

**NBA Accreditation and Teaching – Learning in Engineering (NATE)**

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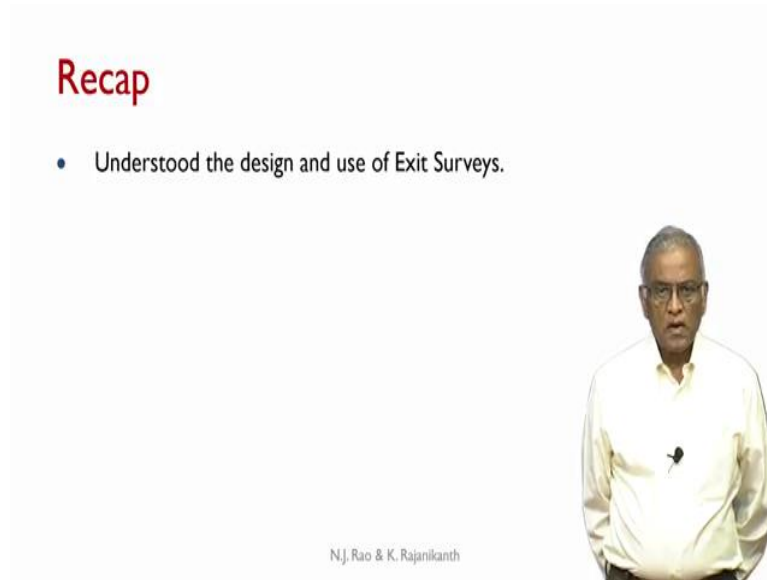
**Indian Institute of Science, Bengaluru**

**Lecture 35**

**ADDIE Evaluate Phase**

Greetings and welcome to NATE module 2, unit 14 related to Evaluate Phase.

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**Recap**

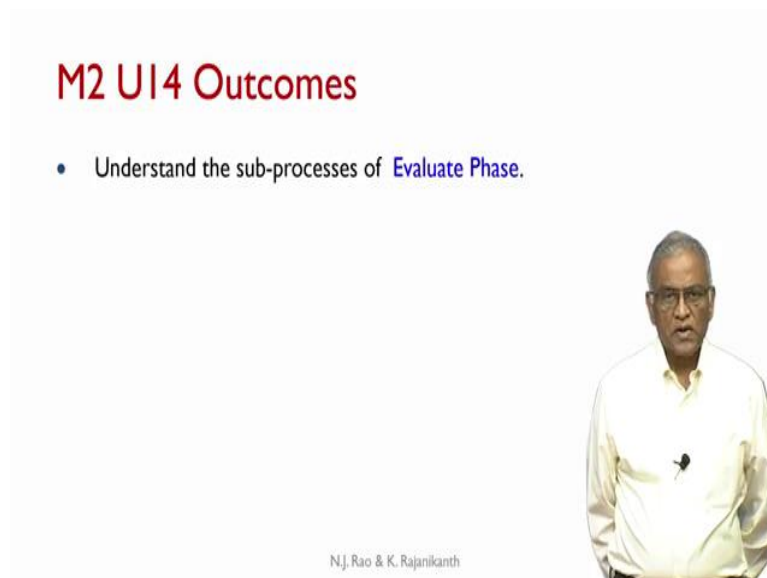
- Understood the design and use of Exit Surveys.

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In the earlier unit, we have understood again the design and use of a variety of exit surveys.

