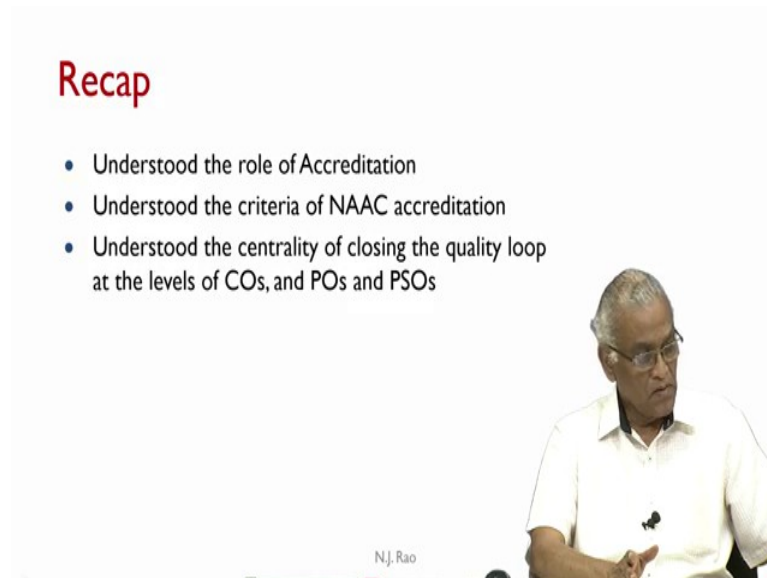


Teaching and Learning in General programs (TALG)
Prof. N. J. Rao
Department of Electronics Systems Engineering
Indian Institute of Science, Bengaluru

Lecture - 06
Program Outcomes

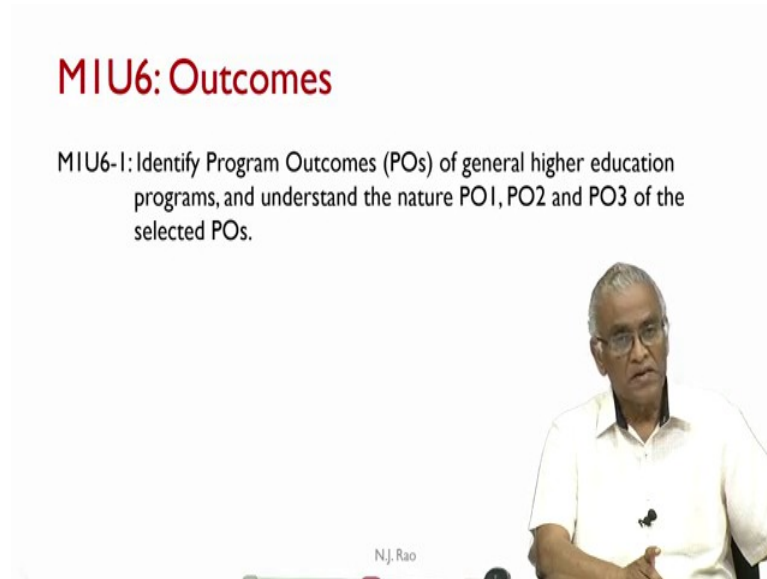
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Greetings and welcome to module 1 unit 6 related to Program Outcomes. Here in the last unit that is U5 we understood the role of accreditation which is becoming increasingly important and also understood the criteria of NAAC accreditation for all general programs the accreditation agency is National Assessment and Accreditation Council.

And also understood the centrality of closing, so called quality loop at the level of what we called it as **course outcomes, program outcomes** and **program specific outcomes**. So, we understood the role and features of NAAC accreditation.

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MIU6: Outcomes

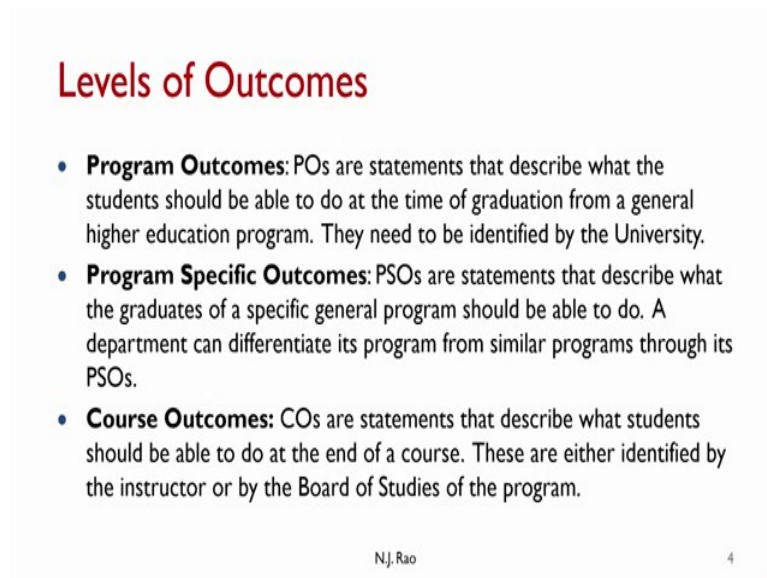
MIU6-I: Identify Program Outcomes (POs) of general higher education programs, and understand the nature PO1, PO2 and PO3 of the selected POs.

N.J. Rao

The slide features a red title 'MIU6: Outcomes' and a subtitle 'MIU6-I: Identify Program Outcomes (POs) of general higher education programs, and understand the nature PO1, PO2 and PO3 of the selected POs.' A video overlay shows a man with glasses and a white shirt speaking. The name 'N.J. Rao' is visible at the bottom of the video frame.

Now, in this unit we will try to identify program outcomes of general higher education programs and in particular we will also try to understand the nature of PO1, PO2 and PO3 of the selected POs that is what we will be looking at in this current unit.

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Levels of Outcomes

- **Program Outcomes:** POs are statements that describe what the students should be able to do at the time of graduation from a general higher education program. They need to be identified by the University.
- **Program Specific Outcomes:** PSOs are statements that describe what the graduates of a specific general program should be able to do. A department can differentiate its program from similar programs through its PSOs.
- **Course Outcomes:** COs are statements that describe what students should be able to do at the end of a course. These are either identified by the instructor or by the Board of Studies of the program.

