

TOOLS FOR **ONLINE TEACHING**

with Team BodhiTree

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Guided by Prof. Anirudha Joshi

P3 | Pre-Recorded Presentation

A Quick Introduction

Problem space - topic

BodhiTree (presently)

Needs to be addressed

Premise: BodhiBooks and Courses

Contact Learning

Online Learning

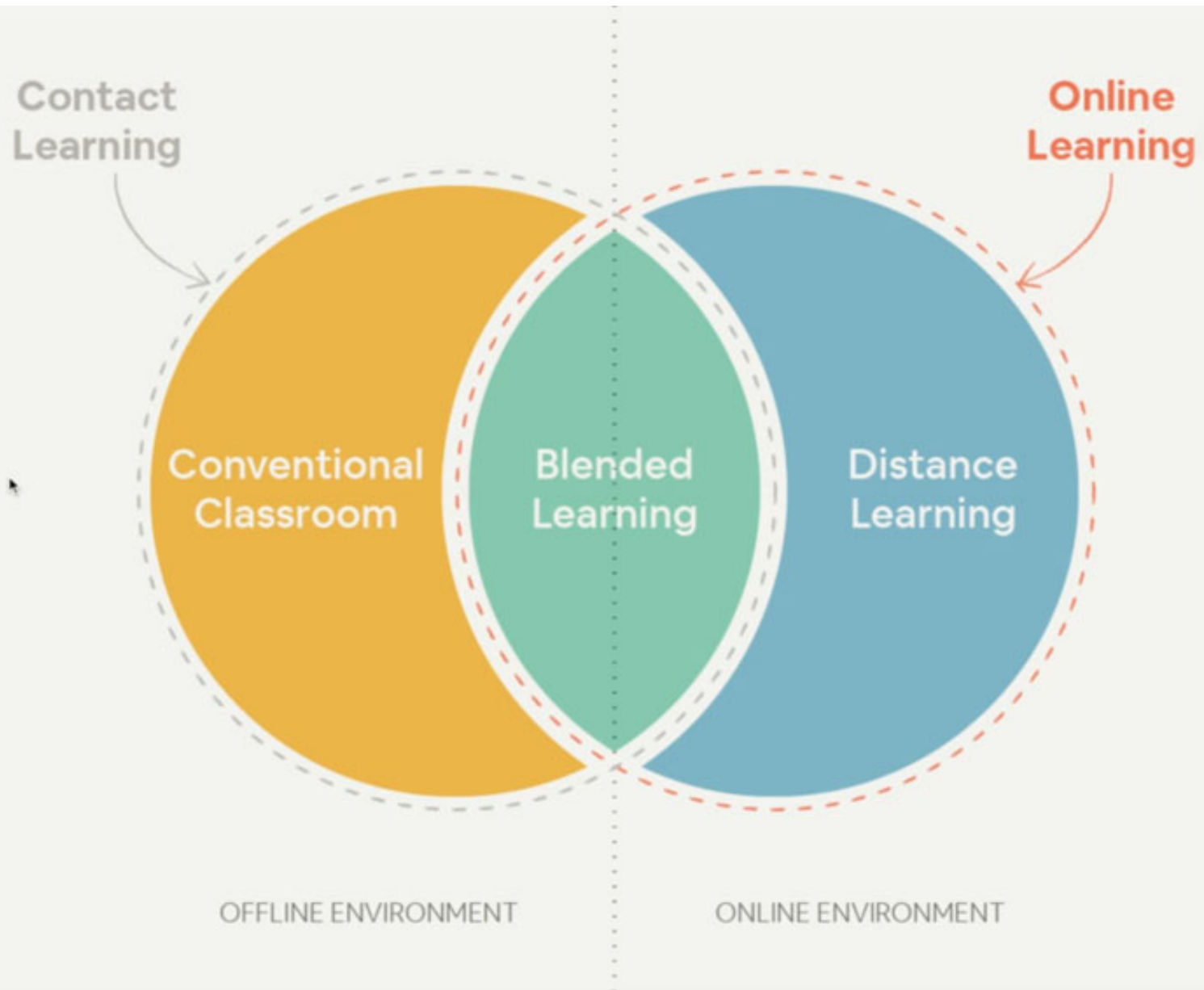
Conventional Classroom

Blended Learning

Distance Learning

OFFLINE ENVIRONMENT

ONLINE ENVIRONMENT



LEARNING ENVIRONMENTS

Offline Contact Learning

Offline classrooms

No use of online tools for core teaching practice

Fixed venue and scheduling

Blended Learning

Mix of online+offline

Uses online tools in varying capacity

Blend of fixed and flexible venue with controlled scheduling

Distance Learning

Purely online

Trade-off between scale and real-time engagement

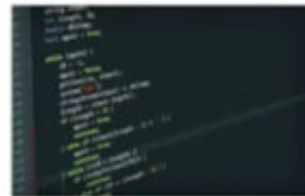
Flexible venue with sync/async scheduling

BodhiTree 1.0



As of June, 2020

Learn from subject experts and award winning teachers at IIT Bombay.



Introduction to Computer Programming



Data Structures



Operating Systems



Unix and Scripting

Complement "interactive" theory lessons with "hands-on" labs and "auto-graded" quizzes that nurture higher-order thinking.

Eight multimedia books available!



Computer Organization and Architecture



Computer Networks



Wireless Networks



Foundations of Computer Security

IC - Computer Networks

Course content

[Multimedia Book](#)

Assignments

[Programming Labs](#)[Other Labs](#)[About Course](#)

Interactions

[Schedule](#)[Discussion Forum](#)[Email Announcements](#)

Performance

[In/out video quizzes](#)[Grades](#)[Leaderboard](#)

Additional Pages

Multimedia Book

1. Lab Material for Student Course



2. Lab Material