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**M2 UI4 Outcomes**

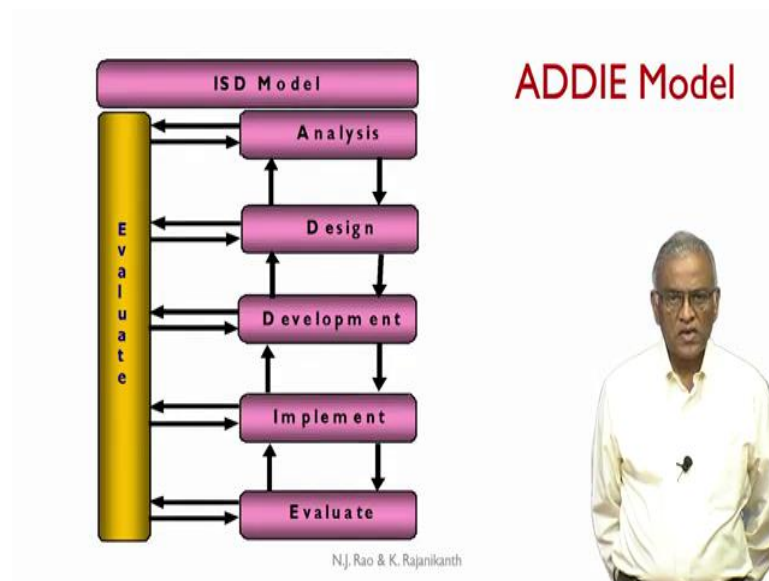
- Understand the sub-processes of Evaluate Phase.

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Now, in this unit we try to understand the sub processes of Evaluate Phase.

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Now with respect to evaluate phase, we need to understand one thing if you look at in the ADDIE model, which you have shown it earlier. The evaluate word comes a twice, these are, this is evaluate, this is another evaluate. So, what we are trying to say, this evaluate phase corresponds to formative evaluation or formative assessment of the activities of analysis phase, design phase, and development phase.

And implement as well as evaluate phase, but this final evaluate here, is the summative evaluation of the course design. So, there is a difference between the 2.

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## Evaluate in ADDIE

### Evaluate Phases

#### Formative

- Undertake formative evaluation at the end of every phase to decide whether any revisions are necessary to the activities of that phase.

#### Summative

- Do summative evaluation by probing the learners and the instructional system to decide whether revisions to the content and/or instruction are necessary, in which case the process would be suitably altered in the next version of instruction.

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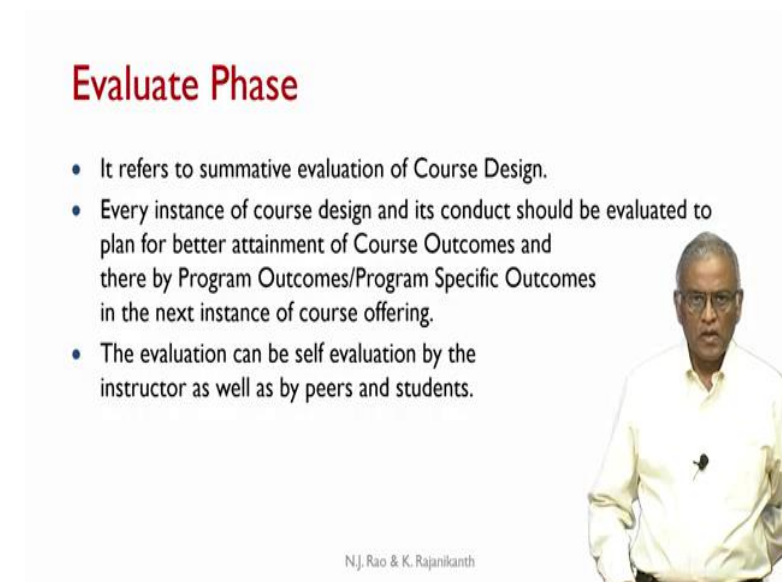
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As we have stated here, evaluate phases both it is formative. We undertake formative evaluation at the end of every phase to decide, whether any revisions are necessary to the

activities of that phase. It can be peer evaluation or discussions or whatever it, the stakeholders and, so on. Whereas summative evaluation phase is, it is summative evaluation by probing the learners and the instructions system to decide whether revisions of the content and are the instructions are necessary, in which case the process would be suitably altered for the next version of instructions.

That is you wait until all the instruction is done, and as we have seen in the implement phase there are several things that we have already done. In terms of keeping track of the students, taking student feedback, and so on. And based on all that, we come to some kind of conclusion, what is to be done when the next version of the instruction is to be done for this course.