N.J. Rao 4

The slide has a red title 'Levels of Outcomes' and a bulleted list of three types of outcomes: Program Outcomes, Program Specific Outcomes, and Course Outcomes. The name 'N.J. Rao' and the number '4' are at the bottom.

Now, we have already mentioned we will once again mention that there are three levels of outcomes. One is at the program level, not just one program, all the undergraduate programs offered in an academic institute, the institute could be an autonomous institute or a university.

For an affiliated college the university identifies the program outcomes and the affiliated college will have to operate under the program outcomes identified by the university bodies. So, program outcomes are statements that describe what the students should be able to do at the time of graduation from a general higher education program and they need to be identified by the university or as I said also by any autonomous institution.

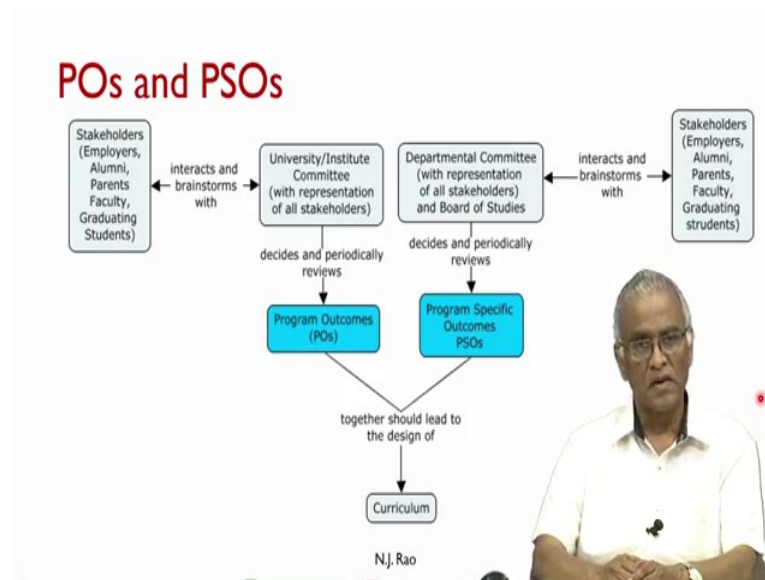
And these program outcomes are non specific to a program; that means, a BA program in economics or a BSc program in biology or something like BA in literature or BCom they all will have the same program outcomes. That means, they represent the desirable characteristics of any graduate.

And then comes the next level program specific outcomes they are statements that describe what the graduates of specific general program should be able to do. Once again we are not trying to make it different for different institutes or let us put it this way. Still a university will identify the programs specific outcomes through board of studies for that particular program, but the same program may be offered by all the affiliated colleges.

So, to that extent all the affiliated colleges will have to use a same set of program specific outcomes, but one university can differ with the other universities in terms of PSOs there are associated with a particular program. And this is how let us say a BA in economics in one autonomous institution a can differ with another autonomous institution offering same BA program. So, an institute can differentiate its program from a similar program through its PSOs.

Then the third level is the Course Outcomes, COs are statements that describe what students should be able to do at the end of a course. These are either identified by the instructor in autonomous institution or by the board of studies of the program in the university. So, either way there is considerable amount of freedom at the level of a course. So, the course outcomes represent what the students should be able to do at the end of a course.

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Now, this diagram represents the relationships between POs and PSOs and the curriculum. Ideally speaking, the curriculum design should happen in a top down manner. That is you identify POs and PSOs first and to attain this outcomes you design the curriculum. Though in practice right now it does not happen that way, but as far as possible you should start with POs and PSOs and then make adjustments to the curriculum in such a way that the desired POs and PSOs are attainable and are actually attained.

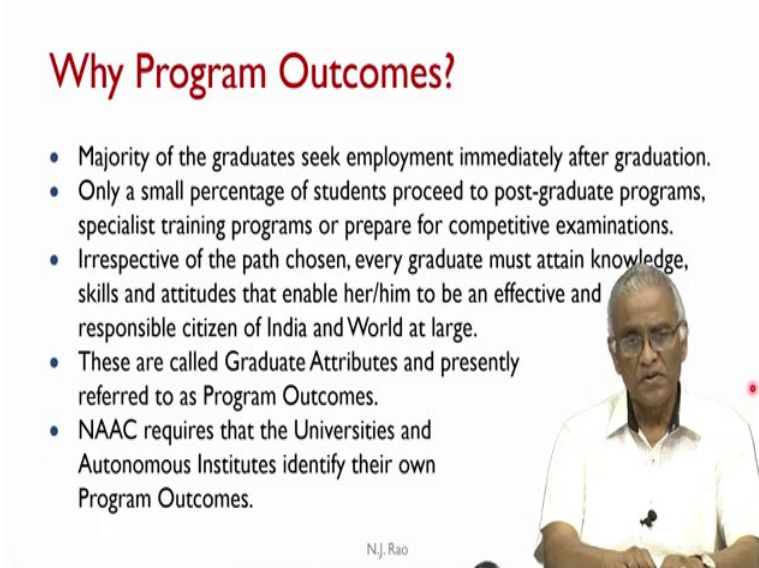
Now, what is the process of creating these POs and PSOs? Here the program outcomes as we said are decided by the university or an institute committee with representation from all stakeholders; stakeholders will include employers, alumini, parents, faculty, graduating students. So, you create a committee here and interact with a large number of the stakeholders, but the committee itself will have formal representation of all stakeholders and through iterative process here a process that is defined and well documented as required by NAAC accreditation process and this these decide what the program outcomes are.

Similarly, a departmental committee or a board of studies they will again interact with the stakeholders and decides and periodically reviews the program specific outcomes. So, whenever you want to review or redesign your curricula, first thing you will have to do is you will have to look at whether you want to change your PSOs or not. And

program outcomes are something as we already stated they are common across all programs. So, to the extent this committee which talks about writing program outcomes is very different from the committee that decides the PSOs.

