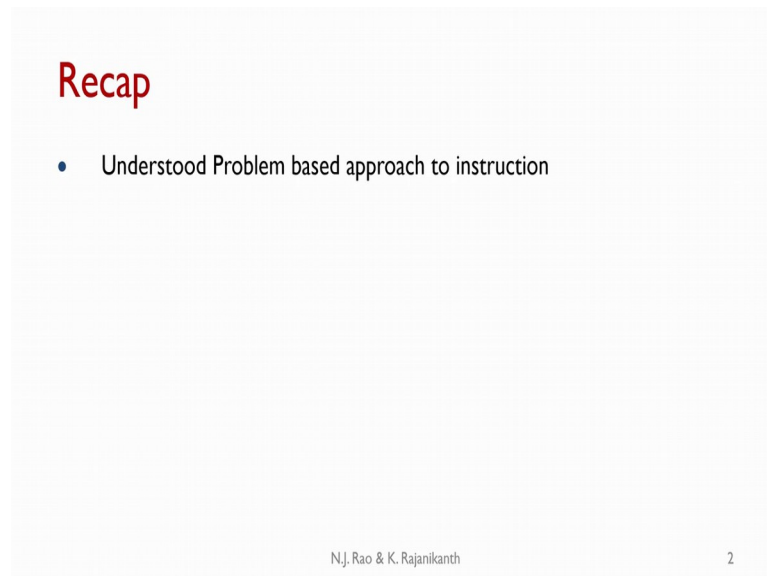


TALE – 2 Course Design and Instruction of Engineering Courses
Prof. K Rajanikanth
Former Principal, MSRIT
Indian Institute of Science, Bengaluru

Lecture – 31
Experiential Approach to Instruction

Greetings! Welcome to Module 3, Unit 13 – Experiential Approach to Instruction.

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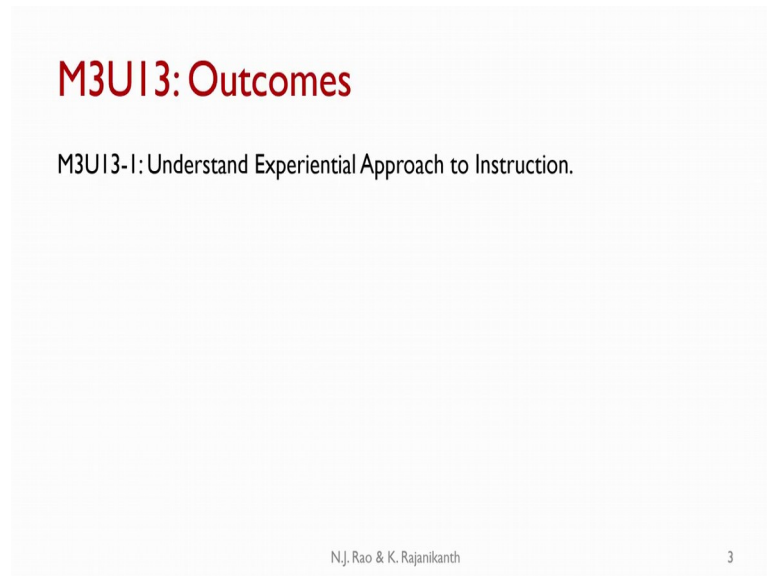
Recap

- Understood Problem based approach to instruction

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We understood problem based approach to instruction in the earlier unit.

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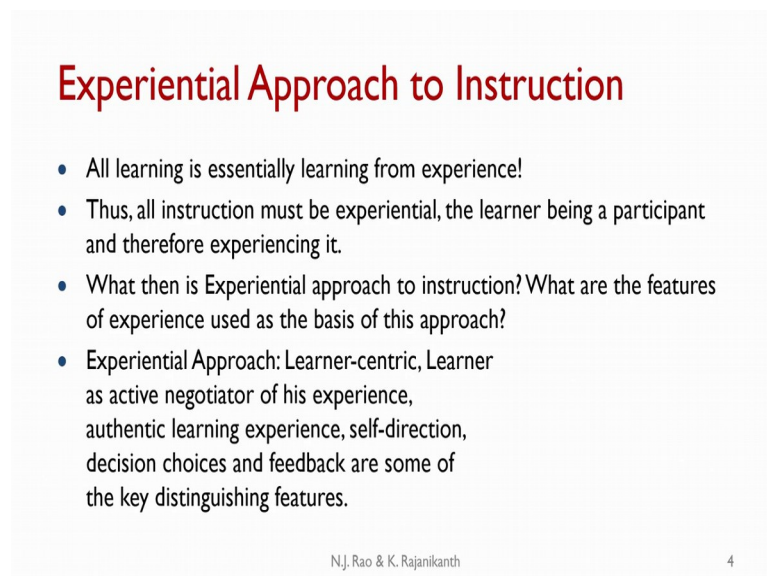
M3UI3: Outcomes

M3UI3-I: Understand Experiential Approach to Instruction.

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In this unit, we will understand experiential approach to instruction.

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Experiential Approach to Instruction

- All learning is essentially learning from experience!
- Thus, all instruction must be experiential, the learner being a participant and therefore experiencing it.
- What then is Experiential approach to instruction? What are the features of experience used as the basis of this approach?
- Experiential Approach: Learner-centric, Learner as active negotiator of his experience, authentic learning experience, self-direction, decision choices and feedback are some of the key distinguishing features.

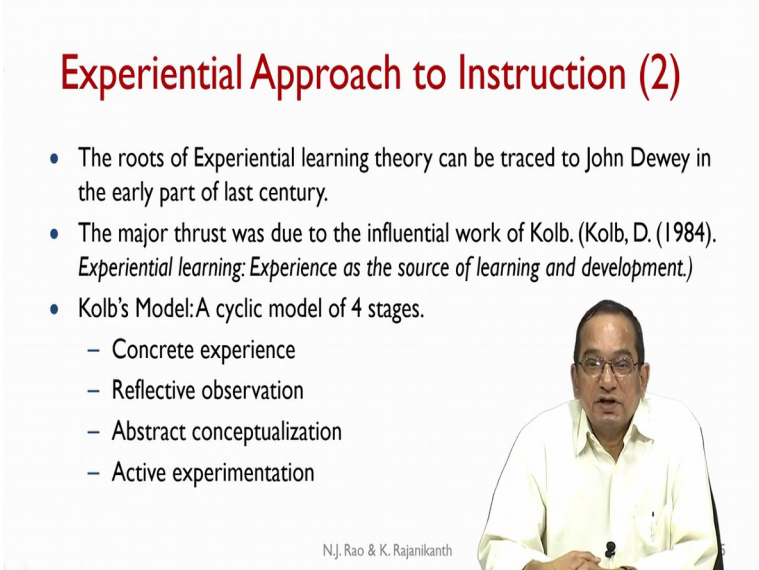
N.J. Rao & K. Rajanikanth 4

All learning is essentially learning from experience. Thus, all instruction must be experiential, the learner being a participant and therefore, experiencing it. What then is experiential approach to instruction? If all instruction must be experiential, what do we call as experiential approach to instruction? What are the features of experience used as the basis of this approach?