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**Evaluate Phase**

- It refers to summative evaluation of Course Design.
- Every instance of course design and its conduct should be evaluated to plan for better attainment of Course Outcomes and there by Program Outcomes/Program Specific Outcomes in the next instance of course offering.
- The evaluation can be self evaluation by the instructor as well as by peers and students.

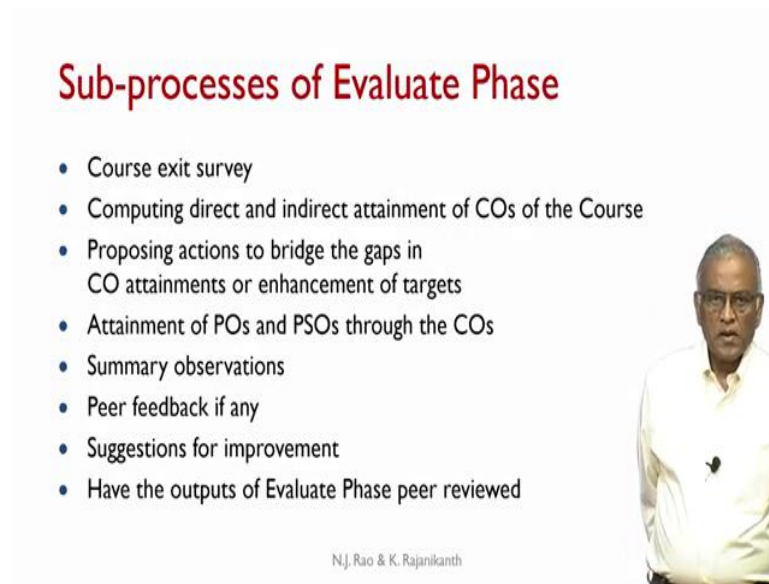
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Now, let us say the evaluate phase it refers to summative evaluation of course design. Mind you, this is summative evaluation of the course design, not actually the course. How well they have design and conducted the course. And every instance of course design and its conduct should be evaluated to plan for better attainment of course outcomes. And thereby program outcomes and program specific outcomes in the next instance of course offering.

And this is precisely, what is expected or what is wanted by the NBA. So, evaluate phase becomes very critical from the perspective of NBA accreditation. And the evaluation can be self evaluation by the instructor, as well as by peers and students, depends on the instructor whose inputs, what kind of inputs you want to take it, take from different sources.


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### Sub-processes of Evaluate Phase

- Course exit survey
- Computing direct and indirect attainment of COs of the Course
- Proposing actions to bridge the gaps in CO attainments or enhancement of targets
- Attainment of POs and PSOs through the COs
- Summary observations
- Peer feedback if any
- Suggestions for improvement
- Have the outputs of Evaluate Phase peer reviewed

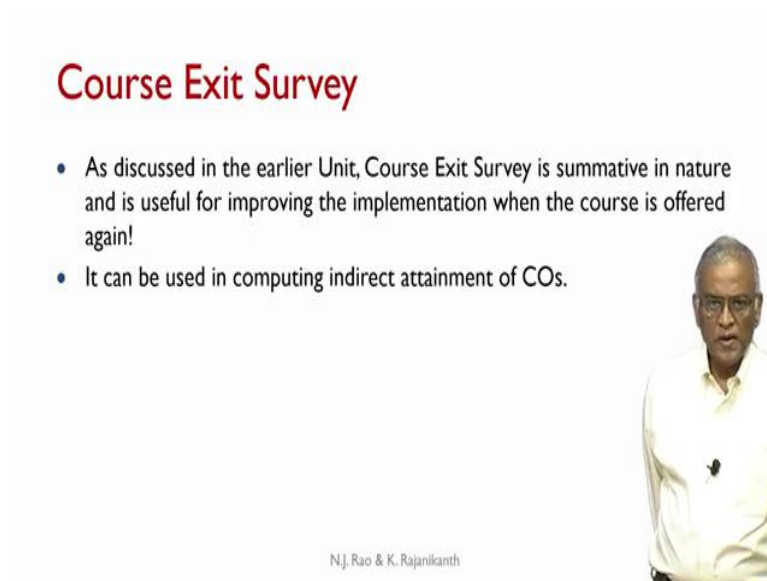
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Now the sub process of evaluate phase are, course exit survey, computing direct and indirect attainment of COs of the course. Proposing actions to bridge the gaps on CO attainments or enhancements of targets, attainments of POs and PSOs through the COs. Summary observations, peer feedback if any, suggestion for improvement, and have the outputs of evaluate phase peer reviewed.

