Welcome to this Webinar

The talk will begin in a few minutes

Please Mute your mics and Turn Off your video

Use the chat window to ask questions during the talk

Transitioning to Online Instruction
(from face-to-face classrooms)

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IIT Bombay

Acknowledgements

Co-instructor of the course [iitb-teachonline](#) - Prof. Sahana Murthy

TAs of iitb-teachonline – Ashutosh Raina and Lucian Ngeze

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TA support for upcoming Moodle course – ET PhD students!

Educational Technology, IIT Bombay

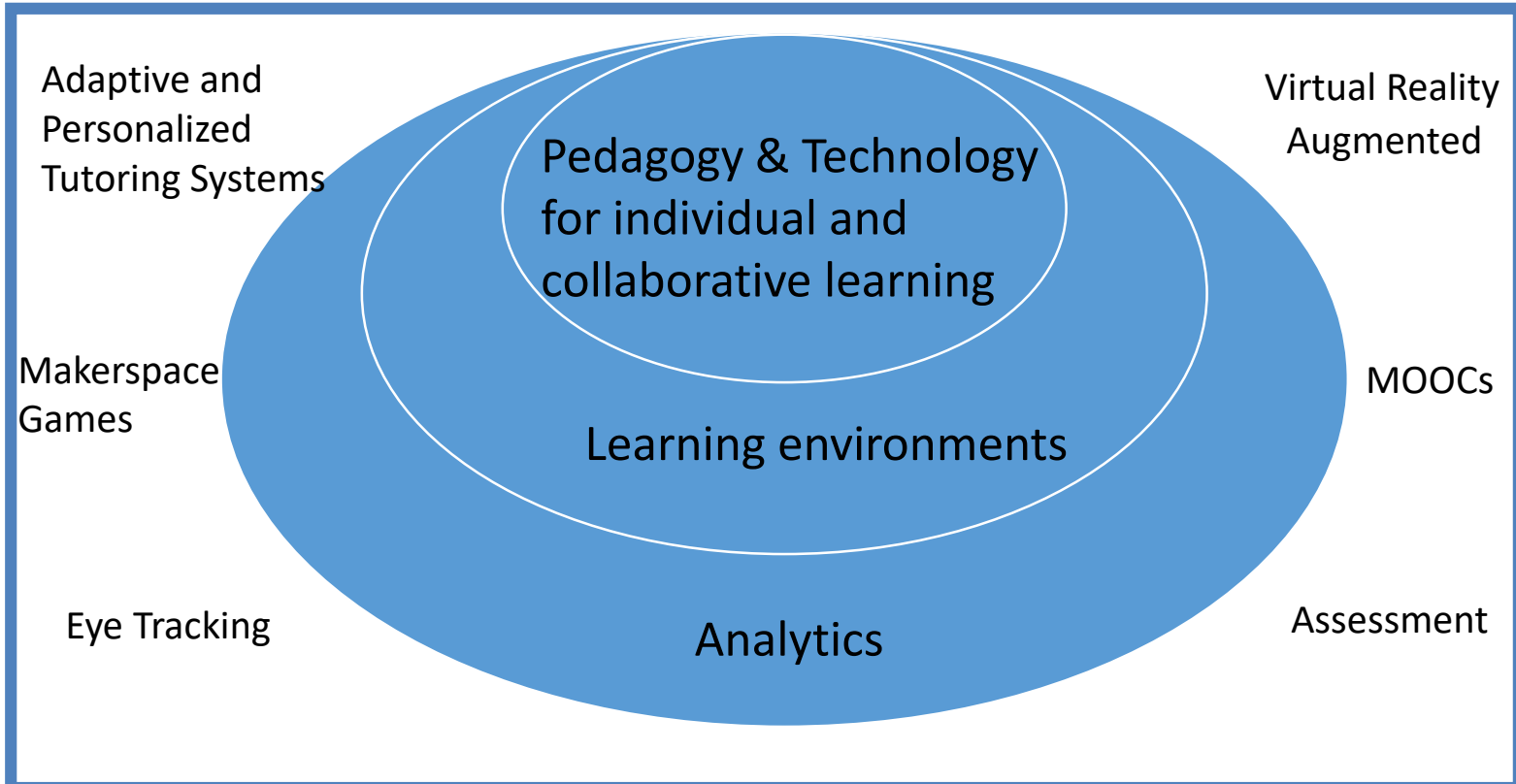Inter-Disciplinary Program, started 2010

- 5 Core faculty

- Associate faculty from other departments

- 2 Post-docs

- 25 PhD research Scholars; 12 PhDs graduated

- Started an M.Tech program in 2019

(ET is distinct from CDEEP, which provides lecture recording services)

What we do in Educational Technology?