There are certain features; we will elaborate them as we go along. Basically, the experiential approach says that it is learner-centric; learner as active negotiator of his experience. In the original theory, the experience can be quite open ended. There is considerable latitude in what kinds of experiences are chosen by the learner. Learner as active negotiator of his experience, authentic learning experience, self-direction, decision choices and feedback are some of the key distinguishing features of what is generally called as experiential approach to instruction.

Otherwise, in a usual sense if we take experience, all instruction is experiential! But there are certain features which are used to distinguish experiential approach to instruction from other forms of instruction. Learner plays a key role here, not only she negotiates the experience, but she does the learning in a self-directed fashion. There are many decision choices and the consequences of these decisions on the experience survive the feedback. These are some of the distinguishing features of what has come to be known as experiential approach to instruction.


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Experiential Approach to Instruction (2)

- The roots of Experiential learning theory can be traced to John Dewey in the early part of last century.
- The major thrust was due to the influential work of Kolb. (Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development.*)
- Kolb's Model: A cyclic model of 4 stages.
 - Concrete experience
 - Reflective observation
 - Abstract conceptualization
 - Active experimentation

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The roots of experiential learning theory can be traced to John Dewey, all the way back to the early part of the last century. But, the major thrust was due to the influential work of Kolb, who synthesized all the research available up to that time, regarding experiential approaches. He distilled all the philosophical implications of the theories available up to

that time. Then, he came out with his own framework which he called as experiential learning; experience as the source of learning and development.

He proposed a 4 stage cyclic model. It starts with a concrete experience, a concrete experience that the learner undergoes. Having undergone the concrete experience, the learner reflects on that experience - reflective observation. Then, based on that, the learner tries to formulate the concept - abstract conceptualization. Based on this abstract conceptualization, learner does further experimentation - Active experimentation. This leads to another concrete experience, again reflective observation, conceptualization, further experimentation.

So, in a cyclic way the learner goes through these 4 stages of learning and this is the essence of Kolb's model of experiential learning. But, this model is at a fairly abstract level. When people try to implement this model in a specific program there seem to be certain difficulties and these difficulties have led to certain criticism of the Kolb's model also.

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Experiential Approach to Instruction (3)

Criticisms of the Theory of Experiential learning:

- Experience and reflection on that experience can not be neatly compartmentalized.
- Reflecting on the experience need not necessarily happen always and need not be the case for every learner.
- Retelling of experience is political – the stories we tell change according to our purpose.
- One solution: Learning process should occur within a community of learners. Use social constructivist interpretation of experiential learning.

Still, these challenges can be addressed and experiential approach to instruction can be used effectively!

In general, the experiential approach also has been criticized. One of the major points is that experience and reflection on that experience cannot be neatly compartmentalized. It is not that up to certain point of time, it is only experience and from then onwards it is reflection. Often experience and reflection co-exist. So, they cannot be really considered as two distinct, separate stages in the learning cycle - that has been one point of criticism.

Reflecting on the experience need not necessarily happen always and need not be the case for every learner. A learner may have an experience; but there may not be any need or motivation for the learner to reflect on that experience. Every learner need not reflect in the same way also. So, the idea is that the learning that can happen from reflecting on the experience can be quite different for different people.

Further, retelling of the experience is political. The stories we tell change according to our purpose; not that deliberately we try to lie, but the mind makes up its own version of the experience at a later point of time. When the learner is trying to recollect the experience and reflect on it, it may not be always a valid reflection and the learning that results from it may not be really authentic.

Of course, people have proposed a solution to this also - that learning process should occur within a community of learners. This is based in the idea that when the experiences are shared and when the learning happens in a community mode, probably the learning will be more authentic. This is based on the social-constructivist interpretation of experiential learning; that knowledge is constructed by individuals, but it is also constructed in a community. Social constructivist interpretation assumes that when the learning occurs within a community of learners the experiences are more likely to be recollected in an authentic fashion and learning is more likely to be deep.


In spite of all these criticisms, it is possible to come out with a reasonably workable experiential approach to instruction and these challenges can be addressed. People have tried experiential approach in a variety of contexts over a period of time in a variety of settings. It has been tried in formal engineering programs, formal medical programs, informal programs, community learning centers and also in a variety of other contexts.

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Experiential Approach to Instruction (4)

- Experiential approach along with Project Based Approach and Problem Based Approach are being integrated extensively into the traditional teaching methods to address the challenges of modern engineering education.
- There is relative paucity of empirical evidence of *what works* when experiential approach to instruction is implemented in an engineering program though considerable anecdotal evidence does exist that such an approach is quite effective!
- Like PrBl and PBl, the term “Experiential Approach” is being used in several different senses!

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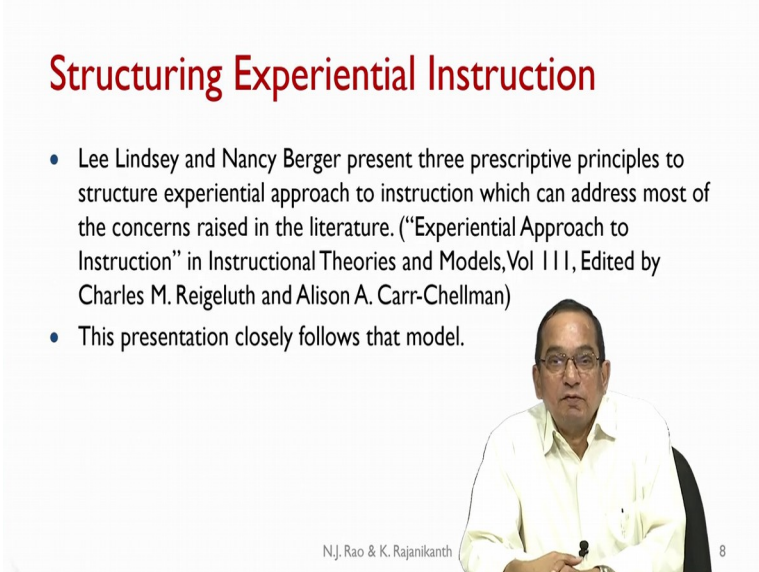
Experiential approach along with project based approach and problem based approach (which we discussed in the previous two units) are being integrated extensively into the traditional teaching methods to address the challenges of modern engineering education. In the earlier unit also we saw that the modern engineering education is really facing a large number of challenges. Many of the POs formulated by the NBA cannot be addressed by the traditional teaching methods, the traditional engineering courses. The professional skills required cannot be really imparted to the learners using the traditional methods.