So, once these two are written down they are at the same level and together should lead to the design of curriculum that is broadly the relationship between POs and PSOs. Of course, in practice it may happen in somewhat slightly different way or in an iterative manner or you already have a curriculum and then you write back, but still if for the college or the university has a choice they should start with top down approach of writing POs and then PSOs of each program and then designing the curriculum.

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Why Program Outcomes?

- Majority of the graduates seek employment immediately after graduation.
- Only a small percentage of students proceed to post-graduate programs, specialist training programs or prepare for competitive examinations.
- Irrespective of the path chosen, every graduate must attain knowledge, skills and attitudes that enable her/him to be an effective and responsible citizen of India and World at large.
- These are called Graduate Attributes and presently referred to as Program Outcomes.
- NAAC requires that the Universities and Autonomous Institutes identify their own Program Outcomes.

N.J. Rao

Now, why program outcomes? Majority of the graduates from a general program seek employment immediately after graduation. This number can be as much as 80 percent. People stop their formal education after the first degree and a small percentage of the students proceed to post graduate programs or specialist training programs or prepare for competitive examination. And if you look at quite a significant percentage of the graduates also consider it is equivalent to getting a degree is equivalent to an getting an acceptable level of education per say.

So, one is not very keen what kind of program they are coming out, what kind of program they have done and also after graduation they may pick up a job that may not have much to do with the particular discipline in which they have graduated. That is the

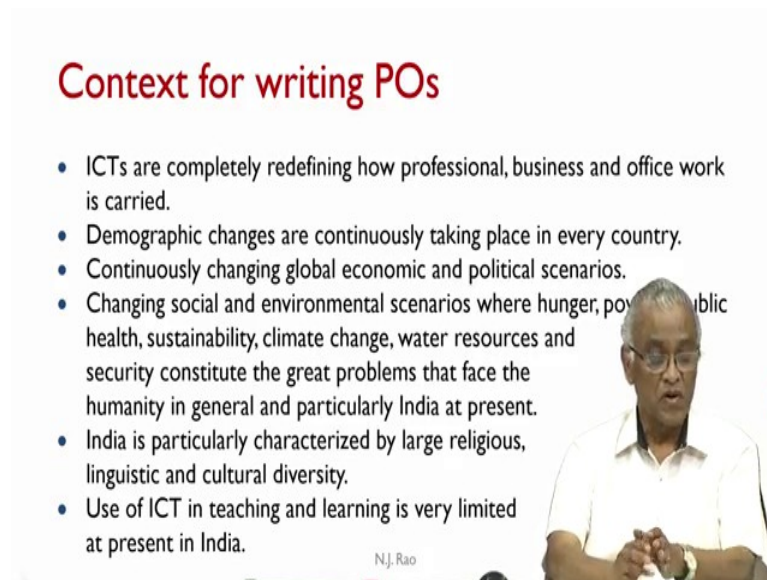
kind of thing that we need to understand with regard to general programs. Whereas, in case of engineering or medicine professional degrees a much bigger percentage of graduates will seek jobs that are related to the discipline in which they have graduated.

Now, irrespective of the path chosen; that means, whatever job whatever thing that you get into every graduate must attain knowledge and skills and attitudes that enable him to be an effective and responsible citizen of India and world at large. Here effective citizen would also mean whatever job that you are doing; you are doing it effectively. I may become a simple office administrator or a receptionist in a office whatever that you do it may or may not have anything to do with your discipline in which you are working, but still every graduate must have certain knowledge, skills and attitudes that enable them to be an effective and responsible citizen of India and these days you have to add world at large.

And these are by many people are also called graduate attributes, if you want to what you call search the internet for program outcomes you may not be able to get too much you should search for graduate attributes, but for our operational reasons they are presently referred to as program outcomes in India both by NAAC as well as the National Board of Accreditation. The word Graduate Attribute is not used as of now in India.

And NAAC requires that universities and autonomous institutions identify their own program outcomes, they are not specifying, mind you the program outcomes are not specified anywhere in the world by any agency. Though many agencies talk about it and suggest the skills and knowledge that is required, but nobody legislates that these are the program outcomes that you need to follow.

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Context for writing POs

- ICTs are completely redefining how professional, business and office work is carried.
- Demographic changes are continuously taking place in every country.
- Continuously changing global economic and political scenarios.
- Changing social and environmental scenarios where hunger, poverty, public health, sustainability, climate change, water resources and security constitute the great problems that face the humanity in general and particularly India at present.
- India is particularly characterized by large religious, linguistic and cultural diversity.
- Use of ICT in teaching and learning is very limited at present in India.

N.J. Rao

Now, before we write Pos, after all we offer a program in a particular context, the kind of programs that we offered let say 20-30 years ago or not the same right now and neither the situation in the country is the same as earlier. So, what is the context now that we need to keep in mind when we write Pos, ICT, that Information and Communication Technologies are completely redefining how professional business and office work is carried. We do not have to over emphasize this everybody uses a cell phone, and most of the activities in the offices are also getting done through using computers and the communication has become very very widely available people now have 4G, now we will be soon moving into 5G; the rate at which the information is transferred in all forms text form what do you call picture form or in video form is becoming almost instantaneous.

So, ICTs are going to continuously redefine how professional and business and office work is going to be carried. However, you have trained yourself the moment you complete your program and get into any kind of job you are interacting with ICT that should be remembered. To that extent the ICT plays a very dominant role in your professional life immediately after graduation, but as you can see the last one last item the use of ICT in teaching and learning is very limited at present in India.

So, it is only fair to require or demand that all graduates students during their 3 years of activity at an institute should also get a decent exposure to the use of ICT in their own

activities. Another feature that characterizes in today's world demographic changes are continuously taking place in every country, people are moving back and forth people are moving from villages to cities, from one state to the other.

So, constantly if you take demographic picture of any region it continuously changes and on top of that you have a continuously changing global economic and political scenarios, just one look at the newspaper will tell you that what kind of changes are taking place all the time in today's world.

