is slightly longer than the abstract; but both are synopsis in any case ; so you use one of them and not both together . In order to facilitate quick and easy comprehension for the reader both these elements should be self-sufficient and intelligible without reference to any other part of the report; and I have listed down some important links and also some books. Do read these- the content available in these links and the books for your enhancement of skills you need. The YouTube- I've given a link. The books mentioned here very widely used books all over India. I'm sure some of you may have seen or read these; so if you haven't please go through them and also the websites. Thank you.

Module Two

Lesson two: Report Writing

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1603>

Video Length: 10:25

Effective Communication Skills for Engineers- 4 (Report Writing and Technical Writing) Lecture 2 - Report Writing (cont'd) Instructor's Name: Prof. C. Muralikrishna Hello learners, welcome to lecture 2. We'll continue with the description of the structure of the report. In the last lecture, we had seen the structure of the front matter. Now let's see what the main body of the report consists of; the main body of the report consists of introduction discussion, conclusion, and recommendations. Now, under introduction, we have these some important points and introduction familiarizes the reader with the subject of the report. It lists out the following: Items of information like for instance historical and technical background, scope of the study with its limitations and qualifications; then we have methods of collecting data and their sources; Then authorization of the for the report- who has authorized you to write the report and the terms of reference ; what are the conditions and the terms of reference under which the report is being readied and of course we have a few definitions of special terms and symbols as part of the introduction ; so in that sense an introduction sets the scene and prepares the reader. Thus it needs to state in a sincere and unambiguous manner that which it is going to discuss; so very clearly very sincerely it needs to spell out what it is going to discuss -this is part of the introduction of the report. Now we move to discussion or description as part of the main body; the main business of the report is discussed in this section containing most of the illustrations- it fills most of the report. The main function of this part is to present data in an organized form, discuss their significance analysis and the results. So these aspects of the discussion like how is the data presented- is it organized? Then to discuss the significance of the data- the analysis part of it and the results part of it -if the data is too voluminous it is given in the appendix, so some reports have appendix where in the extra pages relating to the data is appended at the end; there is no one particular procedure for writing the discussion. Some writers prefer to use a backward order in the sense- first stating the results and then describing how they arrived at it; sometimes you can actually describe it in the normal course of sequence; the conclusion part of the introduction of the main body- this term refers to the body of logical inferences drawn and yeah, I'll underline that and the judgments made on the basis of the analysis of data are presented in the report. All conclusions are supported by what has gone before nothing new is included at this stage; if their number is large they may be itemized in the descending order of the importance and we also have recommendations in the main body. Conclusions comprise the inferences and the findings where as a function of recommendations is to suggest the future course of action- a busy executive may sometimes read only this part of the report and take decisions- thus recommendations are formulated after considering all aspects of the question examined in the report; the second point, somebody who has no time -the executive may sometimes read only the recommendation just to get a feel of what the report has been and what is that they can carry forward into their field of action. Then we have the terms of reference, the terms of reference generally indicate whether

recommendations are required or not or when the report is going to be prepared or is a person who commissioned- is he expecting recommendations also to be listed. If required, recommendations can be listed out in the descending order of importance; if their number is more they may be grouped under different subheadings; then we come to the back matter. After the main body, the back matter of the report consists of the appendices the bibliography the glossary the index. Now what is or what are appendices? The appendix contains material which is necessary to support the main body of the report but is very lengthy to be included in the text -it should be such that not reading it should not affect the reader's total understanding of the report or in other words even if somebody avoids reading the appendix it should not affect the understanding about the report but somebody who's interested in more details can find all those details in their appendix. However, it should if one wants to examine, provide all the evidence and documents -this is what I was telling you ; now all appendices must be referred to in the text and the significance or meaning pointed out. So you need to spell out the significance or meaning of all these appendices if their number is more, if the number of appendices is more they should be indicated as appendix A, appendix B and so on. Generally materials like illustrative materials, figures, calculations questionnaires specimens tables of definitions and symbols comprise the appendices. The other aspect of the back matter is the bibliography. A bibliography- sometimes you also call it as works cited- but mostly works cited is used in areas where there's a lot of field work involved; so bibliography is a more generally acceptable word for all kinds of reports. Bibliography is a list of published or unpublished works books which are consulted while preparing a report while writing a bibliography care has to be taken about the order of the authors or authors' names and surnames, the sequence of details, the punctuation marks and the layout. Examples - I've listed out a few examples- here there's a book by Shreesh Chaudhary foreigners in foreign languages in India: a social linguistic history- this is CUP is a publisher, the country of publication and this is the title of the book, the year of publication and the author's name is.... so you need to evolve; you can follow any one of the methods of giving the details of the author the year of publication and the title of the book and the publishers. So all these gets included in the bibliography, then the back matter also has list of glossary. Glossary is a list of technical words used in the report which explains their meanings the need for a glossary depends on how familiar the readers are with the field concerned; so sometimes our technical terms.. not everybody would understand the meaning of these- so the meaning is spelled out in the glossary of such words ; then you have an index and the index serves as a quick guide to the material in the report- it helps the reader to locate easily any topic subtopic or an aspect of the contents. Index is useful in bulky reports where the table of contents is not sufficient; sometimes the table of contents cannot cover everything so what is missing in table of contents- can be..they are seen in the index ...you can do a cross-reference- their entries are made in alphabetical order and cross references are given - page numbers on which information about entries available are mentioned against it in the index. Then I have listed some very important websites. One website examples dot-com report writing; then listed some books that are widely used now in the country dealing with report writing. Thank you.

Module Two

Lesson three: Reports of Routine Nature and Reports that are Special

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1604>

Video Length: 06:51

Hello learners, in lecture 2, we had discussed about the structure of the report; in lecture 3, we would take up another aspect of report writing. It's titled Reports of Routine Nature and Reports that are Special. So basically reports have been classified into two- those which are routinely written and those that are specially written on somebody's commissioning them. Let's see reports of routine nature first. In all organizations there are routine reports that go to the desk of responsible management personnel at fixed intervals like every day or every fortnight or every month or every quarter. These are called routine reports. So I'll just underline these -every day every fortnight every month every quarter -what kind of reports are these routine reports. They relate to matters pertaining to production, labour efficiency, cash flow, and sales performance; in fact these routine reports are mainly statistical and the clerk or the junior executive in some cases can collect the data in a predetermined form. Generally there's a predetermined form and present it without much use of language so anybody with some experience in the office can prepare these routine reports in efficient organizations. There are ready-made forms for major reports and only the figures need to be filled in. Production reports combined with the labour attendance report are submitted daily; a cash flow report is insisted on at fortnightly or monthly intervals depending on the type of organization in question. Of course, sales reports may be expected at monthly intervals; banks giving loans to businessmen demand quarterly reports; the most important part for these routine reports is to collect precise data and submit it on time to enable management to take corrective action before it is very late. So it should be done in time, it should be done with the right data, so that a proper response or action can be initiated by the management. Now let's come to the reports that are really special- very vital decisions of the management are dependent on special reports. Some decisions cannot be taken blindly or intuitively; they need to be based on reports that are written with a special purpose and those reports are called special reports. These reports concern things that are not repetitive and not routine in nature. So they come up once in a while out of the everyday routine. So people get special instructions from management that a report is required and the management calls for a report. It also specifies who has to report, who has to write the report, and to whom does the report reach. So these are very important -who has to report and to whom. So the management itself while initiating will specify this. The instructions further contain a clear-cut statement of the objective behind seeking the report. In fact it would be quite appropriate to state that special reports are a consequence of routine reporting. Very often, one follows the other. As a consequence of some of those routine reports there emerges a need and management identifies the

need and then thinks of asking somebody to draft a special report. For instance shortage of raw material is reported several times after adequate material has been ordered. Suppose they find that the material- raw material is there, but there is a shortage. So they can take some action on this the management may suspect thefts of material and may ask a person or a committee to investigate and report. The reporting authority is then guided by pre-set objectives while collecting the required data or selecting a method for collecting the data. So pre-set objectives - they're determined by certain happenings in the organization and the reporting authority has to select a method for collecting the data, the setting of object to further aids, the planning of the procedure because limits have been defined clearly and the reporting authority need not go beyond them. So the purpose for which special reports are asked is to be written in very clear terms. The management also prescribes a limit of time by which the report should be ready. Of course, no one can set multiple objectives and give a short time for working out the report. Normally any sensible organization or authority would give reasonable time if they are asking somebody to write a special report; then I have also mentioned an important link here YouTube related link and then there are two very good books which deal with the different kinds of reports one by Bhatnagar and Bhargava- English for competitive exams -then another by Saroj Karnik- had written on a book o the title comprehensive business communication. They are pretty good books; you may consult these books also. Thank you.

Module Two

Lesson four: Methods of Reporting

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1605>

Video Length: 15:31

Hello dear learners, welcome to level 2 week 2 of the MOOCS course on Life Skills for Engineers. Welcome to this lecture 4, which is entitled Methods of Reporting. In the earlier lectures of this week, we've been discussing the structure of report writing, how reports are and the other aspects relating to the writing of reports. This lecture titled methods of reporting talks about very many ways of reporting but the two prominent ones which will be discussed in this lecture. What are these 2 methods by which individuals can write reports? The first method is called the letter method, it may take the form of an ordinary letter, this letter method is called a letter method because it takes the form of an ordinary letter that means that usual formality of heading, address, inside addresses, salutation and the rest of it should be maintained. In the report below the salutation, the title of the report should come so very similar to the regular letter. The next paragraph should show what procedure the report writer followed and what persons he interviewed; the rest of the paragraphs should show the findings and the last paragraph should give the conclusions or the considered opinion of the report writer. In short, it is just a more systematically written letter; so more enhanced and systematically written letter is this kind of report- called the letter method of reporting. We now move on to the next widely used method called the schematic method. This method is sometimes followed in such reports more common in committee reports. The title of the report is given first, then follow the report paragraphs under the following subtitles after the title. Then you have the following subtitles, terms of reference, and procedure. Terms of reference should give the source or the authority that ordered the report; it also describes the scope of the report and its objectives and then the next subtitle is procedure. This section should give the method followed by the report writer. It mentions the places visited and persons interviewed; then the next subtitle of the schematic Method is findings. Here the section should give in proper order, the facts as they exist, the next subtitle is recommendations or conclusion. Very often, they are clubbed. This section should give the considered opinion of the report writer, based on the facts as interpreted by him; so facts are interpreted- it has got to be an expert opinion based on incontrovertible facts, let me underline this word incontrovertible, in the sense, undeniable one, can't disagree with these facts. The end may show the signature and designation of the report writer on the right hand side and the date on the left-hand side or all on the left hand side. So you have a choice –all on the left-hand side or the date on the left-hand side and the signature and designation on the right-hand side. So very often to make things simpler we follow everything on the left-hand side. now here's a sample of a report that is written in the first form that is a letter form and the report is talking about certain discontentment, dissatisfaction first by the workers of a company. So I have given a sample. Here it's called a Maruthi engineering company; this is the letterhead and the addresses are there; the date is left on top and to who you are writing -the directors Maruti Engineering Company Limited, Ashok Nagar, Hyderabad and the subject is highlighted like this report: on workers discontent at the

company's auxiliary unit in accordance; look at the paragraph division or everything is on the left bloc, saw left aligned : In accordance with the instruction given to me on April 9th 2003 I visited the auxiliary unit of the company in order to find out the cause and extent of discontent among workers.... It is therefore my considered opinion that the following suggestions will go a long way in reducing the discontent. Now again the suggestions given- here you can also use numbers; have used bullet - a special officer may be appointed and it should be asked to draw up a systematic program for the unit -first suggestion; second solution -all supervisors must be strictly advised to keep machinery clean and observe all safety precautions; third suggestion- the personnel officer must point out to the workers that the rates of payment enjoyed in this factory are very favourable. Yours faithfully, signature. Here this is the subscription; this is the signature and the name of the person the company secretary. So reports by individuals are mostly in this type of letter form. This form is suitable when the subject matter is simple and limited and when only one viewpoint is involved and when there is an obvious order of presentation. Now, the same report or the same incident, the same problem is being reported by the company secretary in the other form that is a schematic form. The schematic form is the more complex and intricate form and we have a sample. Here the topic of the report is the same: As the one in the earlier report, the same report can be presented in the schematic form with subheadings for different points. So you can use subheadings. This form is used mostly in committee reports where the subject matter is complex but even in reports by individuals this form can be used. The following is the same report in this form so basically used in committee reports and the subject matter is complex in such case you use the schematic form so you have the letter here. Then it says report on workers discontent at the company's auxiliary unit yeah but begins with the terms of reference in accordance with the instructions given to me on April 9 2003 I visited the auxiliary unit date is coming it you can bring this also here that is also another option or you can take this totally here so these are flexible options and writing out the reports but some form should be followed by the company consistently. Okay a few observations in this form, the usual letter structure is not followed, the address salutation are not used at the end of the report the name and designation of the reporting Authority is mentioned in the right hand corner, the date is given at the left hand bottom corner as in the sample given; you can also have only the date at the left hand side and the name and designation on the right hand side. Then at the end of this lecture I wanted you to go to these links from various websites to enhance your knowledge of the different types of letters.

Thank you.

Module Two

Lesson five: Technical Writing: Its Basics and the Writing Process

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1606>

Video Length: 06:31

Hello dear learners welcome to lecture 5 which, is titled as Technical Writing: Its Basics and the Writing Process, relates to technical writing arts. It's a slightly different kind of a topic within the ambit of writing skills. Like general report or essay writing is one form of writing, technical writing is another form of writing introduction. Technical writing is a typical form of writing different from expressive, expository, or descriptive writing. So, it's not expressive writing it's not expository or it's not descriptive writing; then what kind of writing is technical writing? Typically technical writing requires give and take; a dialogue; a follow-up input and action- very important components of technical writing; giving and taking, dialogue, follow-up input and action; most often it creates action- causes the person at the other end to react or respond. It is also a form of documentation where processes are described, recorded and analysed. Documentation could also be about the different phases of a product life cycle or even the responses to a certain experiment or exercise. So on a variety of topics in which writing is involved- such writing is called as technical writing. The process of recording, process of analysis, underlying processes, and life cycle involving products and experiments; the responses to certain experiments- most often these are the forms of reports. It is important to emphasize here that there may not be a single one and only procedure of reporting or documenting; it is always need and situations specific; so there's no one and only way of writing a technical report or documenting something technical in terms of its technicalities. It is always need and situation specific; so only when there is a specific need, then there's a specific situation; then in a working context- then you have the need to write a technical report or a technical letter. There are three factors very important for technical writing: purpose of writing; the audience- the readers will be reading that and; the tone of the particular technical piece of writing. The purpose of writing and audience very often sets the tone. These two determine the tone -if you are writing to someone above you, you are probably requesting or recommending action to somebody above you-you're writing then you are conveying your suggestions in the form of requests or recommendations; but if it is someone below you, you are directing action, you are instructing; again if you are writing a report solely for the purpose of documenting, your language will be different; but if you are presenting a proposal and trying to convince your colleagues, your tone will have to be persuasive, your tone has to be very convincing. Technical writing can be of various kinds- there can be reports, documents such as proposals, product specifications or quality test results; there can be instructions like user guides, online help; training and user – manuals. I'll underline these also- proposals, product specifications, quality test results. So these are a few examples of technical writing. There can be other forms of technical writing also. There can even be business proposals, status reports, customer documentation, and email reports. All these kinds of technical writing have unique formats, but there are general features that are common to all of them. Since we can't go into the

specific format of each of these types of technical writing, we would highlight certain general features that are common to all of them. All writing is aimed at achieving some purpose or the other but technical writing is very specifically aimed at achieving certain purposes. A good training manual will do exactly what it is intended to do; so they will not deviate from their purpose. Similarly is a well-written recommendation report or a feasibility report. A recommendation report or a feasibility report has very specific goals to achieve and they are tailored to fulfil those specific purposes only. They will not write anything beyond or aside from that. A well designed and well-written piece of technical writing has to take into consideration some important factors even before the process of writing begins and all these are listed out in very good websites which I have listed out here. We'll have more of this with a few samples in the next lecture.

Thank you.

Module Two

Lesson six: Important Kind of Technical Reports: The Empirical Research Report and The Feasibility Report; Proposal Writing and Process Description

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1607>

Video Length: 15:01

Welcome dear learners to lecture 6. Lecture 6 is dealing with important kinds of technical reports. Having discussed technical writing, we will take up a few samples of technical writing that is, the technical reports called the empirical research report and the feasibility report. I'll underline these two. We'll also look at some of the other forms of technical writing in this particular lecture. I start with a quote by Winston Churchill; he says, "this report by its very length, defends itself against the risk of being read", but it's a very sarcastic tongue-in-cheek statement made by Churchill highlighting the importance of keeping any report to its bare minimum length. Never write excessively in a report because when the length is too much, the report is generally not read by the people who are supposed to read it. So keeping it interesting and keeping it brief- that's the hallmark of all reports whether it's ordinary reports or technical reports. So let's look at the empirical research report. The empirical research report is prepared after careful investigation or observation when scientists are trying out a new technique to improve for example a communication system through satellites or a group of social scientists are trying to find methods to improve the creative faculty in students. I've taken two examples one from the social sciences data; from science point of view -so very technical topics like this very depth oriented topics -when studies are being undertaken, the empirical research report comes into play. This kind of report will have the following structure. I put a table here. This would be a better way to understand the structure of the empirical research report. You have the introductory section. In section under this, you have the subject, the objectives, and the research already done, the important methods of collecting data- so whatever has been done till so far you are getting that in this introductory section; then you also talk about results- the results of the research then you have a section for discussion. In this discussion/ category you also talk about how you interpret these results, how would you place what is ,what is the inference, what are the implications of the results, then in conclusion - talk about the significance of the results, then of course after highlighting the significance of the results, you can talk about the recommendations your own recommendations, the action that needs to be taken next. So this is all, there is a broad structure of an empirical research report. I have given links later on towards the end of this lecture wherein you get samples of empirical research report. Let's take a look at the feasibility report. This is another kind of technical report- the feasibility report is generally written as an evaluation of whether or not a particular course of action is desirable; when you want to know if a particular course of action is desirable or not you try to commission a feasibility report. It is written to help the

decision makers choose between two or more courses or sometimes the choices between maintaining the status quo and choosing the alternative being suggested. That's a very difficult choice to make very often whether to maintain things as they are or to take an alternative course of action. In such cases the feasibility report is very helpful; sometimes, the choice can even be between two or more choices when the decision about the change has already been taken for example - an automobile industry might be considering the possibility of using hard plastic for certain parts for which metal has always been used. The choice here could also be between hard plastic or some other alloy recently discovered that is costly but is more durable. So put this example in italics- so in such a scenario, you can think of commissioning a feasibility report. The feasibility report has to deal with all the possible choices- it has to make a very careful consideration of the following: one, the various alternatives or the alternatives suggested; next the methods used to test the viability of using the alternatives - another name for feasibility is viability. So whether something is possible or not that is what we mean by viability; the advantages and disadvantages of the various alternatives- this can be presented in a tabular form to make the comparison easy at a single glance. Then of course, the alternative that you think is viable and why do you think these alternatives are viable. You can specify the reasons. Now let's see what is the exact structure of the feasibility report. Like the other reports, it has got the introduction; then it talks about the overview of alternatives, but this is the crux of the feasibility report - a feasibility report is written because there are alternatives that are there. You need to choose one; then evaluation of the alternatives; dismissing unsuitable alternatives; then, of course, the conclusions followed by recommendations or sometimes only conclusions or sometimes both conclusions and recommendations. So this is the broad structure of the feasibility report. Now having looked at empirical research report and the feasibility report, let's move on to two other important forms of technical writing called the proposal writing and process description. Very often, these are formats that are widely used as part of technical writing. Let us see what these are. Proposal writing is a persuasive communication tool. This is generally written when the readers are to be persuaded to adopt the course of action you would like them to; there is something you will have to or often do in your career; this is something you will have to or do often in your career -you might have to write a proposal for a new product; you want to develop or try to persuade your employers to make a few costly changes. So you need to write proposals for these or maybe you would want to suggest a few changes in the marketing policy of your company, you're proposing something new to do. All this, you will have to write good proposals, present them persuasively and convincingly. In writing a good proposal, there are basically three things you need to identify. What are the three things in writing a proposal? The problem in a proposal- it's important to state the problem convincingly, to talk about the needs and why the proposal is an important solution; the solution to the problem is another important feature in a proposal- the readers will be interested in proving what you want to propose exactly and how it related to the problem presented earlier; and the costs involved. The next most important thing in a proposal is the cost factor. What will be the cost of the changes and is the cost really worth the change? This also has to be presented very convincingly. The overall structure as mentioned before- a proposal is a highly persuasive communication that has to be very carefully prepared- a typical proposal has the following features :yeah it is like this- topic on the left side; the right side you have a point of persuasion; then under topic, you have introduction; here on the point of persuasion, you have what do you propose to do, then you have problem on the left; then on the right you say why is it important then you have objectives on your left; then you say the features necessary to make a successful solution part of the objectives and again the detailed overall plan of what you intend to

do. Then, continuing the structure- you have on the left- plan of action; under this you have method, resources, schedule, qualification, management, and plan. So, all these have to be spelled out in the proposal. Under the category of plan of action, the resources with which you have to do the work, the schedule you have for it, your plan to execute it; also after we mentioned here and you also talked about costs. How reasonable is the cost? Having discussed a proposal writing we now move on to process description. Now, what is process description? As the name suggests, it is describing technically any kind of systemic processes, the technical description of a process, talks about how something works; that we underlined that for you- it talks of the overall function or the process, the materials, and the skills required. The description most often includes a flowchart or a diagram that can illustrate the sequence of action and the decisive points. Our typical process description will have the following elements: Introduction or definition that tells when and why the process is performed; the general operation which gives an idea as to the skills and time required; the pre-operation and the post-operation conditions to then description of the steps- why and when it takes place; how long it lasts and what are the human interventions required. Then- whether process description is a description of an operation and mechanism or a system; the following steps have to be followed: you need to define the audience; you have to select an organizational principle; to choose appropriate visual aids. Then, I have also listed out some very important websites- guidelines for writing empirical research reports; then one on general guide to writing; then my management guide, and the study got some very important websites for you to go and to the links and enhance your knowledge of technical writing and before I conclude this lecture, let me quickly recap a week module one -you had seen your video- if we had discussed the dynamics relating to interviews; the different types of interviews; how do we prepare for interviews; and what are the parameters against which a candidate is assessed in interviews and so many important crucial aspects relating to or an all-time favourite instrument of testing that is the interview skill the interviews that has been part of module 1 and module 2 which is getting concluded now -we have taken a wide spectrum of report writing; the different aspects of reports; what are the qualities of a good report or on some of the widely used reporting styles; reporting schemas and also the different reporting formats and also we had a quick look at process description and proposal writing. So lots of websites have been cited here and very important books have been mentioned. Please- in your free time, consult them and enhance your knowledge in these domains.