As you can see, many of this sub processes are already addressed, at several places. For example, we have talked about course exit survey in the previous units, computing attainment of COs and POs and PSOs is already been dealt in the earlier units, and the new things that we are really talking about are summary observations, peer feedback, and suggestions for improvement.


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**Course Exit Survey**

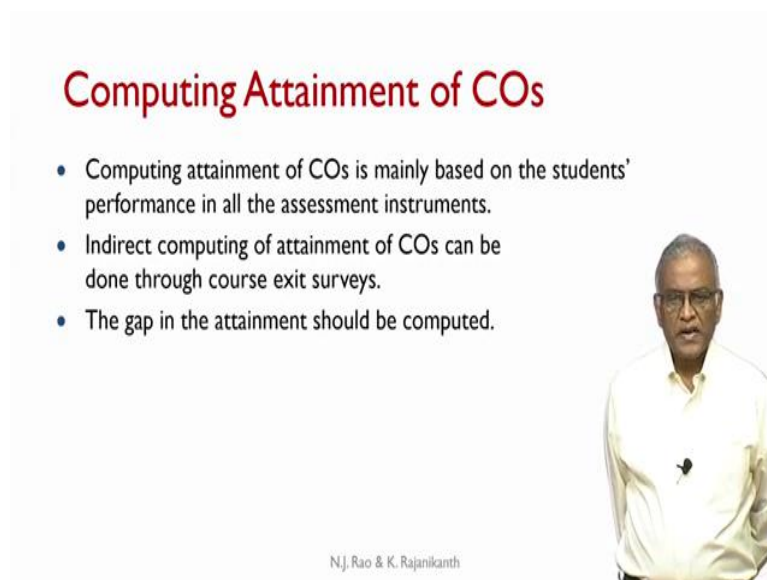
- As discussed in the earlier Unit, Course Exit Survey is summative in nature and is useful for improving the implementation when the course is offered again!
- It can be used in computing indirect attainment of COs.

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Now course exit survey, as discussed in the earlier unit course exit survey is a summative in nature and is useful for improving the implementation of the course when offered again. And it can also be used in computing the indirect attainment of COs. If you recall, you measured the attainment of COs directly and indirectly, the course exit survey results will be used for computing indirect attainment COs.


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**Computing Attainment of COs**

- Computing attainment of COs is mainly based on the students' performance in all the assessment instruments.
- Indirect computing of attainment of COs can be done through course exit surveys.
- The gap in the attainment should be computed.

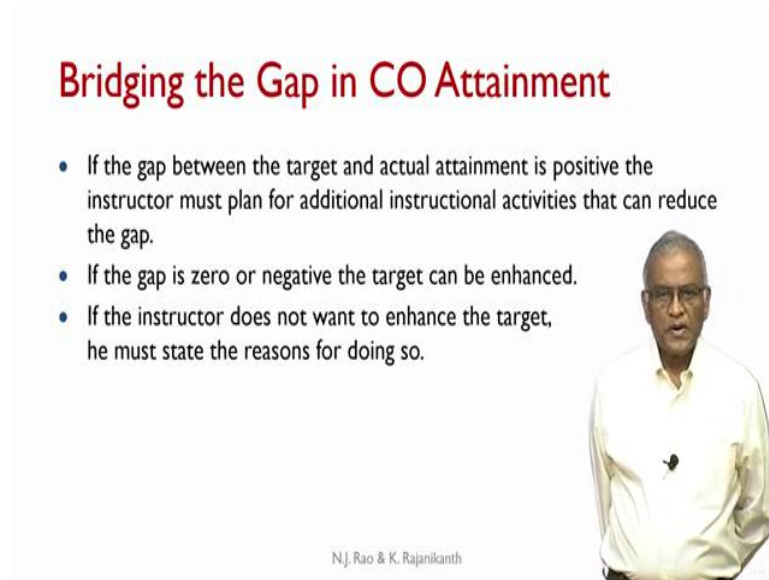
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Computing attainment of COs, we have given several methods of computing and it is mainly based on, student performance in all assessment instruments. And indirect method of computing the attainment of COs, is done through the exit survey, and the gap in attainment

