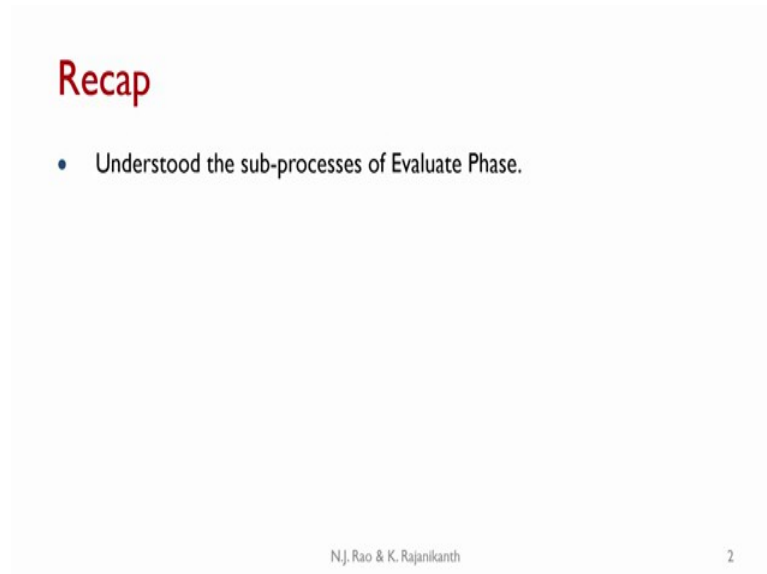


TALE - 2 Course Design and Instruction of Engineering Courses
Prof. K Rajanikanth
Former Principal - MSRIT
Indian Institute of Science, Bengaluru

Lecture - 15
Exit Survey

Welcome to Module 2, Unit 15 on course Exit Survey.

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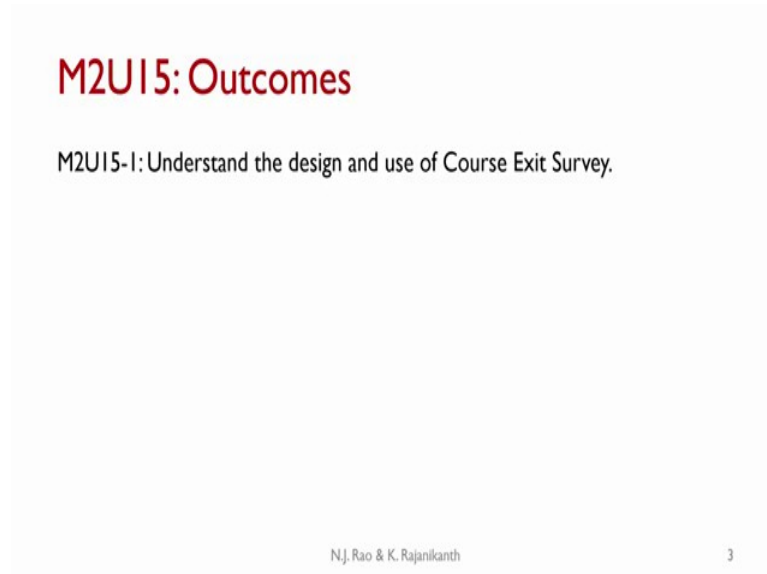
Recap

- Understood the sub-processes of Evaluate Phase.

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We understood the sub-process of Evaluate Phase in the previous unit.

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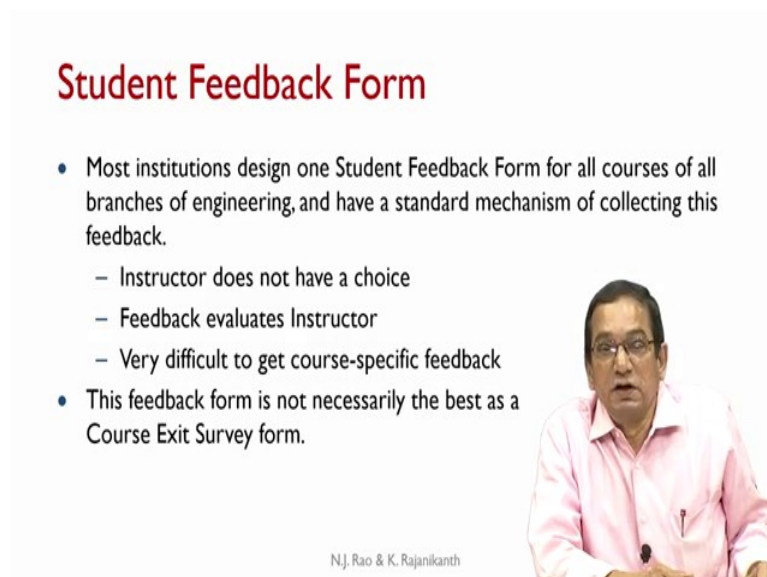
M2U15: Outcomes

M2U15-1: Understand the design and use of Course Exit Survey.

N.J. Rao & K. Rajanikanth 3

In this unit we will discuss the Course Exit Survey. The outcome is “understand the design and use of Course Exit Survey.” As we saw in the previous unit, Course Exit Survey is one of the important components of the Evaluate Phase.

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Student Feedback Form

- Most institutions design one Student Feedback Form for all courses of all branches of engineering, and have a standard mechanism of collecting this feedback.
 - Instructor does not have a choice
 - Feedback evaluates Instructor
 - Very difficult to get course-specific feedback
- This feedback form is not necessarily the best as a Course Exit Survey form.