People are experimenting with different approaches to face these challenges. These three (experiential approach, project based approach and problem based approach) have been very popular in the recent years. Of course, there is relative paucity of empirical evidence of what really works when experiential approach to instruction is implemented in engineering program. What we have is considerable anecdotal evidence that, such an approach is quite effective. Still, controlled experiments giving strong empirical data on what really works particularly in Indian context is not yet available. Still there are institutes which are trying the experiential approach to instruction.

Again, like project based approach to instruction, problem based approach to instruction, the term experiential approach is also being used in several different senses. When you see some of the case studies reported as experiential approach to instruction, they almost

look like project based approaches. So, the term is being used somewhat in a slightly vague sense or in a slightly expanded sense in quite a good number of cases reported in the literature. In fact, the project based approach, the problem based approach and experiential approach - they all seem to be being used in more or less interchangeable fashion. Though they share many features; but they are distinct approaches.

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Structuring Experiential Instruction

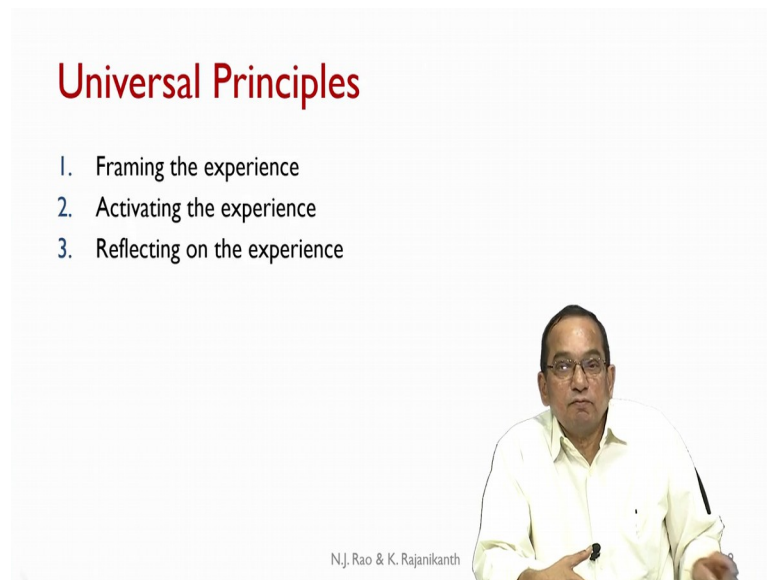
- Lee Lindsey and Nancy Berger present three prescriptive principles to structure experiential approach to instruction which can address most of the concerns raised in the literature. (“Experiential Approach to Instruction” in Instructional Theories and Models, Vol III, Edited by Charles M. Reigeluth and Alison A. Carr-Chellman)
- This presentation closely follows that model.

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Based on the theory that was available up to that point of time and based on the empirical evidence that was available up to that time, based on the case studies reported in the literature up to that time; Lindsey and Berger present three prescriptive principles to structure the experiential approach to instruction and according to them these principles can address most of the concerns raised in the literature.

This is available in the Instructional Theories and Models, Volume III, edited by Reigeluth and Carr-Chellman. This presentation closely follows that model.

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Universal Principles

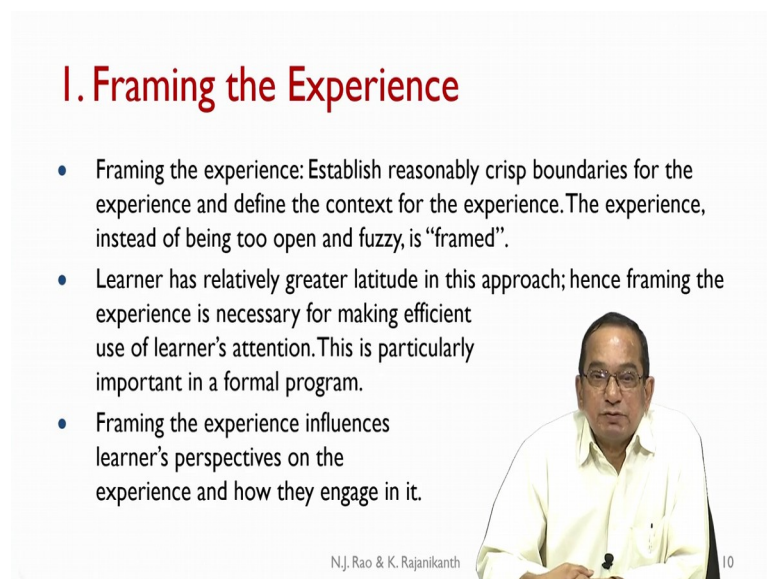
1. Framing the experience
2. Activating the experience
3. Reflecting on the experience

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The slide features a photograph of a man in a light-colored shirt and glasses, speaking into a microphone. The text is positioned to the left of the photo.

There are three universal principles to the experiential approach: framing the experience, activating the experience, reflecting on the experience. Under each principle there are sub - principles and then there are variations based on the specific situations.

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I. Framing the Experience

- Framing the experience: Establish reasonably crisp boundaries for the experience and define the context for the experience. The experience, instead of being too open and fuzzy, is “framed”.
- Learner has relatively greater latitude in this approach; hence framing the experience is necessary for making efficient use of learner’s attention. This is particularly important in a formal program.
- Framing the experience influences learner’s perspectives on the experience and how they engage in it.

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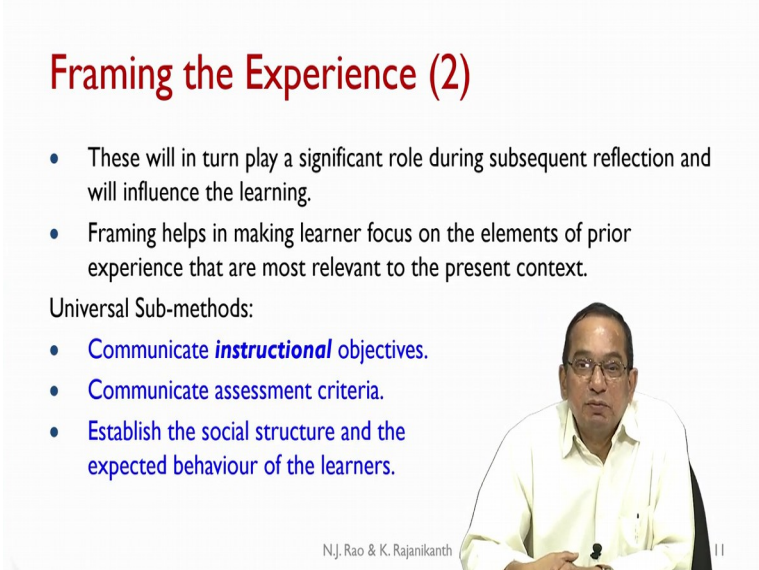
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First let us look at framing the experience. What we mean by framing the experience? In the traditional theory of experiential learning, the experience negotiated by the learner was quite vague. Learner had relatively great latitude in the choice of the experience; but in a formal program that could not be very efficient.