Thank you very much.



Week Three

Module 3: Thinking Critically- 1

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Module Three

Lesson one: A Recap

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1706>

Video Length: 09:25

Hello everybody, welcome to the second level of the massive online open course on thinking critically. This is level 2 week 3 module 3. In the first level of this course you had looked at what Critical thinking is you had looked at how critical thinking is applied in everyday life. You had looked at Bruce Williams's matrix of critical thinking we had also done a bit of mind mapping and finally, we had done Bloom's taxonomy and looked at critical thinking in the field of engineering. You'd remember, we'd even taken up two case studies and analysed how critical thinking is being done in these case studies. Today, I'll try and revisit these concepts very briefly so that they become fresh in your memory and we can start using them as and when we want go forward in this module. Specifically, I'll be talking about a concept very closely related to critical thinking that is called lateral thinking. After that, I'll go on to ways of developing lateral thinking. I'll also be talking about a very important concept in the field of critical thinking that is, ideology. After doing ideology, we'll move on to stereotyping which is again a very important part of critical thinking. Understanding stereotypes and understanding ideologies form a very important part of critical thinking. And finally we'll go on to see how all these concepts wind up together, how all these concepts link up with one another to form one whole way of thinking perceiving and behaving. Let me begin with a little bit of introduction to critical thinking. We had seen in the last module that critical thinking is primarily about conceptualizing, applying analysing and synthesizing. It deals with ways of gathering information through observation, experience, reflection and reasoning. Now, when we think in terms of critical thinking in everyday use we had seen how cooking involves critical thinking, stitching involves critical thinking, doing an engineering design involves critical thinking and sometimes , all the times actually, medical procedures also involve critical thinking. Then we had gone on to look at Bloom's taxonomy, a very important aspect of critical thinking where we have seen how Bloom created a hierarchical model where understanding and remembering come first the next in the hierarchy come analysing and applying. And finally, we have the concept of creating and evaluating. Now, Bloom's taxonomy, as I had informed you in the last module, has been extensively used in the field of Education. It has dealt with what kind of teaching and learning pedagogy helps develop these higher-order thinking skills which he calls critical thinking skills. Bloom's taxonomy has been used to also look at who are the kinds of students who develop it quicker, who develop it faster, under what kinds of circumstances critical thinking develops better. Although it has been greatly critiqued, people have thought that this kind of hierarchy does not work, I also believe that understanding, analysing and creating can overlap in a very major way, it has been used extensively in the field of critical thinking and learning. The next important thing we have talked about and looked at is Bruce Williams's matrix of critical thinking skill. Bruce Williams talks about understanding information, generating insights and discerning implications. We have seen that understanding implications basically consists of comparing and contrasting information, classifying, ranking and explaining. Generating insights consists of evaluating, imaging, finding relationships,

inferring and making analogies. And discerning implications involves applying, creating, innovating, inventing, predicting and transferring. If you look at Bruce Williams closely, you'll find that it roughly can be paralleled with Bloom's taxonomy. Understanding information in a very rough way collaborates with the understanding and remembering aspect of Harold Bloom. Generating insights collaborates with level two and level three of Harold Bloom that is analysing and evaluating understanding relationships, making judgments, etc. And discerning implications also corroborates with level two and level three of Harold Bloom which basically constitutes creating and evaluating, innovating, predicting, transferring, etc. But if we look at it even more closely, we'll find that generating insights has more or less focused on analysis and discerning implications is largely focused on evaluation and creativity. After that, we had looked at the concept of mind mapping. To take you back briefly to the concept of mind mapping, we have seen that mind mapping is basically graphic presentation of how the brain works. We have seen that it is basically the functioning of the brain from the centre outwards. Mind-mapping works primarily through the process of association making where one process leads us to the other. We had seen how mind mapping can be used extensively for brainstorming, for creating new ideas, for finding relationship between different ideas etc. To give a small example of how all these three relate with one another, let us talk in terms of the concept of plastic menace. We know a lot is being talked about these days as to how plastic is harmful for us, for our society. We have been told again and again that in the next few decades unless we take serious steps to control plastic damage, half of our seas will be full of plastic. It has badly affected life on this planet. Careless use of plastic is causing damage to life around. Plastic can be mistaken for food and eaten by turtles, sea birds and other mammals. Cattle can eat plastic and die. We know that a while ago one a cow was found dead with 35 kgs of plastic in its stomach. And finally, plastic can also cause deadly diseases in human beings. All of us know that we have to find ways of minimizing plastic damage; it can be done by lessening the use of plastic. It can be done very cycling plastic, putting it to other kinds of use, using plastic to make roads, bricks, clothes, 3d printing etc. And finally, there has also been an idea where plastic can be taken back, recycled by the corporates who produce them. And the responsibility of taking them back can be put on the corporates who produce them. In the next lecture, we shall go on to talk about how this kind of analysis of plastic menace and ways of minimizing it can also form part of what is called lateral thinking. I hope this lecture has given you a fairly good idea of what we had done in the level 1 of critical thinking and from here we'll go on to a slightly different concept, which is the lateral thinking concept.

Thank you.

Module Three

Lesson two: Lateral Thinking

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1707>

Video Length: 12:02

Hello everybody, welcome to the second lecture in this series. Today, we will primarily be talking about the concept of lateral thinking. Lateral thinking is primarily a new way of looking at things. It involves moving away from the old. It believes in bringing change by rearranging and re aligning available information. Finally, lateral thinking involves bringing together unlikely things and making new connections to enable problem solving. As have told you in the previous lecture, Lateral thinking is very closely related to critical thinking. In fact one cannot be a successful critical thinker, unless one has the ability to do lateral thinking. The more of lateral thinking one is able to do, the more of a critical thinker one becomes. Going back to the concept of plastic menace, Critical thinking involves what constitutes plastic menace, how to get rid of it what are the different ways of finding a solution to it. Lateral thinking will think in terms of what are the different ways of thinking about plastic reduction. We know that it is not easy. We know that our lives have become completely dependent on plastic. Given such a situation, how best can we control plastic use? Such solutions can be given by doing Lateral thinking. The concept of lateral thinking was primarily discussed by somebody called Edward de Bono. And according to Edward de Bono, these are the four basic principles of lateral thinking. Lateral thinking involves recognizing dominant ideas that characterize perception of a problem. Lateral thinking is searching for different ways of looking at things. It is relaxation of rigid control of patterned thinking. And finally it is the use of pattern change mechanisms; such as, random stimulation, chance, and brain storming to encourage the generation of new ideas. In all this four, de Bono is constantly talking of breaking out of a fixed pattern of thinking, perceiving and thinking of solutions. He is always think of thinking out of the box, thinking out of the usual, giving unusual solutions and seeing how these unusual solutions can help us solve our day to day problems. Somebody said, if you are digging a hole, lateral thinking is not about going on making the hole deeper. It is about digging different holes at different places. Now, these are a few instances I have given of lateral thinking. Can you see how they apply? • A man and his son are in a car accident. The father dies on the scene, but the child is rushed to the hospital. When he arrives the surgeon says, "I can't operate on this boy, he is my son!" How can this be? What do you think is happening here? Can you think about it for a minute? How many of you could come up with the thought that the surgeon is his mother? Why is it that this solution did not occur to most people who were shown, given these cases? That is primarily because we are conditioned to think that the surgeon is a man. Pediatrician, yes. But we do not think of women as surgeons generally. So understanding this, thinking that the surgeon is the mother needs us to think out of the box, move away from the usual and go on to a different track of thinking. And understand how things happen. • All of us have heard the the story of a thirsty crow struggling for water at the bottom of a pitcher. You know what the crow does? If we were trying to dig the hole at the same place, the crow would go on trying to get to the water by bending its neck more and more. But what did the crow do? It

just got more stones. Started putting the stones into the pitcher and automatically the level of the water rose and the crow could drink it. Do you see that this involves? This involves lateral thinking. The crow managed to do lateral thinking, brought the level of water up to its level, instead of reaching down to the level of water – completely changed its track of thinking and achieved what it wanted to do. This again is a very good instance of lateral thinking. • I will leave you with the last instance of lateral thinking where a boat has a ladder that's ten feet long, and hangs off the side of the boat, with its last two feet submerged in water. If the ocean tide rises five feet, how much of the ladder will be underwater? I would request all of you to think about it and maybe, talk to me about it later. Tell me about the solution you have found. This example I have over here is another instance of lateral thinking. The question is, "Expand $(a+b)^n$ " the teacher says, "expand". And what does the student do? Goes on expanding the space in between. Definitely, the teacher would give it a big "0" but after talking about lateral thinking, after thinking about lateral thinking, do you think the student deserves a 0? Would you give some marks to the student? Would you encourage the student? Would you think the student can do better in something else? Now, I'll give you some more examples of lateral thinking. This example talks of solutions to traffic congestion in office areas. This was a problem given to a group of students and the students were asked to come up with solutions. And these are the solutions they came up with. They talked about – Improving parking facilities – Encouraging carpooling – Developing transport arrangement – Encouraging bicycle travel But some of the solutions given were also very different and one of them was – Encouraging work from home facility Why go to office at all, if going to office is causing so much trouble to everybody? Why not develop a system where you can be at home and lessen the pollution, lessen the use of gas and lessen so much of trouble being caused on the roads. Now, if we look at these solutions we find that the first three are uni-disciplinary solutions. They come from one point only. Whereas, the last one is utilizing information from a multiple number of sources. It is talking in terms of IT information technology, computer and communication engineering. In fact it is using computer technology and IT, to solve a civil engineering problem. This is a typical example of what can be called a multi-disciplinary solution. And this also an example of lateral thinking, which says, (something like the crow and the water you know) when the crow cannot reach the water, it makes sure that the water rises up to its level. Similarly, if going to work is a problem, don't go to work, stop going to work. Work from home. Let the work come to your home. Is there a striking similarity between the two? Let's talk about it a little later. And in the next lecture, we shall begin by talking about the last example we had discussed, the boat and the ladder. We end today's lecture by giving you these three quoted from de Bono, where he is talking about lateral thinking. He says, • "Many highly intelligent people are poor thinkers. Many people of average intelligence are skilled thinkers. The power of the car is separate from the way the car is driven." A car might have immense amount of power. But what depends ultimately for the effective running of the car is the way it is being driven. • De Bono also says, "The need to be right all the time is the biggest bar to new ideas". (One must have the courage to take risks; one must have the courage to be wrong sometimes.)" It is better to have enough ideas for some of them to be wrong than to be always right by having no ideas at all". According to de Bono, it is not important to be right. It is important instead to have enough number of ideas. And finally he says, • "Lateral thinking is concerned not with playing with the existing pieces but with seeking to change those very pieces". (You have a number of information. You do not go on pitting that information together in the same way. We keep on changing the alignment of that information and see which alignment is yielding better results.)"lateral thinking is concerned with the perception part of thinking. This is where we organize the external world into the pieces we can

then process them according to the solution we want to find.” In all these quotations we find de Bono primarily talking in terms of different ideas, breaking away from old ideas, learning to realign ideas in a different ways, In the next lecture, we shall see the ways in which lateral thinking can be developed.

Thank you.

Module Three

Lesson three: Developing Lateral Thinking

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1708>

Video Length: 10:19

Hello everybody, welcome to the third lecture in the series. This lecture will be on developing lateral thinking. I hope in the previous lecture you have got an idea of what lateral thinking is, the different context of its use, the different ways it can be used. This lecture will be devoted to telling you ways in which one can develop their lateral thinking. Now, the ways of developing lateral thinking have been given by Edward de Bono. He specifies seven ways in which one can develop lateral thinking. Let's look at them one by one. De Bono begins with the concept of alternatives and he says, look for different ways to solve problems and how does one go about looking for different ways? You use concepts to create new ideas. Now this is very important. You use concepts to create new ideas which in turn can lead to more ideas. You remember the kind of image we had when we are doing mind mapping? You generally thought in terms of one nodule idea creating a spray of ideas and then every point in the spray becoming a node again for another spray of ideas. In the previous lecture also we had seen how de Bono had talked about the necessity of having more ideas- not one wrong idea but many ideas some of which may not be correct but only when we have many can we have a few right ideas. The second thing De Bono talks about is, focus. As part of this he says train your brain to think more clearly and understand when and how to change the direction of your thought. The most important thing over here is, changing the direction of the thought. If there is a problem, one cannot gain much by thinking in traditional ways only, because every situation is different, every context is different. Even the same situation keeps changing from time to time. So, do we have the capacity to focus on ways of changing the direction of our thoughts. That is something we have to train our brain to do. The third thing De Bono talks about is, challenge. He says, think in non-traditional ways. Break free from the constraints of traditional thinking. This is very important for us to be able to do effective problem solving. We have to know when traditional ways of thinking are binding us, when traditional ways of thinking are not allowing us to go further in a certain direction. Come that point and we'll have to break free from that kind of thinking and discover new ways. We have to reinvent ourselves. We have to reinvent our problems and our solutions and see how we can move, how we can move in better ways to have better solutions for the problems. We have will shortly look at the same plastic menace problem and see how this can be interpreted. The next concept he talks about, is random entry. De Bono says, be open to different lines of thought. Do you see, being open to different lines of thought are also a way of taking up challenging concepts. Thinking in non-traditional way, breaking away from the constraints of traditional thinking. He also says, sometimes unconnected input can open out new lines of thinking. Think of things in a variety of ways - something which apparently is unconnected might prove to be extremely effective in helping you solve a problem. The next thing he talks about is provocation. And he says, turns the provocative situation into something useful, or use provocative situations to create new ideas. Again, let the situation be a trigger. Let the situation be a cause for you to start thinking in new ways, start

thinking in unconventional ways, start thinking in ways which appear to be unconnected with the topic. Like, for example, if you are talking about congestion, apparently, on the face of it, what does traffic congestion have to do with you're sitting at home and working? But yes, come to think of it, that might be the most effective solution given the fact that we have computers, we have the internet; we have ways of linking home to the office. So why should it be such a sacrosanct matter that you go to the office, sit there and work? Why can't we do the same work in our houses also? Think of it. The next thing De Bono talks about is, harvesting. Very interesting word, harvesting. He says, choose the best of your ideas and make them practical, workable. The important words here are, practical and workable. Yes, the ideas have to be unusual, the ideas have to be gotten from places which they have not come till now they have not been coming from till now. But they have to also be practical and workable. They have to fit into a certain situation; they have to fit into a certain context. And that is where his last concept becomes important. That is, treatment of ideas. He says, alter your ideas alter them to fit different kinds of scenarios. See how they can best fit the given scenarios. So it doesn't make any sense if you take a wonderful idea and you are not able to apply that idea to what you are doing, your present context, to where you live and where you work. You have to make that idea, change it, alter it, redesign it, and see how it can be made, how it can be redesigned to work in your present scenario. Now I feel, one way of doing this is doing a mind map of these things. Now remember we had done a mind map in the last session? in the last module which we had done? I have been thinking of doing a mind map of a topic like preventing plastic menace. So suppose you put down the idea in the middle like preventing plastic menace and then branch out to other concepts like for example, we think in terms of use - what do you do with use? you lessen the kind of plastic use, you find alternatives to plastic use. And what are the ways of listening? maybe you have to stop using one-time use objects. You have to stop throwing the spoon you use once. You have to stop throwing the bottle you drink water in and to stop throwing the cutlery you use once or not use plastic for such things at all. You have to find other alternatives for plastic use. May be, an alternative lies in using recycled paper may be another alternative lies in using leaves or other products which are biodegradable. Now another part of this could be the whole concept of recycling where we talk about different ways of recycling. Plastic can be recycled by making it into bricks for building houses, by making roads of plastic, sometimes plastic also is made into garments and most importantly, plastic are also used for making things like 3d printing. But in the middle of all these ideas there can be one more idea which I was talking about in the last lecture, where we talked about the whole concept of the corporate who are producing plastic taking them back. So a corporate is given a right to produce plastic only when they devised a means of taking them back. That can be done in many ways. They can give incentives to people who pick up the plastic and give it back to them. People can be given some incentives when they bring back that same plastic and give it to them and it is their responsibility to take back the plastic which they are circulating and recirculate it among the masses. Now for your information, about 50% of the plastic which is meant for one-time use is the utmost is the biggest reason for plastic pollution and unless we can stop this, unless we think about it, unless we think of novel ways of stopping it, all of us can be in very deep trouble. I think this is the way for finding a solution to plastic menace and that can best be done by developing lateral thinking, by brainstorming, developing alternatives, by increasing the focus , knowing when we should change by taking it up as a challenge by doing a random entry including as many thoughts as possible, using a situation to see how we can alter the context, choosing which material is best for the purpose and then finally altering the idea to see which idea

can best fit the situation which has been given. I think all these can be done, we can find solutions to problems and make it happen through lateral thinking.

Thank you.

Module Three

Lesson four: A Case Study

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1709>

Video Length: 05:37

Welcome to lecture 4 in this session, where I will be dealing with a case study. I would like you to look at the case study closely and see how the different stages of developing lateral thinking is being used in this case study. The Company ABN AMRO is a prominent international bank with 3,000 branches in 60 countries. In 2001, Samiah Aziz, a Certified Management Instructor was at a conference when an ABN AMRO manager approached her with a challenge. The Challenge: The North-West Indian branch of ABN AMRO employed more than 7,000 people, yet their employee suggestion box averaged merely 60 suggestions per year. This particular manager felt certain that the employees would offer more opinions and suggestions if creativity became a higher priority. They discussed the issue at some length, and the manager asked Samiah to make ABN AMRO more creative. Harvesting: The Solution: Samiah's first action was to get rid of the suggestion box. Then she went to the top managers and asked them for commitment to creativity. She proposed a program called "The Golden Idea" to encourage innovation among employees. Samiah explained the benefit of taking the employees' ideas seriously, and she asked the managers to commit to implementing one new idea per quarter. They agreed. Treatment of ideas: To implement "The Golden Idea" Samiah held three half-day Green Hat sessions with 20 employees at a time. She wanted to teach a small group of employees about creativity, hoping they would spread the word to the rest of the company. During the half-day sessions, the employees generated 300 completely new ideas that would improve business. This was a great start to the new program. Now look at the situation from the perspective of de Bono's seven ways of developing lateral thinking. Samiah, basically tried to think in terms of finding alternatives. She wanted to generate new ideas as to how the company could be made more creative. I would like to tell you here that people are not creative in a certain context. It is possible however, that the context has not given people the scope to express their creativity. So she decided to find an alternative to making people creative, and this was a challenge for her. What she decided to do was, to completely do away with the suggestion box. Now, that was the point when she decided to focus on the concept and move away from the traditional ideas and do something else altogether, not through the instrument of the complaint box. And how did she go about doing this? She first made the management agree that the employees' suggestions would be taken seriously. They would be put to some kind of use. Once the management agreed, she started working on the golden idea with the employees. And amazing! The people who did not give good ideas, were hesitant to give good ideas, could give 300 completely new ideas to improve business. What does this show us? People do not lack ideas. The problem is finding a way to develop new ideas, come up with new ways to develop new ideas. This is what is lacking in our workplace, in our context of work. But try to get out of the usual way of working, try and get outside the usual way of thinking, and you will find there are multiple solutions to a problem. There is no situation which cannot be improved. There is no context which cannot be made

better. The thing is, can we have ways of doing it better. Can we empathize with the situation, can we think of how we can make the situation better. And probably that would need us to think outside the box, outside what has been the generally accepted way of behaving and thinking. And that would probably give us solutions, make it very convenient for people to give their ideas and implement them. I am sure in these two lectures you would have understood how lateral thinking can be used, how lateral thinking can be developed and in the different kinds of situations which you face, you will try to implement lateral thinking, find ways and means of moving out of the agreed ways of behaving, acting thinking and find more creative solutions to your problems. We can discuss a little more on this later. But for today, that's it.

Thank you.