This chapter contains lab exercises that reinforce through hands-on learning some of the concepts covered in below chapters.

3. Introduction



This group of videos will provide the background material to get you started on this wonderful journey of getting to know the internals of Internet.

[Motivation](#)[Terminology](#)[Goals and Metrics](#)[History](#)[Internet Protocol Stack](#)

4. Physical Layer



WHAT TEACHERS CAN DO with BodhiTree 1.0

Disseminate Content

Assemble course specific
book from multiple
sources

Asynchronous or
schedule-based setups

Coordinate Courses

Enroll students, impose
schedule, track progress

Interact with students via
emails, discussion forum

Evaluate Students

Share and download
marks/grades

Conduct cheating free labs
that can be manual or
auto-graded

Immediate NEEDS

BodhiTree 1.0

Clarity in mental model

Vast range of subjects
(currently supports CS)

Migrating to BodhiTree

Content

Communication

Immediate NEEDS

BodhiTree 1.0

Clarity in mental model

Vast range of subjects
(currently supports CS)

Migrating to BodhiTree

Content

Exists as slides, lectures,
etc.

Set of known creation tools

Difficult to plan an online
course

Communication

Immediate NEEDS

BodhiTree 1.0

Clarity in mental model

Vast range of subjects
(currently supports CS)

Migrating to BodhiTree

Content

Exists as slides, lectures,
etc.

Set of known creation tools

Difficult to plan an online
course

Communication

Feedback

Gauge whether students
are following

Facilitating interaction

Towards BodhiTree 2.0



Redesign for product growth

THE BIG PICTURE

There are two distinct work spaces:

- BodhiBooks
- Courses

BODHIBOOKS
compiled content

no connection with other stakeholders

content can be re-used

COURSES
use BodhiBooks for teaching

iterative (linked to student batches and timelines)