Framing the experience means: establish reasonably crispy boundaries for the experience and define the context for the experience. The experience, instead of being too open and fuzzy, is 'framed.' Put a frame around the experience and that is necessary to make the process efficient. This framing of the experience is necessary for making efficient use of learner's attention. This is particularly important in a formal program because in a formal program, we have the entire instruction schedule in a tightly organized fashion. Time wise, the schedule wise, the number of courses - all these follow a fairly, reasonably rigid kind of schedule. So, we cannot allow too much of openness into the experience.

We need to frame the experience when the experiential approach is used in a formal program. The original conception did not put such limitations. But when we wish to implement it in a formal engineering program, we have to put certain limitations on what kinds of experiences are allowed. Framing the experience influences the learner's perspective on the experience and how they engage in it because every experience can be looked at from multiple perspectives.

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Framing the Experience (2)

- These will in turn play a significant role during subsequent reflection and will influence the learning.
- Framing helps in making learner focus on the elements of prior experience that are most relevant to the present context.

Universal Sub-methods:

- Communicate **instructional** objectives.
- Communicate assessment criteria.
- Establish the social structure and the expected behaviour of the learners.

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The slide features a photograph of a man in a white shirt and glasses, likely the speaker, positioned in the bottom right corner. The text is presented in a clean, professional layout with red and blue highlights for emphasis.

This 'framing the experience' will in turn play a significant role during the subsequent reflection also and thus it will influence the learning also. Framing helps in making learner focus on the elements of prior experience that are most relevant to the present context. Given that, presently there is an experience through which the learner is going, which elements of the previous experience are most relevant? If there is no framing of

the current experience, learner may have considerable difficulty in recalling elements from the previous experience that are most relevant and most helpful in reflecting on the current experience. So, framing is quite helpful.

This has again three universal sub-methods: communicate the instructional objectives, communicate assessment criteria, and establish the social structure and the expected behavior of the learners.

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Framing the Experience (3)

Communicate *Instructional Objectives*:

- Course Outcomes
- Reason for and purpose of engaging in the experience
- Provides the context for the activities. Same activity can lead to different experiences and different learning outcomes!
- Example: A student team is interacting with producers of perishable agricultural products in a local community. Purpose can be to elicit the requirements for the design of a Supply Chain Management System or it can be to understand the use of specific technologies in their production activities.

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The first one is instructional objectives. Notice that this is instructional objectives and is more than the learning outcomes or the course outcomes. Because experiential approach gives considerable freedom to the learner, we need to communicate the learners the overall context of the experience. Certainly we communicate course outcomes; that is very essential; but beyond that, we also inform the learners the reason for and purpose of engaging in that experience.

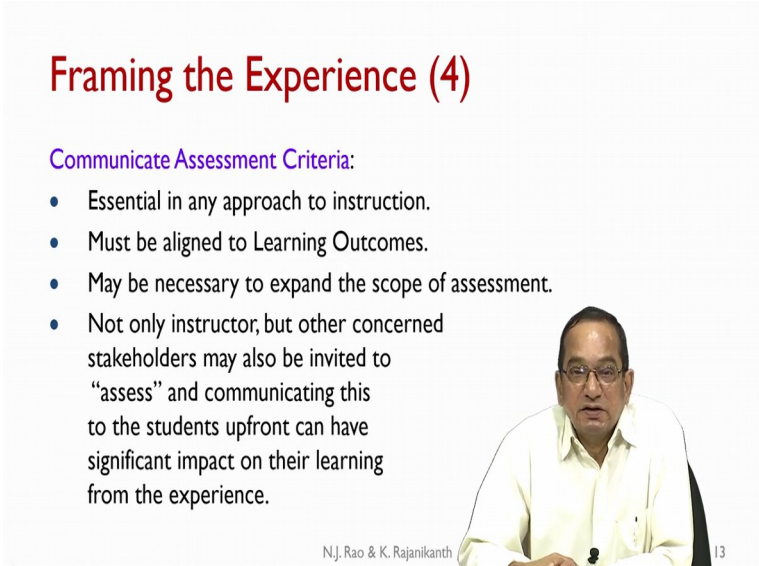
Why the experience has been framed that way? What is the reason for engaging in that experience? What is the purpose? This provides the context for the activities. During the experience, learners undertakes several activities and this communication provides the context for those activities. Because same activity can lead to different experiences and different learning outcomes depending upon what is the perspective in which learner looks at those experiences.

As a simple example, let us say a student team is interacting with producers of perishable agricultural products in a local community (maybe some kind of fruits or some other things which are perishable products, agricultural products.) The purpose of providing an experience like this to the learners can be to elicit the requirements for the design of a supply chain management system. If that is so, the way the learners look at the experience, the kind of activities they undertake, the kind of information that they try to gather would all be different.

On the other hand, if the purpose is to understand the use of specific technologies (say a low cost version of cold storages) in their production activities, the whole experience would acquire a new hue. So, it is necessary to communicate the reason for and purpose of engaging in the experience.

In the traditional model, this was not emphasized. But in a formal program, when we introduce experiential approach, it is necessary for us to provide this kind of additional information, so that learning occurs in a particularly focused manner and the experience really contributes to the attainment of the course outcomes. We provide the information regarding the instructional objectives.

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Framing the Experience (4)

Communicate Assessment Criteria:

- Essential in any approach to instruction.
- Must be aligned to Learning Outcomes.
- May be necessary to expand the scope of assessment.
- Not only instructor, but other concerned stakeholders may also be invited to “assess” and communicating this to the students upfront can have significant impact on their learning from the experience.

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The slide features a video inset of a man in a white shirt and glasses speaking. The text is presented in a clean, professional layout with a red title and purple sub-header.