And more importantly changing social and environmental scenarios where hunger, poverty, public health, sustainability, climate change, water resources and security constitute the great problems that face the humanity in general and particularly in India at present. Just one week newspapers if you look at you will find major articles or news items on all the issues that we have now listed.

That means all these features from hunger, poverty, public health, sustainability, climate change all of them are going to be a continuous thing and then today's graduate will have to work in that environment. You cannot mentally dissociate the discipline you are involved with and the general scenario you cannot decouple them you have to operate within that.

So, one has to not only learn to live with that and one should even redesign your curriculum whatever be your discipline in the context of these scenarios. You cannot say I could not care less about, I am a pure physics person I am only interested in physics or mathematics it is not so. You have to have an exposure or sensitivity at least to these issues and be prepared for that.

And on top of that we have a particular region India is particularly characterized by large, religious, linguistic and cultural diversity. So, this is the context in which our programs have to operate and this context will have to in various measure should get reflected in the curriculum that you design that is what it is.

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Many versions of POs for General Programs

- No Accreditation Agency identifies the set of POs that all HEIs should attain.

Some resources indicative of desirable POs include

- Core Values of NAAC accreditation framework
- Institute of Museums and Services – 21st Century Skills
- Future Work Skills 2020 (Phoenix Research Institute)
- Trends in Global Higher Education: Tracking an Academic Revolution (UNESCO 2009)

N.J. Rao

Now, as we said POs for general programs need not be written by or not written by the accrediting agency. So, you will have many versions of them. In fact, if you go to any university either in some of the eastern countries and in all western countries if you go you go to any university and look for they would have defined the they may call them graduate attributes or equivalent program outcomes.

So, there is no dearth of getting different versions of these POs for general programs. We consulted some of these. For example, some resources' indicative desirable POs, they include core values of NAAC accreditation framework though they do not call them POs, but more or less they are indicative of the POs, the core values of NAAC and institutes - it is a very strange organization, but we have conducted a they identified is in major work on what are the 21st century skills anyone should have institute of museum and services.

Future work skills 2020 phoenix research institute has put up and trends in global higher education, tracking an academic revolution this is a UNESCO report of 2009.

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The slide features a title in red text: "Many versions of POs for General Programs(2)". Below the title is a bulleted list with three items:

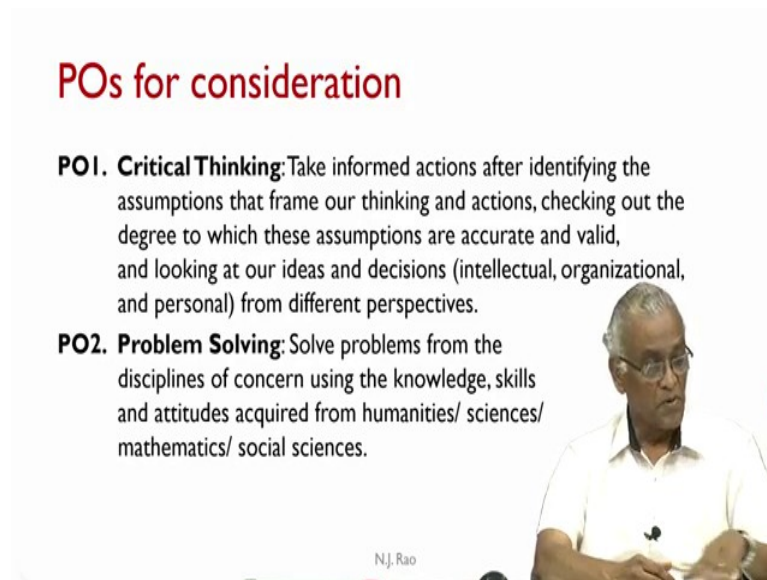
- Graduate Attributes of American Association of Higher Education (AAHE)
- The Essential Learning Outcomes: American Association of Colleges and Universities (AACU)
- Core abilities of today and tomorrow: Alverno College.

In the bottom right corner of the slide, there is a photograph of a man with grey hair and glasses, wearing a white shirt, identified as N.J. Rao. The name "N.J. Rao" is printed in small text below the photo.

And Graduate Attributes of American Association of Higher Education AAHE this is one of the representative bodies of United States of America and the essential learning outcomes they will call them learning outcomes a generic word for graduate attributes or for program outcomes American Association of Colleges and Universities.

And I am particularly mentioning it is a small college called Alverno College and they have written an excellent set of graduate attributes, through what they call core abilities of today and tomorrow as an indicative one. All these samples are made available through a resource document which will be accessible to you when the course is on.

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POs for consideration

PO1. Critical Thinking: Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

PO2. Problem Solving: Solve problems from the disciplines of concern using the knowledge, skills and attitudes acquired from humanities/ sciences/ mathematics/ social sciences.

N.J. Rao

Now, we have identified about 12 POs for consideration we are not saying that you have to exactly follow, but as a kind of starting point after surveying all these documents that mentioned we identified 12 of them and these are let me quickly run through that and then we will come back through some in detail with regard to some specific program outcomes.

Critical thinking; that means, you add an adjective to thinking; that means, you are talking about some desirable features of thinking. Now, what does it mean? Here critical thinking take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid and looking at our ideas and decisions both intellectual organizational and personal from different perspectives.

We will come back and elaborate that a little more and PO2 - **problem solving** everybody will have to solve some problems; solve problems from the disciplines of concern using the knowledge skills and attitudes acquired from humanities or social sciences or mathematics or sciences.. So, you solve problems from any of these disciplines that is what a general program is all about.

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POs for consideration (2)

- PO3. Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.
- PO4. Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in wide variety of settings.