Module Three

Lesson five: Critical Thinking and Ideology

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1710>

Video Length: 13:01

Hello welcome to the fifth lecture in the series in this module. Till now you have looked at the concept of critical thinking, you have looked at the concept of lateral thinking; you have also looked at the concept of how lateral thinking can be developed etc. At this point I am going to take a slight detour and take you to a concept of ideology. Now according to me, ideology and critical thinking are very closely related. In fact, one cannot think of critically thinking without learning how to decipher ideology. All of you more or less have some idea about what ideology is. We understand that ideology is a way of believing, ideology is a way of seeing things, ideology is a way of framing concepts. It can be a religious ideology, it can be an ideology of religion, it can be a cultural ideology or any other. Louis Althusser had defined two kinds of ideologies - one was the ideological state apparatus the other was the repressive state apparatus. According to him, ideology is generally formulated by these two means. According to him, the repressive state apparatus operates through the army, the police and the law. These three primarily become the agencies of constructing identities. They create ideologies. The army, the police and the law decide who is right who is wrong. What should be punished what should not be punished. Who is a citizen who is not a citizen. Who should be the member of the social group who should not be member of certain social groups, etcetera. All these come under the umbrella term of ideology. If this is one kind of agency which formulates ideologies, the other agency according to Louie Althusser is the ideological state apparatus which constitutes religion, education, family, culture. In very deep-seated ways, a religion in a major way decides who we are. For us, it decides what is the concept of a sin what is the concept of morality. Who is a good person, who is a bad person. Education similarly becomes a very powerful medium of deciding how we define ourselves, how we see ourselves, how we perceive ourselves. In fact by many theorists, classroom has been considered to be a site where ideologies are created. Classroom creates ideologies, classroom defines who is good who is bad, what is the concept of intelligence, who is a meritorious student, similarly, what kind of knowledge becomes knowledge. Like for example, there are different ways of finding out about the weather. But can these different kinds of ways of finding out about the weather become a topic of discussion in the classroom? Definitely some part of it is admitted into the academia and that becomes the acceptable knowledge. Another way of defining ideology is mediating knowledge. Classroom becomes a way of mediating knowledge. The textbooks become a way of mediating knowledge. The method of teaching becomes a way of mediating knowledge. And again, all these concepts operate within the umbrella of what is supposed to be ideology. Ideology implies that we are created in a certain way, we look at ourselves in a certain way and others also look at us in a certain way. Hence critical thinking involves understanding ideological structures; critical thinking involves looking through stereotypes. Critical thinking involves understanding the play of power and critical thinking also involves understanding the concept of representation. Now, talk a little more about the play of

power. Generally, the more powerful group in a society decides how the other people in the society will be looked at, what kind of all ideological formation will gain the upper hand, what kind of hegemony will become powerful which will define, determine, decide who will be looked at as what. Similarly, the concept of representation determines how a certain concept an idea, a type of person will be projected either negatively or positively and all this comes under the umbrella term of ideology. I want you to look at these concepts a little more closely. Thinking, critical thinking is part of understanding ideological structures. Critical thinking is part of looking through stereotypes; stereotype is a concept which will be dealing in the same lesson a little later. Critical thinking and involves understanding the play of power, how a certain group projects itself, how a certain group projects a certain kind of image and critical thinking also involves understanding the concept of representation. Critiquing it, trying to find out the reason as to why a certain thing is represented in a certain way. We'll be looking at these concepts, these things in this lecture a little more closely. I would like you to look at these concepts, the concept of ideology, understanding information, gathering insight, discerning implication. These three are the basic purposes of understanding ideology. Ideology can be looked at as a set of opinions or beliefs of an individual, or a group of people about the scheme of life, the social structure, the culture economy politics etc. A set of political beliefs that characterize a particular culture is also part of ideology. Some synonyms of ideology are, belief, view, creed Critical thinking is the capacity to recognize ideologies, understand them and counter or resist them if necessary. Now sometimes, belief about what is right, belief about what is better, is there a better way of living and thinking? Is there a different way of living and thinking? All these form again part of ideology and critical thinking develop in us the ability to critique our own belief structure, to critique the belief structure of others. And that is why understanding ideologies, ideology which is perpetrated through stereotypes etc is so important when we are talking in terms of critical thinking. Now in the next part of the same lecture I would like to give you two examples of how the same thing has been put differently in two different kinds of ideological frameworks. In the Indian context, English- the coming of English is a very contentious issue. Contentious means a very critical issue, an issue which is fraught with a lot of divisions, difference of opinions etcetera. Now these are the two ways in which the coming of English was looked at by two very important people who are largely responsible for introducing English in India. One was Charles Grant who in 1729 had talked about the reasons to start teaching of English in India. In a certain way, that was the first time somebody was talking about why English should be introduced in India and much later came Macaulay in 1835. When he passed his minutes that became the cause for teaching English. Both these form part of what is called in the colonial ideology. Please look at what Charles Grant is saying— The true cure of darkness is the introduction of light. The communication of our light and knowledge to them (here means the Indians whom he calls the Hindus) would prove the best remedy for their disorders. The English language is a key which will open to them a world of new ideas. The policy to introduce the language of the conquerors seems to be an obvious means of assimilating a conquered people to them. This was a main reason why Charles Grant in 1729 wanted to introduce English. Macaulay coming almost a little more than a decade later talks about again the reason for introducing English he says, We must present and do our best to form a class who may be interpreters between us and the millions who we govern. A class of persons Indian in blood and color but English in taste in opinion in morals and in intellect. To that class we may leave it to refine the vernacular dialects of the country, to enrich those dialects in terms of science borrowed from Western nomenclature and to render them by degrees fit vehicles for conveying knowledge to the great mass of the population. Macaulay also

thought English was a medium through which people can become educate or rather a group of Indians would be ready to understand the English and mediate between the English people and the rest of the Indians. Now look at how the same learning of English has been interpreted very differently in the post-colonial ideology. As examples of that, I have taken a person who is called Chandrabhan Prasad who talks about the English goddess. According to Chandra Mohan Prasad, She (she means English , the goddess whom he puts up) is the symbol of Dalit renaissance, she holds a pen in her right hand which shows she is literate she is dressed well and sports a huge hat that's a symbol of defiance and she's rejecting the old traditional dress code. In her left hand she holds a book which is a constitution of India which gave dalits equal rights. She stands on top for computer which means we will use English and rise up the large ladder and become free forever. This kind of approach to English we find is very different from the reasons why Macaulay or Charles Grant thought Indians should learn English. So the same concept of learning English, but see how two different ideologies have projected it, presented it, framed it in extremely in very different ways. That is how even though we are talking about the same idea, two different ideologies create them, recreate them represent them, formulate them in extremely different ways. This is also a way of stereotyping. And that is what we are going to look at in the next lecture.

Thank you.

Module Three

Lesson six: Understanding Stereotypes

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1711>

Video Length: 11:18

Hello everyone, welcome to the last lecture in this series. The last lecture is on Understanding stereotypes. We have looked at the concept of Critical thinking, we have looked at the concept of mind mapping and we have also seen how lateral thinking is related to critical thinking. We have done a little bit on how lateral thinking can be developed in each of us and in the last lecture we have looked at the concept of ideology. The concept of stereotyping is very deeply related to the concept of ideology. Stereotyping is created by certain ideologies and ideologies are confirmed, strengthened and projected by stereotypes. Before going any further in this direction, I would like you to look at the concept of stereotype itself. A stereotype is widely held but fixed and oversimplified image or idea of a particular type of person or thing. Look at this – a widely held but fixed image. An image which does not change given the situation or context. And that image is generally oversimplified. We do not look at the complexity of the image. We do not look at what sociocultural context has produced the image. We do not look at what contradictions are involved in the image. We oversimplify it; put it in terms of black and white, show whether it is good or bad. That is a stereotype of a particular person or thing. A stereotype is an overgeneralized idea about a particular category of people. Think of how Jews have been projected through the ages, think of how Negroes have been projected through the ages. Think of how so many other communities have been projected in literature, media and other means. Stereotypes encourage prejudice regarding race, gender or colour. It operates in many other ways but the major way it operates in is by encouraging, enforcing prejudices against race, gender or color. Look at these few examples of racist comments:

- Women “Take Care,” Men “Take Charge:” Invariably, it puts women in the caring, mothering role and men are relegated to the controlling role. Not that this happens every time. Not that all men try to control or all women re nurturing. There are women who are more controlling than men and there are women who are very nurturing also but we are trying to project a stereotype we do not look at these variations. Blindly we try to project the men as controlling and the women as nurturing. Look at the other comment-
- How do you blindfold a Chinese person? Put floss over their eyes. Where is the stereotype here? You know what floss is? A floss is a thin string with which you clean your teeth. A very thin string. in a certain way, the Chinese people have always been stereotyped as people with very narrow eyes. That is what this is trying to emphasise. And now, look at the third one-
- A black Jewish boy runs home from school one day and asks his father, “Daddy, am I more Jewish or more black?” (The boy is both Jewish and black) The dad replies, “Why do you want to know, son?” (The boy says) “Because a kid at school is selling a bike for \$50 and I want to know if I should talk him down to \$40 or just steal it!” Here the Jewish are being stereotyped in a certain way and the Black in another. How this is happening, we will get to know it in the next slide. But generally the people who are stereotyped are also the people who are less powerful in the society. The people who are more powerful take charge of how the stereotyping has to be done.

Look at this other example where we are talking of another kind of stereotyping – • Science or nons(c)ience (look at this quotation) “It is generally admitted that with women the powers of intuition, of rapid perception, and perhaps imitation, are more strongly marked than in man; but some, atleast, of these faculties are characteristic of the lower races, and therefore of a past and lower state of civilization”. This is the way in which a lot of women have been stereotyped in literature that we find around. Women here are being talked about as people who have the powers of intuition, who have the power of perception and the power to imitate. But that is not being looked at as a plus point. It is being equated with the power present in the lower races, something which was present in the past. Again, the past is being presented as underdeveloped, and in a lower state of civilization , implying thereby that being developed is a modern way of being civilized. And the modern civilization does not believe in the power of imitation and rapid perception. And all this has been attributed to women in this quotation at least. Often we find that when the colonizers were being referred to by the colonized, they were referred to in this way. Tipu Sultan, for example, is one of the brightest people one of the bravest people I have ever heard of. But he has been branded, stereotyped, by the British, the English historians. And sometimes this kind of stereotyping does not allow us to give the people their due. Does not allow us to look at a concept in all its complexity. Look at another example here-- I was lucky. My father was an engineer - a major in the Royal Engineers. My parents encouraged my curiosity about the world around me and understood why. I couldn't resist dismantling things from an early age. They gave me a chemistry set one year, a magnetism kit the next. I have always been interested in how things work. Like many people I was inspired by a great teacher - in my case a super science teacher when I was 10. He used to bring everyday gadgets to our lessons and explain the physics of how they worked. Many of the jobs we will need in 20 years' time have not been invented yet. I went on to study maths and then moved into engineering to work on noise reduction - my PhD project was on reducing the noise levels of Concorde. I have enjoyed a wonderful career in engineering, at the University of Cambridge, working with some of the brightest people in the country on projects ranging from silent aircraft to low-emission power plants. Young children are, as I was, natural engineers, constantly seeking to understand the properties of materials as they engage with the world around them. When the cardboard structure they have built is strong enough to support the weight of other toys and becomes a medieval castle, there is the thrill of persistent and successful improvement”. I would like you to think about this quotation and tell me what it is trying to say about stereotyping. Is it passing a comment on how the education system is trying to stereotype us, or is trying to tell us about how we should or should not stereotype. We have seen till now that stereotypes are created by creating certain images. Media creates stereotypes. Literature creates stereotypes. But once a while, there is also a challenge to the creation of such stereotypes. Once a while media also tries to dismantle stereotypes. Literature tries very hard to negotiate between different kinds of stereotypes. Literature sometimes brings in complexities to the stereotypes that have been created. So does media. There are wonderful advertisements which do it in such wonderful ways. Critical thinking is part of our ability to understand such efforts, to create a certain image. But stereotypes do not allow us to look at the complexities, makes a generalized and simple statement for us. IN the final part of this paper, I will try to bring together the concepts of Blooms Taxonomy, very important for the understanding of Critical thinking. Blooms Taxonomy which tried to put different kinds of critical thinking at different points. I would like you to think of ideologies and remember how critical thinking can help us decipher ideologies, recognize ideologies and create or critically look at stereotyping. And finally, I would also like you to think of mind mapping and the developing of

lateral thinking which is also very important to map critical thinking. Now if all these things can be put together, I think we can develop a mind that is sharp, that is capable of creative thinking, which can decipher stereotyping and which can also look very critically at ideologies and representations.

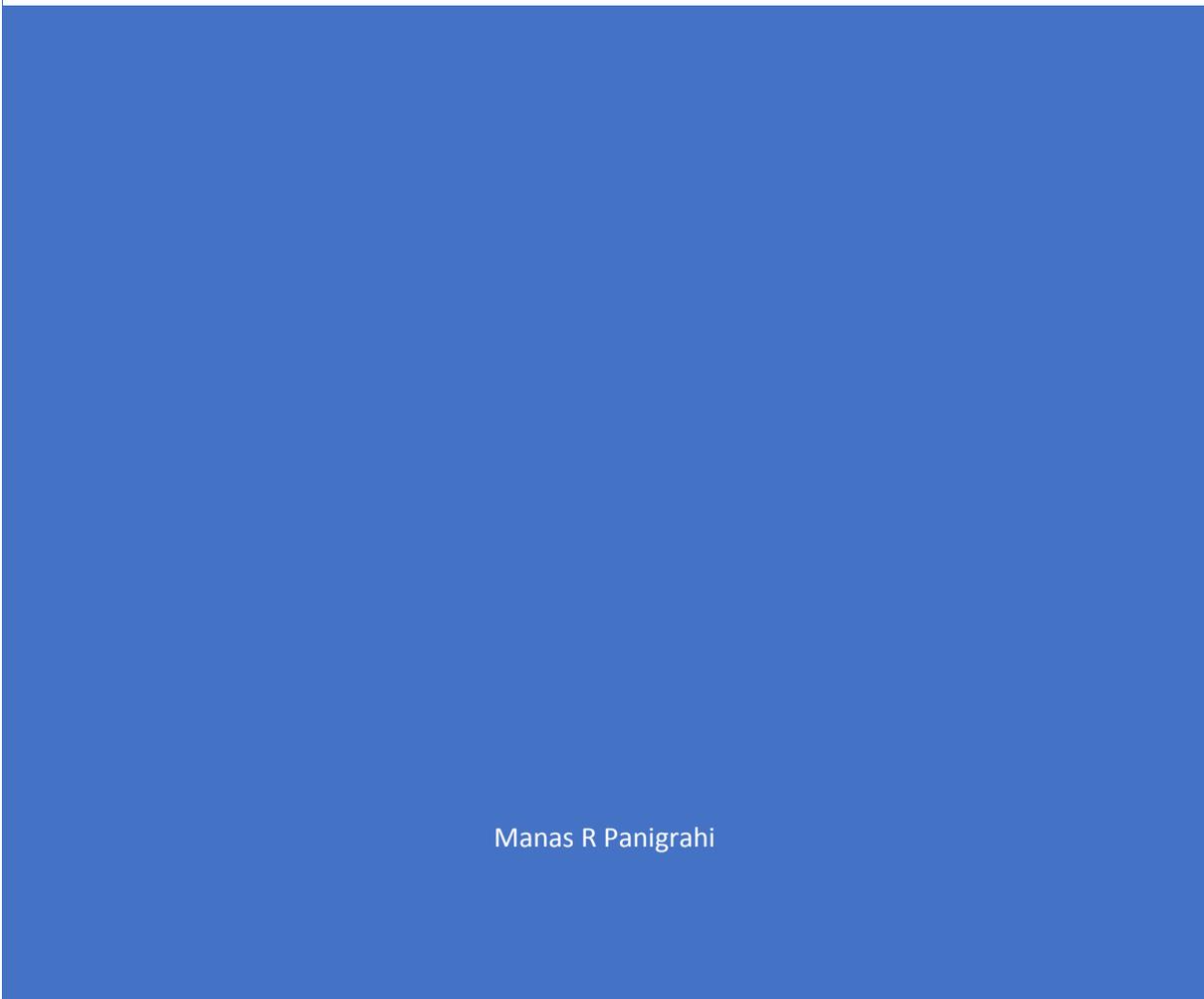
Thank you.



Week Four

Module 4: Importance of Ethics in engineering profession- Introduction & Evolution

Instructor's Name- Prof. I. Ramabrahmam
& Mr. A. Viswanath



Manas R Panigrahi

Module Four

Lesson one: Important Factors in Group Dynamics

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1810>

Video Length: 14:21

Hello everybody, welcome to the first lecture on group dynamics and group discussions. This is the level 2, week for module 4 lecture of the massive online open course on life skills. In this module today I would be talking about the concept of a group. I'll be discussing the dynamics of groups forming themselves and also be talking about different kinds of groups we have. And finally, I'll be talking about group discussion, the important things involved in group discussion, the way a group discussion is generally conducted and finally what are the things that go into making a successful group discussion. So this lecture of mine will be primarily divided into two. First I begin with the concept of a group itself. A group, as all of us know, it is basically a collection of people who interact with one another. The very important word over here is the word interact. A group of people or a number of people become a group only when there is interaction. Not just interaction, the number of people also assume rights and obligations as members and they share a common identity. Now, when it comes to rights and obligations we know that the group which comes together, which interacts, also has to assume certain responsibilities. Also has to have certain obligations. And that togetherness of purpose is basically what makes them a group. Secondly there is a commonality of goals and evaluation between them. In a group a number of people become a group only when there is a commonality of goals and evaluation between them. Now, what is the meaning of commonality of goals? All the people in a group should have one goal which they are trying to reach and also the way the amount of goal been achieved has to be evaluated similarly. And that is again is what makes them a group. Finally a group is a group only when there is interdependence between the group members. The important word over here is, interdependence. People have to need one another to be able to perform the tasks which they have to do. People have to need one another to be able to fulfill the obligations which they have towards each other or towards the society as at large. And finally, the way the people evaluate also has to be equal similar for everybody in the group. Only when these conditions are met can the group of people working together be called a group effectively. The next concept important concept is the concept of group dynamics. Group dynamics means what are the concepts which create the working in a group, what are the important factors that impact group dynamics. First thing important is personality power and behavior. The three things-- the personality of people, the way power is structured in the group and finally the way these personalities react and respond. We all know that there are different kinds of personalities generally which make up the group. Some personalities are more sober, more accommodative, whereas some others are very aggressive. They are rigid in certain ways too. So the kind of group that is ultimately formed depends on what kinds of personalities are there as part of the group, and the way power is structured in the group. Now sometimes, power can be completely concentrated,

focused on the leader of the group. That does not give much power to the others who are part of the group. This makes one kind of a group. This kind of a grouping is necessary at times for certain purposes. But in some other groups made for certain other purposes, the power is equally distributed between the members of the group. That calls in for a different kind of a group. The functioning of this group will be different from that of the first one. Now even as we go ahead in this presentation, I'll be discussing these various factors that make the concept of a group successful. The next thing which makes a group a group is the relationship between individuals, what kind of a relationship do individuals share in a group, is it constantly the relationship of a leader of a dominating person and the others being subordinate or is it the relationship of equals that a group generally shares. A successful group generally is a group where everybody shares the relationship of being equal, where people work together. People are more motivated to work and the group obligations are dispersed better. When all the members of the group are equally empowered, the next important thing is the structure and size of a group. A group can be very small or it can be very large. It can be as small as a group of three people or it can be as large as a group of 12 people or even 22 people. For different kinds of things which are to be done, we need different sizes of groups. Sometimes small groups are very successful they are more focused. People know what is to be done and they're very particular that it is done the way it should be done. Large groups have their own advantages also. There is more of a variety of people, more things can be done, the power of the group tends to be larger. But at times larger groups can even get very dispersed. The goal can get dispersed at times in the larger group. Each has its own advantage and for different kinds of jobs. Different kinds of groups have to be created. It involves matters like, does it include both leaders and followers, and does a group become inclusive? Have the group become inclusive? Inclusiveness is something that is achieved when all different kinds of people are included in the group. Some leaders, some followers, some men some women. People coming from different kinds of belief structures- do they become part of the group? Only then, maybe, a group can be said to be inclusive and a group can be said to be successful also. What is important for us is also to understand the stages in group development. A group generally, when it is formed for a certain task, goes through different stages. These are the stages - number one is the forming which is getting familiar. At this stage, dependence on outside instructions for task definition is very marked. Members seek work assignment in a formal group or affiliation and power in an informal group. At this stage members can either be busy making the group or show apathy. They can be very busy creating the group, constructing the group together. or they can be completely indifferent to one another. But at this stage the group is being formed and remember all of us have to give time for the group to be formed. A group doesn't get automatically formed within no time. The next stage in the group making is the storming stage. Now, this is a stage where conflicts regarding roles and responsibilities are common. People are yet to figure out where to they fit into. They think of themselves as different and the group gives them a different kind of position there can be conflicts. Often members form close groups of twos and threes. At this stage there can also be a deeper sharing of self, which means two people become one group, three people become one small group and they feel they gel together. At this point, they have not yet become part of the larger group. They have not yet learned, they have not yet started sharing the concerns of the larger group. Formation of sub groups here go against the formation of the group identity. Hence, the conflict. Subgroups tend to feel very comfortable with one another and they tend to stick to one another. Very often it goes gradually as the group work becomes important. This sub group formation also becomes less marked in the third important stage, which is the stage of norming. This stage is marked by serious

concern about task performance the subgroups open out to the larger group, start establishing norms for task performance. There is establishment of resolution, understanding of roles and interdependence. This becomes the most productive part of the group functioning. Subgroups tend to dissolve sometimes or become less marked. People start focusing on the work to be done. Subgroups become less important and the resolution becomes very important. There is understanding of roles and there is the understanding of tasks which has to be done. So the focus of all the group members also increases at this stage. The next stage is that of performing. This is a stage of the fully functional group where members see themselves as a group and get involved in the work to be done. Actually the previous stage of norming can sometimes overlap with the stage of performing. People see themselves as a fully functional group where members see themselves as one and get involved in the work to be done. Group norms are followed and there is exertion of group pressure. To ensure work for effectiveness, this stage is marked by task accomplishment, responsibility and creativity along with the process of norming, This process of performing becomes the very important part of the group functioning where people do the tasks which they have been assigned to do. Finally, a very important part of the group formation is the adjoining. The formation of formal groups need closure. Groups which come together for specific projects etcetera have to be adjourned after the task completion. Sometimes this involves a valedictory function or other closure rituals. Although these are the stages in the formation of the group and functioning of the group dynamics, as I have told you before, none of these stages are water tight . Often they overlap with one another, often the work of one gets done in another stage. However, more or less these are the very rough kinds of divisions which one has when it comes to the formation of a group. I'll briefly talk to you about now different kinds of groups. We can have formal and we can have informal groups. The formal groups are generally the commanding groups. The task groups and the functional groups generally. The formal groups get formed for a certain official purpose whereas the informal groups get formed because of interests and shared values of individuals. There are different kinds of individual informal groups. Also, these can be interest groups, friendship groups or reference groups. Now, formal groups have more rigid set of rules and regulations which have to be followed. The hierarchy is also very clear in the formal rules. The leader of the group generally sets the hierarchy, decides who should lead and who are the people who should follow. Whereas, in the informal groups generally there is more fluidity. People come in and they go out. Some people at certain situations take the lead and this can also be altered at other situations, when some others are better at something else which has to happen. Formal groups gets formed formally ends also formally. Whereas informal groups they become groups because of certain situations, they come together as stress bursting situations, they come together because of common interests also and they live much beyond the given task which they take up. They can take up different kinds of tasks and different kinds of situations. Now, sometimes people who are part of an informal group can make a small formal group also. They can take up a specific task with a certain kind of assignment. These keep happening, but basically we can think of groups as to the formal and the informal. And as I have said before, they can overlap sometimes. An informal group can take up a task which involves a formal structuring of the group and sometimes a very formal group can also develop a certain kind of informality in the group construction. I am sure you have this lecture has given you some idea as to the concept of a group, and group work. In the next lecture we will be going on to other things like what are the personality types in a group. That will be the focus of our next lecture.. Thank you.