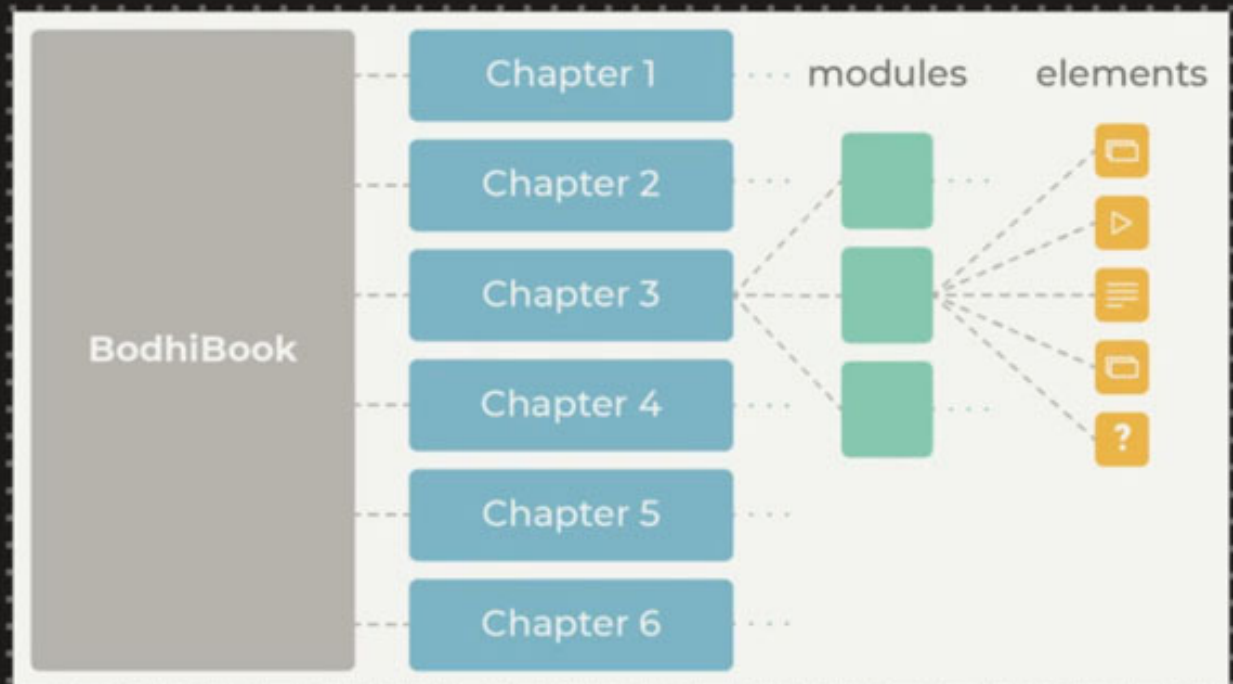
involve learning environments, contextual factors, etc.

BodhiBooks

A BodhiBook can consist of several chapters

Each chapter is formed of one or more microlearning modules (based on Merrill's CDT)

Modules comprise of multimedia elements (sharable objects)





ELEMENTS

BodhiBooks

- Presentation Slide
- Text document
- Image
- Audio file
- Video
- URL
- Review Question

