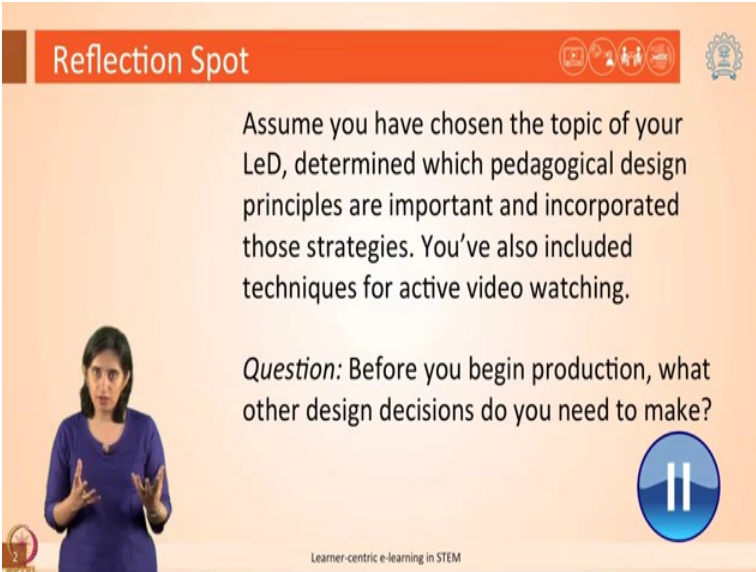


**Designing learner-centric e-learning in STEM disciplines**  
**Prof. Sahana Murthy**  
**Interdisciplinary Programme in Educational Technology**  
**Indian Institute of Technology, Bombay**

**Lecture - 20**  
**Putting it all together**

In this course, so far for the majority of the course what we have discussed are the pedagogical design principles to address learner cognitive engagement and learning when we are designing e-learning. When we take a learner centric approach to designing our e-learning content, how do we implement these pedagogical design principles? For example, we saw that in order to implement active video watching we can include something like a reflection spot or if we want to address learner's conceptual understanding then we can include activities around the simulation. Before we go on let us pos a reflection spot.

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**Reflection Spot**

Assume you have chosen the topic of your LeD, determined which pedagogical design principles are important and incorporated those strategies. You've also included techniques for active video watching.

*Question:* Before you begin production, what other design decisions do you need to make?

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Assuming you know the topic of the learning dialogue and you have determined which pedagogical design principles are important and how you will apply those strategies. Assume you have done all these. You have also included some reflection spot, for learn engagement within your learning dialogue.

Now, before you begin production of this learning dialogue of this video, what are other design decisions that you need to make. Pause for a moment and try to write down as many other design decisions that we have not addressed, that we have not covered so far, that you will need to make before you actually begin producing your video. For example, before you begin recording it, and editing it and so on.

(Refer Slide Time: 01:51)



The slide features an orange header bar with the title "Discussion of Reflection Spot" and several small circular icons. Below the header, the text reads: "Before we begin production need to make several other design decisions:". This is followed by a bulleted list: "• Selecting media, technology", "• Integrating technology", "• Visual communication", "• Interaction design", and "• ...". Below the list, the phrase "Consider learner experience" is written in italics. On the left side of the slide, there is a video inset showing a woman in a blue top with her hands clasped. At the bottom, there is a small logo on the left and the text "Learner-centric e-learning in STEM" on the right.

Discussion of Reflection Spot

Before we begin production need to make several other design decisions:

- Selecting media, technology
- Integrating technology
- Visual communication
- Interaction design
- ...

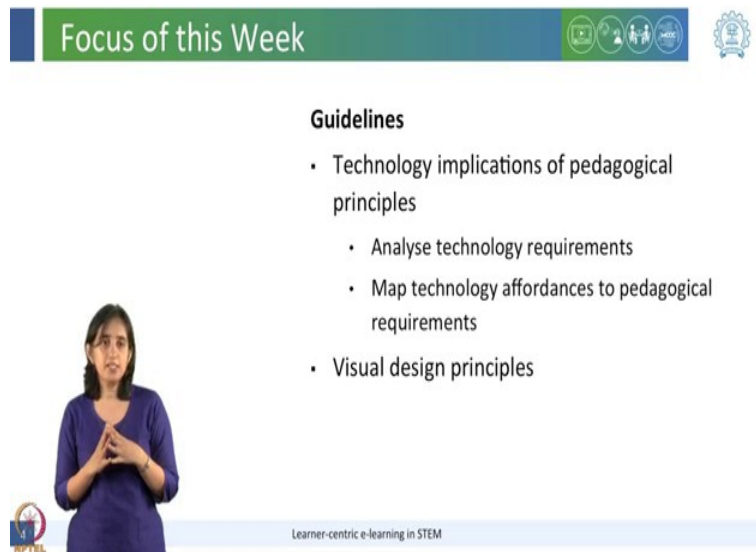
*Consider learner experience*

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There are several other design decisions that we need to make at this point, for example, and this is by no means comprehensive, but this is an illustrative list of or illustrated set of design decisions we need to make. For example, what are the media we need to select, what are that various technologies, how do we integrate these technologies? And there is a whole lot of decisions we need to make regarding visual communication and presentation. For example, we have to pay attention to the graphic design, to the multimedia design. At the same time we have to pay attention to interaction design, the user's experience. How do the users navigate through it? What is the information design structure? And so on.

So, essentially at this point we have to worry about the users experience when they interact with the e-content. And how do we still maintain a learner centric approach when making design decisions at this stage?

(Refer Slide Time: 02:56)



The slide features a green header bar with the text "Focus of this Week" and a small gear icon. Below the header, a presenter in a blue dress stands on the left. To her right, under the heading "Guidelines", is a bulleted list. At the bottom, a small logo is on the left and the text "Learner-centric e-learning in STEM" is on the right.

### Focus of this Week

#### Guidelines

- Technology implications of pedagogical principles
  - Analyse technology requirements
  - Map technology affordances to pedagogical requirements
- Visual design principles

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So, what we will do this week is discuss guidelines about some of these matters. We will discuss the technology implications of the various pedagogical principles. For example, we will discuss how to analyse technology requirements, how do we map the technology affordances to the pedagogical design requirements.

We will talk to some extent about visual design principles. For example, how to present content on the slide or on the screen which will again impact the learner interaction and the learners experience. We will spend some time discussing what is known as multimedia design principles that is how do we combine text, visual and audio in our e-content keeping in mind the learner centric approach. That is keeping in mind addressing learners cognitive engagement and learning throughout.

As I mentioned earlier this is not a comprehensive set of processes that we have to do, but these are important decisions that we have to make an important points that we have to keep in mind as we designer e-learning. So, in the rest of this week we will have learning dialogues on these guidelines.

Thank you.