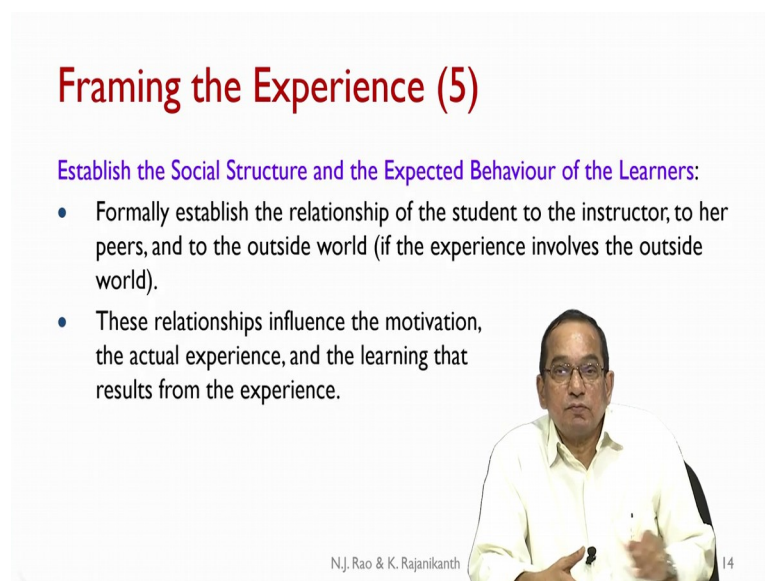
We also need to communicate assessment criteria because this (we have been repeatedly telling that in any instruction model, assessment is really very, very important and crucial) must be aligned to learning outcomes. But, in the case of experiential approach it

may be necessary to expand the scope of assessment; in the sense that the learning from the experience needs to be assessed; not just the final result or the final outcome.

In order to give a realistic feedback to the learners, it may be necessary that not only the instructor, but other concerned stakeholders may also be invited to assess. And communicate this to the students upfront; that assessment will be like this. And this can have significant impact on the learning from the experience. In the previous example, if you look at it, once the students propose a solution, it may be worthwhile to invite the actual end users for their comments on the solution. By communicating this to the learners upfront, we are providing a context for the assessment also to the learners. They know that the solution will be actually assessed by the intended end users.

The way they look at the experience, the learning they gain from the experience will all be influenced by this and thus we have to expand the scope of assessment. This may not directly lead to the grades, but it must have a bearing.

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Framing the Experience (5)

Establish the Social Structure and the Expected Behaviour of the Learners:

- Formally establish the relationship of the student to the instructor, to her peers, and to the outside world (if the experience involves the outside world).
- These relationships influence the motivation, the actual experience, and the learning that results from the experience.


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The slide features a photograph of a man in a white shirt and glasses, likely the speaker, positioned in the bottom right corner. The text is presented in a clean, professional layout with a red title and purple sub-heading.

Then, establish the social structure and the expected behavior of the learners. We must formally establish the relationship of the student to the instructor because there is considerable freedom given to the learner. What actually is going to be the relationship between the student and the instructor, and relationship to her peers and to the outside world if the experience involves the outside world?

That is particularly important because if the students are really going into the outside world to interact with people there, we need to be very careful to ensure that the interaction occurs along well directed, structured lines. So, we must establish proper social structure. These relationships influence the motivation, the actual experience, and the learning that results from the experience.

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2. Activating the Experience

- This phase can involve the use of prior experience (Merrill's Activation Principle) in addition to the creation of new experience
- Key Characteristics:
 - Authentic Experience
 - Decision Making by Learners
 - Problem Orientation
 - Complexity of the Experience

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The second universal principle is activating the experience. This phase can involve the use of prior experience (this more or less corresponds to Merrill's Activation Principle) in addition to the creation of new experience. The key characteristics are that it must be authentic experience. There must be scope for decision making by the learners and the experience must be having problem orientation, and the level of complexity or the difficulty of the experience must be judged carefully. So, the complexity of the experience is another important sub-principle.

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Activating the Experience (2)

Authentic Experience:

- Learning improves as the instruction context becomes more authentic.
- Tasks and context in the experience need to be “similar” to the tasks and context that the learners will encounter in their professional life.
- Use simulation if required to avoid dangerous consequences!



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The learning improves as the instruction context becomes more authentic. The tasks and the context in the experience need to be quite similar to the tasks and context that the learners will encounter in their professional life - that is the meaning of the experience being authentic. Similar cognitive levels, similar nature of the knowledge categories, similar kind of constraints (the context is also similar and the task is also similar,) but maybe less complex in scope, but the essential nature is quite similar.


This makes the learning much better and if the actual experience can have dangerous consequences, then use simulation if that is required. For example, if the actual experience involves working in an environment which is hazardous, obviously we do not want the students to work in that environment. So, we can use simulation models.

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Activating the Experience (3)

Decision Making by Learners:

- “Experience” activated must have decision making by learners as a feature.
- Such decisions must have authentic consequences.
- Examples: The experience is solving a community problem discussed earlier. Learners must make decisions regarding materials, reliability, cost etc when they attempt a solution to the problem.



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The situation, the experience must be such that learners can make decisions. There are choices and the consequences of these decisions must be experienced by the student. There must be scope for decisions and the decisions must have authentic consequences. For example, if the experience is solving a community problem (probably the one which we discussed earlier) learners must make decisions regarding the materials to be used, the reliability of the solution, the cost.


When they attempt a solution based on these decisions, that solution will differ based on the choices that they have made. Learners must experience this; i.e., learners must see that their decisions have a consequence and they must experience that consequence. These decisions must have authentic consequences and feedback on these authentic consequences will help the learning of the students.

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Activating the Experience (4)

Problem Orientation:

- The experience must be problem-oriented to the extent feasible (Merrill's problem - centered principle!)
- Experiential learning generally involves a core issue or a problem that must be analyzed and then brought to a conclusion.
- The activities and the decisions made during the experience and the later reflection and feedback received occur in the context of the problem and this promotes learning.



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The experience must be problem oriented to the extent feasible. This again corresponds to Merrill's problems-centered principle. Experiential learning generally involves a core issue or a core problem that must be analyzed and then brought to a conclusion. The experience is usually framed and centered around a specific problem.


The activities and the decisions made during the experience and the later reflection and feedback received occur in the context of the problem and this promotes learning. The kind of problems that we choose, the kind of setting in which the problem is posed could differ, but the experience must have a problem orientation.

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Activating the Experience (5)

Complexity of the Experience:

- The experience must be complex or difficult enough so that it challenges the students.
- It must not be so difficult or complex that students get switched off.
- Challenge the students at the right level!
- However, the choice of what is the right level is an issue of judgement as the experiential approach values learning that can occur even from failures!