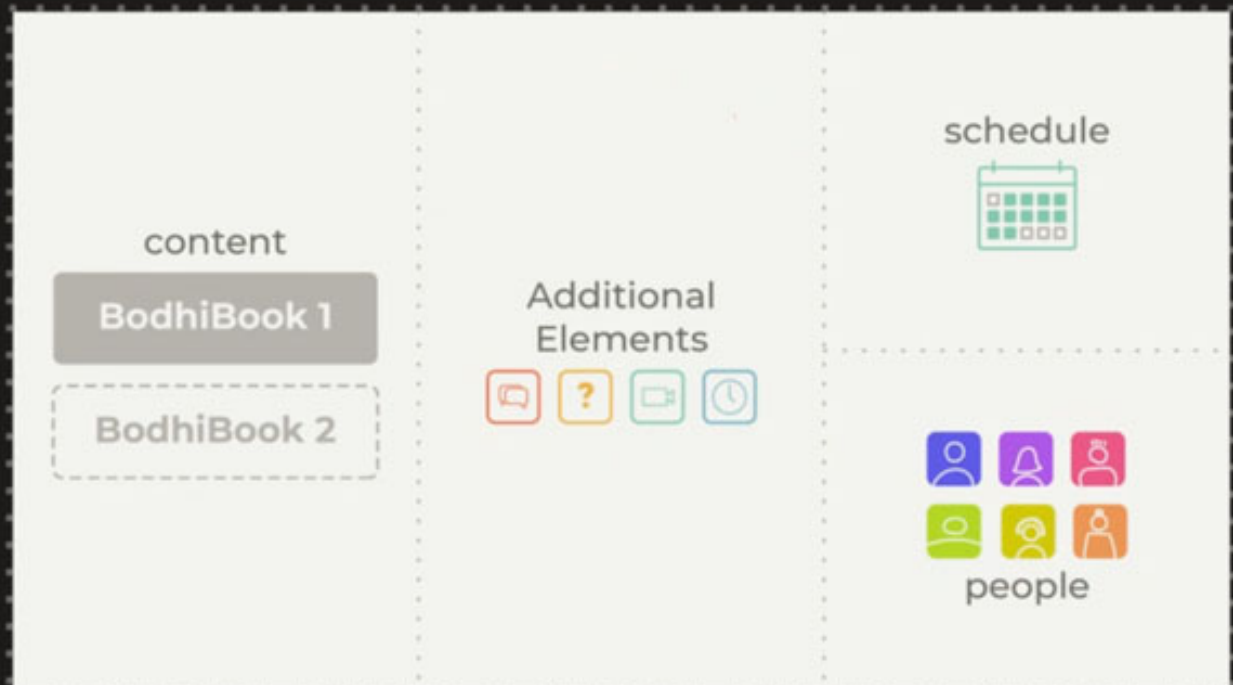
Courses

- (In addition to BodhiBooks)
- Quiz (evaluated)
- Discussion
- Feedback Question
- Poll
- Placeholder

Courses

A course uses the content from one or more BodhiBooks

It involves connecting with the enrolled students, coordinating schedules etc. through additional interactive elements



Meet the LEARNING SETUPS

In Class/Live

Real-time i.e. Synchronous
live interaction between
users

Scheduled

Global time i.e. some
schedule/landmarks
followed across users

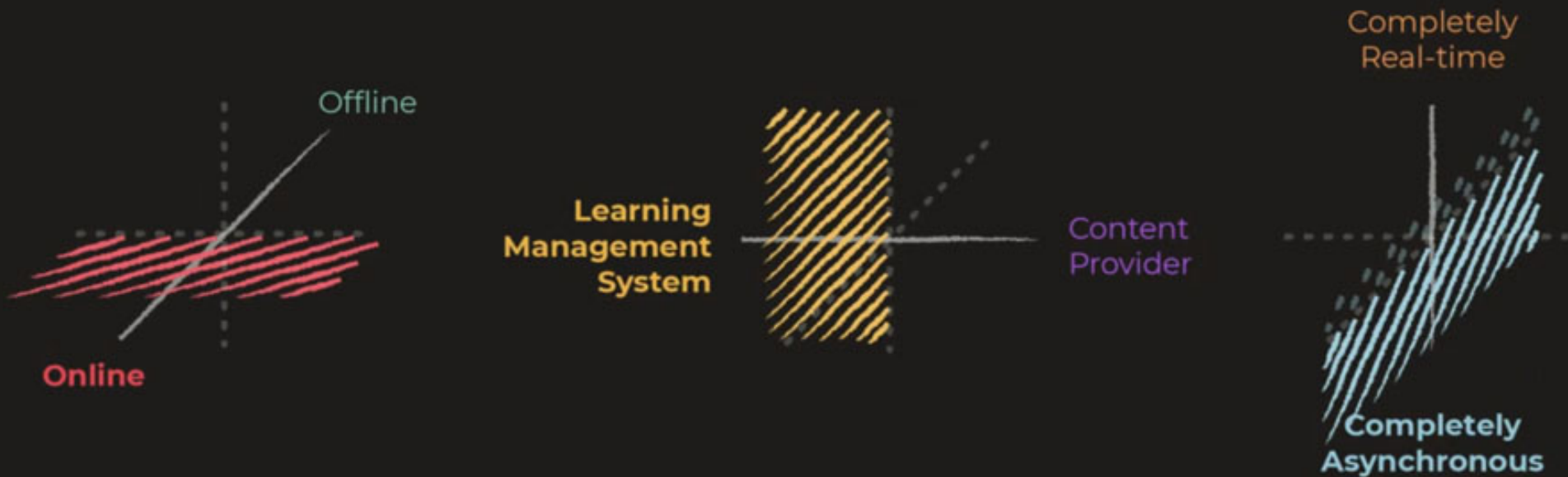
Self-Study

Self-paced i.e. purely local
time, based on the
learners' requirements

Courses

BodhiBooks

An online Learning Management Service (LMS) which caters self-study and flipped-class setups