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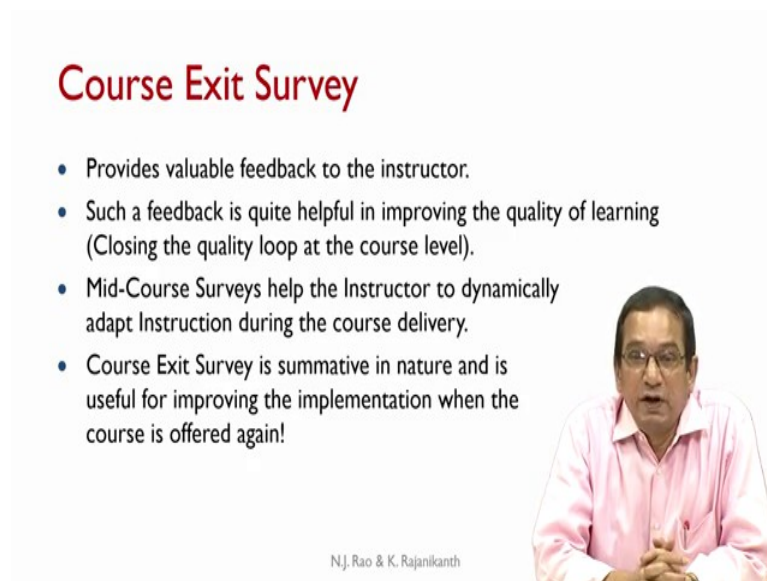
The feedback form that we are considering here is slightly different from the feedback that most of institutes do get regarding the faculty. Most institutions design one student feedback form for all the courses of all branches of engineering and have a standard mechanism of collecting this feedback. But the primary purpose of this feedback is

faculty evaluation by the students. Usually this is conducted as a part of FPEDS (Faculty Performance Evaluation and Development System) that is required by the accreditation.

This feedback is primarily used to evaluate the faculty and based on that take appropriate actions either at the development level or at the institute level. Instructor does not have a choice in the design of such a feedback form. As the feedback focus is evaluation of the instructor by the students there is not much scope for getting feedback regarding the course.

Hence it is very difficult to get course specific feedback from such a survey; the feedback primarily evaluates the instructor. This standard instructor evaluation feedback form is not necessarily the best as a course Exit Survey form because the focus in this feedback is evaluation of the instructor by the student whereas, the focus in a Course Exit Survey is to get feedback regarding the course with the objective of improving the implementation of the course to the next time.

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Course Exit Survey

- Provides valuable feedback to the instructor.
- Such a feedback is quite helpful in improving the quality of learning (Closing the quality loop at the course level).
- Mid-Course Surveys help the Instructor to dynamically adapt Instruction during the course delivery.
- Course Exit Survey is summative in nature and is useful for improving the implementation when the course is offered again!

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The slide features a video inset of a man in a pink shirt speaking, positioned on the right side of the text.


Course Exit Survey: It provides valuable feedback to the instructor. Such a feedback is quite helpful in improving the quality of learning and this would help us to close the quality loop at the course level - Plan, Do, Check, Act - as we saw in the earlier module; closing this quality loop, planning the improvements in the implementation of the course the next time the course is offered, is greatly facilitated when we get feedback data specifically with respect to the course.

Mid-course surveys which we saw earlier - they do help the instructor to dynamically adapt instruction during the course delivery. But course exit survey is summative in nature and is useful for improving the implementation when the course is offered again. Primarily the course exit survey is a summative one and the feedback is for the purpose of improving the course implementation, the next time the course is offered.

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Course Exit Survey (2)

- May be used in computing Indirect Attainment of COs, though NBA does not explicitly recognize this approach.
- Instructor, if permitted by the college, should design his/her own Course Exit Survey Form.
- This can be integrated into Institute-Level Common Evaluation Form, if required.
- Academic Management System (AMS) or a Learning Management System (LMS) may permit creation of summary student feedback report for each course!



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The course exit survey may also be used in computing indirect attainment of course outcomes though NBA itself does not explicitly recognize or mandate this approach. In the earlier module we have seen that when we compute the attainment of course outcomes, we can combine the value computed from direct approaches with the value computed indirectly, may be in the ratio of 90:10. The direct computation would be based on the performance of the students in all the assessment instruments including tests, quizzes, assignments and the indirect computation would be based on a survey.


The course exit survey would help us in computing the attainment of CO in indirect fashion. Instructor, if permitted by the college, should design his/her own course exit survey form because the specific questions that an instructor would like to ask in the course exit survey may be different for different courses and different instructors. Therefore, the institute-wide form may not be suitable for use as a course exit survey and the instructor should be really allowed to have his own or her own course exit survey form.

If the institute requires, this course exit survey form can be integrated into the institute level common evaluation form. The Survey form - there will be a part which is common across the institute primarily concerned with evaluation of the faculty by the students and a part which is specific to the course that has been offered. If you have an academic management system or a learning management system, it may permit creation of a summary student feedback report for each course.

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Getting Valid Survey Data

- Getting valid survey data is a major challenge with any survey, particularly so with Course Exit Survey.
- Students may fear that they would be victimized if they give negative feedback.
- Often students assume that their feedback is not really important and that the process is a mere formality!
- Students' perception often is that no instructor really uses this data!



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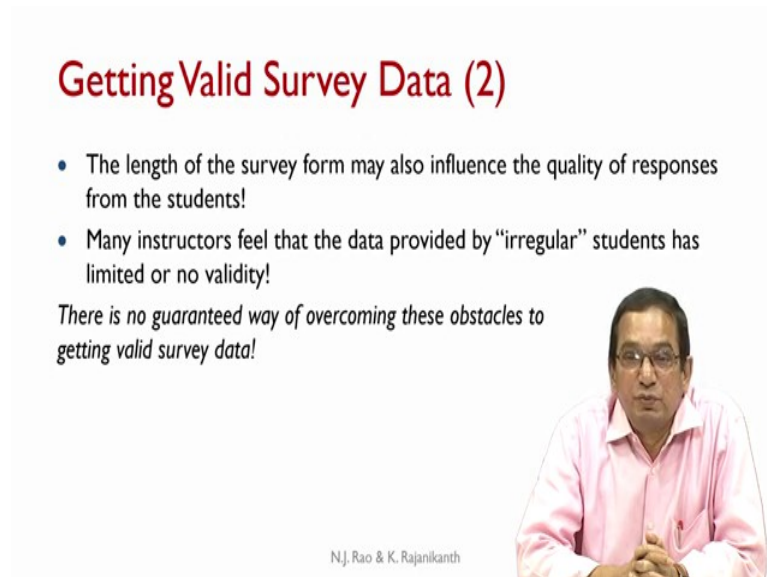
One of the key challenges with the course exit survey would be getting Valid Survey Data. This is the problem not only in India, but everywhere across the world. There is considerable body of research literature available on how to design surveys, how to administer the surveys in order to get valid data. With any survey, of course, it is a key challenge to get valid data. But this is particularly severe in the case of course exit survey. Students may fear that they would be victimized if they give negative feedback. To some extent, of course, this can be eliminated by making the feedback anonymous.