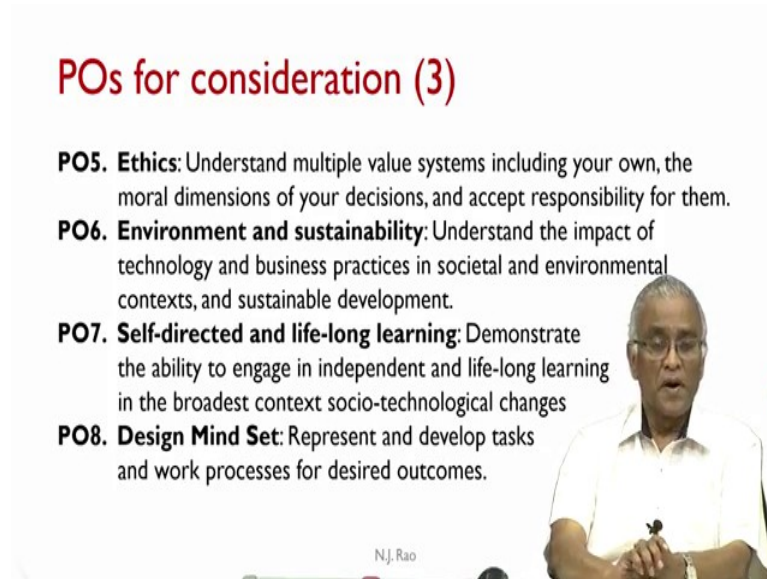
N.J. Rao

The slide features a video inset of N.J. Rao, a man with glasses wearing a white shirt, gesturing with his hands as if speaking. The name 'N.J. Rao' is printed below the video inset.

Then everybody will have to communicate effectively with everyone. So, **effective communication** - speak, read, write and listen clearly in person and through electronic media in English and in one Indian language and make meaning of the world by connecting people, ideas, books, media and technology this is effective communication.

PO 4 individual and team work - everyone will have to function both effectively as an individual and all activities which ever profession you are in you are always working in a group organized in some manner. So, the PO 4 is related to function effectively as an individual and as a member or a leader in diverse teams and in a wide variety of settings. So, one should be able to work and this particular skill is extremely important irrespective of the type of job that you are working.

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POs for consideration (3)

- PO5. Ethics:** Understand multiple value systems including your own, the moral dimensions of your decisions, and accept responsibility for them.
- PO6. Environment and sustainability:** Understand the impact of technology and business practices in societal and environmental contexts, and sustainable development.
- PO7. Self-directed and life-long learning:** Demonstrate the ability to engage in independent and life-long learning in the broadest context socio-technological changes
- PO8. Design Mind Set:** Represent and develop tasks and work processes for desired outcomes.

N.J. Rao

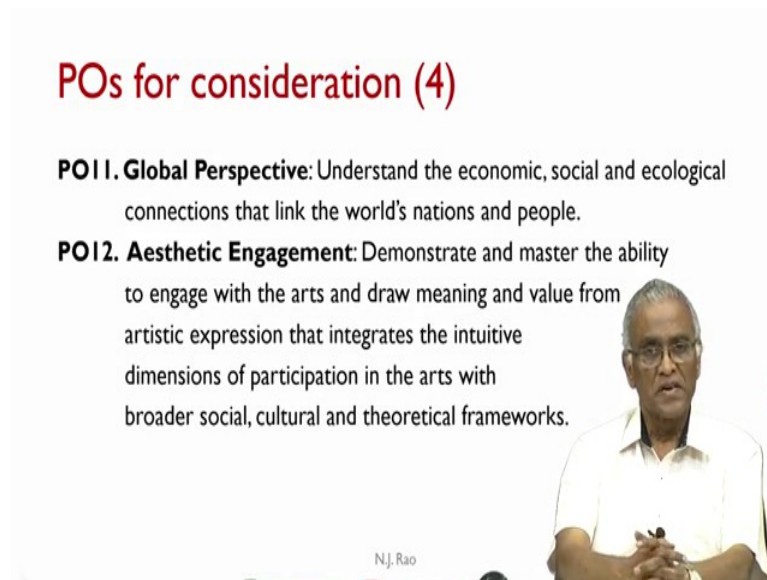
PO5 **ethics** understand multiple value systems including your own, the moral dimensions of your decisions and accept responsibility for them.

PO6 **environment and sustainability** understand the impact of technology and business practices in societal and environmental contexts and sustainable development.

PO7 **self-directed and lifelong learning** this is becoming increasingly important because of limited shelf life of any knowledge that you have and also technology is changing very fast our practices change very fast. So, to that extent every graduating student demonstrate the ability to engage in independent and lifelong learning in the broadest context of socio technological changes, this is considered extremely important for every graduate.

PO8 is what we call **design mind set**, represent and develop tasks and work processes for desired outcomes. That means, you have to work towards achieving a desired outcome to that extent I must be able to represent the task and also develop those tasks and work processes to move towards the desired outcome.

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POs for consideration (4)

- PO11. Global Perspective:** Understand the economic, social and ecological connections that link the world's nations and people.
- PO12. Aesthetic Engagement:** Demonstrate and master the ability to engage with the arts and draw meaning and value from artistic expression that integrates the intuitive dimensions of participation in the arts with broader social, cultural and theoretical frameworks.

N.J. Rao

PO9 is a **computational thinking** and today's world is data based in every facet whatever type of activity you are doing. So, a graduate should be able to understand data based reasoning through translation of data into abstract concepts using computing technology based tools.

And then PO10 is **effective citizenship**, demonstrate empathetic social concern and equity centred national development and the ability to act with an informed awareness of issues and participate in civic life through volunteering. That means, you should be able to be train yourself to become an effective citizen.

PO11 is **global perspective** understand the economics social and ecological connections that link worlds nations and people, this is the sensitivity everyone should have. And then PO12 **aesthetic engagement**, demonstrate and master the ability to engage with the arts and draw meaning and value from artistic expression that integrates the intuitive dimensions of participation in the arts with broader social cultural and theoretical frameworks.

So, these statements again the way they are stated are not unique one can reword them, but by and large only one sentence should be written for each graduate attribute or each program outcome.

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Suggested POs

- Designing curricula and conducting general programs to meet a set of Program Outcomes is relatively new to HEIs of India.
- While all the 12 POs are important, the number of POs to be addressed should be kept small to ensure their attainment to an acceptable level.
- It is suggested that the first seven POs given for consideration be identified for higher education general programs.
- These seven are used to serve as the basis for all subsequent exercises.
- An Institute may reword these seven statements, add or delete.
- The final set of POs to be used by the University/Institution should be selected/written by the Academic Council or a committee specially created for that purpose.