Reading



Initial
Concepts

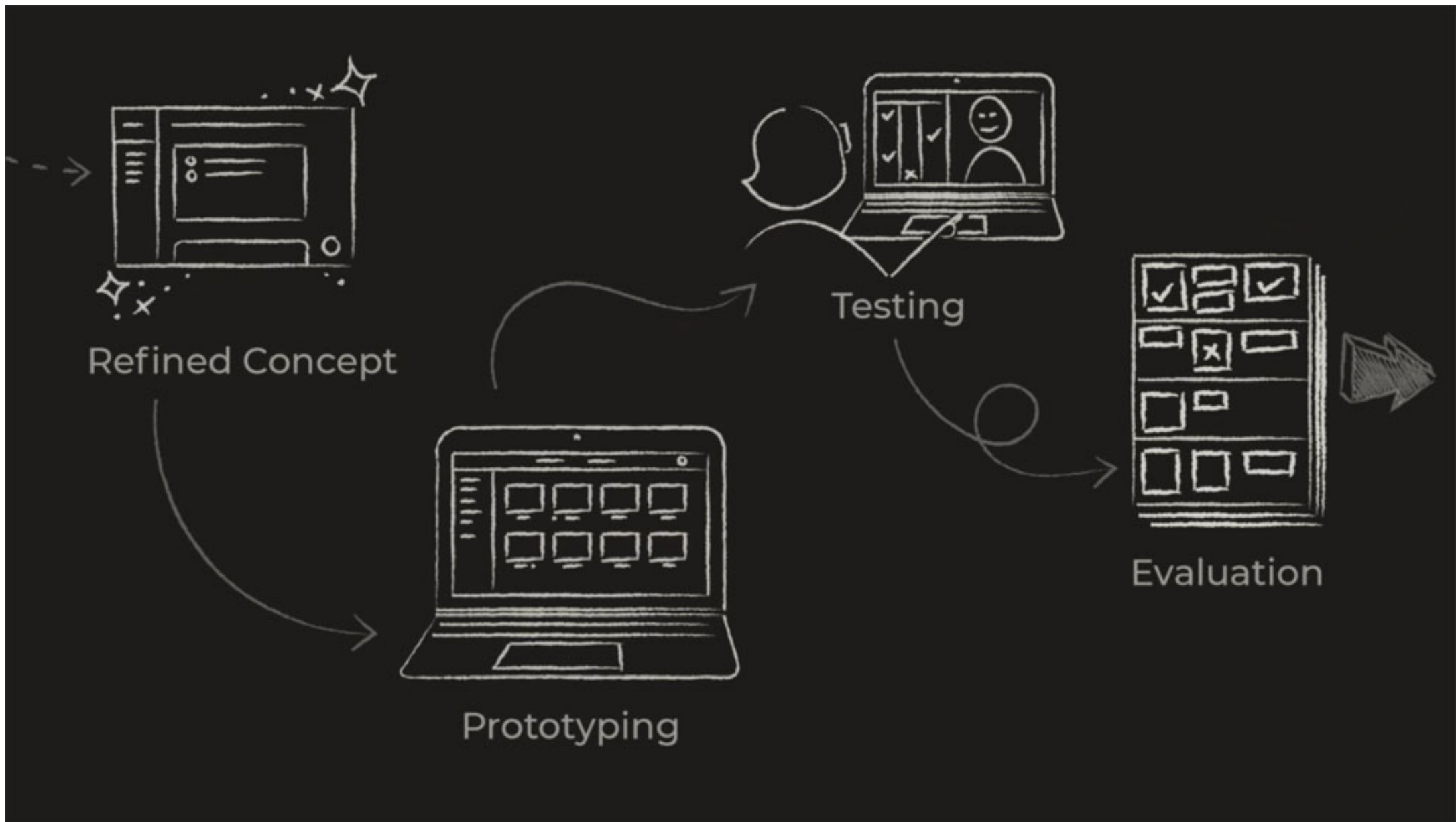


User Study



Wireframing





How does the solution feature a teacher's life?