Adaptive and Personalized Tutoring Systems

Virtual Reality Augmented

Pedagogy & Technology for individual and collaborative learning

Learning environments

Makerspace Games

MOOCs

Analytics

Eye Tracking

Assessment

Online instruction

Before you begin a Webinar / Live interaction

1) Appoint a moderator: for this session - Prof. Sahana Murthy

- To keep track of questions being posted on the chat
- To alert the speaker if any question/comment needs immediate response
- To 'pass the Mic around' during any interaction phase

2) Remind participants of the communication protocol:

- Please keep your Mic Muted and Video Off
- Speak only when the moderator says it's your turn

3) Share presentation material beforehand (if possible)

A note about this talk

- I set out to make a one hour talk
- IT ran away from me and became a three hour tutorial ☺

- I couldn't bring myself to delete any slides
- They have so much useful information, I feel ☺

- So I have just 'hidden' them for this presentation
- Please download the ppt file and see the hidden slides for details of any point that interest you

Activity 1 – Each one say one

Consider your idea of online instruction, whatever it may be. Which aspect of face-to-face classes will you miss the most if you have to move to online instruction?

- Take a minute to think about your answer.
- Post your response in the chat window.

Is your response similar to any in this list?

- Making eye contact
- Using gestures
- Walking around

Moving → Online

Possible occasionally   [Video call]
Limited gestures   [Video]
Not advisable

- Seeing students' faces
- Adapting in real-time

→

Adapting possible   [Feedback]
Not always in real-time [Analytics]

- Writing on the board
- Step-by-step derivation

→

Use a tablet   [Ex: Wacom]
Possible   [Ex: Khan Academy]

- Interaction
- Doing Q & A

→

Possible, and essential   [Forum]
Possible   [Forum, VC]
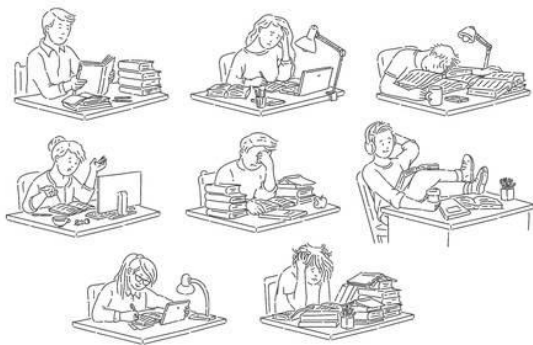
Course Materials
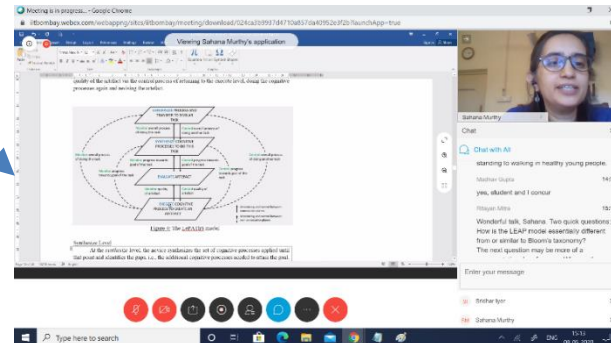
Any Time   **Any Where**   **Any Device**

60%

70%

40%

30%

Why bother to change our way of lectures?

What if we do:

1. Go to a virtual classroom (e.g. Zoom meeting)
2. Do a live lecture with students who are able to attend

3. Use the meeting software itself to record the lecture
4. Make the recording available to students who were not able to attend

5. Use Moodle to upload resources, give assignments, have discussions and conduct quizzes

Problems with virtual classrooms

Consider from students' point of view

1) Access issues

   No smart phone

   Shared device

   Lack of flexibility in schedule

   Power, Network

2) Hour-long lecture, and over a screen – engagement?