should be computed. These are the things to be done, which we have presented in detail in the earlier units.


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**Bridging the Gap in CO Attainment**

- If the gap between the target and actual attainment is positive the instructor must plan for additional instructional activities that can reduce the gap.
- If the gap is zero or negative the target can be enhanced.
- If the instructor does not want to enhance the target, he must state the reasons for doing so.

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And then bridging the gap in CO attainment. So, we suggested earlier that when the attainment is lower than the set target, you have to plan for action next time you offer the course, to reduce the gap. And on what basis do you do that, precisely for this purpose we have requested in the earlier unit that you write observations after at the end of every instructional unit, you take mid course student feedbacks, your comments on the assessment instruments and student performance.


Based on all that, you write a plan for bridging the gap. And if the gap is 0 or negative, the only option that is available is target can be, needs to be enhanced. But for some reason the instructor does not want to enhance the target, depending on his perception, the way things have been done. You may take a position saying that let me try with the same target for one more year.

So, if you decide like that, then you must state the reason why you do not want to, do not want to enhance the target when the gap is 0 or negative. It cannot be just left like that.

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## Attainment of POs and PSOs through COs

- Courses constitute the major elements of an engineering program.
- POs and PSOs need to be majorly attained through courses.
- Attainments of POs and PSOs need to be computed from the attainment of COs.
- There is no unique process to compute the attainments of POs and PSOs.
- The process selected must not be very complicated to compute but must be followed for all the courses of all programs of an institution.



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The attainment of POs and PSOs through COs, this also we have done in the earlier unit. How to relate attainment of COs to attainment of POs and PSOs, and as we said there is no unique process to compute the attainment of POs and PSOs. Whatever process that you have chosen but that should be, should not be very complicated because any process that you have design cannot precisely relate this, and you say mine is more accurate than the earlier one and any process that you choose will approximate.

But the only thing is, you must stay with one process and the same process should be used for all the courses, for all the programs from an institution. So, the decision about the process to be used for computing the PO and PSO attainment, should be done at the institution level.

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## Summary Observations

- Instructor writes summary observations based on
  - Observations after every Instructional Unit
  - Feedback on student performance given after every assessment
  - Student feedback during the semester
  - Course exit survey
- These summary observations will be very valuable to instructor in improving the quality of instruction next time the course is offered.



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Then you have summary observations, and all that you are collecting at one place. Instructors write summary observations based on, observations after every instructional unit, feedback on student performance given after every assessment, student feedback during the semester, and course exit survey. So, you all of them you're collecting at one place and the such a summary will be of great value to the instructor himself in improving the quality of instruction, next time the course is offered.

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Now there is another one, what we call peer feedback. Such practices are done in several universities outside the country. But normally, you ask one senior faculty member of the same department to sit through few of your sessions and give you some feedback.

Actually, it does not have to be more senior faculty member I feel that any faculty member, however senior he is or she is can ask somebody else who is familiar with this same subject to sit through in your 1 or 2 sessions and make some, give some observations. And these observations by colleague, who knows the subject very well can be of great value to every instructor. So, if you can arrange a peer feedback like that it would be nice.