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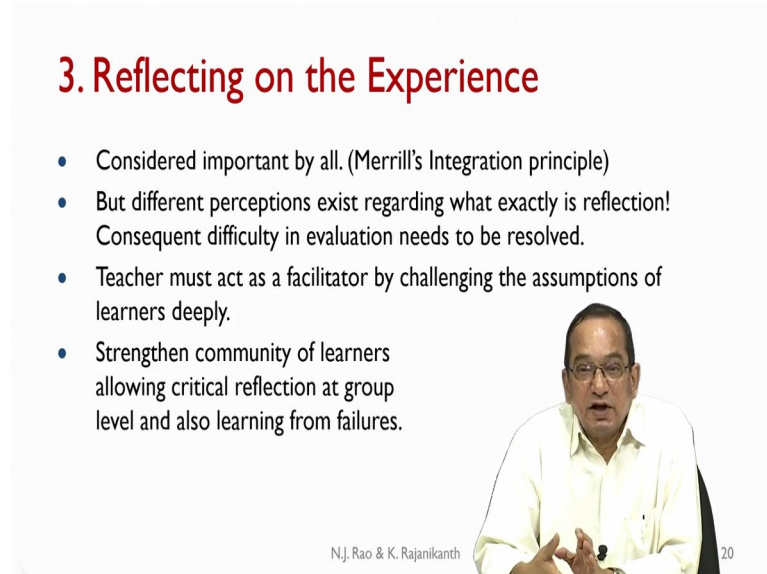
Then, the last sub-principle is that the experience must really be challenging. The experience must be complex or difficult enough so that it challenges the students. If it is too easy, the learning is not likely to be really interesting for the students. On the other hand, it must not be so difficult or complex that the students get switched off; they become negatively motivated. ‘There is no use in trying to solve this. It is too difficult’ kind of early withdrawal should not happen. Challenge the students at the right level.

However, the choice of what is right level is an issue of judgment; instructor has to make this judgment because experiential approach values learning that can occur even from failures. This is a very distinguishing feature of experiential approach which we will not find in project-based approach or problem-based approach. In experiential approach, experiences which lead to successful results are valuable; experiences which lead to failures are also valuable. The lessons that the students draw from the failures are also valuable.

Specific decisions made by the students may lead to failures. But, there is a learning which happens and the students learn from those failures also. And instructor is interested in that learning also. That is a very important characteristic of experiential approach to instruction. But, for this to happen of course, the students must be open enough, confident enough to admit the failures and they must be sincere enough to learn from the failure. We later see what kind of mechanisms can support this kind of a thing.

So, sometimes it may be useful to set a problem which is at a slightly higher level. These are all the decisions that the instructor has to make.

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3. Reflecting on the Experience

- Considered important by all. (Merrill's Integration principle)
- But different perceptions exist regarding what exactly is reflection! Consequent difficulty in evaluation needs to be resolved.
- Teacher must act as a facilitator by challenging the assumptions of learners deeply.
- Strengthen community of learners allowing critical reflection at group level and also learning from failures.

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Then, the last principle is reflecting on the experience, a key element of experience based approach to instruction. This is considered important by all. This is more or less like Merrill's integration principle, but perceptions differ as to what exactly is meant by reflection. (It is very difficult to evaluate the reflection that the students go through.) There is difficulty in evaluation and instructors must address this upfront, probably sitting with the students; they must develop the rubrics for evaluating the reflection.


Teacher must act as a facilitator by challenging the assumptions of the learners deeply, question again and again, so that the learners really are forced to reflect on that experience in a deep fashion. Strengthen community of learners allowing critical reflection at a group level and also learning from failures. (As I mentioned,) it may be somewhat difficult for a student to admit failures and learn from the failures, if she is in an isolated context. But, by creating suitable learning communities, we can make a strong case for learning from failures also.

The student community can support each other and faculty also must support the entire process and then it is possible that the group as a whole can learn from failures also. Reflection on the experience could really lead to learning even in the case of failures.

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Reflecting on the Experience (2)

- Establish social-constructivist learning environment enabling reflection by all the learners.
- The reflecting process may involve all the students answering:
 - What happened?
 - Why did it happen?
 - What have I learned?
 - How would I apply this knowledge to future experience?




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That is the reason for establishing social-constructivist learning environment. This will enable reflection by all the learners; everyone will be able to participate. The reflecting process may involve all the students answering the questions like what really did happen? Why did it happen? What have I learned from this? How they apply this knowledge to future experiences? Note that it is very important that every student in the team must answer these questions individually. Collectively they learn, but the reflection must occur at the individual level also.

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Situational Issues and Implementation Tips

- Instructor may have to provide didactic instruction initially to give the learners the foundational prerequisite knowledge required for them to engage in and interpret the new experience.
- Establish ethical environment. This is particularly important when the planned experience requires the students to work with outside world. (Example: Teams working with visually challenged children while engaged with the problem of developing “Braille Tutor”.)



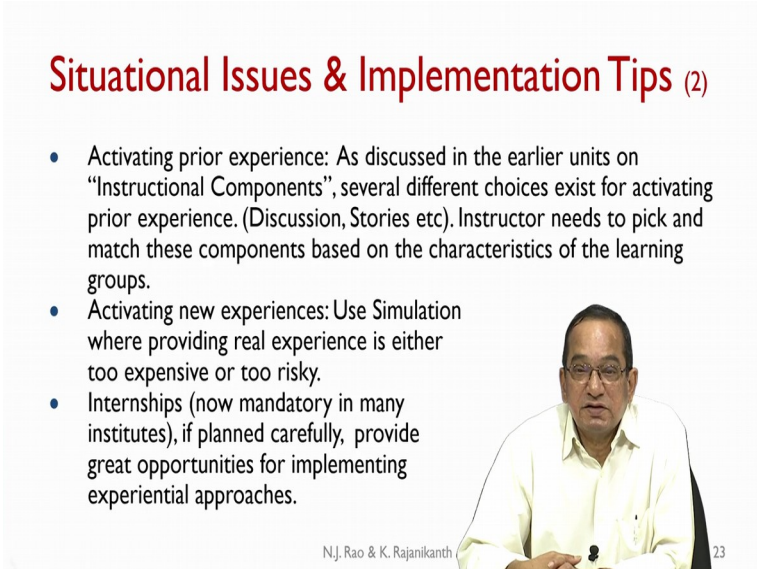
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There are situational issues and implementation tips. Instructor may have to provide didactic instruction initially to give the learners the foundation (prerequisite knowledge) required for them to engage in and interpret the new experience. Sometimes, the prerequisite background knowledge may not be there with the learners. So, the instructors may have to spend, initially, certain sessions either through direct instruction or through some other mechanism, to provide the relevant background knowledge.

Establish an ethical environment. This is particularly important when the planned experience requires the students to work with the outside world. You must be create a sense of ethical behavior in the students and train them in proper interaction with the outside world.

Example: Teams working with visually challenged children, while engaged with the problem of developing a Braille Tutor. One must be trained on how to interact with visually challenged children so that the interaction remains constructive. This may not always be possible for every student. So, the instructor must ensure that students receive proper training and proper ethical environment is established before they are allowed to interact with the outside world.