Still it is possible that there is certain fear on the part of the students that they should not be giving negative feedback. Also, often students assume that their feedback is not really important and that the process is a mere formality. Because certain processes at the institute level demand that a course's exit survey be conducted it is being conducted. The perception is that no instructor really uses this data and probably it is true in many institutes that the course exit survey is actually administered as a mere formality.

Often the instructors collect the data and simply file it. They really do not make use of this data to plan improvements for the delivery of the course the next time it is offered. If the process demands that certain constructions, certain comments be included in the course file they might do it, but again in a more formal way rather than with any real intent at improving the course delivery.

So, probably the students are not all that wrong in assuming that instructors really do not use the survey data in any serious and meaningful fashion which also makes the students provide data which may not be really valid.

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Getting Valid Survey Data (2)

- The length of the survey form may also influence the quality of responses from the students!
- Many instructors feel that the data provided by “irregular” students has limited or no validity!

There is no guaranteed way of overcoming these obstacles to getting valid survey data!

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The slide features a photograph of a man in a pink shirt and glasses, likely the speaker, positioned in the lower right corner. The text is presented in a clean, professional layout with a red title and blue bullet points.

Another issue can be the length of the survey form which also may influence the quality of responses from the students in the sense that, if there are many many questions in the survey form fatigue can set-in. So, after answering may be the first 15-20 questions, students might give responses which are more automatic rather than really reasoned out responses.

What should be the ideal length of a survey form? There is no hard and fast rule regarding it. The instructors have to experiment in their specific context and see what works best. In fact, in general, we can say there is no guaranteed way of overcoming the obstacles in getting valid survey data. It does require certain amount of experimentation from the faculty at the department level, probably at the institute level also to see what works best for them.

One more issue is that who should participate in this course exit survey. Many instructors strongly feel that the data provided by “irregular” students has limited or no validity. Some institutes do impose entry criteria for participating in the course exit survey. Only those students whose attendance is more than some (let us say 75) percent can participate in the survey. Some institutes even put an entry criterion based on the performance of the students. Only those students whose average performance in the tests is more than some (let us say 65) percent can participate in the course exit survey.


While there is some truth that the students who are irregular to the classes may not be able to give valid data, it may not be really desirable to stipulate performance as entry criteria. As we do want to get feedback from the students who have not performed well in the course also because that feedback would be valuable in figuring out improvements in the course delivery the next time it is offered.

But attendance - probably yes if the institute strongly feels or if the department or the instructor strongly feel about it! They could stipulate that certain minimum percentage of attendance is necessary before the student is allowed to participate in the course of exit survey. But there is no guaranteed way or a unique way or the correct way of designing and administering course exit survey. One has to experiment and come out with a course exit survey form which works best for their specific context. These are all the issues that need to be taken into account explicitly and they need to be considered explicitly in arriving at a survey form which is best suited for their purposes.

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Getting Valid Survey Data (3)

- Feedback provided electronically and anonymously is generally necessary to get valid survey data.
- It may be necessary to spend quality time with students, before collecting the survey data, discussing the importance attached by the Instructor to the survey data.
- It may be helpful if some typical instances of good use of Course Exit Survey data are presented to the students, perhaps at the department level.
- Several approaches may be necessary to get valid data as poor quality survey data negates the whole purpose of this process.



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Feedback provided electronically and anonymously is generally necessary to get valid survey data. It removes the fear in the minds of the students that they could be victimized if they give negative feedback. The feedback is electronic and it is anonymous. The students are free to express their opinions and if they have negative feedback which they wish to give, they would be more likely to give such a feedback if the system is electronic because it permits anonymous data to be entered.

Of course, there is a flip side to this also in the sense that when it is anonymous, some of the students may give comments which are not really valid comments; but they express the frustration of the students. With survey, getting valid data is always a problem.

Over a long period, people have discovered that by and large, statistically, the survey data can be meaningful and useful. Instructors can use their discretion in making use of the survey data to reach valid conclusions. It may also be necessary or very useful to spend quality time with students discussing the importance attached by the instructor to the survey data before collecting the survey data. In fact, in many of the experiments, empirically, evidence has been gathered that such an interaction with the students before administering the survey form has very positive, beneficial impact on the validity of the data.

If the instructor can spend some quality time with the students, explain the purpose of the exit survey, assure the students that the feedback data would be taken in all its

seriousness and would be used to plan improvements for the course delivery, then it is more likely that the students would take it seriously and provide more valid data. It may also be helpful if some typical instances of good use of course exit survey data are presented to the students, perhaps at the department level - some kinds of case studies. - like in the earlier years - what kind of feedback data they got and how they used that data to improve the delivery of the course, specific examples; not in generalities; but with respect a specific course, specific feedback and specific improvements that have been implemented in subsequent years. Such case studies would also help convince the students, that the exit survey is a serious business for the department.

Some typical instances of good use of course exit survey, if the HOD or if some senior faculty, can present to the students, it would be very helpful. For this to be really helpful, the case studies presented must be very specific - exactly which course, exactly what kind of feedback and what kind of improvements specifically resulted from looking at that feedback.


In fact, one may have to use several approaches in order to get valid data. Otherwise getting poor quality survey data negates the whole purpose of this process. It would become simply one of documentation with really no practical use. The entire process/the purpose gets negated if we do not get valid survey data. It is necessary to consider these issues consciously, plan ahead and design the course exit survey form as well as administer that survey form and try to get data which is to the greatest extent possible, valid survey data.