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## Suggestions for Improvement

- Suggestions for improvement are worked out based on
  - Summary observations
  - CO attainments
  - Peer feedback
  - Student feedback

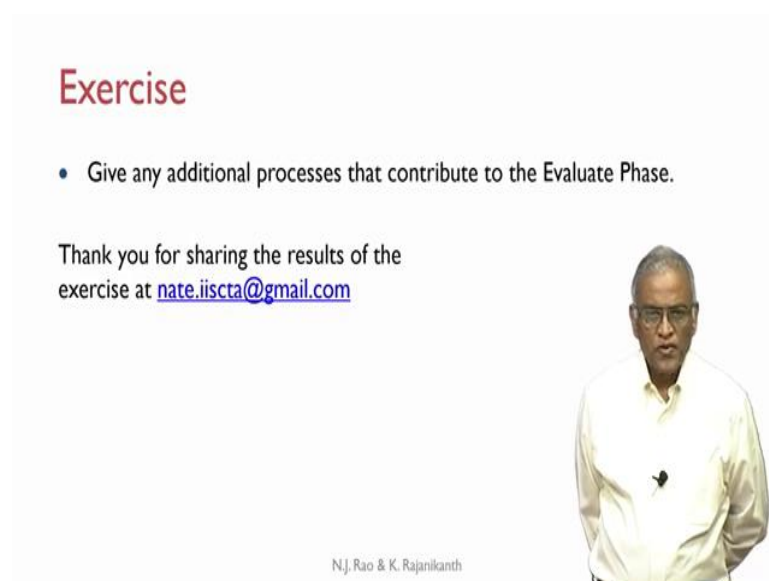
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Now, based on this you have now 4, components. One is summary observations, and then CO attainments, and you have peer feedback, and the student feedback. There is exit survey, so all this documents are put together and then based on this you write suggestion for improvement for yourself. The next time you want to offer the course, based on all this you write a set of summary or suggestions for improvement.

Now, if their suggestion were improvement to yourself if you are offering it next time or even if some other teacher is going to do that, it will be valuable input to the new teacher who is going to offer the course.

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## Exercise

- Give any additional processes that contribute to the Evaluate Phase.

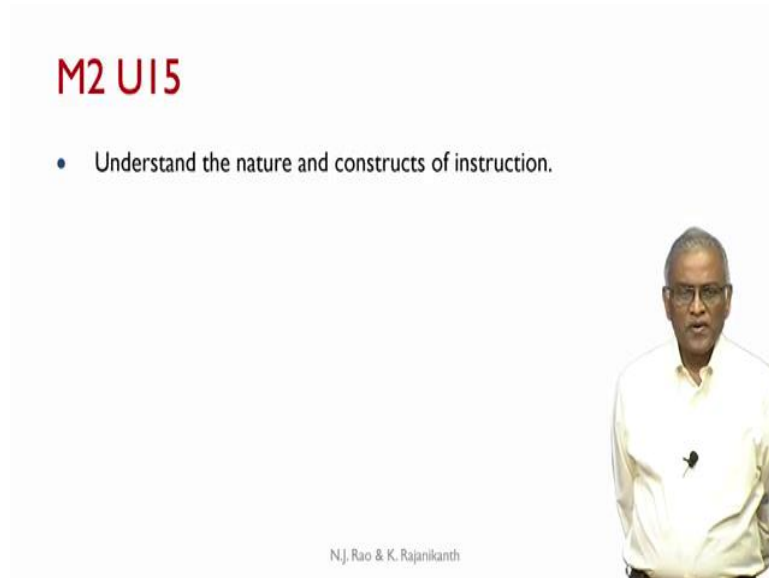
Thank you for sharing the results of the exercise at [nate.iiscta@gmail.com](mailto:nate.iiscta@gmail.com)

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So, we have, we request you to give, if you think there are any additional process that needs to be included that contribute to the evaluation phase, you can give your suggestions and share it with us at the indicated email ID.

(Refer Slide Time: 12:31)



And from M2 U15, that is a next unit we start with the, the third aspect of course offering, namely the instructions. So, we attempt to understand the nature and construct of instructions in U15. Thank you very much.