Problems with recorded virtual classrooms

Uploading recordings of live sessions may be useful

Not sufficient because

- Glitches in recordings (voice break, frozen frame) – lose student attention

- Many students study for the test - even short lectures (~10 min) are not watched fully by most; high variability in student motivation
- Network bandwidth issues – connectivity, mobile data plan

- Lecture alone not enough – need activities for deeper engagement

Emergency remote teaching

Giving a lecture in a virtual classroom + Uploading its recording, is a form of emergency remote teaching (ERT)

- Primary objective of ERT - provide temporary access to instruction and instructional material in a manner that is quick to set up and reasonably easy to access, during an emergency
- Typically, ERT attempts to mimic the actions in a face-to-face class
- ERT is likely to be ineffective for student engagement and learning

This mode should be used sparingly (< 20% of the course)

The goal is to exploit the power of the online medium and utilize it to promote effective student learning

Online instruction involves

- Making course materials available for asynchronous access

- Giving immediate practice activities and timely feedback to students

- Conducting synchronous meetings to address queries and do tutorials

- Providing a forum for learners to discuss the content with each other and the instructor
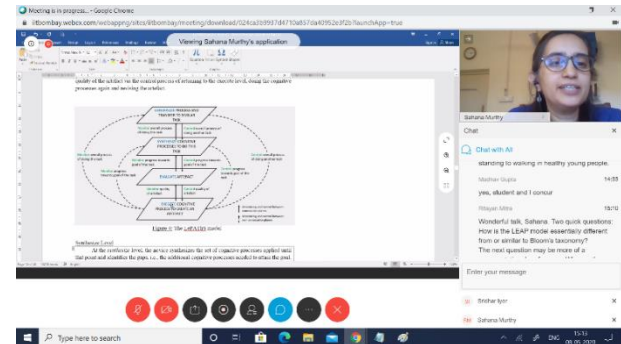
Course Materials

Any **Time**   Any **Where**   Any **Device**

Activity 2 – Self-select your level

How comfortable are you with having to do online instruction? Choose the option that best describes you. No need to disclose your choice.

1. **I am comfortable.** Ex: I already use Moodle lessons or create flipped class videos or have discussion on Piazza
2. **I think I can manage with some training.** Ex: I use Moodle for conducting quizzes. I am comfortable with learning new software
3. **I am daunted by having to move online.** Ex: I use only the most basic features in Moodle

What do the options indicate?

If you chose option 1
(I am comfortable)

Moving

→

Online

Read the conceptual parts of iitb-teachonline course. Take your own decisions about which tools to use.

If you chose option 2
(I think I can manage)

→

Go through the course in some detail, both the concepts and the technology tools. Note the recommendations. Do what works for you.

If you chose option 3
(I am daunted)

→

Don't Panic. Go through the conceptual parts. Your TAs, CDEEP staff and other colleagues are there to help you with the technology parts.

Pause here – for feedback to speaker

In a face to face class, I would pause here and say "Is this making sense?". Then look around the class to get feedback

In this Webinar: Let me ask the same question now,
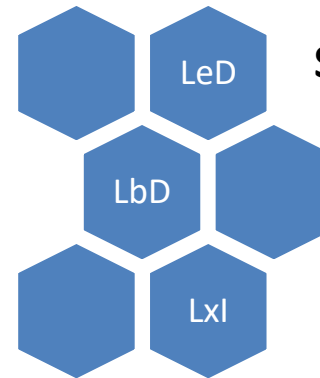
"Is this talk making sense, so far?"

Please type Yes or No in the chat window

Use the chat window to ask questions during the talk

Concepts overview

LeD

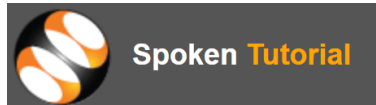**Six principles**

LbD

LxI

One slide on each

Curate before you create

Learning Dialog

Content

Reflection Spot

Content

Keep videos short,
and insert reflection spots

Learning by Doing

MCQs, short answer
Objective/Subjective

Activities

with

@

Customised
Constructive
Feedback

Give practice opportunity,
immediately and frequently,
and give feedback

Learning eXtension Trajectories

Resources for Trajectory 1
Weblinks | Documents | Activities | Videos | Others
Assimilation Quiz

Resources for Trajectory n
Weblinks | Documents | Activities | Videos | Others
Assimilation Quiz