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Course Exit Survey Form

- Several forms and approaches for Course Exit Survey are available in the literature.
- What is presented here is just a sample framework only
- Questions generally cover:
 - Course Management
 - Learning Environment
 - COs
 - Instructor characteristics
- Typically questions are answered by the students on a scale of 1 to 5 – most negative to most positive resp



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The actual design of the form, the approaches to be used: Quite a variety of design approaches, forms themselves, are available in the literature, and there is no unique way of designing the form. There is no unique answer to any question regarding the survey form. What is presented here is just a sample frame work only. You can search the literature, experiment in the institute and arrive at the design which best suits your purposes/context. Questions typically cover four aspects: course management, learning environment, the course outcomes, and instructor characteristics.


It is possible that if the course exit survey form is getting integrated into an institute-wide faculty evaluation form, some of these questions may become redundant. For example, if instructor characteristics are already covered as a part of the faculty evaluation by student aspect of the institute-wide survey form, then we do not have to repeat them here. Basically we will have to look into the specific form that is being used at the institute and then based on that we may have to adapt, fine tune these ideas.

What we are discussing is a very broad sample frame work. Typically the questions are answered by students on a scale of 1 to 5, other scales are possible, but this is the most popular; 1 being the most negative response and 5 being the most positive response. This is much more common though some institutes do use a scale of only 1, 2, 3 and then some institutes do permit 0 also to be used. But 1 to 5 is most common and 0 to 5 is also common.

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Course Exit Survey Form (2)

- The Form can start with an appeal to the student:
“Your considered feedback on the course will be of great value to the concerned instructor and to the department in enhancing the quality of learning.
Thank you for your quality time.”
- Initial questions can elicit the overall view:
 1. Rate the Course in General
 2. Rate the Course Content
 3. Rate the Instructor with reference to this course

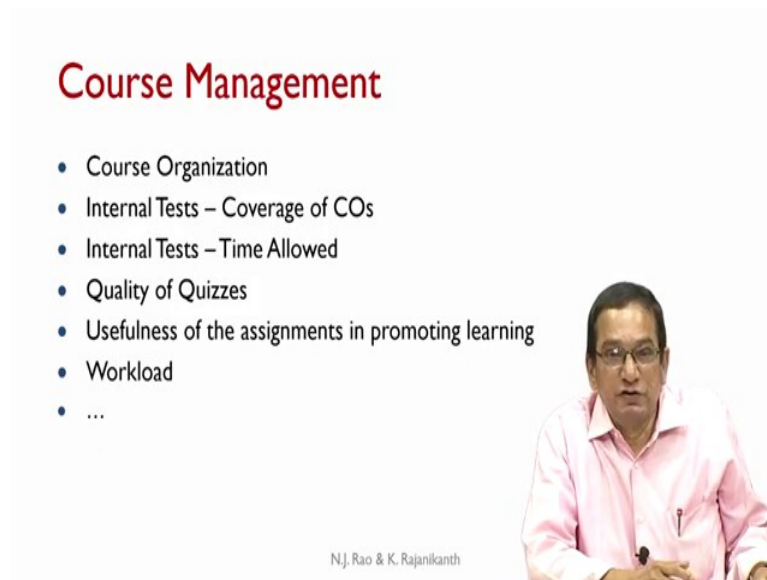


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The form can start with an appeal to the students. The fact of getting valid data comes into picture here. “Your considered feedback on the course will be of great value to the concerned instructor and to the department in enhancing the quality of learning. Thank you for your quality time.” This may look like fairly straight forward, simplistic idea! But empirical studies have shown that such a beginning to the course exit survey form does have a positive impact on the perception of the students. It is better to start the form with an appeal to the students.

Initially, we can have 2-3 questions which elicit the overall view and that can be like - rate the course in general - 1 to 5; rate the course content; rate the instructor with reference to this course. This can be common to any course exit survey and these are very broad and very general over view questions.

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Course Management

- Course Organization
- Internal Tests – Coverage of COs
- Internal Tests – Time Allowed
- Quality of Quizzes
- Usefulness of the assignments in promoting learning
- Workload
- ...

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The slide features a photograph of a man with glasses, wearing a light pink button-down shirt, sitting at a desk. The background of the slide is white with a light blue border.

With respect to each aspect of the course exit survey, some of the possible questions - let us see. With respect to course management, we can ask questions like course organization - how good it was (again on a scale of 1 to 5.); internal tests - did the internal tests cover all COs and were they covered in a fashion which was convenient for the students; were the tests scheduled at appropriate times; was the time given for the internal tests adequate? We can ask 3-4 questions to extract data regarding all the issues like the organization of the tests, the coverage of the COs, the timing, and the schedule.

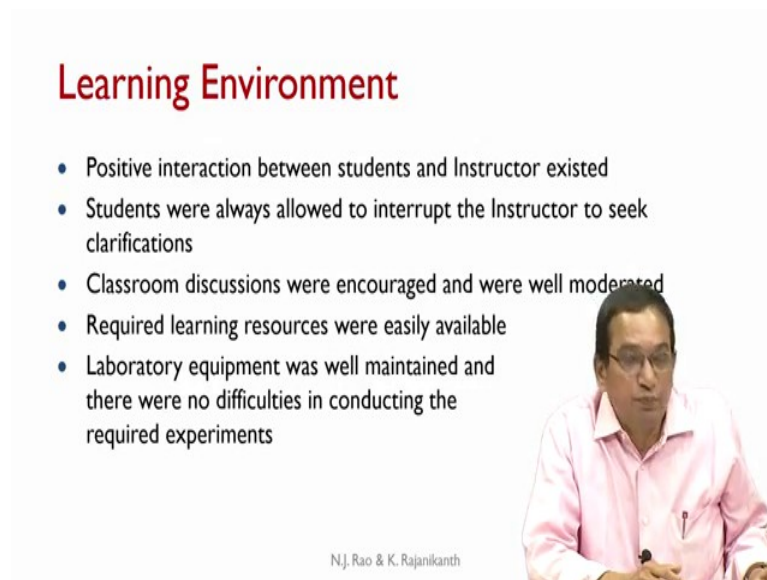
The quality of the quizzes - whether the quizzes corresponded to COs stated; what is the time at which the quizzes are held?; how much time was given for the quiz?