Module Four

Lesson Two: Personality Types

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1811>

Video Length: 13:36

Hello everybody and welcome to the second lecture in this series. This lecture, I had told you before, will be about personality types. All of us know that there are different kinds of personalities, all of us have a different kind of personality but it helps to make a group successful if you have slightly aware of the different kinds of personalities that can be there in a group and remember that these different kinds of personalities can have different kinds of impact on the group; a little bit of awareness, conscious awareness, of this can help you a lot to perform better as a group person. Basically, we can think of personalities as being positive and negative but remember again, that both in formal and informal groups that can be these two types of personalities. Further, there can be overlap between the two kinds of personalities also. For example, in one kind of situation a person might have a negative personality trait but in another kind of a situation the same person might show very positive personality traits. We have to be careful about this when we are making a judgement about the people involved. Now let me talk to you very briefly about the personality types that are there in a group. First, the positive personality types. First of all, a group needs, and every group has a leader. The leader generates, guides, mediates, delegates the members of the group through the difficult situations. For the task that has to be accomplished, the leader gives the guidelines. The leader also mediates between the people in the group, the task and the group performance. And finally, it is up to the leader to delegate task, to decide who should be doing which task. In a group which is formally formed, the leader is assigned by the people who are forming the group. But in certain other groups, a leader emerges from the situation. This can be a very interesting phenomenon to see how a leader would emerge gradually, normally, naturally when a group of people start functioning together. The second kind of person is the team player. The team player isn't very concerned about becoming the leader, the team player rather prefers to settle conflicts, prefers to bring the group together, focuses on group success. The team player also relieves stress in the group and creates harmony. The team player is a person who many people go to in case of conflict among members in the group and the team player generally play a very important role in keeping the group together, in making all the members of the group feel wanted, in making all the members of the group feel relevant. The next person who plays an important role is the researcher. I am sure in every group that is formed, there is a person who generally asks questions that are not generally thought of. The person can predict, can sometimes think of possible problems that might arise if the group performs in a certain way and that may sometimes even avert future crisis. On the spot, sometimes you might think these people are unnecessarily creating problems thinking of problems that need not exist but sometimes the problems these people think about also become very big problems if not addressed in that the correct time. The next important person in the group is the planner. The planner can also be thought of as the gatekeeper, the person who decides what the schedules should be, the person who plans all the activities, the person who

fixes deadlines. Many people tend to get irritated with the planner, they think that the planner is being unnecessarily strict about doing things at a particular time but having a planner, to be able to accomplish the task that the group wants to do is very important. So do not underestimate the role the planner has in accomplishing the task that has to be done because there will be invariably members in the group who can never stick to a deadline, who cannot do the work as they are supposed to do unless somebody forces them to do. For such people and for the group in general, having a planner who decides when what should be done, how is very important. Finally groups, most groups have what is called a creative thinker. A creative thinker sometimes can also be akin to what is the researcher does. But if the researcher seeks for facts, the creative thinker might help us conceptualize more effectively. The creative thinker also solves problems. If I am I take you back to the previous talk a creative thinkers is a person who would be very good at lateral thinking probably would be very good and fall in the top slot of bloom's taxonomy, who were very good at creative thinking and evaluating a person who is very good at generating solutions to problems. The second type of people in the group is the negative personality types. Very interesting kind of people. There are some who can be called the blockers. The blockers generally disrupt the proceedings; bring the same topic again and again. Even if the other people in the group feel that they have discussed the topic and have finished with it, the blocker feels, "No! It has not been discussed enough, it should be brought back again" They come back to the topic even after the group has made decisions about the topic. We have the aggressors who are the very dangerous types according to me. The aggressors insult, criticize, they create a lot of ill will in the group and generally become the chief reason why a group sometimes breaks. They have to be kept in control. Perhaps if there is a strong leader or if there is a strong person who can hold the group together, such people can be kept within the bounds. It is very important to keep them within the bounds. There are very interesting story tellers in the group sometimes. The moment a discussion or topic comes up, they, instead of offering solutions, start talking about different things which are unconnected, they consume time with stories which are irrelevant. Sometimes they are very interesting, sometimes they are time consuming. People get irritated with them at times. There are also recognition seekers who are constantly commenting on their own successes and achievements and want the other people in the group to constantly focus on their success, to understand that they are very important. These people generally lose sight of the group aim; they forget that what is important is not their achievement but the achievement of the group as a whole. Sometimes, you will even have the confessor. A confessor is a person who constantly talks about his or her personal problems, what are the problems which they have, why have they not been able to perform as good as they can, what are the difficulties which they have had to face to come up to the situation like this, etc. Finally, very difficult people are the special interest players. These people have their hidden agendas when they are even part of a group. So although it appears as if they are doing the work for the group, although it appears as if they are playing for the group, basically they are playing in their own special interest. Such people make the whole group feel betrayed at one point or the other. But it cannot be avoided. If there is a group, there will be some people who will be the special interest players also. Finally, I will talk to you about the roles in a group. Generally in a formal group we have what are called the assigned roles. People are assigned roles. The leader, the subordinates, etc., are assigned their roles and are very clear about who should be where. However, even though the roles are assigned, we have seen that a personality clash can lead to the clash of roles also. We'll talk about it later. In a group, there are also the emergent roles. Generally, emergent roles happen when there is an informal group. People gradually emerge as leaders, people emerge as caretakers, people emerge as planners, etc.

At times, there can even be role ambiguity. Ambiguity creeps in when a person who has been given a role does not probably fit into that personality type. A person might be given the role of a leader, but that person primary does not have it in herself to become a leader. She would rather be a person who takes care of people around, or he would rather be a person who plans out things. Such kind of ambiguity can also create lack of clarity about what is expected of whom in a group. It is very common to have these kinds of confusion in a group. And finally, what we can have in a group is the role conflict. This is what I was talking about earlier also. We might have a person who has been given a certain task but the person is fit to be something else altogether. This can lead to a lot of role conflict. It is very important therefore for a person who is assigning work in the group to recognize what kind of personality one is give the task accordingly. And that can probably be the foundation stone in creating a group. Sometimes, the group members realign the work among themselves. There might be a leader who is assigned but some other person takes the lead without creating conflict or replacing the leader, the leader becomes the nurturer and the nurturer becomes the leader. The person who is supposed to do the planning does not do the planning properly. Probably the leader does the planning very well and the person who supposed to plan takes up the leaders job and the leader takes the role of the planner. There are also times many of these roles merge. The leader might even be the nurturer and the leader might also be the nurturer and the planner. Similarly, the negative roles also might merge at times. A person who appears to be a story teller might also be blocking the group activity very deliberately at times. Sometimes we have seen that the storyteller might be a special interest player also. In fact, the storyteller might be trying to consume time, take away the time so that some special interest has to be met and the person who is the story teller might also turn out to be the blocker. Now, these are various different kinds of personality types in a group and they impact the group in very very different ways. If a group has to be successful, one has to be aware of the different kinds of personality types. And if the number of people who are playing the positive role is larger than the number of people playing people playing the negative roles, the group task gets done effectively. At the end of this lecture, I would like you to look at this various statements which people make and try and identify with the kind of roles they are enacting in the group. "This is your nonsense we cannot allow this" "I think all of us have been speaking about" "I have a wonderful idea; why don't we" "I completely agree with you" "See, I was the leader last time" "Let's not fight over it any longer" "How about giving the third party a chance?" "I am sure all of us will agree to this." Think of these various statements and try to see what kind of roles these statements fit into.

Thank you.

Module Four

Lesson three: A Group Discussion

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1812>

Video Length: 01:46

Hello, welcome to the third lecture in the series. I had told you in the beginning that this module will primarily constitute two concepts- one, the concept of a group, the dynamics of the working of the group and the personality types involved in the group. The second part of this module will focus on group discussion. All of you, I'm sure, are familiar with the concept of a group discussion. A group discussion forms a very important component in any kind of recruitment in any kind of evaluation. When it comes to evaluating communication skills, especially in the corporates, because working in the corporates means working in the groups and a group discussion is a very important indicator as to how well you'll be able to function in a group. Today for you I have a very small group discussion. A very neat group discussion. None of our group discussions are generally this neat but a very small sample of how a group discussion can be conducted and how people behave in a discussion. The teacher who is conducting the discussion also gives comments on what has been done as part of the group discussion. Please look at it. Maybe, even as we discuss the things later we will refer back to this group discussion as and when the occasion arises.

Thank you.

Module Four

Lesson four: Uses of Group Discussion

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1813>

Video Length: 12:07

Hello! Welcome to the fourth lecture in this series which discusses the uses of group discussion. Did you like the discussion you saw in the previous lecture? I am sure you would have found it enjoyable. Now, let us go back to the concept of group discussion and see what are the primary uses of a group discussion. A group discussion generally is a platform where there is exchange of information, opinions, views, perspectives and ideas about a topic among the members of a group. And as I have told you before, generally a group discussion forms a very important part of the recruitment process, when we are recruiting people for the corporate. Basically, because work in the corporate gets done in groups and a group discussion, as I have told you before, is a very important indicator of how people can perform as groups. Now, a group discussion is an exercise and a test of one's speaking and listening abilities. Very importantly, a group discussion tests whether you can speak well, whether you are fluent, whether you can express your ideas confidently. At the same time, it is a very important test of whether you can listen, if you can function in a group. If you have worked in a group, you know that some people cannot talk and some people cannot listen. Some people insist on giving their views on anything even if you are trying to talk to them. Instead of listening to you, they would be formulating ideas about what they want to tell you next. Listening is impossible for them. A group discussion is also an exercise of your intellectual ability, of how well you are able to think through problems. If there is a situation, some people have a certain perspective; some people have a point of view. How are you going to navigate that situation? How are you going to talk about what you think is important? Are you able to reason through your own thought process effectively? How much is your intellectual ability? Thirdly, a group discussion is also a test of your creativity. Maybe a hostile situation, maybe a situation where you are not able to say what you want to, the way you want to. But how can you creatively turn the situation around and make the group listen to what you want to say? A group discussion is also an exercise, a test of how you approach problems. Are you aggressive with your approach? Are you accommodative with your approach? Are you persuasive with your approach? Are you creative with your approach to problems? A group discussion also tests your qualities of leadership. Are you able to take initiative and navigate the discussion in a certain way? Are you able to take the discussion to raise certain issues which you feel are important? Are you able to stop the discussion from collapsing when you feel that there is a lot of disruption and things might collapse? Are you able to bring in more relevant topics into the discussion and insist that every member expresses his or her views on that matter? And finally, very important a group behaviour is a test of how tolerant you are, how good you are as a group player. To be a group player, very often, it is necessary to be able to be tolerant. You know that people have aberrant behaviour, you know that people can be aggressive, you know that people can be repetitive. But at times you will have to put up with that and you will have to focus rather on what can be done, not on what can be prevented from being done. Yeah, sometimes you have to prevent

things from happening but you have to tolerate some of these aberrations and focus on what can be done. Despite these problems, as we have seen, there are some important factors in a group discussion. To make a group discussion successful it is important to pay attention to the content, the communication, the thinking and the group behaviour. When we talk about content, they basically mean - what are the points which will be part of the group discussion? What are the issues which will be discussed in the group? Are the people who are discussing good with the content? Sometimes if you are a teacher, and if you want your students to discuss on a certain issue, it might be helpful to give them the content in advance. Because, after all a group discussion is not a test of how much you know on a certain topic. It is rather a test of how well you are able to communicate, how well you are able to negotiate with the others, how well you are able to navigate through the whole array of opinions which are being expressed on the topic. It might help if you want to do a group discussion in the class to give the students the content in advance. A group discussion is important also to discuss how the communication process will be conducted. Will people talk one after the other? Will people express their views all at a time or will people be strictly told that they can talk only when one person completes what he or she has to talk? Another important factor in group discussion is the process of thinking. How much of thinking is happening in the group discussion? Are people thinking through problems? Are people trying to think of the expressions, of the viewpoints which are being expressed at that point in the discussion or are they sticking on to what the views they had come with right from the beginning? And finally, the most important part of a group discussion is also the group behaviour. We have to think in terms of who is important, is the individual important or is the group important? Is it important for us to show our knowledge or is it important for the group to proceed with the discussion of a certain issue? Now, all these factors become important in making a group discussion successful and as I have told you before, many of these things also depend on the personality types who make the group. Depending on the personality types and depending on the kind of topic which has been taken up, people assume different roles in a group discussion. Generally, there can be the role of somebody who initiates the discussion – who starts the discussion as you must have seen in the video. You have seen the other day that the moment the discussion is thrown open one of the people decides to take the lead. He starts the discussion and says ‘yes this has to be discussed today and let us think of this discussion in this certain way’. Defining the problem is important, suggesting the procedure for a solution is also very important. And generally, both these things – defining the problem and suggesting the procedure for a solution – are done by the person who does the initiating. And this person generally also emerges as the leader. Another important role in a group discussion is that of information seeking. If a discussion has to go on, it becomes very important at times for all of us to seek information from the others. Seek facts, seek information, seek suggestions or seek and seek ideas. Sometimes some members in the group become extremely quiet. They withdraw at such points. It might be very important for especially the leader to draw them out, to seek out their ideas, to say, to see what they have say about the certain issues, to see what suggestions they have about the problems which are being discussed in the group. Another important role in the group discussion is that of clarifying ideas, interpreting and clarifying inputs, suggesting alternatives and giving examples. Some ideas suddenly come up in the group discussion which others either do not agree/do not understand or misunderstand. At such points, the people who are the harmony seekers, the people who tend to maintain balance in the group start interpreting these ideas to the others. They clarify some of the inputs which have been misunderstood. They sometimes also give alternatives, give examples and see to it that the group stays together, that the group moves in a

certain direction during the discussion. In a group discussion, it is also very important to bring the discussion to a closure. A group discussion, believe me. Can go on and on and on but at certain point in time there has to be a closure to the discussion. There has to be somebody who summarizes it, who offers a solution, who quickly recaps the important points which have been made by others. And you have seen that this has been done in the previous discussion in the video, in which you have seen that quickly a person took up the role of summarizing the points. That person tries to create a balance between the different viewpoints which others have expressed. Now, these roles I have talked about are also some of the positive roles. Apart from these, a group discussion can also have negative roles. There can be people who block the discussion. There can be people who assert their opinion, who are stubborn, who are not willing to listen to what the others are saying, who are not willing to move to take the group towards reaching some kind of a resolution. These people sometimes do not cooperate. There can even be an aggressor who insults others, who shuts people down, who does not allow the more meek members to talk in the group. At such times it is also necessary for the leader or for the harmony seeker (sometimes these two roles can merge into one) to create space for people who are not very vocal, to create a little space for people who are not able to express their views emphatically. Now, only then, only if such spaces can be created we can have effective functioning of the group. We can make the group more inclusive. We can bring in more ideas into the group. Now in this lecture, I have tried to talk to you about the functions of a group discussion, the important factors which matter in the group discussion and the kinds of roles which emerge in a group discussion. And as I have told you, all these have to function together, the roles have to be played in a very harmonious way for a group discussion to happen smoothly.

Thank you.

Module Four

Lesson five: Structure of a Group Discussion

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1814>

Video Length: 13:32

Welcome to the fifth lecture where we'll be talking about the structure of a group discussion. In the previous lecture we had looked at the uses of group discussion, why it is generally conducted and how it is generally conducted. Now here we'll be talking about how it is structured like a good piece of writing, like a good piece of a novel and academic writing or any kind of writing. A group discussion also has got a certain structure to it. We have a beginning, we have a middle and there has to be a conclusion. Now, in the beginning of a group discussion we generally enter into a discussion. We generally make clear what the comments, what the topic of the discussion has to be. We enter into the discussion by sometimes say repeating the topic of the discussion. You must have seen in the video that people in the beginning had told that each of us would be discussing on a certain topic, on giving their views on a certain topic. And when you enter you generally make comments on the previous contribution and you show how your contribution is related to it. Generally, in a discussion you either agree with what has been said before, you either disagree with what has been said before or you can amplify what has been said before. There are ways of agreeing, there are ways of disagreeing and there are ways of amplifying, expanding what has been said before. We will talk about some of these expressions in the rest of the lecture today these are some ways in which you can open a group discussion. A person who takes up the initiative can say something like 'we are here today to discuss something'. The person who starts again can start saying 'Let us decide how to proceed about the discussion. Maybe each of us will express our views on the topic and then we can start discussing on the topic' or you can say 'Can you give your views please on this topic person?'. Who is beginning the discussion can even begin by saying 'Can we begin by giving our views on this topic?' 'Can each of us give our perspectives to this topic? And then possibly, we can start the discussion or we can say 'Shall we start the discussion by talking about this topic?'. Specifically, now when we are talking about the opening things we should also know that different topics might require different ways of approaching the discussion. The topics might be something like 'Should dams be built', 'Should higher education be subsidized?', 'Should reservations be there?', 'Should uniforms be made compulsory in a teaching learning situation?' People have different views on this and to begin a discussion. You have to elicit the views of all the people involved about these certain topics and that can be done by using any one of these ways to start the discussion. Generally, this is done, as I have told you before, by somebody who assumes responsibility of the leader of the initiator in a discussion. But if you are a teacher, you might have to prompt people to start or you might have to do the beginning, the starting on your own in that if the people who are discussing are doing a group discussion for the first time it might be necessary for the teacher to start this process. Gradually in the second third or the fourth group discussion, gradually people from among the group take up these responsibilities and they start initiating the discussion. They start drawing the others also into the discussion. I'll next talk to you about ways to

present your viewpoints. Look at these. What I think is, what I feel is the main point I wish to make is what I think about building dams is 'They are necessary for a growing economy'. I feel that dams can become very damaging if not planned properly or the main point I wish to make is 'dams are necessary'. They have to be made. But we also have to take into account the people who are being displaced in the process of building a dam. Look at some of the other ways of expression. Maybe what you say has a point. But I disagree with you. Maybe what you say about making higher education subsidised has a point. Yes, we have to think about people who come from weaker economic sections. But what I wish to point out is that the government of the country, the people in general cannot spend money on higher education. The way we have been spending we will have to find ways and means of people of employing people who are getting into higher education see to it that they generate their own money. Another expression can be 'Definitely! What you say is true. It is true that dams can be damaging. It is true that building a dam can spoil an entire way of thinking, an entire way of looking at things. It inundates an area. It displaces people and the spacing of people from their habitat. It is also displacing a culture from its habitat and displacing a culture cannot be reconstructed by giving them money, by giving them land or by building houses for them'. Another way of expression could be 'I agree up to a certain point. Yes, I agree that higher education should be subsidized. But we should also see who exactly are the people who need the subsidy. We cannot subsidize it for everybody. We'll have to pick and choose and see that the people who can support themselves financially do it and this subsidy is only given to the people who cannot support themselves'. Another way of beginning a discussion or continuing with the discussion could be 'I think about this slightly differently. I am of the view that uniforms should be there in an organization. When people come to study they cannot come in different clothes which will in some ways indicate the different kinds of socio-cultural economic sections they belong to. It is necessary to create at least a semblance of a level playing field and that can be done if everybody is made to wear the same uniform. This can be the different ways in which you present your views. I have here for you some more expressions which people use during a group discussion. Please look at them. I try to categorize them for you and discuss them now. 'I must disagree with your opinion', 'I would question that whether', 'it seems to me that', 'as far as I am concerned' etc. can be ways of differing from your opinion which is being expressed. I can also say 'I don't agree with the previous speaker'. Now this can become a rather abrupt way of talking in a group discussion. But sometimes it might be necessary. You might have to differ sharply to express your view forcefully but look at this please – 'do not redirect', 'let me finish' or 'can you wait till I finish?'. These two can be rather rude at times in the group discussion which you have seen in the video. There was one point where there was a disruption. One of the members did try to disrupt the other member and what did the other person say? 'Can I finish please?', 'Can I make my point clear please?'. Now that could be enough at times to just that discussion go on. It is necessary as the teacher points out in that video to hold the field. It is necessary to continue saying what you want to say. It is necessary to make your view also heard and that has to be done in a group discussion in a gentle way. And you cannot sometimes say 'Can you wait till I finish?' because this might become the beginning of the major disruption which does not allow the discussion to move ahead. Sometimes, the person who is doing the gatekeeping job might say 'I think we are moving away from the main point'. This is a person who is in charge of keeping the group focused, who is in charge of seeing to it that the group discussion moves in the direction it is supposed to move. So, these people have to be careful when the discussion is strained onto different areas. Now at times when we feel that discussion on a certain point is getting too much, is moving in a very intense manner, we might want to bring in some other points which are necessary

to make the group discussion more comprehensive. At that point one might say something like 'if I may now turn to or turning now to a different perspective'. I have to bring in the fact that this also has to be done. Now these two comments could be that of people who want to bring in fresh ideas into the discussion we might be getting in too involved in one or two ideas on the group discussion and not moving forward. At that point of time this kind of moving away might become necessary. Finally, we can even say something like 'I want to briefly comment on', 'I intend to make these few points about what we have been discussing'. These can be some of the expressions which are used in a group discussion. Different expressions are used at different points of time for different purposes. What we must keep in mind however that it is necessary – yes, to hold your own ground. It is necessary to continue to say what you want to say but it is also necessary to ensure that the group discusses as a whole; that the group thinks as a whole that the discussion which are supposed to be done in the group gets carried forward and that should be the priority of every group member. If that becomes a priority, automatically you will know what to say when, how to link up the views which are being expressed by people, how to prioritize some of the views, how to keep aside the people who are taking the discussion away from the focal point and how gradually a discussion can be brought to a summary point or to a conclusive point. Finally, we have to have ways of reaching a conclusion again in the video which you have seen. One person initiates the discussion but a different person concludes it. That is possible. However, generally we have seen in classes that the people who start the discussion generally tend to take up the role of giving it the conclusion. Also, it is very important to give the conclusion. When you are concluding it is very important to give the speakers that you have to sum up the points which have been discussed. You have to be able to extract the essence of the discussion and tell people what were the main points that were discussed, who are the people who gave the main points, how do they move from one point to the other. It's very important to give people that do acknowledge, recognize people who made a difference to the discussion. We also have to cut out examples when we are doing this. We have to cut out repetitions. We also have to cut out the unpleasant expressions and show how effectively the group discussion has moved from one point to the other. And after doing this, one has to give the summary of the discussion and give it a concluding remark. Maybe the conclusion is one which has been reached by the group. Some of the group does not reach a conclusion. It is okay. At that point say that these are the different views that were expressed and a conclusion could not be reached but if possible it is desirable to reach a conclusion sometimes.

Thank you.