Setting up a BodhiBook from existing content
Preparing for an online course
Running a live/synchronous class
Engaging students asynchronously



Using BodhiTree 2.0 for Online Teaching



Getting content up and ready

Search by file name or keyword



My BodhiBook 1

CREATE

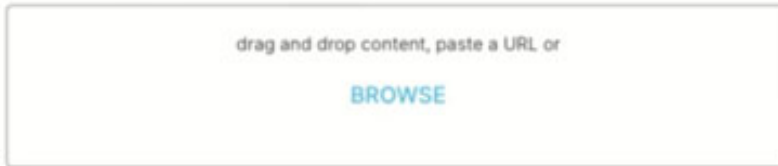
Blank



From Existing Content

drag and drop content, paste a URL or

[BROWSE](#)



Microlearning Module Template

Fact Check

Quick Concept

How To

How It Works



Skill Building

Revision



Assembling a
BodhiBook

Search by file name or keyword



My BodhiBook 1

CREATE

Blank



From Existing Content

drag and drop content, paste a URL or

BROWSE

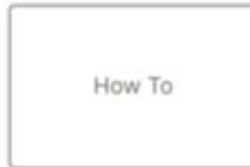
Microlearning Module Template



Fact Check



Quick Concept



How To



How It Works



Skill Building



Revision

GHE.pptx
GHE_notes.docx
GHE_explained.pptx

3

Collecting content

My BodhiBook
1

Chapter 1

MODULE 1

+ ADD MODULE

Module 1 From existing files

ACTIONS PREVIEW

 Greenhouse Effect 1 01/GHE.pptx	 What it is Process by which radiation from a planet's atmosphere warms the planet's surface What does it have to do with Greenhouses? 2 02/GHE.pptx	 Greenhouse Gases water vapour methane carbon dioxide ozone 3 03/GHE.pptx	 GHGs Radiatively active (greenhouse) gases in the atmosphere radiate energy in all directions. Part of this radiation warms the surface 4 04/GHE.pptx
 Greenhouse Effect It is essential to life on Earth, and keeps the temperature of the planet hospitable. However, these days we hear of it as a problem... 5 GHE_notes.docx	 How? 6 01/GHE_e...ained.pptx	 www.greenhouse-explained.com 7 02/GHE...ained.pptx	 The Curious Case of Venus Venus has an atmosphere which is 96% carbon dioxide! It showcases runaway greenhouse effect 8 03/GHE...ained.pptx
 Thank you! 9 04/GHE...ained.pptx			

Undo Redo Upload Duplicate Arrange Narrate Time Delete

It splits into sharable objects

My BodhiBook
1

Module 1

From existing files

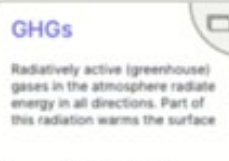
ACTIONS

PREVIEW

Chapter 1

MODULE 1

+ ADD MODULE

 <p>Greenhouse Effect</p>	 <p>What it is</p> <p>Process by which radiation from a planet's atmosphere warms the planet's surface What does it have to do with Greenhouses?</p>	 <p>Greenhouse Gases</p> <p>water vapour methane carbon dioxide ozone</p>	 <p>GHGs</p> <p>Radiatively active (greenhouse) gases in the atmosphere radiate energy in all directions. Part of this radiation warms the surface</p>
1 01/GHE.pptx	2 02/GHE.pptx	3 03/GHE.pptx	4 04/GHE.pptx
 <p>How?</p>	 <p>www.greenhouse-explained.com</p>	 <p>The Curious Case of Venus</p> <p>Venus has an atmosphere which is 96% carbon dioxide! It showcases runaway greenhouse effect</p>	 <p>Greenhouse Effect</p> <p>It is essential to life on Earth, and keeps the temperature of the planet hospitable. However, these days we hear of it as a problem...</p>
5 01/GHE_e_ained.pptx	6 02/GHE_ained.pptx	7 03/GHE_ained.pptx	8 GHE_notes.docx
 <p>Thank you!</p>			
9 04/GHE_ained.pptx			

Undo Redo Upload Duplicate **Arrange** Narrate Time Delete

Rearranging and adding content to populate BodhiBook.

My BodhiBook
1









Chapter 1

MODULE 1

+ ADD MODULE

Module 1 From existing files

ACTIONS PREVIEW

 1 01/GHE.pptx	 2 02/GHE.pptx	 3 03/GHE.pptx	 4 04/GHE.pptx
 5 01/GHE_e...ined.pptx	 6 02/GHE_...ained.pptx	 7 03/GHE_...ained.pptx	 8 GHE_notes.docx



Convert to Browser Frame?