Provide diverse resources to cater to different students,

and incentivize the access to resources
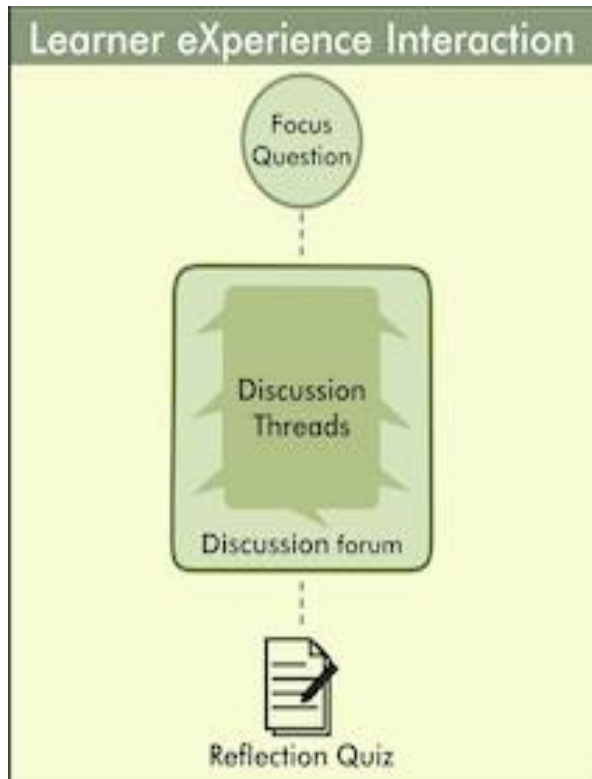
Leverage peer-learning,

to bring in diverse perspectives
and solutions,
discover additional resources,

and avoid isolation issues

Platform

Course Management Protocol

Learner Actions

generates

Analytics

Dynamic Adaptation
Augment Course Content
Révise Course Plan
Enhance Learner-Connect

Respond to student actions, in a timely and appropriate manner

The LCM model – operationalizes the principles

www.lcm-model.org
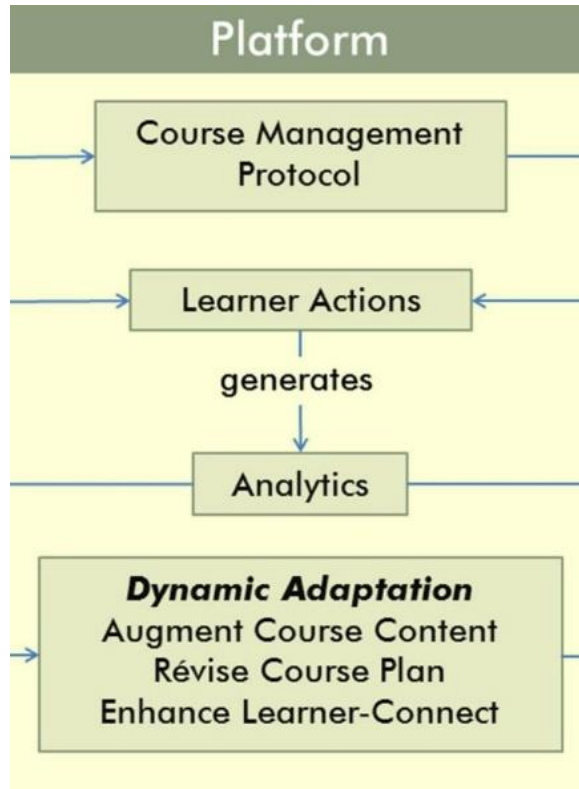
Clarification Discussions

Focus question for discussion +
Peer interaction +
Reflection Quiz

Learner Experience Interaction

LxI

Learning Dialogs

Content + Reflection Spot

LeD

Lectures

Orchestration

Additional readings Self-study material

LxT

Resources + Assimilation Quiz

Learning Extension Trajectories

Learning by Doing

LbD

Activities + Customized Feedback

Homeworks Assignments Practice problems

Transitioning to online - Conceptual summary

Your face-to-face course:

- Lectures and Notes

- Homeworks, Assignments

- Additional Readings

- Interesting Debates, Discussions

- Proctored Exams

Your corresponding online course:

- **LeD** – chunk each lecture into sections and include reflection spot in each chunk

- **LbD** - chunk each homework into sections corresponding to each LeD and include immediately

- **LxT** – close the loop for additional readings with an Assimilation Quiz

- **LxI** - Give focus questions for discussions and close the loop with Reflection Quiz

- Depends on technology and policy

Technologies overview

Hardware resources

Capturing lectures

- Camera/ webcam
- Headphone/ Earbuds
- Tablet / Paper
- Recorder/ Mobile phones

Editing lecture videos

- Laptop/ Desktop

Uploading videos

- Server space
- Internet (bandwidth)

Institutional Resources

Studios (Recording)

- CDEEP (ones used for f2f class)
- Smaller studios (offline recording)

Platform (LMS)

- Peak load calculations
- Server size, Internet bandwidth

Meetings (Live interaction online)

- Internet bandwidth, Software licenses

Software resources

Purposes and corresponding technologies

Creating Content

- Video creation – Examples: OBS, Screen recorder, Zoom
- Activity creation - Examples: Moodle, Mentimeter, Padlet

Delivering Content

- Platform – Examples: BodhiTree, IITBombayX, Moodle
- Video hosting – Examples: YouTube, Drive, KPoint

Live interaction – Examples – Zoom, Meet, BigBlueButton, WebEx

For details of technologies visit the course page - iitb-teachonline

Let me ask a question now,

"Is this talk making sense, so far?"