Module Four

Lesson six: Some more features of Group Discussion

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1815>

Video Length: 18:13

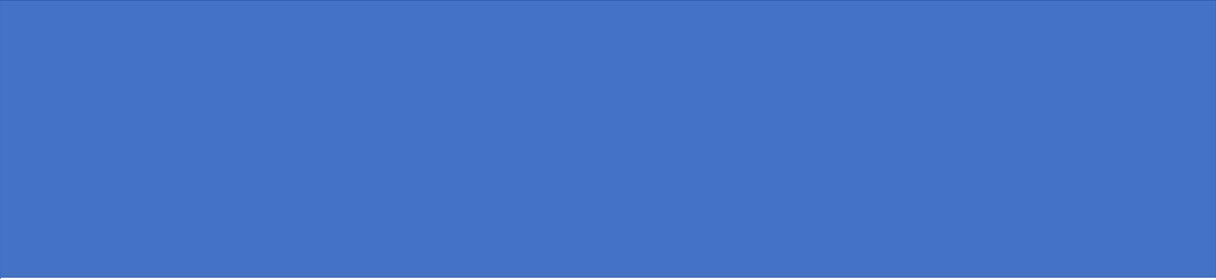
Hello! Welcome to the sixth and the last lecture in the series. Till now we have looked at what a group is, what group dynamics is. And in the previous lectures we have even talked about what a group discussion is. In this lecture I try to bring together the concepts we have discussed till now about the group discussion and maybe offer a few more ideas to begin with. I talked about the two different kinds of group discussions. There can be many different kinds of group discussions but generally we can divide them into two. Number one is the concrete and fact-oriented topics which need factual content in combination with the right perspective to be successful. Here we can have topics like what we have discussed earlier, like 'Is building the dam necessary for the national economy?' or 'Should we have subsidized higher education in India?' or 'Is it necessary to have examinations in the teaching-learning process?' or even something like 'Should India take help from foreign countries in the situation in the case where there has been a natural disaster?' All these topics need concrete facts to be able to be discussed. They also need perspectives; they need opinions you have to bring together the perspectives and opinions and weave a structure of a group discussion. However, there can be very different kind of group discussion if the topics are abstract. Abstract topics are generally given where you need to see how creative the group members can be. We have abstract topics where we need more than facts. We need interpretations and creative thinking; we need to create the context for that topic. Here the perspective from which the interpretation is made and the themes you build into them will be more significant and valuable. I remember, a group discussion topic is generally given either five minutes or two minutes or we do not give any time before a discussion begins. And imagine in that kind of a situation you give topics like the following one 'God is dead' - a very famous statement made by a philosopher called Nietzsche. 'God is dead' - I had given this topic for discussion sometimes and I have found amazing kind of group discussions emerging from here. Another topic could be 'I love my coffee in the morning'. Imagine what kinds of contexts you can build into it, what kind of topic can you make of it, and make it into a group discussion. Another topic could be 'Bicycling underwater is fun'. Another topic 'We are all winners' and a final example 'Do we talk?' What happens when we give topics like this? The students or the participants have to think of contexts; have to think of interpreting these topics on the spot. They'll have to think out of the box, they'll have to do intense lateral thinking and critical thinking. They'll have to give a topic to these abstract concepts and then carry on with the discussion. It need not be easy, it is never easy. But these topics can sometimes show us how people will behave under stressful conditions. How given a situation, where nobody is familiar, people can come up with innovative ways of interpreting, discussing, taking the topic further. These topics can be very successful if the people involved, people dissipating in a group discussion are creative, are communicative. But sometimes if the people are not creative, if they are not very good at lateral

thinking such topics can fall flat. So, it is a risk to be giving such topics. But I feel it is worth the try to see if the people can come up with contexts, can create contexts, can be creative and provide a discussion on these kinds of topics. The next important thing I would like to go on to is the features of a group discussion. A good and successful group discussion is one where the topic has been discussed threadbare. Threadbare means every part of the topic, every aspect of the topic has been discussed thoroughly. Unless a discussion is done in this manner a discussion cannot be said to be successful. To do that, to ensure that we do the following -- analyse the topic word by word, identify the frame of reference you would be using during the discussion. For example, take up a topic we had discussed earlier 'Our examinations are necessary to evaluate a student'. Probably it would be a good idea to begin the discussion by clarifying what you mean by examination, what you mean by evaluation, are the two the same or are the two different? Can examination and evaluation be done simultaneously? or Can they or should they be done at different points of time? Secondly, we have to look at the topic from various points of view of all the affected parties. If you are going to talk in terms of examinations, the relevance of examinations and evaluation we have to think of - what the students think of both examination and evaluation, how the teachers perceive examination and evaluation, how the system perceives examination and evaluation, is it necessary for the system to have evaluation along with examination? Do students get treated fairly if examination becomes the only way of evaluating them, how do teachers manage to make an examination successful by building in features of evaluation into it - all these factors, i.e., looking at the topic from various points of view has to be done if a group discussion has to be successful. And finally, we have to look at the topic from all the various angles and all possible perspectives - the possible positives, the possible negatives. Maybe sometimes it can be done; maybe sometimes things can be done in certain situations. Maybe sometimes things cannot be done at all. All these perspectives have to be taken into account. The implications of these perspectives also have to be built into the discussion and only then can we say that a group discussion has discussed a topic threadbare. All the implications have been taken into account. All the complex situations, all the complex contexts have been discussed and hence after that one can draw a conclusion. One can see what has happened during the discussion and give it an appropriate conclusion. And this kind of a discussion can be said to be comprehensive. Next, I'll be talking to you about (again I have discussed this before but I'll just be recapping in a very in a very short way) the important functions in a group discussion, the people who play the important functions in a discussion. In a group discussion we can have people who are encouraging, people who harmonize, people who are compromising, people who do gatekeeping and people who do standard setting. I'm sure you understand these terms because these are the characteristics which we have seen when we discussed group dynamics. Also, people belong to different functions. They carry out different kinds of functions when a group is performing a task together or when a group discussion is taking place. And they can either be the encouragers, the harmonizers, the people who are compromising the people who are planning and doing gatekeeping, all the people who are also doing gatekeeping by setting the standards in a certain way. Very important, people have to recognize which function they fit into, which functions others fit into and see that all these functions are performed effectively in a group to perform a task effectively or to perform a group discussion effectively. Finally, I'll end this lecture by giving a few final tips to perform a group discussion effectively. Prepare well by reading and reflecting on the topic. If you are supposed to discuss on a topic and you have inkling as to what the topic can be you have to prepare for it. If you're a teacher, it might be good to (as I have told you before) to give the students the content of the topic. It is not necessary for us to evaluate whether they are able to bring in more and

more information. Let them have the information; let them come to the discussion with the information. It is for us to see how well they are discussing, what they are discussing. Anticipate the points of others it is very important to anticipate what the others will see to be able to be well prepared for a group discussion. This is also very essential if you are doing any work together. At times a successful worker is also a person who is able to anticipate what steps the others will take next. A person who can anticipate, who can predict, who can understand how the next move will be is also a person who is adequately prepared for what to do next. Next, alertly listen and understand the points made by others. You can make your point only when you understand what the others have said. You can carry forward the discussion only when you have to appreciate what the others have told about the topic before you can contradict. You can amplify; you can agree or disagree only when you listen to the others. Next, very important - break in and make your point without waiting to be called upon to do so. Ensure relevance and be context oriented. Sometimes some people do not talk in the group discussion. If you are a teacher you'll have to prod people to start talking. But remember unless you make an impact, unless you break into the discussion probably in the first minute you do not get noticed in the group discussion. Thereafter do not expect people to make space for you always. You are lucky if there is a person in the group to make space for you. You're lucky if your teacher makes space for you but do not wait for it. Break into the discussion gently yet firmly and say what you have to say. And also make sure that what you say is relevant, belongs to the context makes an impact on the discussion that is being made. Next, be loud enough and be heard by people. This is very important if you want others to listen to you. If you want to make an impact on the discussion you have to have a voice that shows itself. Voice training is a very important part in being a successful speaker. You have to learn to speak in a way where your voice throws out, when you pronounce every word clearly, where your utterance has got clarity in it, where people automatically understand what you want to say. Your intonation, your stress, the tonal quality makes a difference in how people listen - how attentively people listen to what you are saying. If you want to be an effective member in a group discussion you have to take care of these things. You have to know what kind of impact your voice, your way of uttering things, your tone, your intonation, your stress is having on the others. Your tone sometimes is also necessary to signify how important a certain perspective is to you, how important a certain word is to you, a certain viewpoint is to you. Finally, make brief remarks rather than giving long speeches in a group discussion. We know the time is limited. So, a successful group discussion can be done only if you give brief remarks. Quick, crisp, small, relevant and to the point remarks rather than giving a long speech about something. You might give a remark, might give an example and withdraw, see that the remark has an impact and the rest of the group carries forward the point which you have made. And finally, be relevant, be open-minded and conciliatory rather than dogmatic. It doesn't help if you become dogmatic in the group discussion. A group discussion automatically fails if too many people in the group are dogmatic if they want to stick on to their views and are not willing to reconcile to the views of others. Now reconciling does not always mean that you have not been successful. Reconciling does not always mean that you have failed to convince others the way you should be. Reconciling also means you accept what others are saying give it your own twist make your perspective heard and at the same time be conscious that the group discussion should be carried forward. What the group wants to do as a group is successful if that becomes the main aim. Automatically, the discussion will be successful. The word which you have taken up as a group will be successful. Hope all of you participate in more group discussions. If you are a teacher, do engage your class in more group discussions. It helps students express themselves. In groups they learn a lot

from one another in the process rather than the teacher teaching them. In this module, the sixth lecture you have looked at is 'Group Dynamics' and 'Group Discussions'. In the module before that, we had looked at 'Critical Thinking: Level II' and before that in the first level of this series of lectures you had looked at 'Critical Thinking: Level I'. Are you able to make a progressive connection between all these? 'Critical Thinking: Level I' talks about what critical thinking is, how we can be more critical, the different models of critical thinking, mind mapping as a way of projecting critical thinking in critical thinking. I have tried to include lateral thinking into the concept of critical thinking. I try to talk in terms of ideology and stereotyping as things which have to be taken into account when we are doing critical thinking. And finally, in the sixth module I am talking about the concept of group discussion and how critical thinking plays an important role in doing group discussion. Also, to carry on a group discussion successfully, one has to be a thinker. One has to put one's intellectual abilities to the fore. One has to be a lateral thinker. Ultimately what I would like to say is all these qualities have to perform in coordination with one another. All these factors have to be operating simultaneously. If you are supposed to be doing a group discussion or you are supposed to be doing critical thinking very often group discussion becomes a kind of a platform where you plot a platform, where you do brainstorming, when you do critical thinking, where you bring in various factors involved in discussion together. And all these factors like critical thinking, lateral thinking, thinking of ideology, thinking through stereotypes can become important factors in whether you are a successful group discussion or not. I hope you all will enjoy doing group discussions and you will benefit immensely from the group discussions that you do.

Thank you.



Week Five

Module 5: Building Leadership Capabilities in Engineers- An Introduction

Instructor's Name- Prof. G. Padmaja



Manas R Panigrahi

Module Five

Lesson One: Introduction

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1945>

Video Length: 09:17

Welcome to the fifth module on Ethics. This module is handled by Prof. I. Ramabrahmam (myself), working as a Professor in the Department of Political Science, School of Social Sciences at the University of Hyderabad, Mr. A. Viswanath, a Practising Engineer in the Energy Sector with 20 years of experience and Ms. C. Ramya, a research scholar from the Department of Political Science, University of Hyderabad. Let us now look at the overview of the module. Overview of the Module This Module is divided into six presentations. These six presentations include 1. Bhopal Gas Tragedy 2. Space Shuttle Columbia Disaster 3. Fukushima Nuclear Disaster 4. Delhi Metro 5. Fourth Industrial Revolution and Conclusion. These five are grouped under Case Studies, which are especially generated to enhance your understanding and ability to correlate with theory and concepts presented under the theme of Ethics in Level 1. Objectives of the Module First of all, the objective is to enable the learners to understand the significance of ethics in engineering and responsibilities of engineers as professionals. Secondly, it provides inputs on the code of ethics in engineering, ethical dilemmas, and factors that affect moral responsibility. The other objective is to sensitise you with skills to empower the learners with requisite skills for effective decision- making for social good Background Before we proceed further, let us recall briefly the aspects dealt with in the Module on “Importance of Ethics in engineering profession- Introduction & Evolution” in Level 1 of this Course. We have dealt with a brief overview of ethics and ethics in engineering followed by understanding the concept of ethics and morals. We have also looked at the genesis of Ethics and the theories of ethics before understanding the significance of ethics in the context of engineering profession. Further, we have looked at Page 2 of 3 the code of ethics in engineering. Further it provides insights into moral and ethical dilemmas, the hierarchy of moral values, different factors that affect moral responsibility and degrees of moral responsibility. Introduction- when it comes to looking at the context in which the engineers are located, engineers, as professionals, are undoubtedly an inherent part of society. Right from the invention of a safety pin to the working of the Mars rover, Curiosity, engineers are the creators of processes and products. With the advent of technologies and the greater public good it is being targeted at, Engineering Ethics is now becoming a part of the engineering curricula across the world. The reason behind this- decision making, like engineering design, may have multiple solutions. The conduct of an engineer in the society is of utmost importance, particularly in the present day context. A good engineer needs to be a perfect amalgamation of the knowledge in his discipline and life skills together. In other words, a good engineer is not only knowledgeable in his profession but is expected to possess life skills. The definitions adequately define how Ethics originated and how moral principles govern a person’s behaviour or the conduct of an activity. One must first of all understand that Ethics is not always in black and white. In the sense, ethical situations are not always clear- cut but they come in a number of shades of grey. In other words, what might be appropriate in one situation may not be

appropriate in another. So, the five case studies referred to earlier, are identified basically to facilitate you to understand applied aspects of ethical practices, in depth- appreciation of an event/ issue/ phenomenon and it needs to be correlated with real- life circumstances, actions, results with theory/ concepts/ aspects covered in Level 1. Lastly, it will facilitate a logical conclusion and appreciation, which can guide learners in taking appropriate actions in situations in their respective professions. In other words, kit is about organic thinking, as it is called, inputs from society for correction in future. Rationale- Selection of Case Studies Accordingly, the case studies have been selected from various streams of engineering based on:

- Positive and negative role- models – Positive: Delhi Metro – Negative: Bhopal Gas Tragedy, Space Shuttle Columbia Disaster
- Rare and large- scale event – Fukushima Nuclear Disaster
- Current and prospective – Fourth Industrial Revolution

Page 3 of 3 List of Case Studies Accordingly, the list of case studies includes, in the order as they have occurred include:

- Bhopal Gas Tragedy (1984)
- Space Shuttle Columbia Disaster (2003)
- Fukushima Nuclear Disaster (2011)
- Delhi Metro (1995- Present)
- Fourth Industrial Revolution –Emerging and readily available technologies (Present)

Structure of the Case Studies The structure of the Case is as follows. Each of the case studies consists of a synopsis followed by description of the case/ incident. This is followed by findings and discussion. It then consists of a conclusion and references. Disclosure In any presentation, there may be different points of view. We wish to make it clear through disclosure that the Case Studies have been prepared for teaching purpose only. The data/ images/ information included are from publicly available sources. The data, including text, images, and other representations, have been duly cited either in the text or references. Though extreme care has been taken in providing the citations/ references, the instructors or the affiliating institutions are not responsible for any errors or any other situation(s) arising from the use of this information. It may be noted that it is an exercise for teaching purpose only. The students are requested to make use of the references for further readings and citations of the cases. Let us now move to the first Case Study in this series on the Bhopal Gas Tragedy.

Thank you very much.

Module Five

Lesson Two: Case Study 1: Bhopal Gas Tragedy

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1946>

Video Length: 13:58

Welcome to the Lecture 2 of the Module on Engineering Ethics- Case Studies! We are now raking up the first Case Study on Bhopal Gas Tragedy. In the last lecture, the Introduction to the Module was discussed where we looked at what ethics is and the case studies to be discussed in this Module. This also includes some of the concepts we have discussed in Level 1. This is Ramabrahmam. I teach Political Science at the University of Hyderabad. In this discussion, I invite Ms. Ramya to join the discussion and introduce herself. I am Ms. Ramya, Research Scholar in the Department of Political Science in the University of Hyderabad. Synopsis If we look at the tragedy that struck Bhopal, 34 years ago, we can see a newspaper clipping of the event reported and the next is an image of the havoc that the tragedy created. As we all know, Bhopal is the capital city of Madhya Pradesh, India. The incident we are talking about dates back to December 1984, close to 34 years ago. On December 2nd of 1984, a toxic gas leaked from the Union Carbide pesticide plant located in Bhopal, which resulted in about 5,000 deaths in a single day and the after- effects continue to even the present day. The Union Carbide India Limited (UCIL) is a subsidiary of US- based Union Carbide and was a chemical company with revenues then equivalent to US\$170 million. Introduction: Background of starting a pesticide plant in Bhopal. The 1960s was the era of the green revolution in India which aimed at increasing the food production in the country. In this context, the Union Carbide India Limited (UCIL) established a pesticide formulation plant in 1969 by leasing land in Bhopal in Madhya Pradesh. It was to initially import, mix and package pesticides manufactured in the United States. Page 2 of 5 In 1979, a 5,000 ton methyl isocyanate (MIC) production unit was installed in the plant to manufacture a pesticide marketed as Sevin.1 The pesticide Sevin is a combination of Alpha Naphthol and methyl isocyanate (MIC). It is said to be one of the most dangerous compounds in chemical history. It is to be stored at 0 degrees centigrade. The MIC is so volatile that when brought in contact with a few drops of water or few traces of metal dust, it sets a violent and uncontrollable reaction. About the incident (1) - December 2- 3, 1984. Now, let's have a look at what happened on that fateful night. On the night of 2-3 December 1984, a pressure relief valve of a storage tank 610 in Union Carbide plant containing Methyl Isocyanate (MIC), a toxic gas used in the preparation of pesticides opened "accidentally." The MIC began to release from the tank and formed as a cloud over the area around the plant. Within an hour or so, most of the toxic MIC in the tank spread itself across the city. It was past midnight and most of them asleep, thousands of people and animals got exposed to the toxic gas. Within no time, Bhopal became a gas chamber. Many people went breathless and many of them turned blind as they got exposed to the toxic air. Some of the many even got disabled forever. Next morning, the streets were filled with dead bodies of humans and animals as a consequence of the deadly gas leak. But, how did the valve open "accidentally"? The Plant had a few tanks that stored 15,000 gallons of liquid methyl isocyanate (MIC) which had to be kept under pressure using inert nitrogen. Most importantly, MIC had to be stored at 0 degrees Celsius every time to keep it inert. As reports suggest, apparently, prior to the gas leak, a large amount of water with catalytic material entered the MIC tank. Then, a reaction took place between the MIC and water, which led to pressure building up in the MIC tank. The pressure increased and eventually the valve of the storage tank opened causing the gas to leak. Eventually, MIC began to release from the tank and a weak wind helped the gas to cover more area in a short span of time. This led to a slow dilution of gas and allowed the toxic gases to spread around the area. The

aftermath- spread of gas. As you can see, the image shows the spread of the toxic gas across the city of Bhopal. According to reports, over 5 lakh people got exposed to the toxic gas. Many went breathless as they inhaled the toxic fumes, which caused damages to the respiratory system and sight disorders. 1 <https://www.eolss.net/sample-chapters/C09/E4-12-02-04.pdf> Page 3 of 5. The immediate death toll was 3,000 and many animals too died. As reports suggest, the aftereffects of it continue to this day. Not only this, many animals too died. It is very important to note that reports suggest that the after effects of the tragedy continue to the present day. So, what can we infer from the occurrences on the intervening night of December 2- 3, 1984? Findings and Discussion. A preliminary look at the incident gives us many pointers to ponder on, which have been suggested by many reports. As reports point, there was no alarm that alerted the authorities, or the public or the other stakeholders for a considerable time. Next, an evacuation plan, which includes action to be taken in an event of an emergency, has also not been in place. In addition, the staff in the Carbide plant was reduced to half between 1980 and 1984 to cut costs. This resulted in serious lapses in terms of security and maintenance in the plant.² The UCIL doesn't have a trained management to handle a disaster of this magnitude. The Union Carbide Plant in Bhopal was built in between a densely populated area, thus taking the scale of damage to a high level. Well, the actual cause of the accident has been debated. While it is claimed that it is an act of negligent maintenance, the management has termed it as an act of sabotage by one of its employees. The other findings as pointed by reports include the following

- Lack of safety and security measures as it is located in a densely populated area, which has led to greater damage. There was no evacuation plan and community awareness created on the impact an incident of this sort would create. Moreover, during those days, there was no disaster management plan in the industries.
- Other critical technical issues

If we look at the critical technical issues, the tank was filled with more than its permissible capacity and the MIC was not stored at 0 degrees C. The flare tower, which was supposed to burn off the emissions from the tank, was under maintenance at the time of the disaster. In addition, the scrubber, which is generally used to decontaminate any gas leaks, was also deactivated. A few months before Dec. 1984, one of the tanks lost the ability to contain the pressure of nitrogen, which contained about 42 tons of MIC. Although the production was stopped ² <http://www.icmrindia.org/free%20resources/casestudies/The%20Bhopal%20Gas%20Tragedy1.htm> Page 4 of 5 for some time, it was soon restarted without taking proper action about the tank which contained 42 tons of MIC. Moreover, it was also pointed out that the refrigeration and cooling systems were turned off months before the disaster.

- Downsizing of the Bhopal plant by the parent company: The other issues pointed by studies include the downsizing of the Bhopal plant by the parent company, which led to serious lack of manpower to handle the sophisticated tasks in the company. In other words, the UCIL suffered losses in the first ten months of 1984.³ As a result, there were plans to even dismantle the plant, which furthered the negligence in management.
- Lack of appropriate action: Although a leak of this degree happened for the first time, studies show that there were earlier reports of mishaps in the Bhopal plant and a similar plant of Union Carbide in Virginia in the United States. If they would have been addressed, there were greater chances of averting a catastrophe of this kind. In 1981, a maintenance employee was killed as a result of splashing of phosgene. In 1982, a team comprising three American engineers from the United States visited the plant in Bhopal and submitted a report on the standards of functioning. The report clearly pointed out the many discrepancies in terms of maintenance, safety, workmanship, gas leaks to name a few. In the same year, as reports suggest, there was a MIC leakage which affected four workers. And the earlier complaints of workers on MIC leak too were ignored. Moreover, both the Bhopal and Virginia plants being similar in technology, however, a different set of maintenance schedules were followed.
- Lack of robust safety standards and policies: It emerges from the case that there has not been any robust safety standards and policies set in place by the state government. Studies also suggest that the management has ignored the basic green chemistry principles which emphasise on eliminating or reducing the production of hazardous chemicals, their storage and maintaining it in small containers. In addition, the Union Carbide, as reports suggest,

also withheld the medical information on chemicals, which affected the victims in not receiving appropriate treatment. Thus, it emerges that it is a result of a combination of both human factors and the non-operational design safety system. Thus, it is a critical departure in terms of design, ethical and environmental considerations, the safety of employees and moral responsibility. Realising the impact of the incident, the Government of India appointed itself as the sole representative of the victims of the tragedy, which was later replaced by Bhopal Gas leak 3 <http://www.icmrindia.org/free%20resources/casestudies/The%20Bhopal%20GasBusiness%20Ethics%20Case%20Study.htm> Page 5 of 5 (Processing of Claims) Act, 1985. The Government of India (GoI) then filed for compensation and other damages against UCC in the US. We have got some interesting inputs and insights about the Bhopal Gas Tragedy from the findings and discussion. Even after 34 years of its occurrence, it has got a lot of lessons for young engineers. What do you young engineers keep in mind while dealing with situations like this? Conclusion It has two perspectives- one, the micro: wherein, there is a need for a moral responsibility in the individual engineers, At the macro level, the moral responsibility, as pointed out by Mike Martin and Schinzingler, is "Moral responsibility is an idea that applies to individual engineers, groups of engineers, and the corporations in which most engineers do their work. It is also a multifaceted idea that combines obligations, ideals of character, accountability, praiseworthiness, and blameworthiness." Thus, it emerges that the nations should move towards robust policies to avert such kind of accidents for safety of individuals and environment. There were already policy initiatives in terms of waste management and Environment Act, 1956. Ultimately, there is a need for design and implementation of safer processes and such processes involve both managements and individuals keeping in the mind the dimension of moral responsibility. The subsequent case studies that we discuss will cover other aspects of ethics.