This element contains a link which can be opened within the BodhiBook by converting into a Browser Frame

MAKE BROWSER FRAME

Undo Redo Upload Duplicate Arrange Narrate Time


Rearranging and adding content to populate BodhiBook.

Search by file name or keyword






CREATE BODHIBOOK



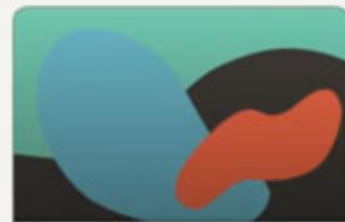
Environmental Science
Unpublished
Last edited today

PUBLISH MORE



Energy and Resources
Unpublished
Last edited 19 June, 2020

PUBLISH MORE



Biodiversity
Published on 10 May, 2020

MORE



Waste Management
Published on 24 April, 2020

MORE



The BodhiGuide
Team BodhiTree
Updated on 22 April, 2020

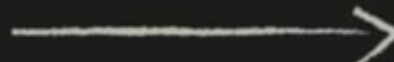
LEARN MORE

Using BodhiBook
to run a course



Setting up a course with the content

BodhiBook



Course

Students



Teaching
Associates



Schedule



Elements of Design

Chapter 1

Lines

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4

+ ADD ELEMENT

< Elements of D...pter1/Lines/9

ADD PLACEHOLDER **ADD**

Previous

Recap

8 sum...ry.mp4 00:37

From Existing Content

drag and drop content, paste a URL or

BROWSE

Live/Synchronous

Video Conference

Live Discussion

Live Poll

Whiteboard

Asynchronous

Review Question

Discussion Prompt

Closed Poll

As...

Closed Poll

Set up a poll which is only open for voting to the students enrolled in this course.

Alternatively, set up a placeholder to remind you to add the element later.

ADD PLACEHOLDER

Planning the course by adding placeholders

Environmental Science

< Environmental...ouse Effect/9



Unpublished till 20 June, 2020

Editing Mode

REPLACE WITH POLL

Lesson 1

Greenh...Effect

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4
- 9 add a poll

+ ADD ELEMENT

Placeholder—Poll Question

Add note



Remind me



19 June, 2020



9

placeholder_poll

Placeholder Poll

This is just a placeholder for a polling question. Add a note to yourself and a reminder for replacing this element with an actual poll at a later date/time.



Slide 39



Q & A



Notes



Pointer



Captions



Tips



EXIT



Planning the course by adding placeholders




Environmental Science

Lesson 1

Greenh...Effect ▾

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4
- 9 add a poll

+ ADD ELEMENT

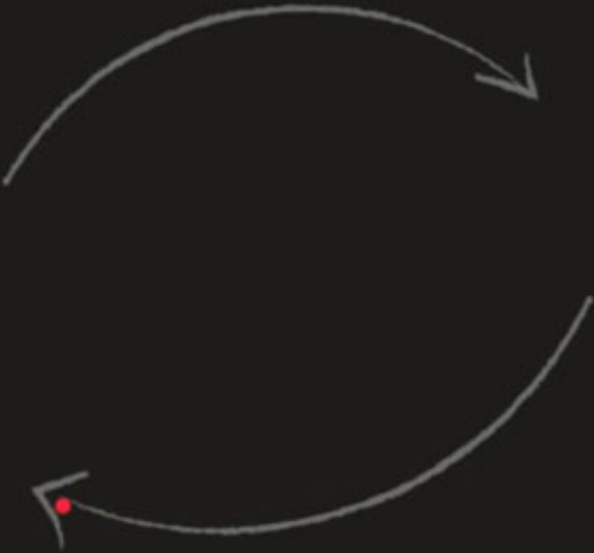
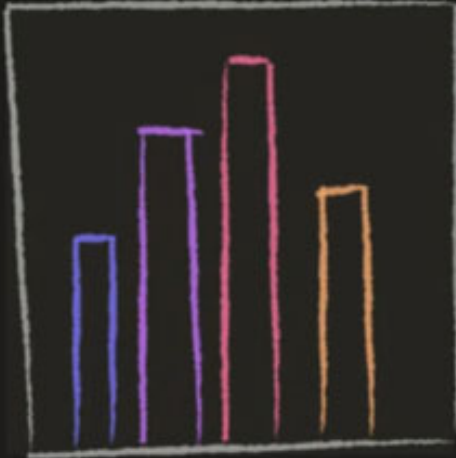
<p>Greenhouse Effect</p> <p>1 01/GHE.pptx</p>	<p>What it is</p> <p>Process by which radiation from a planet's atmosphere warms the planet's surface What does it have to do with Greenhouses?</p> <p>2 02/GHE.pptx</p>	<p>Greenhouse Gases</p> <p>water vapour methane carbon dioxide ozone</p> <p>3 03/GHE.pptx</p>	<p>GHGs</p> <p>Radiatively active (greenhouse) gases in the atmosphere radiate energy in all directions. Part of this radiation warms the surface</p> <p>4 04/GHE.pptx</p>
<p>How?</p>  <p>5 01/GHE_e...ined.pptx</p>	<p>https://www.greenhouse-explained.com</p>  <p>6 www.gre...ained.com</p>	<p>The Curious Case of Venus</p> <p>Venus has an atmosphere which is 96% carbon dioxide! It showcases runaway greenhouse effect</p> <p>7 03/GHE...ained.pptx</p>	<p>Greenhouse Effect</p> <p>It is essential to life on Earth, and keeps the temperature of the planet hospitable. However, these days we hear of it as a problem...</p> <p>8 GHE_notes.docx</p>
<p>Placeholder Poll Question</p> <p>9 add a poll*</p>			