N.J.Rao

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Now, what we need to do is as we look at it all the 12 are important. You cannot say one is not that important; everything is important; possibly we can write a few more that can be considered equally important also. Now, what is the current scenario? Designing curricula or conducting general programs to meet a set of program outcomes is very new not relatively very new to all higher education institutions of India. Whenever you talk to faculty through any of the seminars or meetings the moment you utter a word like graduate attribute or program outcome they say what is that why should we be even concerned with it.

Now; obviously, that will take considerable time for these ideas to kind of percolate all the way to all faculty. So, while all the 12 program outcomes are important the number of POs to be addressed should be kept a little smaller to ensure the attainment to an acceptable level, there is no point in writing all the 12 and just forget about them and continue to do what you are doing.

To actually conduct your activities to attain these outcomes is not a simple task. It is going to take considerable amount of effort. So, if you do not make any effort to ensure their attainment there is no point in listing them. So, that is why my suggestion is that first 7 POs be given for consideration; whatever POs that are suggested you take the first 7 POs as a program outcomes of a higher education general programs that is restrict yourself to the first 7.

But if some university wants to take more or want to replace instead of first 7 they want to take another set they are welcome. Their committees specifically constituted for that should make those decisions. But for this course is concerned we will consider these seven POs for all the following exercises that we do, but the exercise that we do the nature of exercises will be the same irrespective of the POs that finally, the university selects.

One thing is like this there are several levels. Out of the 12 you may delete some from the 7 or add some that is one level and having selected that 7 you may want to reword some POs, a rewording PO you think may represent what you have in mind better, you are most welcome to do that.

So, the final set of POs to be used by the university or institution should be selected, written by the academic council or a committee specially created for that purpose. So, these suggested POs can be considered as the starting point for writing one's POs.

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PO1: Critical Thinking

Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.

- Critical thinking is the art of analysing and evaluating thinking with a view to improving it.
- Much of our thinking, left to itself, is biased, distorted, partial, uninformed, or down-right prejudiced.
- Quality of our life and what we produce make, or build depends precisely on the quality of our thought.
- Excellence in thought, however, must be systematically cultivated.

(Richard Paul: Miniature Guide to Critical Thinking Concepts and Tools)

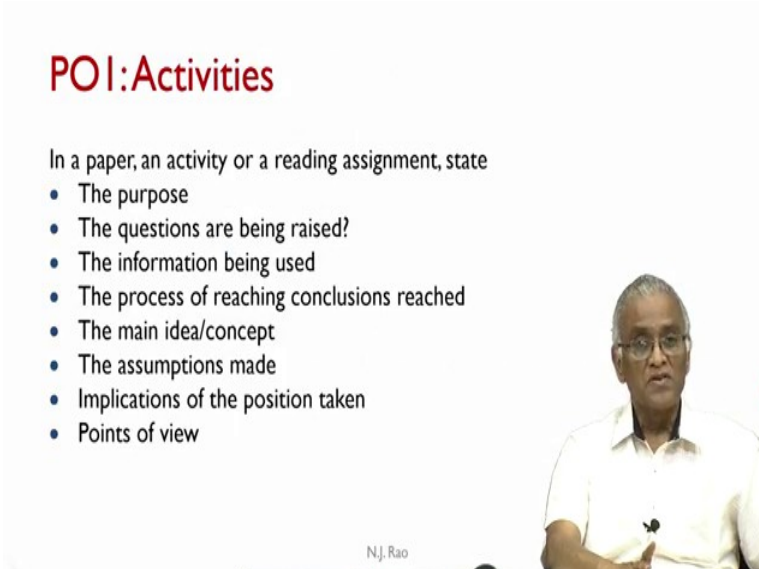
Now, let us look at the 7 POs, the first one is related to critical thinking. One should spend understanding the statement first, it will take several readings for it and to relate to one's own way of thinking. Now, there is one group called critical thinking dot ORG (criticalthinking.org), a group of professors across various universities you can say formed a group and they keep they keep looking at critical thinking and keep on

producing tools and methods to train people in critical thinking. So, the statements that I am presenting are from them.

Critical thinking is art of analysing and evaluating thinking with a view to improving. All of us think, but can we improve the quality of our thinking? And that can only be improved if you are able to learn how to analyze and evaluate your own thinking. For example, this you all agree much of our thinking left to itself that is if you do not train yourself is biased, distorted, partial uninformed or down-right prejudiced this we all know that is because the kind of sequence of experiences that we have gone through from childhood. But generally everyone's thinking to some extent or the other is distorted, biased, partial and so on.

So, the quality of our life and what we produce make or build or what we do depends precisely on the quality of our thought. Excellence in thought; however, must be systematically cultivated, it does not come to anybody just automatically or naturally, you have to cultivate, you have to go through series of experiences and somebody should comment on what you are; what you are thinking and you should go through the process of improving your thinking.

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POI:Activities

In a paper, an activity or a reading assignment, state

- The purpose
- The questions are being raised?
- The information being used
- The process of reaching conclusions reached
- The main idea/concept
- The assumptions made
- Implications of the position taken
- Points of view

N.J. Rao

The slide features a video inset of a man with glasses and a white shirt, identified as N.J. Rao, who is speaking. The slide title is in red, and the list items are in black. The video inset is positioned in the bottom right corner of the slide area.

Now, how do we ensure that this can be done? For example, if you look at a higher education general program, what do we do? You may be asked to write a paper or you may be asked to perform an activity or you may be given a reading assignment any of the

any of these, one way of assisting critical thinking you must state the purpose of that activity, what questions are been raised, the information being used, how the conclusions are being are being reached, what is the main idea or concept of this and most importantly what are the implicit assumptions made.

Sometimes the assumptions are stated sometimes they are not, especially in social sciences or subjects related to that the assumptions are made, but they are never stated. Can we identify the assumptions involved in that. And implications or the position taken, if I take a position what are its implications? And then you have points of view some are points of view.