Thank You.

Module Five

Lesson Three: Case Study 2: Space Shuttle Columbia Disaster

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1947>

Video Length: 07:48

Hello all! Welcome to Lecture 4 in the Module on Engineering Ethics- Case Studies under the MOOC on Life Skills for Engineers. In today's Lecture, let us explore the story of the Space Shuttle Columbia. In the last lecture, we discussed the Bhopal Gas Tragedy and how deviations at various levels have led to a catastrophe and how its consequences are seen and felt by people in that area. In continuation of our discussion on various disasters due to the negative perspectives, we are now moving on to the Case Study on Space Shuttle Columbia Disaster. Background The Space Shuttle Columbia was the first space-rated orbiter of the fleet of NASA- the National Aeronautics and Space Administration. It is an agency of the US government. The Space Shuttle Columbia was launched on April 12, 1981. It carried many missions to the space and back. It completed 27 missions and on its 28th mission in 2001, it was destroyed when it was re-entering the earth's atmosphere. About the Case Now, as we get into the details, the Space Shuttle Columbia took off on a mission STS- 107 to conduct experiments ranging from material sciences to life sciences in space and SHI Research Double Module known as SPACEHAB. As mentioned earlier, the Space Shuttle disintegrated on re-entering the atmosphere killing all the seven crew members on February 1, 2003, of whom one is an Indian, Kalpana Chawla. Let us now have a look at the series of events: On January 16, 2003 at 10:39 AM, the Columbia took off into space from the Kennedy Space Centre in the United States for a 16-day mission to conduct experiments. There were seven crew members on-board the space shuttle. Page 2 of 3. During the launch of STS-107, a piece of foam insulation broke off from the Space Shuttle's external tank and struck the left wing of the orbiter. This created a hole in the edge which went unnoticed. However, in the launch videos that were released, the foam striking was noticed. Some of the engineers requested inspection by the crew on the space shuttle or detailed photographs of the damage. Unfortunately, the foam strike was not taken seriously assuming that foam strikes don't cause significant damage. No action was taken. On February 1, 2003, the Space shuttle began its journey back to earth. As soon as it started entering the earth's atmosphere, hot atmospheric gases entered and destroyed the internal wing structure. The bottom surface of the wing began to cave into the interior. It made the space shuttle unstable. What happened next was the Columbia went out of control and got destroyed over east Texas. All the seven crew members were killed. And the damage the disaster caused was tremendous. All the seven astronauts were killed. About 4 billion US dollar worth spacecraft was destroyed. The debris was scattered over 2,000 square miles across Texas and NASA grounded its fleet for two and a half years. Findings and Discussion An investigation was called for and the Columbia Accident Investigation Report (CAIB), 2003 pointed out that physical cause of the accident was a breach in the leading edge of the left wing, caused by the insulating foam. According to Columbia Crew Survival Investigation Report, December 30, 2008 produced by a second commission, the Spacecraft Crew Survival Integrated

Investigation Team (SCSIIT), “although circulatory systems functioned for a brief time, the effects of the depressurization were severe enough that the crew could not have regained consciousness. This event was lethal to the crew.” In other words, there was no time for the crew to prepare themselves. It was also observed that some were not wearing their safety gloves; one crew member was not wearing a helmet. The crew's safety harnesses malfunctioned during the violent descent. The key recommendations of the report included that future spacecraft crew survival systems should not rely on manual activation to protect the crew. Another critical finding is that there were no lessons learnt from the Challenger incident. In January 1986, liquid hydrogen tank of Challenge space shuttle exploded within 73 seconds from the launch destroying the shuttle and killing the seven crew members. There lacks an eye for greater detail wherein the foam was ignored. This underlines the greater need for safety and enhanced assessment of risks. Page 3 of 3 Conclusion As pointed out by the article cited, the two space shuttle accidents of Challenger (1986) and Columbia (2003) could have been prevented if proper care was taken as they were patterned and systemic and not random or chance occurrences. There were ethical as well as other issues that led to the accident. Interaction, decisions, and the normalization of deviance: There was a cultural belief that the problems were not a threat to flight safety. Flying with these flaws became normal and acceptable, not deviant. In addition, the institutional environment and the culture of production which was converted from technical culture were converted into a culture of production. The task completion was given greater importance than minute processes. It is also camouflaged under structural secrecy, where individuals tried to keep bad news from top management, which is but unethical behaviour. Thus, it is evident that accidents of such magnitude and scale tell engineers that each one of you need to • imbibe a work culture where we work without external pressures and biases • make appropriate decisions in spite of ethical dilemmas • Adherence to professional code of ethics. One can also refer to these for more details and further probe. The findings from these references can be discussed in the Forum. We will then be moving on to Fukushima Nuclear Disaster.

Thank You.

Module Five

Lesson Four: Case Study 3: Fukushima Nuclear Disaster

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1948>

Video Length: 18:11

I welcome you to the fifth module in Engineering Ethics- Case Studies. This is Viswanath, practicing engineer, Energy sector. In the earlier presentation, my colleague has presented a case Study on the Space Shuttle Columbia Disaster. Now, I will be presenting on Fukushima Nuclear Disaster. Synopsis Nuclear energy is considered as a sustainable energy source that reduces greenhouse gas emission and produces far less wastes than conventional energy. On the other hand, nuclear fuel and wastes are highly radioactive, posing many threats to public health and the environment. Nuclear accidents are catastrophic and have a far-reaching impact on global health. The Japanese nuclear disaster raised the ethical issues of nuclear energy programs. Based on the ethical analysis and moral philosophy, mankind needs to take a more stringent approach on nuclear programs whether it is using the principles of Utilitarianism, Deontological etc. About the Case This power plant has six units, as you can see, with 4,700 Mega Watts. The picture was taken on the morning of the accident. On March 11, 2011 at around 14:46 Hrs, the Fukushima Daiichi (240 KM from Tokyo) Nuclear Power Station was hit by an earthquake of 9.1 magnitude near island of Honshu. The quake had an impact on the section of north-east coast of Japan where a series of nuclear power plants (NPP) are located. At 15.27 hours, the first Tsunami strikes plant; destroyed fuel tanks, flooded diesel generators resulting in loss of cooling water & exposing nuclear fuel rods. In the next four days, there was meltdown of reactors, hydrogen gas explosions, and massive release of radioactive material into land, sea, and air. Let us now look at the cross- section of the plant. As you can see, the plant is close to the water. As the tsunami hit, the sea water pumps water into the system for cooling. The level of the tsunami waves was higher than the system designed. As a result, water entered the building. The fuel tanks were washed away, diesel generator sets stopped working and all the backup power was lost. Page 2 of 5 Six workers received radiation doses apparently over the 250 mSv level set by NISA, but at levels below those which would cause radiation sickness. On March 11, at 21.00 Hrs, evacuation order issued by govt. to persons with in 3 KM radius On March 12, 21.40 Hrs, evacuation order was issued for people within 20 kilometres to evacuate. Nearly 160,000 people were evacuated from their homes. According to a report, 32 Million people are exposed to radiation due to this accident. This is the view of the plant after the accident. One can see the fumes and damages in all the units. Findings There have been pre- warnings, like on 7th March 2011 (4 days before the accident) Tokyo Electric Power Company (TEPCO) predicted the possibility of a tsunami (up to 10.2 meters high). Actually, it was predicted in 2008 but delayed in submitting as they "did not feel the need to take prompt action on the estimates." Clearly, some of the warnings were ignored. The review of the tsunami countermeasures in accordance with International Atomic Energy Agency (IAEA) guidelines required taking into account the high tsunami levels. But, the Nuclear and Industrial Safety Agency (NISA), which is Japanese regulating agency for nuclear power, continued to

allow the Fukushima plant to operate without sufficient countermeasures such as moving the backup generators up the hill- as seen, the diesel generators were located under the building and were to be moved on to the hillock. In addition, sealing the lower part of the buildings, and having some back-up for seawater pumps. Despite clear warnings, this also was ignored. Discussion Nuclear plant safety begins with a plant's decision of location, design, construction and extends through its full life cycle including operation, maintenance, and, inevitably, decommissioning- Safety considerations are of utmost importance and ethical/Moral issues become vital at every stage of decision making and execution Safety Culture, according to (IAEA) is the "assembly of characteristics and attitudes in organizations and individuals which establishes that, as an overriding priority, nuclear plant safety issues receive the attention warranted by their significance." It also "refers to the personal dedication and accountability of all individuals engaged in any activity that has a bearing on the safety of nuclear power plants," which can be achieved only through following good practices, Adherence to relevant ethical codes of conduct and decisions based on ethical analysis and moral philosophy as we discussed earlier, including utilitarianism, deontological etc. It is rhetoric to say that good practices need to be followed. But, good practices are "not sufficient" if applied mechanically. Need to go beyond the strict implementation so that all duties important to safety are carried out correctly, with alertness, due thought and full knowledge, sound judgment and a proper sense of accountability. Page 3 of 5 Adherence to relevant ethical codes & practices is an integral part of Safety culture. Ethical perspective is one of education and training, marked by a reliance on the discretion of scientists, engineers, and corporate leaders. The fundamental canons of Ethics, as discussed in Module 1, are not just for information but to have belief in them, adopt them and implement them in letter and spirit. Based on a secondary research, we have analysed this particular accident, it has been found that at every stage and every phase, there were deviations in ethical principles and practices. It is very important to see when issues when not given proper attention will lead to accidents of such a nature which has global implications. Right from seismic qualification, there is a deviation. According to the decision criteria, location of the nuclear power plant is based on "very low probability" of earthquake. But, the location selected for this Nuclear Power Plant was selected in spite of the project area being highly earthquake- prone, which is the first deviation. The second deviation is that the design. The consideration was that any NPP to be designed to prevent any accidents and design based on "reduce uncertainty and improvement of accuracy." In 2006, a seismic design guideline for NPPs has been revised but not followed for Fukushima. So, reliability, risk and safety were compromised. In terms of Plant layout, to avoid loss of any emergency system/ equipment, a specific layout must be followed. In this context, shifting / relocating emergency diesel generators was not done. In ethical theory, there is something called whistleblowing, which was not adopted. The cultural belief that problems are not threats was there in everybody's mind. This is similar to what was mentioned in Columbia disaster. In terms of public hearing, the criteria stated that there has to be disclosure to locals on all the risks associated with NPPs. There was low level of transparency and unclear decision making hierarchy in the case of Fukushima. The people at the site too were not sure what they have to reveal and what they should not reveal, whether revelation will do any good or will there be any conflict of interest. In terms of governance, according to the criteria, there should not be conflict of interest. In this context, in Japan, NISA was operating under the Ministry of Economy, Trade and Industry (METI). METI's job is to push for Nuclear power, while NISA is tasked with safety and regulation. After two years, NISA was abolished as it had a conflicting role. In medicine, conflict of interest or whistle- blowing or many other aspects of ethical behaviour are much more important than any other area. But, there, it is limited to two individuals- the

physician and the patient. In the case of huge engineering projects particular for nuclear power plant, risks and benefits are in more complex context encompassing a company and a group of people. Let us discuss two approaches used to apply in such areas. One of them is utilitarian, which is a risk- based approach. The other is deontological or rights- based approach. Page 4 of 5 It is possible to rank various options by appropriately evaluating the risks and benefits of NPPs. As utilitarian approach explains, if there is the net best benefit, one should go ahead with it. In the case of deontological, it raises the question of who is qualified to participate in decision making in such evaluations. If that particular evaluation is no- go, then it is no- go for the plant itself. Conflict of interests between local residents and national goals and disclosure of relevant information are extremely important ethical issues. In addition, in terms of the utilitarian approach, Government authority has to regulate nuclear technologies and holds relevant information. Otherwise, it would become a dictatorship if the government makes decisions solely based on national interests. It is essential to have effective measures that restrict the government's authority over risk assessment and information disclosure. A low level of transparency is disadvantageous to the public; the question of who should be involved in decision making is important. In terms of the deontological approach, in terms of NPPs and nuclear waste, there is a need for discussion on intergenerational ethics. Intergenerational ethics is that thought of whether we are doing good for the future generations or are we taking care of the existing generations. It includes justifiability of making future generations bear the risks of managing radioactive substances and risks for the various sections of people. There is a need for sufficient information in order to choose the energy policies they want. Conclusion Nuclear power regulators and industry follow ethical values and principles to make decisions in order to maximize the benefits and minimize the harm; different stakeholders may have different opinions. Accordingly, the proponents may say that accidents are isolated cases and hence should not dissuade mankind from using nuclear energy. Under the utilitarian approach, it focuses on the question whether the nuclear energy program maximizes well- being to most people and if there are alternatives to accomplish the same outcome? They cite that the troubled nuclear reactors in Fukushima used technologies of the 1970s, which had safety concerns even before the accident occurred. In terms of opponents to nuclear power, despite no greenhouse gas emissions, nuclear reactors produce nuclear wastes through mining, refining into nuclear fuels, and transporting both the fuels and wastes. Currently, there is no permanent solution for waste disposal. 10s of millions could be affected. As natural disasters and technological disasters become increasingly linked, compounded effects will have broad and complex impacts that could cascade into crises around the globe. So, these are the views of the proponents and opponents of nuclear energy. Now, ethical behaviours and adherence to ethical practices is mandatory and not by choice, particularly for large projects, like the nuclear power plants. Improving safety standards to minimize harm to environment and global health through implementation of more stringent Page 5 of 5 safety checks and review measures, decommissioning aging plants and those that fail to address safety concerns are some of the other ways. For instance, in Germany, there is a clear programme of decommissioning of the old plants and not encouraging the new plants. They will be replacing with renewable energy or with safe energy technologies. This is an important point. The cultural beliefs that problems are not threats and structural secrecy (not sharing bad news) will only add to unethical behaviours and lead to major accidents. Mandate sharing of timely, accurate, and credible information with public- to reduce damages of radiation emergencies and for public trust and confidence is a must. There is a need to enhance international cooperation between governments, international organisations and industry on guidance, law enforcement, monitoring and follow-up.

Further, integrate medical care and psychosocial support for high risk populations after nuclear accidents helps reduce the psychosocial damage on the public. Any nuclear accident has a far-reaching impact on global health. In terms of utilitarian principles, there is a need for authorities and nuclear industry to take a more robust and stringent approach on the nuclear programs and its allied activities. May be or must be, a Deontological approach appears better than Utilitarian approach for nuclear power plants. Engineering students and practicing engineers need to be aware of these ethical issues and appropriately apply them in their professions/careers. The next case study will be about the Delhi Metro.

Thank You.

Module Five

Lesson Five: Case Study 4: Delhi Metro

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1949>

Video Length: 15:31

I am Ramya, Research Scholar in the Department of Political Science, University of Hyderabad. In today's Lecture, let us explore the story of the Delhi Metro and how it has emerged as one of the best practices in the domain of engineering. So, as we begin today's lecture, let's have a quick recap. In the last lecture, we discussed Fukushima Nuclear Disaster and how deviations at various levels have to lead to the disaster. Synopsis Before we proceed into the Case Study, let us have a quick look at the synopsis. The Delhi Metro has been a pioneer in transforming the sphere of mass urban transportation in India. As the largest and busiest metro in the country, the Delhi Metro operates through a network of eight colour-coded lines spanning around 296 kilometres and 214 stations across the length and breadth of Delhi and the surrounding areas. Among the many accolades, the Delhi Metro stands as an evidence of how an infrastructure project of this size and magnitude could be completed before time and also within the budget. In addition to adopting the best design, planning and project management techniques, one of the primary reasons for successful implementation of a Code of Ethics and Values by IC Centre for Governance (ICCG) in June 2018. Introduction Now, let us have a look at the introduction of Delhi Metro. As we all know, Metro rails are rail-based, mass rapid transit systems that operate on an exclusive right-of-way, which is separated from all modes of transport in an urban area. Covering an area of 1,484 square kilometres, Delhi is the second- highly populated city in India after Mumbai with a population of over 11 million, according to 2011 Census. Page 2 of 5. This ever increasing growth of population subsequently led to an increasing transport congestion and vehicular pollution among the many other things. As a result, the state and the union governments introduced initiatives like the Mass Rapid Transit System (MRTS) which also includes the iconic Delhi Metro. In this context, the Delhi metro took shape, which is the second metro project in the country after Kolkata. The Delhi Metro is one of the largest in the world in terms of the length and the number of stations. Network If you look at the metro network of Delhi, it spans about 296 kilometres with 8 colour-coded lines. There are 214 stations with a mix of underground, at-grade and elevated stations In terms of fleet, there are about 270 train sets of four, six and eight coaches. The ridership of the Delhi Metro crossed about 3 million passengers per day. And the driver behind the successful run of all these operations is the Delhi Metro Rail Corporation Ltd. (DMRCL). Timeline of Delhi Metro Before we have a look at the DMRCL and how it has become a positive case study, let us discuss the evolution of Delhi Metro. The Central Road Research Institute (CRRRI) was the first to recommend a mass transit system for Delhi based on its study between 1969 and 70. This was followed by corresponding planning, feasibility studies and other procedural matters, which eventually led to the formation of Delhi Metro Rail Corporation Ltd. (DMRCL) in the year 1995. DMRCL was formed by the Government of India in collaboration with the Government of the National Capital Territory of Delhi (GNCTD) as a registered company for the implementation and operation of the Delhi Metro Rail Project. Mr. E.

Sreedharan was appointed as the first Managing Director of DMRC and the Project Manager of Phase I in the year 1997. It was proposed that the Delhi Metro work would be taken up in phases to cover the length and breadth of Delhi and the surrounding areas. Accordingly, the work of first phase started in 1998 and completed in 2005. The second phase began in 2006 and completed work in 2011. The third phase is currently in progress, which began in 2006 under the leadership of the next MD of DMRCL Dr. Mangu Singh. Phases - Let's have a quick look at what happened in each of these phases and what is it that put the Delhi Metro at a different level. Page 3 of 5 In the first phase between 1998 and 2005, 65 kilometres of length was covered and 58 stations were constructed. In Phase II, between 2006 and 2011, 124 kilometres was covered and 85 stations were constructed. In the third phase, which is still continuing, about 167 kilometres of length was covered and about 109 stations were constructed. In Phase IV, which is still in the draft stages, which is yet to begin work could cover 103 kilometres. And, the three phases of the project had an investment of around Rs. 70,000 crores. Issues Vs. Practices Generally, civil engineering or infrastructure projects or for that matter any projects, are hindered by many kinds of issues. These issues may be in terms of design and planning, pressures and bureaucratic delays, protection of heritage structures, technical and systemic hurdles, land acquisitions, environmental issues and quality issues. Then, came the Delhi Metro, which has transformed the challenges and issues into advantages for it. The Delhi Metro under the aegis of DMRCL has been a pioneer in acting and countering these issues with planning and precision at every level. Some of the good practices that it has introduced which countered the issues include • Phase- wise implementation of the project • Autonomy on all major matters which helped counter the pressures and bureaucratic delays • Efficient leadership and management • Direct correlation between institution's performance and implementation of proper code of ethics • Ownership and accountability • Reverse countdown clocks to effectively and efficiently meet the deadlines • Quality consciousness across the organisation • Timely payment to various stakeholders which built trust and enhanced motivation and efficiency • Zero Tolerance Policy for any deviation in work/ ethical practice • First in the world: o Certified by the United Nations (UN) as the first Metro Rail and Rail based system in the world to get carbon Credits for reducing Green House gas emissions as it has helped to reduce pollution levels in the city by 6.3 lakh tons every year thus helping in reducing global warming. o ISO 14001 in the construction stage itself for environmental management system • And to top it all, it has been implementing its efficiency with punctuality over 99.95% in running the trains. Findings and Discussion Now that we have seen the network and the magnitude of the discussion, let us have a look at the findings and discussion. Page 4 of 5 As we have observed, the reason Delhi Metro, has been acclaimed all over is due to its innovative approach in tackling technological challenges and the firmness in dealing with land acquisition hurdles. The Delhi Metro is on the world map for its technological advancement and is soon to become the fourth largest metro system in the world. In terms of environment, as we have observed, it has been contributing significantly towards controlling pollution as well as reducing vehicular congestion on the roads. According to a study by DMRCL, Delhi Metro has helped in removing about four lakh vehicles from the streets of Delhi. A recent independent study, as we have seen earlier, by the IC Centre for Governance (ICCG) pointed that "one of the primary reasons for the success of DMRC has been its implementation of a Code of Ethics and Values." As pointed out by the report, DMRC has "shown excellent performance in areas such as exemplary leadership, punctuality, fair and transparent processes in procurement, prevention of corruption, employee welfare, adherence to safety norms etc." If you recall, we have discussed in Level 1 on the Code of Ethics in Engineering. Code of Ethics is a formal set of rules or principles. In other words, Code of Ethics is the ethical

principles that govern the engineering profession. It is like a convention between the engineering professionals to act in a certain way. Also, the Code of Ethics acts a guide to the engineers as to what to do and what not to do as professionals. In addition to these, the DMRC has been particular about the following aspects, which include:

- Fairness in dealing with land acquisition hurdles: As we all know, in urban engineering projects, buildings or heritage structures pose a challenge. But, Delhi Metro has been successful in overcoming such issues. In addition, it was sensitive to “Rehabilitation & Resettlement” issues.
- Challenging project management skills in dealing with technology transfer on one side and preparing Indian contacting agencies on the other side. In other words, it developed the abilities to work with technologies and skills.
- Delhi is home to a lot of heritage buildings and historic monuments. Protecting heritage buildings while route planning and construction has been one of the primary areas of focus of Delhi Metro. It has been protecting old buildings, apartments etc. to minimise structural damages or demolition and caring for sensitivities of citizens and traders
- Another important aspect is the maintenance of ecological balance. Delhi Metro has been successfully taking care in protecting existing flow/ drainage of the terrain to avoid later years’ flooding.

Page 5 of 5

- Delhi Metro has been successful in meticulous planning to cause minimum disturbance to existing traffic in major junctions.
- In addition, there was care taken in waste disposal of construction material and clearing the area fast after construction/ excavation to avoid water logging etc.

Conclusion So, what do we understand from all this? We have seen the issues and how a project of this magnitude can lead to such positive case studies. We can understand that adherence to a code of ethics and values have been a central aspect of the project. There is continuous review and monitoring, timely action on deviations not only in project management issues but also in ethical matters. Moral responsibility and leadership has been another cornerstone of the project, which emphasized on leading by example and transparency in decision- making. It is to be noted that the guiding principles of Delhi Metro have been Punctuality, Integrity, Professional Competence and Social Accountability and it has been adhering to all these principles both in letter and spirit. Lastly, but never the least, Delhi Metro sets itself as an example for committed and conscious public service delivery and as a benchmark of an ethical public institution. Delhi Metro management, therefore, has been successful in creating a self- motivated group of people at all levels and people who also take self-pride in committed service delivery. Thus, it is only ethical engineering practices that can make real the true essence of engineering, which is about transforming people’s lives.