Please type Yes or No in the chat window

Use the chat window to ask questions during the talk

Website walk-through

Preparing content

Delivering content

Interacting with students

Making decisions

Activity 4 – Demo

Switch from WebEx window to your browser

Go to https://sites.google.com/view/iitb-teachonline/

Follow along with my commentary to browse the course

Switch back to WebEx window after the demo

Options for your course

Technology choices

Pedagogical strategies

Pros-cons of choices

A *good* option

Use **BodhiTree**. It has in-built support to create content as per LCM model
+
Have one live interaction per week (using Zoom or any tool you prefer)

Advantages: Exploits the power of online instruction. Has analytics and exam features
Disadv: Not yet integrated with LDAP login; some learning involved if you are used to Moodle

Alternative platform: Use **IITBombayX.**

Advantages: Several large scale courses have been held; Support staff available
Disadv: Learning curve to figure out how to implement LCM model in the platform

An *acceptable* option

Use Moodle + YouTube + Zoom

Pedagogical strategy:

- Record your lectures (using OBS or Zoom or CDEEP)
- Upload lectures on YouTube or Google Drive and Post the link in Moodle
- Create activities, assignments and quizzes in Moodle
- Have one live interaction per week (using Zoom or any tool you prefer)

Advantages: Sufficient tech-support available; Low additional investment for Institute
Disadv: *Partially* utilizes the power of online instruction; Moodle expertise play a major role

An *emergency* option

Use Zoom + YouTube + Moodle
(emergency remote teaching)

Pedagogical strategy:
- Do lectures in a virtual classroom (using Zoom or any tool), and record the live sessions
- Upload the recording on YouTube/ Google Drive and Post the link in Moodle
- Use Moodle features that you are familiar with, to give assignments and quizzes

Advantages: Easy to implement
Disadv: Not learner-centric

Recommendation: Include Activity slides in the live session,
as demonstrated in this talk

Combination of options

Identify the content that you feel you *must* do yourself   50%

    Create this content as close to LCM model as you can

Identify the content that is amenable to curation   30%

    Find OER resources and give activities

Identify the content that could be left to live session   20%

    Do live interaction and upload video

*The percentages are only indicative. They vary depending on institute policy

Time management

Content creation for online instruction takes at least 4X times as compared to the corresponding face-to-face class

Hence:

- Curate resources
- Give activities to assimilate the content
- Get TAs to help with technology
- Consult colleagues who have used the technology

Take-away

- There is no single correct way of conducting online courses, just as in face-to-face teaching
  - It is not necessary for all faculty to have the same approach

- Be aware of the trade-offs and take considered decisions, not to mimic face-to-face teaching as a *default*

- It is sufficient if you start wherever you are comfortable and go up the levels gradually

Topics not covered in this talk

- How to incorporate Virtual Labs
- What to do about physical labs

- How to conduct remote exams
- What to do about proctoring

- What about learning analytics
- How to use analytics meaningfully
- …

What next?

We create a 2 weeks course on Moodle

Take you through the modules of [iitb-teachonline course](#)

Provide help and feedback for you to create LCM elements

First run of the course – June 1 to June 15, 2020

Will have one live interaction per week

Sign up for getting the synchronous feel of a course, and interesting discussions with other IITB colleagues

Recording of this Webinar

This webinar is being recorded at the request of colleagues who are unable to join. This will be put up on an internal site.

An anonymized version of this webinar, not including any Q&A discussions, will also be put up on the site for review.

If no one has any objection or privacy concerns, the anonymized version will be put up on the course website - iitb-teachonline

Stop here – over to Moderator

Please enter your questions into the chat window
Speak as directed by the moderator

Please type your feedback / criticism for this talk, also
in the chat window (or send to me by email –

<div align="right">

sri@iitb.ac.in)

</div>

Thank You

Download Link

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Then, Click on 'Talks'

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