The usefulness of the assignments in promoting learning - this again would give interesting and valuable data to us. In fact, from practical experience in many of the institutes, students have very low opinion of the assignments given. So much so that in a couple of colleges during interactions with the students, they plainly told that these assignments are serving no purpose at all. Primarily, it is a topic which is easily searchable on the web and some copy-paste would be adequate to submit the assignment; the instructor does not really evaluate the assignment in any meaningful fashion; the assignments are really proving to be a waste of time both from the students' prospective as well as from the teacher's point of view!

It is necessary to design the assignments carefully and ensure that they do provide right kind of challenge to the students and they address some of the COs which cannot be adequately addressed in class room tests or quizzes and let the students express their view regarding the usefulness of these assignments in promoting learning. This again would be an interesting kind of exercise for the department as well as for the instructor.

General work load over the semester, in the sense that total number of assignments given, quizzes conducted, tests conducted and any other kind of assessment that is being carried out throughout the semester - taken together, how the student feels about the workload - that also can be a useful question. These are only sample questions. We could have different varieties of questions; more and less are possible.

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Learning Environment

- Positive interaction between students and Instructor existed
- Students were always allowed to interrupt the Instructor to seek clarifications
- Classroom discussions were encouraged and were well moderated
- Required learning resources were easily available
- Laboratory equipment was well maintained and there were no difficulties in conducting the required experiments

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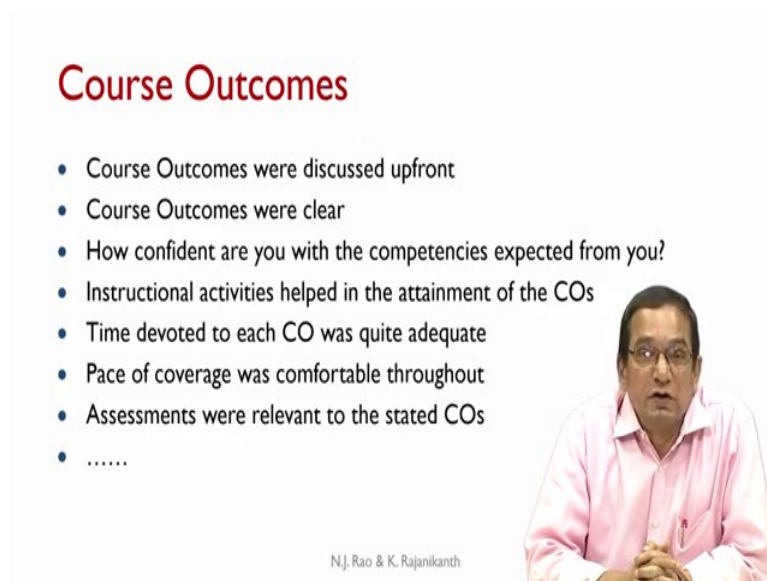
Learning environment: Some of the questions here are also related to instructor characteristics. One could argue that these actually should go into instructor characteristics! Basically, these are the issues that need to be addressed, whether we would like to put it under this category or under the category of instructor characteristics. But these are some of the issues that need to be considered.

Positive interaction between the students and instructor existed. Students were always allowed to interrupt the inspector to seek clarifications. This is very important because some of the instructors do dislike interruptions from the students. The entire lecture is completed and then the students are allowed to ask the questions. That may not be very

conducive for learning. It is helpful to know whether the students were always allowed to interrupt the instructor to seek clarifications. Classroom discussions were encouraged and were well moderated. While discussions are important, it is also necessary for the instructor to ensure that proper moderation happens. Otherwise, the discussions can go off tangentially and the classroom time can get wasted.

Required learning resources were easily available and accessible. Laboratory equipment was well maintained and there were no difficulties in conducting the required experiments; this, if the lab is integrated into the theory. Otherwise there are other issues which come up as far as the laboratory exercises are concerned. We will discuss these issues in greater detail in the next unit, i.e., when we are looking at the laboratory courses. What are the additional issues which crop up in designing the exit survey form?

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Course Outcomes

- Course Outcomes were discussed upfront
- Course Outcomes were clear
- How confident are you with the competencies expected from you?
- Instructional activities helped in the attainment of the COs
- Time devoted to each CO was quite adequate
- Pace of coverage was comfortable throughout
- Assessments were relevant to the stated COs
-

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The slide features a photograph of a man with glasses, wearing a pink shirt, sitting with his hands clasped in front of him. The background of the slide is white with a light blue border.

Course outcomes: Course outcomes were discussed up front, right in the very first class of the course. Course outcomes were clear. How confident are you with the competencies expected from you - notice that this is only a perception. Actually, whether these students are capable of demonstrating required competencies - that we are judging from their performance in the other assessment instruments - class tests, quizzes and assignments. Here we are trying to get the perception of the students - how they feel with respect to those competencies. That is why this is an indirect way of computing the COs. This is more to do with the perception of the students.

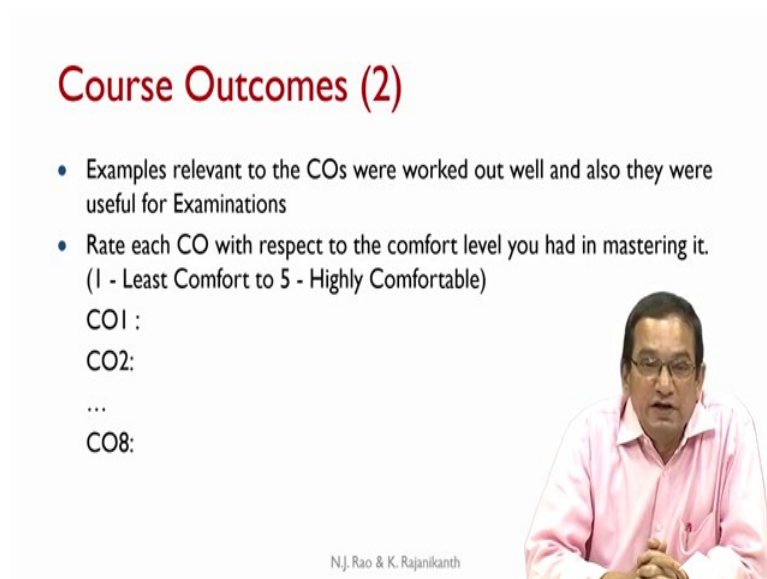
Instructional actives helped in the attainment of the COs; that means, they were aligned to the COs both with respect to the cognitive level and knowledge category of the revised Blooms taxonomy.