References These are some of the references and further readings on the case. In the next lecture: In the next lecture, we will discuss on the last Case Study on the Fourth Industrial Revolution.

Thank You.

Module Five

Lesson Six: Case Study 5: Fourth Industrial Revolution & Conclusion

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/1950>

Video Length: 16:49

Today, I will be presenting a Case Study on Fourth Industrial Revolution. This Case Study is forward looking and it gives inputs on what needs to be taken care of and how certain issues have to be addressed from ethical and moral point of views. In the last lecture, we have seen a case study on Delhi Metro. Synopsis The Fourth Industrial Revolution or Industry 4.0 as its popularly known is the coming together of the Digital, Physical and Biological Systems. Artificial Intelligence, Quantum Computing, Nano Technology, and Internet of Things etc. are some of the components of it. This is growing at an exponential speed. However, it raises some fundamental questions about the future. There is a need for better governance and regulation and also age- old know dichotomy of development versus ethics. Background- Let us now see what these industrial revolutions are: The first industrial revolution dates back to the 18th and 19th centuries, which took place in Europe and America. It was during this revolution that the agrarian and rural societies transformed into industrial and urban. Steam engine is an important development from the first industrial revolution. The second industrial revolution took place between 1870 and 1914, a little prior to the World War I. The second industrial revolution led to further development of new industries like steel, oil etc. and which focused on using electric power for mass production. Inventions like telephone, bulb etc. were some of the technological advancements during the second industrial revolution. The third industrial revolution or the Digital Revolution, starting from 1980s and continuing, deals with the technological advancements from the analog to digital. Some of the products of the third industrial revolution include the advent of computers, internet, information and communication technologies etc. Now, coming to the fourth industrial revolution, it bases itself on the Digital Revolution and refers to the modes and methods in which technology becomes integral to societies and humans too. And, an integral part of all these revolutions has been technology. Introduction Page 2 of 5 The phrase “fourth industrial revolution” was first used In the World Economic Forum in 2016. The Fourth Industrial Revolution or Industry 4.0 as it’s popularly known, is in its nascent stages but is fast catching pace. The Fourth Industrial Revolution, as discussed, is the coming together of the Digital, Physical and Biological Systems. Let us see how it affects or impacts the various facets of business sectors and other arenas. In terms of Security, it was security which is now going to be IoT Security; transaction- it was centralised repository which will be block chain based. We used buttons which will now be voice and gestures. Similarly, in terms of decision- making, it was data and spread sheets earlier, now it is artificial intelligence. In the context of mobility, the drivers are now being replaced by autonomous driver- less vehicles. In terms of manufacturing, humans are being replaced by robots. In the wake of breakthrough technologies emerging in various fields like robotics, Artificial Intelligence, Quantum Computing, Nano Technology, Internet of Things etc., there are going to be changes in the way we live our lives, work and relate. They aim at curing and preventing diseases,

improving the productivity in various domains, improving quality of life and transformation evident-automation, robots etc. This is all one side of the coin. Let us now look at the flipside. The Fourth Industrial Revolution could also bring in mismanagement, design vulnerabilities and accidents. In addition, it could lead to rapid spread of misinformation. It could affect employment opportunities. The Artificial Intelligence applications can have unanticipated real- world impacts. The machine-learning algorithms can develop their own biases and the breach or loss of data. Findings and Discussion The new age technologies like AI, bioengineering, robotics, programming tools etc. can be used as weapons of mass destruction. Social media and networking can enhance the social divide and lead to episodes like the recent lynching, hate speech, fake news etc., which are already happening. Biased data may bring in inaccuracy; if care is not taken, there may also be adverse impact. Similarly, non- adherence to ethical practices in this scenario may lead to undesirable externalities, unintended, and unprecedented and sometimes deadly outcomes. Considering all these things, should there be a limit of human intervention that is exceeding its limit or hubris, or something that is disturbing the harmony between humans and nature? Actually, no one fully foresaw or intended these outcomes (few of which are already being encountered). The moral role of technologies that concerns the values and ethics of technological development must be addressed at this critical moment in history. Rethinking Page 3 of 5 the processes of technological development is needed, asking first what long-term future is wanted, and then how to orient technological development towards achieving it. There is a need for a multi stakeholder platform for “technology facilitation mechanism.” Unless there is such a platform, it becomes difficult to control the way it may unfurl. Accordingly, there is a need for a future oriented agenda that promotes responsible development and adoption of new technologies and a mechanism which drives a higher quality of life with greater public participation in how technologies are employed. In addition, it is vital to take seriously the roles of values and ethics in technological development. Conclusion Values and ethics need to be aligned with technological development. Even though free market is preferred, as of now, there is a global recognition on the need for regulation and governance. In terms of technology governance and regulation, it is a must to establishing and implementing policies, procedures and standards for proper development of technologies. It involves technology regulation involves development, adoption and adhering to the relevant legislations. Systemic risks can come from many directions – whether cyberattacks or software/ hardware glitches, unethical practices etc. Hence, there is a need for building checks and balances with ethical principles at every stage of conceptualising, design and execution to mitigate these risks. To meet the challenges of 4th Industrial Revolution, a globally competent engineer needs to have following fundamental elements- they have to be undoubtedly technically competent as well as ethically sensitive and socially aware. In addition, to ensure that various emerging technologies of fourth Industrial revolution stay within the boundaries that we set for it, engineers need to focus on building trust in systems that will transform our social, political and business environments, make decisions for us, and become an indispensable faculty for interpreting the world around us. In addition, there is a need to look at technological development from a broader view and address values and ethics issues throughout the process. Thank You. *** Page 4 of 5 CONCLUSION Hello! As we come to an end of the Module in Engineering- Ethics- Case Studies, let us have a quick recap of the lectures. Quick Recap In the beginning of the module, we have looked at the objectives of the module, introduction to ethics followed by rationale for selection of case studies. We have looked at the retrospective, unethical and uncoordinated actions by multiple stakeholders as far as Case Study 1 on Bhopal Gas Tragedy is concerned. Then, with respect to Space Shuttle Columbia disaster, we have again looked at the

retrospective analysis to be classified as a negative role model of management versus engineering ethics. In terms of case study on Fukushima Nuclear Disaster, we have discussed the retrospective, unethical and uncoordinated actions by multiple stakeholders and how it led to the disaster. In terms of case study 4 on Delhi Metro, which is still currently relevant, we have seen how it is a positive role model by evolving a credo of ethics or ethical canon. The organisation could not only meet not only the targets but also the objectives of DMRCL, how it helped public good and how it succeeded. Broadly, it is attributable to the leadership qualities of individuals like Mr. Sreedharan. In addition, in the case study on Fourth Industrial Revolution- Emerging and readily available technologies, we have seen how digital ethics is very important. It is a forward looking case study. Conclusion In this context, it needs to be noted that it is not always possible to have a mistake-free or flawless organisation. There may always be scope for unanticipated consequences. Similarly, with all the modern technologies in place too, it is not always possible to predict every event. The social context is an important factor that influences social context. As we discussed earlier, ethics is not always in black and white. Sometimes, external conditions are beyond our control. It is evident that in-depth and meticulous study of various aspects and negative outputs/ outcomes can always lead to better outcomes. In other words, there is a need for greater synergy in the vision, mission, core values and the professional principles and code of ethics. In addition, compliance with the policies and codes of conduct are an essential ingredient of an ethical ecosystem. So, we have attempted to bring this awareness to the learners that through ethical understanding and behaviour, there can be effective and quality decision-making for social good. Social scientists can play a significant role in addressing these issues. Page 5 of 5- Evaluation and Certification. Now, let us come to the last and final part of the Module relating to Evaluation. Like in the first module, at the end of this module, there will be a Quiz consisting of 25 questions to assess the learners. It consists of 25 Multiple Choice Questions (MCQs). Based on the performance in all modules, a Certificate for the Course will be issued jointly by Commonwealth Educational Media for Asia (CEMCA), University of Hyderabad and Osmania University. I wish you all the best and look forward to your getting benefitted by this important module on Ethics.

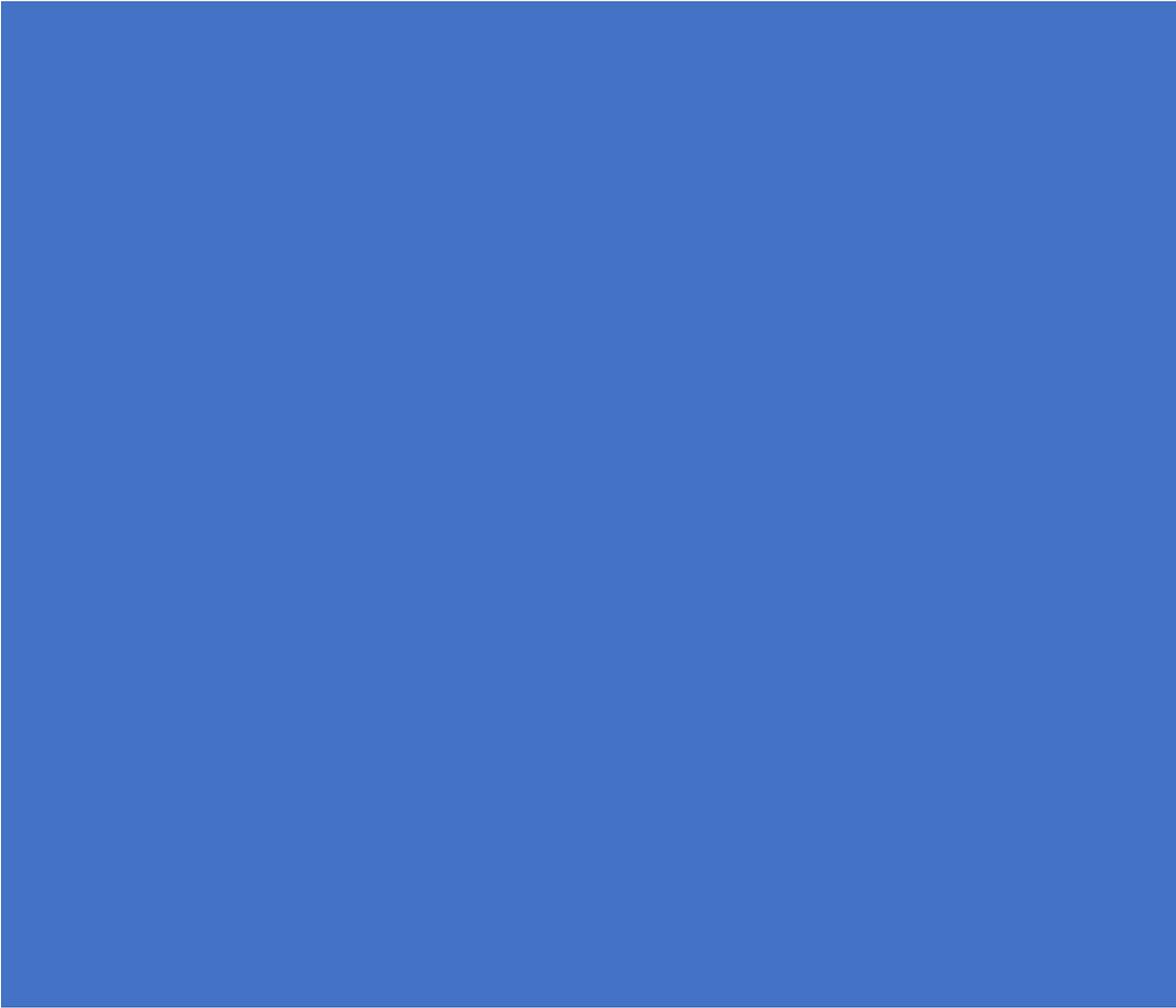
Thank You.



Week Six

Module 6: Effective Leadership- Models,
Traits and Qualities

Instructor's Name- Prof. G. Padmaja



Module Six

Lesson one: Introduction

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/2095>

Video Length: 05:32

Welcome to the second level module on leadership titled 'Recent approaches to Leadership'. You know me. I am Dr. Padmaja. I teach at Center for Health Psychology, University of Hyderabad. During level 1 of life skills MOOC Program, we discussed leadership across two modules. The first module was 'Building leadership capabilities in Engineers: An introduction'. The next module was about 'Effective leadership: Its traits, qualities and models'. The first module helped you the students, explore what leadership actually meant, the processes involved in leadership and the styles of leadership. And the second module on the other hand, helped you have a glance of the traits and qualities of a leader and also a few approaches to leadership. Those approaches pertained to certain theoretical perspectives, such as Universalist theories, Behavioural Theories, Contingency approaches; such theories were discussed. Burns said way back in 1978, that leadership is one of the most observed and least understood phenomena on earth. Let us have a recapitulation of what we did in level 1 with relation to what leadership meant. Leadership is an act of leading subordinates. Leaders are visionaries and by sheer nature they achieve willing obedience of their subordinates. They take calculated risk and display devotion to duty and concern for employees. Leadership is about influencing subordinates to act willingly towards achievement of organizational goals. A successful leader should have an ability to use power successfully. They should be able to identify human needs and inspire them, even when the situation is hopeless. A good leader should arouse devotion among employees and create a climate conducive to work. Let us look at the emerging dynamics of leadership. In the ever-changing scenario of the workplace the old inspecting, controlling, and plan oriented image of leaders has changed. Increasingly the image of leadership is conceived as involving roles which are inspiring and motivation-oriented. All individuals who are a part of the workforce are given importance and their individual contribution to the organization recognized and encouraged. A leadership is viewed as the one which prepares the team to face challenges. Thus perspectives toward understanding what leadership is and viewing the roles and responsibilities of the leader started expanding their horizon. The role of a leader is seen as quickly expanding, and made according to the contexts and requirements of the contemporary world. Thus leadership theories have started expanding themselves. Leadership theories tend to build on one another with later theories using components of earlier models, and expanding on, or using them in new ways. Universalist theories thus were attempts to uncover the universal characteristics of effective leaders. Behavioural theories on the other hand focused on the behaviours of effective leaders. Contingency theories examined the interaction between leader characteristics and elements of the work situation. The role of the leaders in organizations expanded its boundaries from their traditional role in a more stable environment. Changes in the organization and environment required a search for new skills or characteristics for the leader to be successful. More theories and research were focusing on new dimensions of leadership. Thus level 2 discusses relatively recent approaches to leadership. Presently we will examine theories which focus on leaders as Charismatic

and Transformational individuals, who affect followers and organizations in profound ways. Thus in level two, the module on leadership will discuss and describe the recent theoretical framework of leadership. It involves approaches to leadership such as Charismatic leadership, Transformational leadership, and Social-cognitive theories are also discussed. We are also going to discuss Substitutes for leadership, and Model of authentic leadership development is also explored. As you are aware, the module will spread over the whole week. At the end of the week, after the completion of the module, you need to take a quiz to test your understanding. Meanwhile across the week as the concepts are discussed, the presentations may be interspersed with some food for thought and discussion. May be we can discuss in the forum. We will share some links which I would request you to watch for any further scope for discussion in the forum. Hope you will benefit out of this session on leadership and we have insightful interactions through forum discussions.

Thank you.

Module Six

Lesson Two: Charismatic Leadership

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/2096>

Video Length: 05:52

Welcome back students. Lecture 2 is going to talk about charismatic leadership. Charisma in Greek means 'divinely inspired gift'. In common terms it indicates charming personality. Charisma appears in Weber's work on the origins of authority. According to Weber, charisma occurs when there is a social crisis. A leader with exceptional qualities emerges with a radical vision that provides a solution to the crisis; and attracts followers who believe in the vision, and perceive the leader to be extraordinary. Charismatic leadership is leadership based on the leader's ability to communicate and to behave in ways that reach followers on a basic emotional way, to inspire and motivate. Weber's charisma concept includes an exceptional leader, a crisis situation, a leader's vision or mission presenting a solution to the crisis. Followers are attracted to the leader and vision. And the validation of the charismatic qualities of the leader through repeated success. On the basis of the analysis of political and religious leaders, Robert House suggests that charismatic leaders are characterized by • self-confidence • confidence in subordinates • high expectations from subordinates • ideological vision • and use of personal example Followers of charismatic leaders • identify with the leader • identify with the mission of the leader • they exhibit extreme loyalty to the leader • confidence in the leader • they emulate the leader's values and behaviour • they derive self-esteem from their relationship with the leader. Comparing House's path goal theory with his charismatic theory; let us look at how they differ from each other. Path goal theory focuses on how • follower needs and conditions determine leader behaviour • whereas Charismatic theory is about leaders change people, rather than respond to them • in the Path Goal theory, leaders are effective when they complement the environment • whereas the charismatic leadership focuses more on changing and creating the environment Bass has extended the profile of charismatic leaders to include • superior debating • persuasive skills • technical expertise • fostering of some of the following characteristics that I am going to talk about, in their followers → attitudinal → behavioural → and emotional changes The theory predicts that because of the charismatic effect leaders have on their followers; charismatic leader will produce in his or her followers, performance beyond expectations, strong commitment to the leader and his or her mission. Recent research indicates that the impact of such charismatic leaders will be enhanced when the followers exhibit higher levels of self-awareness and self-monitoring, especially when observing the charismatic leader's behaviours and activities; and when operating in a social network. There are extensions of the same theory. Conger and Kanungo treat charisma as an attributional phenomenon and propose that it varies with the situation. Leader traits that foster charismatic attributions include • self-confidence • impression management skills • social sensitivity • and empathy Situations that promote charismatic leadership include, a crisis requiring dramatic change or followers who are very dissatisfied with the status quo. Now let us look at the demerits of the theory. Like for example, integrity. And they lead their followers into situations which turn out horribly. For example let us talk about the dictators of

nations that history remembers for many wrong reasons. Charismatic leadership by reducing in-group criticism and increasing unquestioning obedience could also have negative effects upon group decision making. Charismatic leaders tend to be admired as wonderful heroes, but there can also be unethical characteristics associated with charismatic leaders. Let us also discuss the negative effects of charismatic leadership. The possible negative effects in organization include, • poor interpersonal relationship • negative consequences of unconventional impulsive behaviour • negative consequences of impression management • poor administrative practices • negative consequences of self-confidence • and failure to plan for succession According to Conger and Nukl, these are the negative effects. Here are some suggested links for you for further reading and watching. Now I have food for your thought. What are the characteristics associated with ethical charismatic leader? And unethical charismatic leader. I request you to have a discussion on the forum on this topic.

Thank You.

Module Six

Lesson three: Transformational Leadership

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/2097>

Video Length: 11:32

Welcome students to today's lecture, lecture number three, on Transformational leadership. Transformational leadership theory - many many years ago James MacGregor Burns identified two types of political leadership. One was Transactional and the other was Transformational. The more traditional transactional leadership involves an exchange relationship between the leaders and the followers. There are two groups here - one is leaders the other is the followers. So an exchange between these two is what the traditional transactional leadership is concerned with. Transformational leadership on the other hand, is based more on leaders shifting the values, beliefs and needs of their followers. Here the leaders are influential on the followers in their modification of their values, beliefs and needs. Burns in 1978 argued that transactional leadership entails an exchange between the leader and the follower. As we have just said, followers here receive certain valued outcomes. It can be in terms of wages, it can be prestige, it can be some rewards - when they act according to the leaders wishes. Here, when the follower acts according to the wishes of the leader then he will be getting in turn – 'in exchange', these valued outcomes. We need a reward in one form or the other - it can be wages, it can be a word of appreciation, it can be a prestige. The exchange can be economic in terms of monetary benefits, it can be political, it can be psychological - it can be a sense of power that the person may enjoy or it can be an appreciation which reinforces the behavior of the individual. Thus it can be economic, it can be political, it can be psychological. In 1985 Bass noted that leadership in organizational research has generally been conceptualized as this cost-benefit exchange process. 'Exchange' 'cost' and 'benefit'. Transactional leadership theories are founded on the idea that later follower relations are based on these series of exchanges or there are what are called 'implicit bargains' between the leaders and the followers. So this bargain is what determines the leadership, the efficacy of the relation. Transformational leadership has a different face altogether. It goes beyond the cost benefit exchange of transactional leadership by motivating and inspiring followers to perform beyond expectations. Here the emphasis is upon motivating the followers and inspiring the followers, rather than giving them some material benefits. Transformational leadership theories predict followers' emotional attachment to the organization and emotional and motivational arousal of the followers as a consequence of leader's behaviour. So it is not the reward alone which the leader gives, which leads to an effective performance of the follower. It is much more than that. So Hater and Bass in 1988 said the dynamics of transformational leadership involve strong personal identification with the leader, joining in a shared vision of the future, and going beyond the self-interest exchange of rewards for compliance. So it is not the exchange of rewards which determines the behaviour and the outcome which is beneficial to the organization. It is the leader who inspires them. Thus transformational leaders broaden and elevate the interest of the followers, they generate awareness and acceptance among the followers of the purposes and the mission of the group, and they motivate followers to go beyond their self-interest

in order that the group benefits; for the good of the group. So let us differentiate between transactional leaders and the transformational leaders - what are the components of transactional leadership and what are the components of transformational leadership. Let us first look at transactional leaders. In transactional leadership there is what is called contingent reward, that is, it contracts the exchange of rewards for effort and promises rewards for good performance and recognizes accomplishment. The second component is management-by-exception. There are two types over here. One is active and the other is passive. Let us first talk about management-by-exception which is active. It watches and searches for deviations from rules and standards and it takes corrective action. Now there is management by exception which is passive. It intervenes only if the standards are not met. On the other hand there is Laissez-faire. It abdicates responsibility, avoids making decisions. So these are the major features that we see during transactional leadership. On the other hand there are transformational leaders. Transformational leaders demonstrate the qualities such as charisma which provides vision and a sense of mission. It instils pride and gains respect and trust. Yet another quality which transformational leaders demonstrate is inspiration. It communicates high expectations, uses symbols to focus efforts, expresses important purposes in simple ways. One more characteristic is intellectual stimulation. It promotes intelligence, rationality and careful problem-solving. And finally there is individual consideration. It gives personal attention, treats each employee individually, coaches, advises. So these are the components which transformational leadership is made up of, which promotes the behaviour of a particular individual so that the behaviour contributes to the efficacy - both of the individual as well as the benefit of the organization. Let us look at this picture. The four components of transformational leadership which I have just mentioned - the idealized influence, where the leader leads by example and sets the expectations; the intellectual stimulation, provided by the leader where there is an encouragement of learning and growth; there is an inspirational motivation, which the leader demonstrates where the employee is inspired to go to new heights; and finally there is individualized consideration, where coaching and empowerment towards success are demonstrated. Thus, the four qualities which contribute to effective transformational leadership make the individuals feel much more responsible and much more contributory towards the organization. Most of the research on transformational leadership till date has relied upon Bass and Avolio's MLQ - that is multi-factor leadership questionnaire, or, qualitative research which simply describes leaders through interviews. On the basis of his research findings Bass concludes that in many instances, transformational leadership leads to superior performance in organizations facing demands for renewal and change. We see here very clear distinction between the outcomes of transactional leadership and transformational leadership. In transactional leadership the behavior is contingent upon the reward that they are going to receive, in whatever form it is. Whereas in transformational leadership, there is an inspiration, there is a motivation, so that the organization will go forward towards change. Let us have a brief view of the characteristics of transformational leaders. Tichy and Devanna identify the characteristics of transformational leaders. The transformational leaders identify themselves as change agents. Such leaders are courageous. They have belief in people, they are value driven. They are lifelong learners and they have the ability to deal with complexity, ambiguity and uncertainty and they are visionaries. The diagram which is being demonstrated talks about transformational leadership and its qualities - developing the strategic vision, communicating that vision, modelling the vision, and building commitment to the vision. Thus one is very logically and rationally linked to the other. Basically being able to develop a strategic vision, communicating that vision to the followers, making them understand the essence of the vision, and not just making them follow

blindly but then being a model himself or herself for that vision to convert itself into a reality and then build a commitment to that vision which is being projected by him. This is what a transformational leader would do. Just as in any other theory, there are gaps even in these theories. No theory is free of gaps and very often these gaps are glaring gaps. Increasing empirical research has supported these characteristics that we have been describing. However conceptual analysis indicates that contextual factors may influence receptivity to transformational leadership tactics. Not in every context the receptivity will be high, and therefore they should be considered and accounted for when research is being conducted. Keeping the contexts and the situations in view, research has to be conducted to see the efficacy of the characteristics of transformational leadership - is the meaning of the sentence. In addition, other theories also started to gain attention to help explain the complex process of leadership. While transformational leadership has been well received, and research has supported there are gaps which enabled further theories come to the forefront. So in summary, we have talked about charismatic leadership which states that leaders possess some exceptional characteristics which cause followers to be loyal and inspired; we talked about transactional leadership which is the leadership based on some transaction, such as exchanging money for work; we also talked about transformational leadership which focuses on the leader's ability to provide shared values and vision for the future of the work group. Certain links are suggested here for you to watch, and here is once again food for thought! Discuss about a few well-known leaders who have been cited as examples for charismatic leadership and transformational leadership.