So, if a student is asked to do this kind of thing repeatedly over 3 years in different subjects hopefully the quality of his thinking will improve, that is where the critical thinking is attained.

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PO2: Problem Solving

Solve problems from the disciplines of concern using the knowledge, skills and attitudes acquired from humanities/ sciences /mathematics/social sciences.

- Majority of courses mainly address this outcome.
- Assessment in many institutions falls far short of solving problems
- End of the chapter problems will at least moderately address this PO

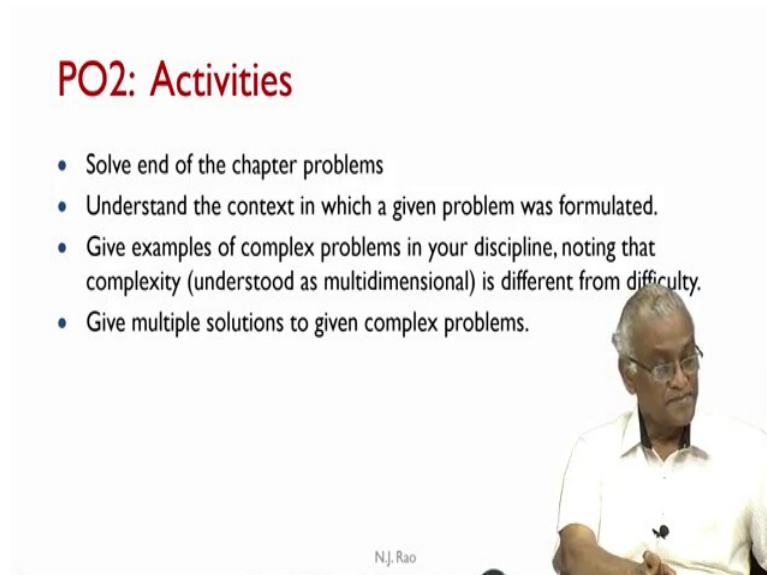
Now, come to PO2 which is related to problem solving in any subject you have to solve some problems and you require some knowledge, skills and attitudes for solving these problems. Generally, these are acquired from this particular subject that you are specializing.

So, this is a fairly simply one what happens majority of the courses mainly address this outcome all courses will certainly address this outcome. But when it comes to

assessment that is your internal continuous internal evaluation or even final exams they many questions may not ask you to solve problems in the examination, they may ask you to simply what do you call remember something, remember and reproduce or merely to say write short note on and so on. And the percentage of questions that would ask you to solve problems will be much smaller.

At least end of the chapter problems will at least moderately address this PO. This is readily achievable in case of; in case of science subjects. But in case of other subjects you will have to consciously design some problems that need to be solved.

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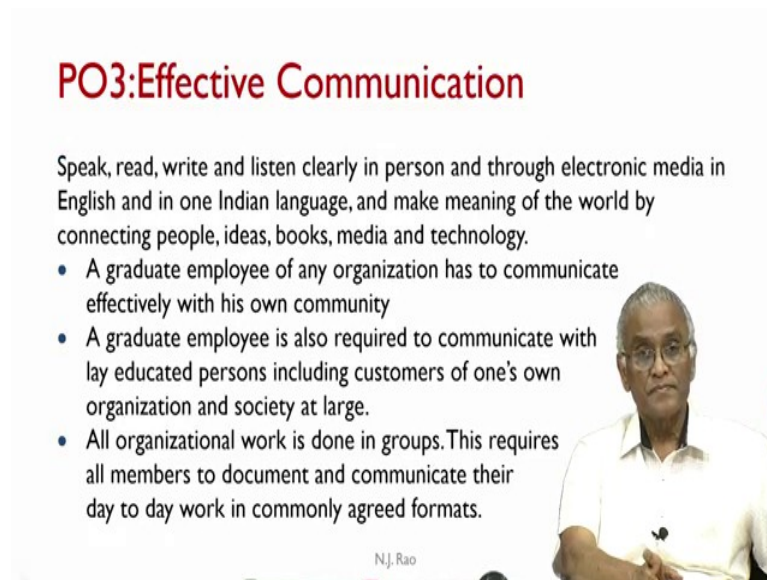
PO2: Activities

- Solve end of the chapter problems
- Understand the context in which a given problem was formulated.
- Give examples of complex problems in your discipline, noting that complexity (understood as multidimensional) is different from difficulty.
- Give multiple solutions to given complex problems.

N.J. Rao

Now, what are the activities solve end of the chapter problems, understand the context in which a given problem was formulated. Give examples of complex problems in your discipline. Noting that complexity is different from difficulty, a difficult problem is not necessarily complex and a complex problem is not necessarily difficult. And train students to give multiple solutions to given complex problems. These are some of the activities that will enhance or that will facilitate attainment of this particular program outcome.

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PO3: Effective Communication

Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the world by connecting people, ideas, books, media and technology.

- A graduate employee of any organization has to communicate effectively with his own community
- A graduate employee is also required to communicate with lay educated persons including customers of one's own organization and society at large.
- All organizational work is done in groups. This requires all members to document and communicate their day to day work in commonly agreed formats.

N.J. Rao

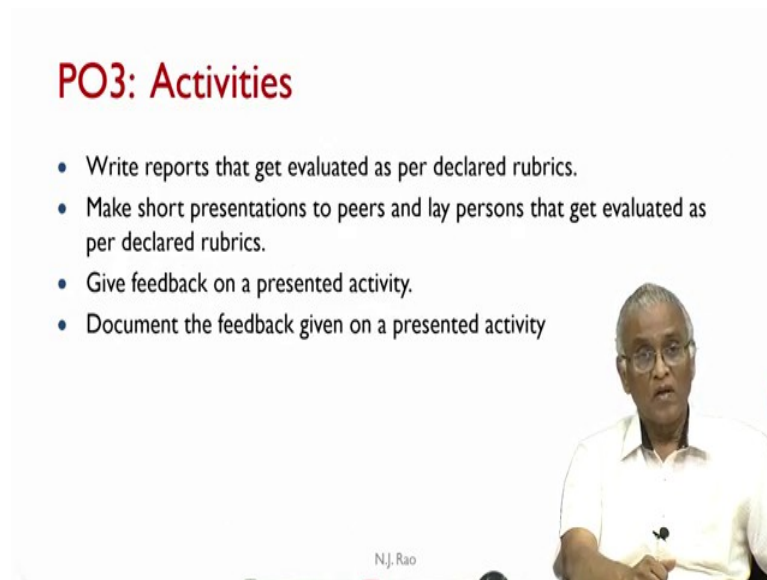
The slide features a photograph of a man with grey hair and glasses, wearing a white shirt, standing on the right side. The text is on the left side of the slide.