Time devoted to each CO was quite adequate. This is necessary because this is also related to the next question. Pace of coverage was comfortable throughout. These two are related. If the pace of coverage is not planned carefully (often it does happen that it is not planed carefully) initial COs get fairly long time, fairly undue proportion of the total time and towards the end, the pace suddenly picks up tremendously and the later COs are not covered that well.

It is essential to know whether the pace of coverage was comfortable throughout and the related question - time devoted to each CO was quite adequate. So, it is important to know these two related questions. Assessments were relevant to the stated COs and competencies. That means, assessment is in alignment with the COs. It is very important that the course outcomes, instruction and assessment - they are all aligned with each other. That is necessary for good learning by the students (discussed in earlier module).

We should get the students perception regarding the assessments; whether the assessments were relevant to the stated COs.

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Course Outcomes (2)

- Examples relevant to the COs were worked out well and also they were useful for Examinations
- Rate each CO with respect to the comfort level you had in mastering it. (1 - Least Comfort to 5 - Highly Comfortable)

CO1 :
CO2:
...
CO8:

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Examples relevant to the COs worked out well in detail and also they were useful for examinations, because examinations are also essential. They are high stake items for the students. Hence, it is important to know. Then, we could ask a general question if you want. Rate each CO with respect to the comfort level you had in mastering it. Basically from very low comfort to high comfort and we can ask them to rate each CO. Here we have just shown a sample where the course has 8 COs. Whatever be the actual numbers, we can write there.

The idea of this is to see if there is any particular CO or a small sub set of COs which are proving to be difficult for a majority of the students. Essentially, what generally are called as sticky points. So, if most of the students feel certain difficulty with respect to a small subset of COs, then we may have to do something with respect those COs the next time the course is implemented. To get that idea we can ask this kind of a question.

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Instructor Characteristics

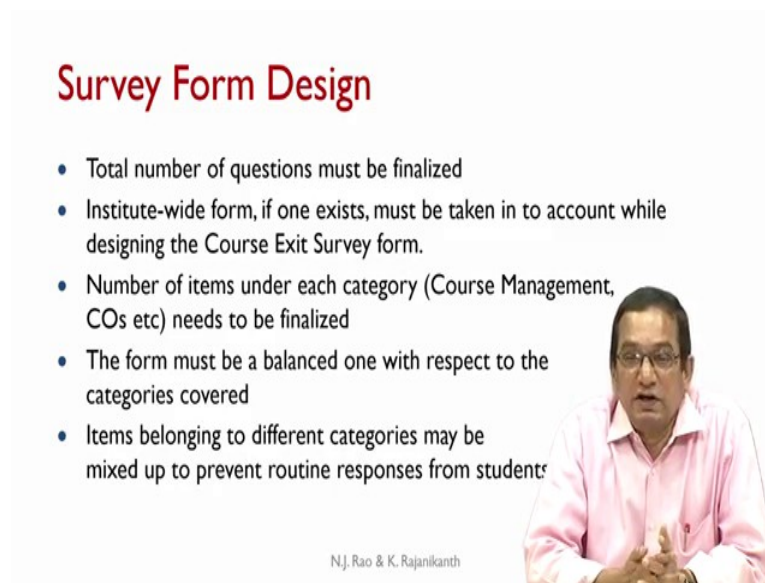
- Instructor had mastery over the content
- All the students were treated impartially
- The instructor had excellent communication skills
- The instructor encouraged the students to raise questions in the classroom
- Technical doubts were clarified well
- The general attitude of the Instructor was quite supportive
-

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Instructor characteristics: If there is an institute-wide form for faculty evaluation by students and if that form covers these aspects then we do not have to repeat them in the course exit survey. However, some of these characteristics are important. Possible questions are: Instructor had mastery over the content. All the students were treated impartially. The instructor had excellent communication skills. The instructor encouraged the students to raise questions in the class room. Technical doubts were clarified well. The general attitude of the instructor was quite supportive....

If you see, basically the instructor characteristics look at three aspects: one is the technical competence - the knowledge; another is the attitude - the supportive attitude encouraging the students; the third is in maintenance of the class decorum and discipline. So, there are three dimensions to the instructor personality and questions can be asked regarding all these three dimensions - technical competency, supportive attitude and conduct of the class in an organized and disciplined fashion.

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Survey Form Design

- Total number of questions must be finalized
- Institute-wide form, if one exists, must be taken in to account while designing the Course Exit Survey form.
- Number of items under each category (Course Management, COs etc) needs to be finalized
- The form must be a balanced one with respect to the categories covered
- Items belonging to different categories may be mixed up to prevent routine responses from students

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The slide features a video inset of a man with glasses and a pink shirt, who appears to be speaking or gesturing during a presentation.

The actual survey form, when want to design, many other issues need to be resolved. The total number of questions must be finalized. If the number of questions is too small we may not get adequate valid data. On the other hand, if there are too many questions fatigue may set in and students may not provide valid data. You need to experiment about the right length of the survey form and arrive at the right length which suits your context. Institute-wide form, if one exists, must be taken in to account while designing the course exit survey form. If it is to be integrated, we have to take an appropriate care with respect to the total number of questions and their allocation to different aspects.