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Situational Issues & Implementation Tips (2)

- Activating prior experience: As discussed in the earlier units on “Instructional Components”, several different choices exist for activating prior experience. (Discussion, Stories etc). Instructor needs to pick and match these components based on the characteristics of the learning groups.
- Activating new experiences: Use Simulation where providing real experience is either too expensive or too risky.
- Internships (now mandatory in many institutes), if planned carefully, provide great opportunities for implementing experiential approaches.

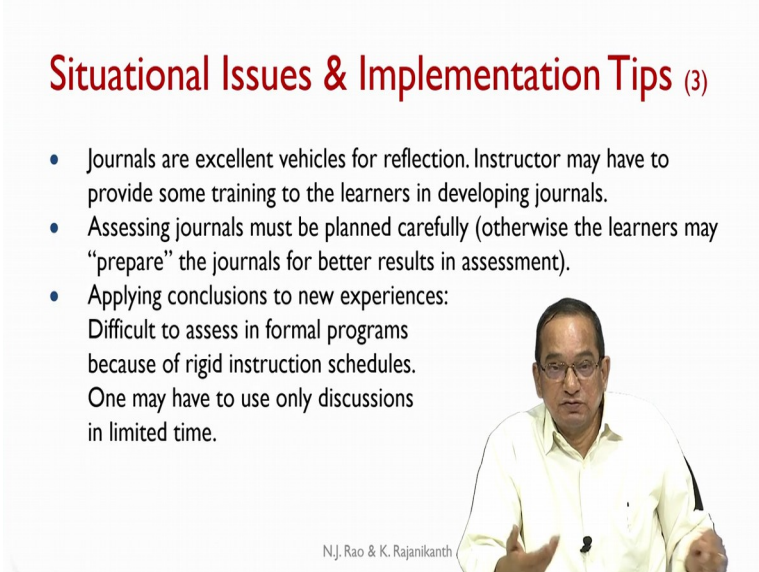
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Activating prior experience: (as discussed in the earlier units also on the instructional components) Several different choices exist for activating prior experience - discussion, stories etc. Instructor needs to pick and match these components based on the

characteristics of the learning groups. Activating new experiences – use simulation where providing real experiences is either too expensive or too risky. We already saw the case of risky environment. Even if it is expensive, we may have to provide only simulation based experience and experience based on simulation also works reasonably well, studies have shown, if other principles of experiential learning are followed.

Internships which has now become mandatory in many institutes, if planned carefully, provide great opportunities for implementing experiential approach because internship in some sense is actually the learners going through experience which is quite similar to the professional experience that they are likely to get later. Internships provide a great opportunity for implementing experiential approach if you follow the entire process carefully; in the sense that setting the context to any experience, communicating the assessment criteria, making the students reflect on that experience - if you follow all these principles, internships can become quite useful in terms of learning by the students.


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Situational Issues & Implementation Tips (3)

- Journals are excellent vehicles for reflection. Instructor may have to provide some training to the learners in developing journals.
- Assessing journals must be planned carefully (otherwise the learners may “prepare” the journals for better results in assessment).
- Applying conclusions to new experiences:
Difficult to assess in formal programs because of rigid instruction schedules.
One may have to use only discussions in limited time.

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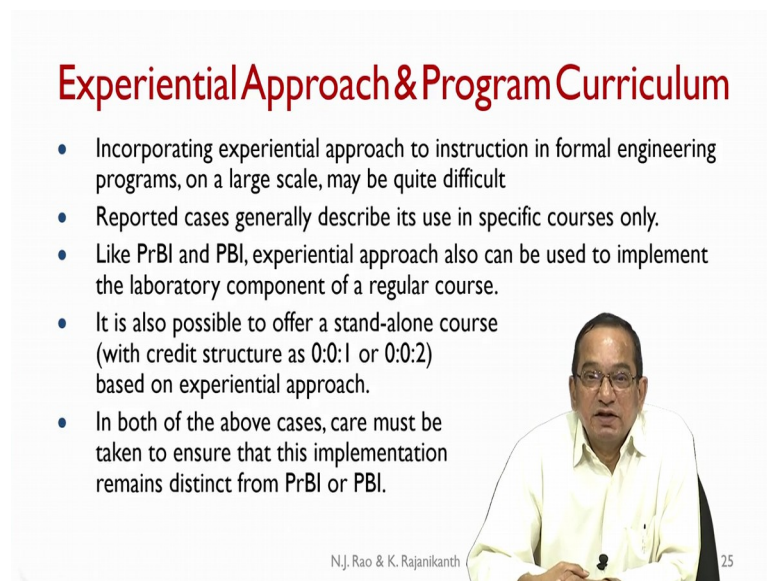


We already discussed earlier also once, that journals are excellent vehicles for reflection. What are the experiences that the learner goes through? As and when it happens, they record that in a journal and at the end, a summary of the journal entries can provide an extremely good basis for reflection. But, instructors may have to provide some training to the learners in developing journals.

Assessing journals must be planned very carefully; otherwise students may not maintain a genuine journal. They might synthesize a journal which leads to better grading. It is very, very important that the assessment criteria should not bias the way students develop their journals. Journals must record the authentic experiences of the student; then only learning can occur from the experience.

Applying conclusions to new experience may be very difficult to assess in formal programs because of rigid instruction schedules. One may have to use only discussions in limited time. Discussions with the student groups; asking them - how you would use this experience in a new situation like this; describe the situation and ask the students how would they apply their knowledge; maybe only a limited discussion is possible in a formal program!

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Experiential Approach & Program Curriculum

- Incorporating experiential approach to instruction in formal engineering programs, on a large scale, may be quite difficult
- Reported cases generally describe its use in specific courses only.
- Like PrBI and PBI, experiential approach also can be used to implement the laboratory component of a regular course.
- It is also possible to offer a stand-alone course (with credit structure as 0:0:1 or 0:0:2) based on experiential approach.
- In both of the above cases, care must be taken to ensure that this implementation remains distinct from PrBI or PBI.

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Where do we implement the experiential approach in the program curriculum? Incorporating experiential approach to instruction in formal engineering programs, on a large scale, may be quite difficult, because usually our programs are very tightly scheduled. There is considerable amount of material that needs to be handled in the direct instruction, and generally the schedules are fairly tight. It may be very difficult to incorporate experiential approach on a very large scale. In fact, the same is true even with project based approach/problem based approach. They can be implemented only in selected semesters, in selected courses; not on a very large scale.

Reported cases also generally described that it is used in specific courses only. So, like project based approach or problem based approach, experiential approach also can be used to implement the laboratory component of a regular course. Instead of the laboratory being a series of predefined exercises, it can be an experience through which the students go through and then they reflect on the experience and create a journal which can serve as the laboratory component of a regular course. It is possible to implement like that. Any regular course which has a lab component can be turned into an experiential approach.