And then coming to effective communication speak, read, write and listen clearly in person and through electronic media in English and in one Indian language and make meaning of the world by connecting people ideas, books, media and technology. Because we never work alone by ourselves, we live in a group at the level of profession, at family, in society, so you one needs to require to communicate very effectively with all the people.

So, a graduate employee of any organization has to communicate effectively with his own community, let us say you are a bank clerk. So, you are communicating with people who are trained similarly. So, one can communicate very effectively using the acronyms that you developed to use, but of course, if you communicate the way you communicate with your peers outside world does not understand.

So, you have to change your communication, if you are trying to communicate with persons not belonging to your community. Graduate employee is also required to communicate with lay educated persons including customers of one's own organization society at large. Especially for government employees where they interact with the public and public means people with all kinds of educational backgrounds will come, so one needs to learn to communicate effectively with customers. All organizational work is done in groups when you work as a group it requires all members to document and communicate their day to day work in a commonly agreed formats.

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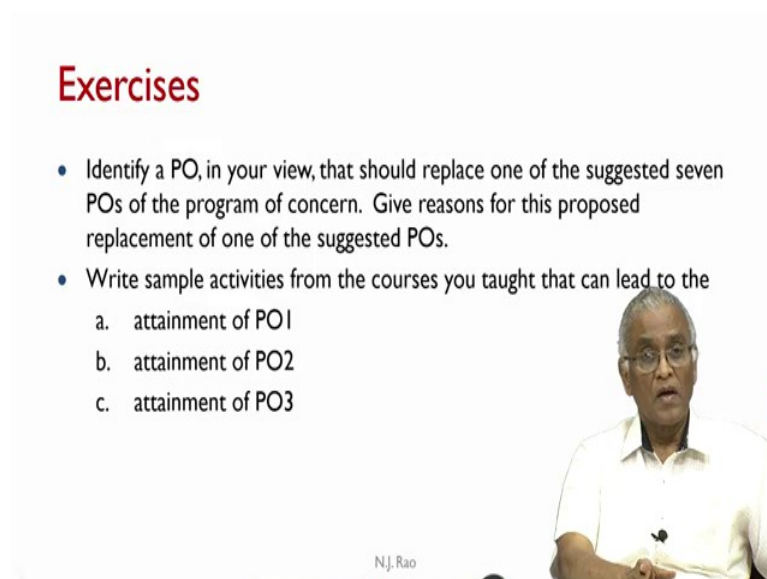
PO3: Activities

- Write reports that get evaluated as per declared rubrics.
- Make short presentations to peers and lay persons that get evaluated as per declared rubrics.
- Give feedback on a presented activity.
- Document the feedback given on a presented activity

N.J. Rao

So, some activities that could be incorporated into your classroom. Write reports that get evaluated as per declared rubrics, when you write a report it should be evaluated and they should carry marks that count. Make short presentations to peers and lay persons that get evaluated as per declared rubrics. Give feedback on a presented activity one should learn to give feedback and also not only that, document the feedback given on a presented activity. So, these are some possible activities there can be many many more than these for attaining a particular program outcome.

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Exercises

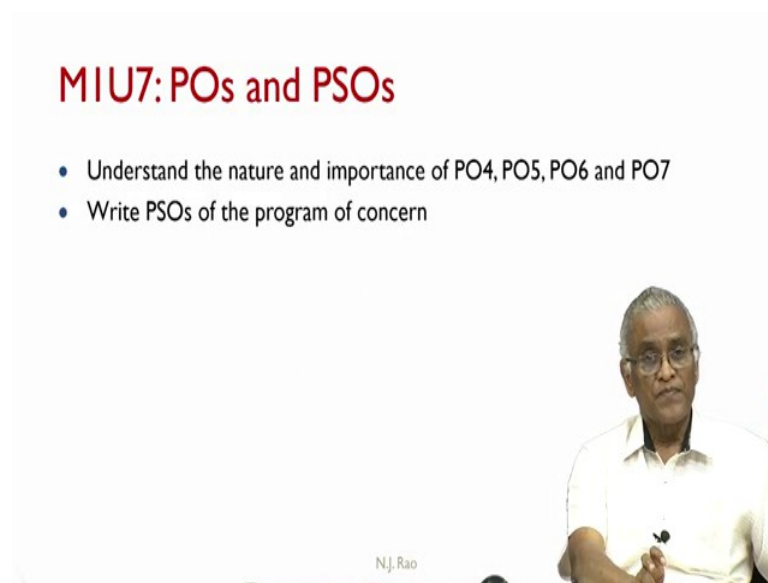
- Identify a PO, in your view, that should replace one of the suggested seven POs of the program of concern. Give reasons for this proposed replacement of one of the suggested POs.
- Write sample activities from the courses you taught that can lead to the
 - a. attainment of PO1
 - b. attainment of PO2
 - c. attainment of PO3

N.J. Rao

What we request you to do is - identify a PO in your view that should replace one of the suggested seven POs of the program of concern. Give reasons for these proposed replacement of one of the suggested POs ok.

So, we have given you 12 you think that a particular does not represent what you have in mind, you identify that reword it and then write your reasons for this proposed replacement. And write sample activities from the course that you taught that can lead to the attainment of PO1, PO2 and PO3.

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Then we will look at the other POs in the next unit understand the nature and importance of PO4, PO5, PO6 and PO7 and not only that we will try to write PSOs of the program of concern. And thank you will meet you again in the unit 7.

Thank you very much.