Number of items under each category: course management, course outcomes, instructor characteristics. Like this, for each category, how many questions you would like to ask? That also needs to be finalized. The form must be balanced one with respect to the categories covered. Items belonging to different categories may be mixed up to prevent routine responses from students. Like, if some eight questions coming one after another

regarding the instructor's characteristics; after answering the first 3-4 questions, students may fill up the remaining ones in a routine and mechanical fashion following the same pattern (sometimes it is possible.)

Some course exit survey forms do mix up these questions. A couple of questions regarding the course outcomes, then a couple of questions regarding the instructor's characteristics; then again a question regarding course outcomes! Like this, they can mix up these questions in order to prevent routine responses from the students. (It is possible. It is up to you to decide how exactly you would like to design the survey form.)

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Questions Related to Specific COs

- Questions in the Exit Survey can be fairly general even with respect to COs.

Example:

- COs were discussed right in the beginning of the course
- Instruction was helpful in attaining the COs

- From the perspective of improving the attainment of COs next time the course is offered, it may be very helpful to ask questions specific to particular COs



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It is also possible to ask questions related to specific COs. Questions in the exit survey can be fairly general even with respect to the COs. For example, we can ask: COs were discussed right in the beginning of the course; instruction was helpful in attaining the COs. These are very general questions.

But we can also ask specific questions related to specific COs and that would help us in planning/improving the delivery of the course with respect to specific COs. So, from the perspective of improving the attainment of COs (next time the course is offered) it would be helpful to ask questions specific to particular COs.

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Questions Related to Specific COs (2)

- Responses of students to such questions will help the Instructor in identifying the “sticky points” which need greater attention next time.
- Another advantage is that such responses will allow the indirect computation of attainment of COs.



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Some of the questions can be in such a way that the responses of students would help the instructor in identifying the sticky points; the areas where the students uniformly have some difficulty. The responses of students to these questions would help the instructor in identifying such bottle necks which can be treated more carefully, in a different fashion probably, next time the course is offered. Another advantage of asking questions related to specific COs is that, the responses will allow the indirect computation of attainment of COs in a fairly simple and straightforward fashion. When the questions are related to specific COs, computation of the indirect attainment of the COs becomes fairly simple.

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Questions Related to Specific COs (3)

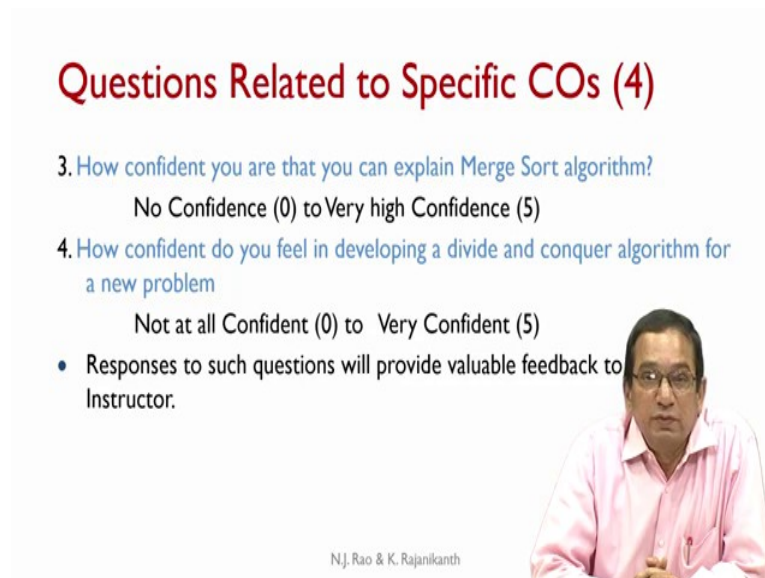
- Assume that CO3 of a course on Algorithms is related to Divide and Conquer approach.
- Some questions specific to CO3 that the Instructor can ask in the Course Exit Survey:
 1. How confident do you feel that you can determine if Divide and Conquer technique is applicable to a given specific problem.
Not Confident (0) to Highly Confident (5)
 2. Do you feel comfortable in deriving the time complexity of a given algorithm that is based on the Divide and Conquer approach?
Not at all comfortable (0) to Highly Comfortable (5)

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Related to specific COs some of the questions can be: Assume that in a course on algorithms, we have a course outcome, CO3, that is related to divide and conquer approach (this is just an example.) Some question specific to CO3 that instructor can ask in this course exit survey would be: How confident do you feel that you can determine if divide and conquer technique is applicable to a given specific problem? (not confident - 0 to highly confident - 5) Do you feel comfortable in deriving the time complexity of a given algorithm that is based on a divided and conquer approach? (Not at all comfortable - 0 to highly comfortable - 5) The specific answers would help the instructor to know to what extent the COs are being attained and to what extent there are some common problems faced by majority of the students.

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Questions Related to Specific COs (4)

3. How confident you are that you can explain Merge Sort algorithm?
No Confidence (0) to Very high Confidence (5)

4. How confident do you feel in developing a divide and conquer algorithm for a new problem
Not at all Confident (0) to Very Confident (5)

- Responses to such questions will provide valuable feedback to Instructor.

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Another question can be: How confident you are that you can explain Merge Sort algorithm? (No confidence - 0 to very high confidence - 5) How confident do you feel in developing a divide and conquer algorithm for a new problem? (Not at all confident to very confident.)

Responses to such questions will provide valuable feedback to instructor with respect to specific COs. (specifically regarding CO3.) Similarly, with respect to each CO, we can ask certain questions to get data that is quite useful.

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CO Attainment - Indirect Method

- Computing the CO Attainment using Indirect method and combining it with CO Attainment computed using Direct method was discussed in earlier module.
- Course Exit Survey aids in computing the Indirect CO Attainment.
- Average perception of students is used as the Indirect Attainment value.

Example:

- We asked 4 questions related CO3 and 65 students responded
- Let us assume that, for Question 1: 6 rated 1; 54 rated 4; and 5 rated 5. So, the average is: 3.8

Let us see how we can use this CO-specific responses to compute the attainment of the COs in an indirect fashion. Computing the CO attainment using indirect method and combining it with CO attainment computed in direct methods was broadly discussed in the earlier module. We saw that the indirect method value computed and the value computed in direct methods are usually combined in the ratio of 10 to 90; that means, the value computed using indirect method is usually given no more than 10 percent weightage and the value computed using direct methods - internal tests, quizzes, semester end examinations assignments - that is given greater weightage, typically 90%.