It is also possible to offer a stand-alone course with a credit structure of 0 theory, 0 tutorial, 1 lab; or 0 theory, 0 tutorial, 2 credits of lab and that can be based on experiential approach. Obviously, this cannot be offered too often, but certainly in 2, 3, 4 semesters, this can be offered.

In all of these above cases, care must be taken to ensure that this implementation remains distinct from project based approach or problem based approach. In fact, (as I mentioned) some of the case studies reported as experiential approach to instruction almost looked like project based approaches! Not that there is anything wrong with it, but when we wish to implement experiential approach, we must follow the principles of experience based approach. One has to be careful in implementing this in a particular formal program.

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Experiential Approach & Program Curriculum (2)

- Now that Internship is mandatory, Institutes can leverage this opportunity to implement experiential approach effectively and efficiently.
- Some institutes are using technologies like AVR to implement experiential approach to provide training in specific areas like maintenance.
- In Management programs, it is possible to introduce experiential approach, based on field training, in courses on Marketing, Services etc.

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Now, that (as I said) internships are mandatory. Institutes can leverage this opportunity to implement experiential approach effectively and efficiently. Some institutes are using technologies like even AVR - Augmented Virtual Reality, to implement experiential approach to provide training in specific areas like maintenance.

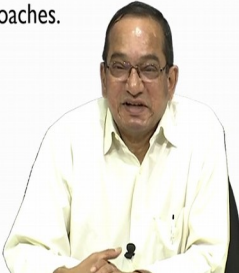
In management programs, it is possible to introduce exponential approach, based on field training, in courses on marketing, service sector etc and some institutes have tried this. Basically, service learning can be experience based.

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PrBI, PBI, and Experiential Approaches

Project Based Approach, Problem Based Approach, and Experiential Approach:

- All of them are based on the principle of “learning by doing”.
- Yet, they are all distinct approaches.
- The focus, the process, the end results expected are somewhat different.
- Difficulty in implementing on a large scale in a formal engineering program is a common feature of these approaches.
- All are being used to address the current challenges in engineering education.
- Institutes must decide on the approach/ approaches to be used and the extent of their use in the program curriculum.



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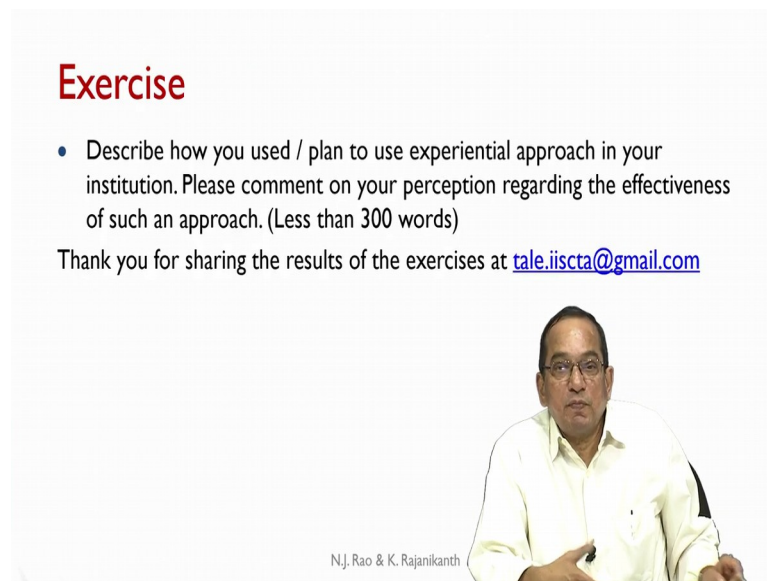
The three approaches which we have discussed in the last two units and this unit - they are all related in some sense; in the sense that they all are based on the principle of learning by doing – project based approach, problem based approach and experiential approach. All of them are based on the principle of learning by doing. Yet, they are distinct approaches.

The focus, the process, the end results expected is somewhat different. Difficulty in implementing on a large scale in a formal engineering program is a common feature for all these three approaches. All are being used to address the current challenges in engineering education. What is the extent to which these programs, these approaches can be implemented in formal programs, in which mix these approaches should be tried - they are all situational issues. Institutes must decide on which approaches they wish to

use and what is the extent to which these approaches need to be integrated into their formal program.

As there are no recipes which guarantees success, Institutes must experiment and decide what is the best thing that works for them. Over a period of time, they have to evolve what kinds of approaches are best suited for that specific context.

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Exercise

- Describe how you used / plan to use experiential approach in your institution. Please comment on your perception regarding the effectiveness of such an approach. (Less than 300 words)

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

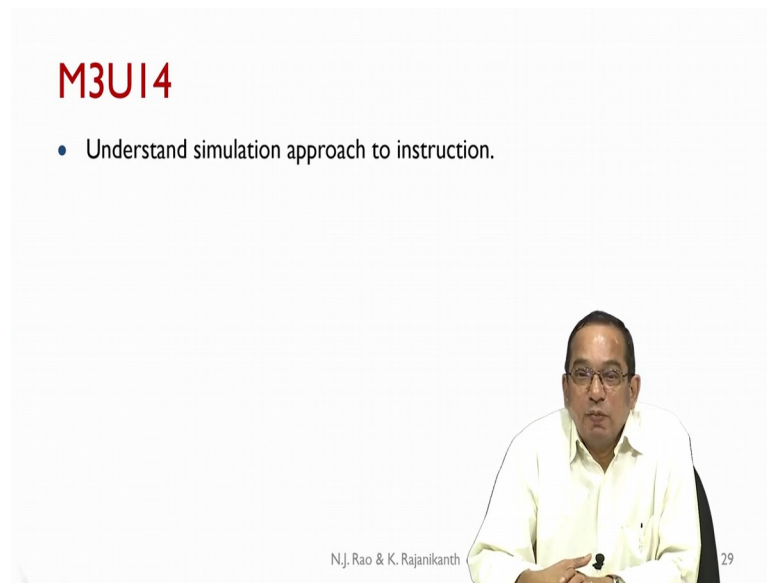
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The slide features a photograph of a man with glasses and a light-colored shirt, positioned in the lower right quadrant. The text is centered and left-aligned, with the title 'Exercise' in a larger, bold font.

Describe how you use or plan to use experiential approach in your institution. Please comment on your perception regarding the effectiveness of such an approach. If possible please use less than 300 words, but if you really feel that you need more, fine. Please share your experience.

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

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M3U14

- Understand simulation approach to instruction.

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In the next unit, we understand simulation approach to instruction. What is the context in which simulation can be used, what are its strength limitations, what are its advantages - that is what we will discuss in the next unit. Until then we will wait.

Thank you.