Thank you!

Module Six

Lesson Four: Social Cognitive Leadership

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/2098>

Video Length: 08:11

Welcome students to the 4th lecture as a part of 'Recent Approaches to Leadership'. We are going to talk about social cognitive approach. Social Cognitive Approach provides a model for the continuous reciprocal interactions between the leader including his or her cognition, the higher order mental processes; and the environment, which includes his subordinates, his or her followers and the organizational level variables, and the behaviour itself. So look at the interaction between these forces. Cognition, the environment and the behaviour itself. This would seem to be a comprehensive and valuable foundation for understanding leadership. In previous theories there were certain limitations. Cognitively based trait theories tend to suggest that leaders are causal determinants that influence subordinates independent of follower's behaviour or the situation. And when it comes to contingency theories, for the most part there have been unidirectional conception of interaction. And with contingency theories for the most part there has been a unidirectional conception of interaction, wherein the leaders and situations somehow combine to determine leadership behaviour. Even those leadership theories which claim to take a directional approach, it may be in that exchange sense between the leaders and the group or in a contingency sense between the leader and the situation. Whatever it is, they actually retain a unidirectional view of leadership behaviour. In these theories the input into the leader's behaviour is the result of interdependent exchange. But the behaviour itself is ignored as a leadership determinant. What is important is the behaviour itself. So thus comes social cognitive approach into the picture, where recognition is given to the role of cognitive processes, and what are those cognitive processes; some of them can be your symbolizing, your forethought, and especially with relation to self-efficacy. Bandura's concept of self-efficacy; there is a lot of involvement of self-efficacy in leadership behaviour. The followers are actively involved in the process here. And together with the leader, they concentrate on their own and one another's behaviour. Here you see this relation between concentration on their own behaviour; leader's behaviour, which means not just an interaction, but understanding what is happening. The cognitive element is involved over here. In addition to that the environmental contingencies both antecedent as well as consequent contingencies are taken care of. And their cognitions such as self-efficacy are also considered. So putting together all these the social cognitive approach looks at all these components. Look at the diagram, the behaviour as we have just discussed. The cognitive factors and the situational factors. Put together this whole interconnectivity between these three that is the behaviour, cognitive factors as well as situational factors determines the efficacy of the leadership. And so in social cognitive approach, the leader identifies the environmental variables which control his or her own behaviour. So it is his or her own behaviour basically, which the leader looks at. What are those environmental variables, which are exercising their influence upon his own behaviour. What is controlling him? And what is he or she allowing something to control? The leader works with the subordinates to discover the personalized

set of environmental contingencies which regulate the subordinate's behaviour. Just as the leader's behaviour is being controlled by certain factors, there may be certain factors in the environment, which may regulate the subordinate's behaviour as well. So the leader first looks at his or her own behaviour, and he or she looks at the subordinate's behaviour as well. So what are the factors with respect to his own behaviour. What are the factors with respect to subordinate's behaviour. The leader and the subordinate, then jointly attempt to discover ways in which they can manage their individual behaviour, to produce more mutually reinforcing and organizationally productive outcomes. So we see a very logical linkage between these three points that you are seeing on the screen. First is the leader identifying the variables which control his behaviour or her behaviour. Then working with the subordinates so that the factors or the contingencies which are regulating the subordinate's behavior being identified. And thirdly together the leader and the subordinate discovering ways to manage their individual behaviour at their individual level first and then to produce more mutually reinforcing and organizationally productive outcomes. That is putting together their efforts to contribute to the organization, while contributing to their own efficacy. You see the diagram. What determines human behaviour? The cognitive factors, it was also referred to as personal factors. They involve knowledge, expectations, attitudes. Then there are behavioural factors, which involve skills, practice, self-efficacy. And then there are environmental factors, which involve social norms, access to community and influence on others, an ability to change their own environment. Put together the human behaviour is determined. What is the role of the leader? The leader enhances the efficacy of subordinates through setting up successful experiences, modelling, giving positive feedback and using persuasion and psychological as well as physiological arousal, to lead to performance improved. Once there is a success with subordinates. This in turn will help the leadership efficacy. It will lead to leadership efficacy. What we have to understand over here is by enhancing, by facilitating, by supporting the subordinates in improvement of their efficacy, the leader is contributing to his own efficacy as well. Put together it becomes the subordinate's efficacy, and the efficacy contributing to the organization in turn will contribute to leadership efficacy. In such an approach the leader and the subordinate have a negotiable, reciprocal, interactive relationship, and are consciously aware of how they can modify or influence each other's behaviour through cognition and contingent environment. They are aware of what is happening between them, what is happening within them and what is happening with respect to the environment. Put together, they can help each other, they can mutually support each other, they can understand each other. It is a reciprocal relationship which they follow. And because it recognizes the interactive nature of all the variables of the previous theories that we have been discussing so far. This social cognitive approach to leadership in general and leadership efficacy in particular seem to have considerable potential for the future. In fact social cognitive theories are considered to be special for these features. So once again food for thought. For forum discussion. What is self-efficacy? I have been talking a lot today about efficacy and self-efficacy. What is this self-efficacy? I talked also about Bandura today. So what does Bandura's theory speak about self-efficacy. Let us see, what will be the discussion in the forum.

Thank You.

Module Six

Lesson Five: Substitutes for Leadership

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/2099>

Video Length: 16:15

Welcome students, to lecture number five as a part of 'Recent approaches to leadership'. Today we are going to talk about substitutes for leadership. We have talked about a lot of leadership theories so far. Some of them have been extensively discussed, some of them you might have read with reference to several other books that you must be referring to, or links that you have been referring to! Now in spite of so many leadership theories, is there a way of looking for substitutes for leadership? That is what we are going to discuss today. Because of the dissatisfaction with the progress of leadership theory and research, in explaining and predicting the effects of leader behavior on performance outcome, some of the basic assumptions about the importance of leadership per se have been challenged over years - not in a day that! This has been happening for a long time. Every time a new theory is discussed there are loopholes which are pointed out, there are demerits which are pointed out, there are question marks with reference to these theories. Somewhere these theories have been felt to be incomplete. So one alternative approach which received attention proposed that there may be certain substitutes for leadership that make leader behaviour unnecessary and redundant; and there may be certain neutralizers which prevent the leader from behaving in a certain way or that counteract the behaviour of the leader. What is a substitute? It is a situational variable which makes a leadership style unnecessary or redundant. And what is a neutralizer? It is a situational variable once again that counteracts a leadership style and prevents the leader from displaying certain behavioural patterns. So substitutes and neutralizers are what we are going to discuss today. Substitutes for leadership theory states that different situational factors can enhance, neutralize or substitute for leader behaviour. These substitutes or neutralizers can be found in several ways. Not just in one component, they may be found in subordinates, they may be found in the task itself, and they may be found in the organizational characteristics. So any of these - be it a subordinate characteristic, or the task characteristic itself, or the organizational characteristic - any of these can act either as a substitute or a neutralizer and we will go into the details of these substitutes or neutralizers presently. A little more about what are substitutes - subordinate experience, for example the ability of the subordinates and the training which is given to the subordinates may substitute in itself for instrumental or task leaders. When the subordinates are highly experienced; and when they have innate ability and capabilities; and when their training is sufficient enough; then the instrumental or task leadership may not be required. It can be substituted with these three that we have just talked about - that is subordinate experience, ability, and training. For example professionals such as accountants or software engineers - they have experience, they have ability, and they have training. They do not need instrumental or task leadership to perform well and be satisfied. Those who don't particularly care about the organizational rewards - for example Professors, Musicians - they will neutralize both supportive or relationship as well as instrumental or task relationship attempts. So when you do not care about

the organizational reward why do you expect a reward and in what way a reward is going to help you? Hence you do not need a leader who will give you rewards, who will be rewarding you in many of the ways that we have discussed in earlier sessions. Tasks which are highly structured and which automatically provide feedback - they substitute once again for instrumental or task leadership. The leader need not provide them the feedback. The task itself which is highly structured will provide the feedback to the individual. So what is the necessity for a leader there to provide feedback. Those tasks which are intrinsically satisfying, like for example a teaching profession - they do not need supportive or relationship leadership. While all these leadership patterns provide support or relationship or task orientation or an instrumental orientation, in fact it is said that according to substitute leadership theory, there are substitutes for leadership. Leadership becomes redundant in all these contexts. Let us look a little more into this concept of substitutes. There has been further analysis of the leader substitutes concept and Kerr and Jermier have provided some empirical support from their field studies on police officers. They found that substitutes such as feedback from the task being performed had more impact on certain job related activities than leader behaviours did. So it is like you don't require a leader to provide feedback to you, the job-related activity in itself can substitute for that. The Substitutes theory tries to point out that some things are beyond leaders' control, and leaders do not have those mystical powers over people, and that the situation plays a role, and an important role that! Let us look at these two terms closely. Kerr and Jermier talked about substitutes and neutralizers. So their substitutes and neutralizers for leadership (concept) discusses the characteristics and their impact on leadership which are as follows - Subordinate characteristics first, task characteristics, and organization characteristics. Let us go through each of them more in detail. Subordinate characteristics - for example, the experience of a subordinate, the ability of a subordinate. Like we have discussed in one of the earlier slides, the more experienced an individual is and the more ability and individual has with respect to his job, he would not expect someone to come and tell him how his job is being done, what should be done in his job! His abilities and his experience tell him what can be done and how it has to be done. So, subordinate characteristics in themselves determine that there is no need for leadership over here. They substitute for the requirement of leadership in that context. Then similarly task characteristics - let us say if it is a routine task, the task which is being performed very routinely, every day they do the same task! Then the feedback which is provided by the task itself tells them what should be done, and where it is going wrong, how it should be done, how it should be modified, or whether it is being done properly or not. So the task characteristic here itself tells them or gives them a feedback, rather than a leader monitoring them on their job. Similarly organizational characteristics - for example, if the group is a cohesive work group, they work so closely together that each person's work will be a feedback for the other person - as to what he or she should do or should not do, or what is it that they have to continue, or where they have to stop. Thus a cohesive work group in an organization in itself determines that there is no need for a leader's monitoring, a leader's feedback, a leader's supervision, they can do all by themselves. Such variables can diminish or amplify the leader's ability to influence subordinates' attitudes, behaviour, or performance. It is the individual who determines how the work can be done based upon the characteristics that we have been talking about so far. Let us take a closer look at all these characteristics individually. Let us start with subordinate characteristics and what is their impact on leadership. The first is what we have just discussed - experience, ability, in addition to that the training that the individual receives- put together they substitute for instrumental leadership. On the other hand when the subordinate has a professional orientation, once again, that substitutes for instrumental as well as supportive

leadership. When the individual that is the subordinate is indifferent towards organizational rewards, then that neutralizes instrumental and supportive leadership. In all these three contexts, we are seeing very clearly - be it experience, ability, or training, or be it the professional orientation of the individual, or not giving so much of importance to the rewards from the organization - all these either substitute or neutralize the necessity of instrumental leadership or supportive leadership. So here the leadership becomes redundant or unnecessary and then their own characteristics or traits of the employee in themselves determine the task efficiency and the efficacy of the performance of an individual. While we have talked at length about subordinate characteristics there is one more characteristic that we have to look at more closely that is task characteristic. Once again this we said has an impact on leadership. For example let us say it is a structured or routine task which they do every day on a daily basis, then, there is no need for instrumental leadership. Hence it becomes a substitute for instrumental leadership. On the other hand, let us say the task has in itself feedback embedded - suppose the task is done as a routine task, and then how and to what extent the task is being successful is known to the individual. Then that becomes a substitute for instrumental leadership. Let us say for example, in an organization a routine task like working on a particular machine is being done. No leader needs to come and tell them and monitor them upon their task as that is a routine task and when there is a problem with either their functioning, or with the machine functioning, the individual will immediately know - be it the subordinate level, be it an employee level, or be it with the task itself, the way the task is being performed, the way the machine is being operated. So for that a leadership is not required. The feedback which is embedded within the task is in itself sufficient for the employee to understand whether he is able to perform well or not. Then on the other hand, when the task is intrinsically satisfying, then that becomes a substitute for leadership. Leader need not reinforce them, leader need not motivate them, leader need not inspire them, leader need not provide a reward to them. The third aspect then, is the organizational characteristics. We talked about subordinate characteristics, we talked about task characteristics. Let us also talk about organizational characteristics and their impact on leadership. Let us say the workgroups are cohesive - when they are working very closely together, one person's work is a feedback to the other person, or one person's work is an indicator to the other person (as to) where they have to go ahead and how far they have to go ahead; and their work in turn becomes an indicator for the next person. When such a cohesive group which has perfect understanding and collaboration between themselves is functioning pretty well, then that becomes a substitute for instrumental and supportive leadership. They do not expect any instrumental or supportive leadership under such circumstance. On the other hand when there is a low position power of leader then that neutralizes instrumental and supportive leadership. When there is a formalization of the organization then that's a substitute for instrumental leadership. Because everything is formalized they need not have anybody come and monitor them or help them. And then when there is inflexibility in the organization, that once again becomes a neutralizer for instrumental leadership, because anyway there is rigidity there is inflexibility. So some leader coming and trying to negotiate and all is not required. When the leader is physically isolated from subordinates, then that also neutralizes instrumental and supportive leadership. The group does not feel and the organization does not offer a position where the followers feel that the leader is with them. So in such cases the leadership becomes redundant. Here is a tabular form which shows you the substitutes and neutralizers for leadership - what we have just discussed. The organizational variables - we have talked about group cohesiveness which is a substitute for task oriented relationship and is a substitute for people-oriented relationship;

formalization which is a substitute for task oriented relationship and people oriented relationship has no effect on this; inflexibility which neutralizes task oriented relationship and has no effect on people oriented relationship; low position power which neutralizes both task oriented relationship as well as people oriented relationship because low position and low power associated with that has no impact, hence the neutralizing capacity. Physical separation of the leader from the followers once again neutralizes the task oriented relationship as well as people oriented relationship, because neither task oriented nor people oriented leadership can actually be followed when there is a lot of physical separation. Then, coming to the task characteristics, highly structured task substitutes for task oriented relationship and has no effect on people oriented relationship. Automatic feedback once again substitutes for task oriented leadership and intrinsic satisfaction has no effect on task oriented relationship, but certainly substitutes for people oriented relationship. I hope you students are able to see the difference between what has an impact on task oriented relationship and what has an impact on people oriented relationship. And then group characteristics like professionalism substitute for task oriented relationship and are also substitutes for people oriented relationship. And training and experience of the subordinates or the group are once again substitutes for task oriented relationship. Thus there are characteristics which are intrinsic to the organization, to the task, to the people, to the group, to the subordinates, which make task oriented leadership or people oriented leadership or both redundant and not useful in terms of leadership, requirement of leadership. They become substitutes and neutralizers for leadership. Now having talked so much about neutralizers and substitutes, there is a lot of criticism also for this theory. Recent research testing the substitutes for leadership theory was generally not supportive and demonstrated that leadership does matter. Maybe in certain situations leadership may not be required, but leadership on an overall sense is required in order that there is a structuring of the functions. Some styles, some behaviours, and activities and skills of leadership are more effective than the others. So we cannot put them in a slot and say that this particular leadership is redundant or not useful. I suggest that you read the link which I have given for better understanding of substitutes for leadership theory.

Thank you.

Module Six

Lesson six: Authentic Leadership

Video url: <https://www.lifeskillsmooc.in/level2/#/lecture/2100>

Video Length: 09:21

Welcome to the sixth and last lecture in the module 'Recent approaches to leadership'. Today we will be talking about 'Authentic leadership'. There are a number of newly emerging theories under several titles. A thorough search on leadership will help you in coming up with understanding these theories - like servant leadership, political leadership, contextual leadership, e-leadership, primal leadership - many more such theories. In the context of unprecedented challenges facing organizational leaders, researchers like Avolio and Luthans; William Gardner; Douglas May and so many others working with Gallup Leadership Institute at the University of Nebraska, they believed that authentic leadership is a needed approach now. So we are going to talk today about this authentic leadership, before summarizing the presentation on leadership theories. What is authenticity? The roots are in ancient Greek philosophy 'to thine own self be true'. Descriptive words like genuine, reliable, trustworthy, real, veritable - all these are associated with authenticity. When we look at it from a positive psychology point of view, owning one's personal experiences - be it thoughts, emotions, or beliefs what you say 'the real me inside'; acting in accordance with the true self - that is behaving and expressing what one really thinks and believes; all these are part of this authenticity. Authentic leadership in organizations - when we talk about this, it refers to a process which draws from both positive psychological capacities as well as a highly developed organizational context. It results in both greater self-awareness as well as self-regulated positive behaviour on the part of leaders and associates. Once again we are bringing here both the leaders and the associates please note that- and this, towards fostering positive self-development. Authentic leader is a confident person, hopeful, optimistic, resilient, transparent, moral, ethical, future oriented, and he or she gives priority to developing associates to be leaders. Here there is no self-centric thinking; it is both developing self, organization, as well as the leader. It extends to the followers. Whatever qualities we are talking about so far will be extended to the followers as well. And the points that we have been discussing in several lectures across these modules, now I am sure you are able to see the relevance of all these in leadership theories. The concept of authentic leadership is seen more on a continuum, rather than just being dichotomous. It is not on this end or that end, it is on that continuum. Authentic leadership is considered to be 'state' like and thus it is open to development and change. It need not be a 'trait' which we have been discussing about some time back with reference to theories of leadership. It need not be an ingrained capacity which the person is born with. It is a state which can be developed, which can be changed, which can be modified, which can be nurtured. Historically important leaders such as Gandhi, Roosevelt, and Nelson Mandela more recently would be considered authentic leaders by our definition. Now coming to our organizational setup that we have been talking about, where you engineers will be important, your day-to-day managers and leaders, in all types and levels of organizations, who know and are true to themselves and to their people, are a part of this authentic leadership. Those who believe and do the right thing, those who have sustainable effective performance in their area of responsibility, unit and overall

organization put together, they all come under this tag of authentic leadership. They are all supposed to be authentic leaders. This theory was the first to treat leadership both as a developmental process and a product, centred on authenticity. This developmental approach to leadership, focused on the positive - both personal as well as contextual, in getting to know and regulate oneself. Generally the outcomes of authentic leadership are many. Some of them we can discuss. Positive psychological capital - it involves confidence, hope, optimism, and resiliency. We are coming back to this term resiliency again and again. In an organizational context, there may be adversities which need some resilience to be built up. So such are the traits, this (such) resilience is one of the traits which an authentic leader possesses. Transparency - there is no secrecy, there is nothing hidden from the followers and the leader himself or herself following moral or ethical behaviour, there is a future orientation, and there is an emphasis on building associates. Remember, this is a developmental process. However this is a model which is being explored yet, and there is a lot of further research which is needed in this. Though the model has been proposed, it is still under a lot of research. Now this brings us to the end of this module on leadership and we have discussed some of the recent leadership theories. Putting everything - both in the first two modules of level 1 as well as the present module which has been presented to you in level 2 - let us just briefly have an overview of leadership theories. We talked in the previous modules about Universalist theories to start with and we talked about great man or women theory and trait theory as a part of Universalist theories. We also discussed about behavioral theories then, and under that we talked about Ohio State studies and University of Michigan Studies. We discussed contingency theories, out of which, we did discuss some in our previous modules - contingency theories such as Fiedler's contingency theory, path-goal theory have been discussed. In addition to that there are decision making model, leader-member exchange model. And in the present module which is being discussed for the past six days we talked about charismatic and transformational theories - out of which and under that, we talked about charismatic leadership and transformational leadership. New leadership theories seem to be emerging and they are needed to help meet the challenges faced by organizational leaders now and in future. So the future directions indicate that there is a need for more research in terms of leadership theories. In conclusion, we can say that leadership development is a process. The theories that we have discussed so far, they highlight several areas which may contribute to success of an engineer as a leader. There may be several programs like training programs, formal education, mentoring, internships, on-the-job training, which may orient young and enthusiastic engineers toward leadership role. However the responsibility to develop insight into qualities, skills and areas that one needs to improve, lies on the shoulders of the self, on each of you. How do you do it? Through self-assessment and evaluation, seeking peer assessment and support, taking assessment seeking the support of the assessment of advisors, experts. With the help of all these when you develop an insight, that helps in understanding specific skills or behaviours which each individual lacks. And you will also have an insight into the areas requiring improvement, which help you in strengthening these areas. Awareness of skills required for leadership, as discussed from different theoretical perspectives across the three modules in two levels, provides a chance to a prospective or aspiring engineer who is already technically qualified to apply the leadership skills, according to his or her workplace, as well as employee needs. It enables him or her to assess a situation to determine the type of leader behaviour that works the best.

Thank you!



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