Computing the indirect method can be based on the course exit survey data. Course exit survey aids in computing indirect attainment particularly when questions are asked specific to COs. This is essentially average perception of students and is used as the indirect attainment value. For example, assume the following: there were four questions related one specific outcomes CO3 in a course and 65 students responded; for question 1 - 6 people rated it very low a value of 1; 54 rated it reasonably high value of 4 and 5 rated it 5 - the highest value.

The average rating of the students with respect to question 1 is $6 \times 1 + 54 \times 4 + 5 \times 5 =$ the total, divided by 65 = 3.8.

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CO Attainment - Indirect Method (2)

- Similarly, assume the average ratings for Questions 2, 3, and 4 are 4.2, 3.9, and 2.6 respectively.
- The grand average is now about 3.6
- The maximum possible value is 5
- Thus, we take the attainment of CO3 as $3.6/5 = 72\%$
- We can do similar computations for the other COs.

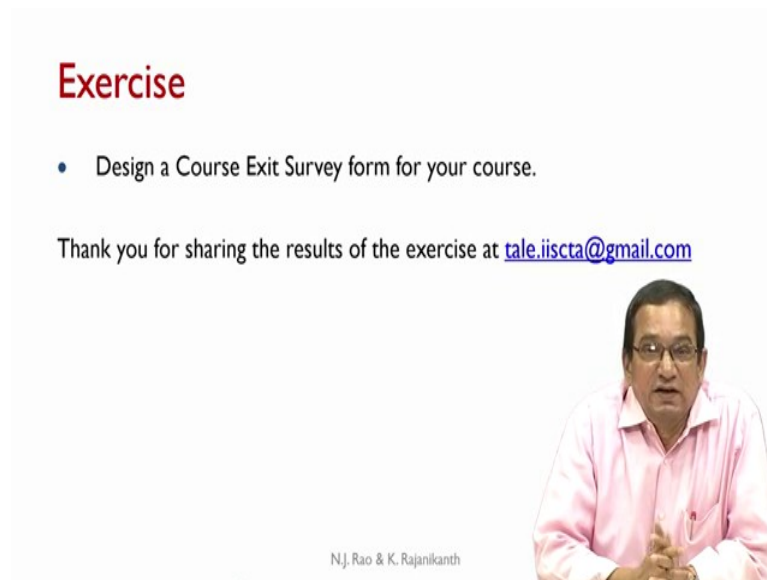
This is one fairly simple method for computing the CO Attainment using Indirect method.

Similarly assume that the average rating for questions 2, 3 and 4 are (just sample values) 4.2, 3.9 and 2.6 respectively; the average of values for all the four questions, average of 3.8 ; 4.2; 3.9 and 2.6 is 3.6

The maximum possible value, the best possible value is 5. We take the attainment of CO3 as 3.6 divided by 5 i.e., 72 percent. A very simple way of calculating the indirect attainment of the course outcomes because this is to be combined with direct attainment in the ratio of 10:90; 10percent:90 percent.

Further the specific answers, their average values also give you some kind of a clue. For example, for the first question the average value was 3.8; for the second it was 4.2; for third question it was 3.9; but for fourth question the average value was only 2.6! That means - that is the specific competency where majority of the students are not comfortable. If the questions are related to the competencies which expand a given CO, then these values can also give clues to the instructor as to which are the competencies which need probably a closer look when the course is been delivered the next time. This is one simple way of computing the attainment of COs in an indirect fashion. We can do similar computations for all other COs also.

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Exercise

- Design a Course Exit Survey form for your course.

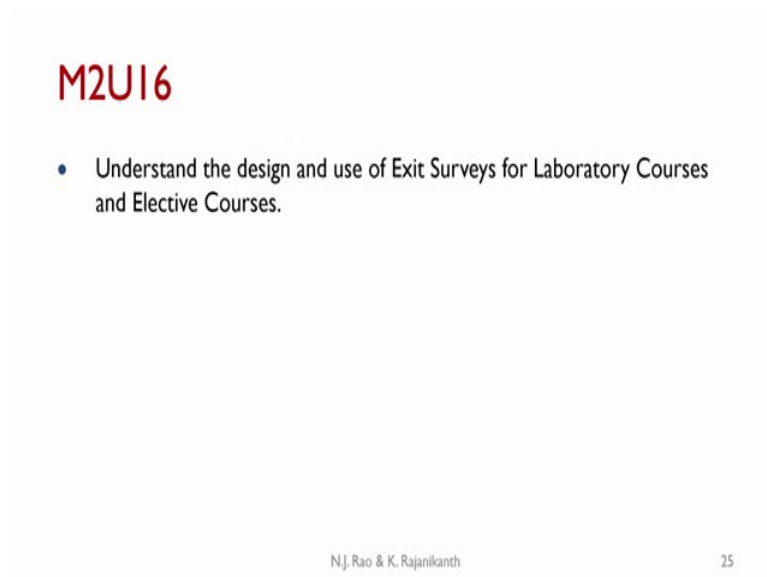
Thank you for sharing the results of the exercise at tale.iiscta@gmail.com

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The slide features a video inset of a man in a pink shirt speaking. The text is in a clean, sans-serif font, with the title 'Exercise' in red.

Exercise: Design a course exit survey form for your course and thank you for sharing the results of this exercise at tale.iiscta@gmail.com.

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M2U16

- Understand the design and use of Exit Surveys for Laboratory Courses and Elective Courses.

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In the next unit on “Understand design and use of exit survey” we will look at the laboratory courses and elective courses. This exit survey that we have designed is quite flexible; it can be used for all components of a curriculum - core courses, elective courses, laboratory courses, projects. But, when we look at laboratories and elective courses and project, certain additional considerations do come in to picture.

Thank you and we will meet you in the next unit.