Planning the course by adding placeholders

Placeholder



Polling element



Environmental Science

< Environmental...ouse Effect/9 ? v

Unpublished till 20 June, 2020

Editing Mode

PREVIEW DONE

Lesson 1

Greenh...Effect v

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4
- 9 poll

+ ADD ELEMENT

Poll Question

Which consequence of the man-made greenhouse gas emissions do you think is the most serious one?

- A Intense weather events
- B Altering natural habitats
- C Rising sea levels
- D Heat waves

+ ADD OPTION

 SET UP Schedule GO LIVE

Reveal results later v

 FREEZE RESULTS

9

assignment_poll

Undo

Redo

Upload

Duplicate

Arrange

Narrate

Time

Delete

Setting up the poll question

Environmental Science

Lesson 1

Greenh...Effect ▾

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4
- 9 poll

[+ ADD ELEMENT](#)

< Environmenta...ouse Effect/9 ? ▾

Unpublished till 20 June, 2020

Student Preview

[EDIT](#) [DONE](#)

Which consequence of the man-made greenhouse gas emissions do you think is the most serious one?

- A Intense weather events
- B Altering natural habitats
- C Rising sea levels
- D Heat waves

Note

This element is currently unpublished and will not be visible to students till it is made live

9

assignment_poll

Preview

The element will look somewhat like this to the students when it goes live. Try clicking on an option.

[RETURN TO EDIT MODE](#)**Student preview**

Slide 53 ▾



Q & A



Notes



Pointer



Captions



Tips



EXIT

Environmental
Science

< Environmenta...ouse Effect/9 ? -

Unpublished till 20 June, 2020

Student Preview

EDIT DONE

Lesson 1

Greenh...Effect ▾

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- ? 7 07_quiz
- 8 summary.mp4
- ? 9 poll

+ ADD ELEMENT

Which consequence of the man-made greenhouse gas emissions do you think is the most serious one?

- A Intense weather events
- B Altering natural habitats
- C Rising sea levels
- D Heat waves

RESET

SUBMIT

Note

This element is currently unpublished and will not be visible to students till it is made live

9

assignment_poll

Preview

The element will look somewhat like this to the students when it goes live. Try clicking on an option.

RETURN TO EDIT MODE



Student preview



Asynchronous Interaction

Environmental Science

Lesson 1

Greenh...Effect ▾

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4
- 9 poll

+ ADD ELEMENT

< Environmental...ouse Effect/9 ? ▾

Published

Instructor View

PREVIEW

EDIT

Which consequence of the man-made greenhouse gas emissions do you think is the most serious one?

- A Intense weather events 0%
- B Altering natural habitats 0%
- C Rising sea levels 0%
- D Heat waves 0%

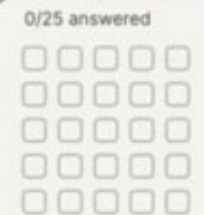
9 assignment_poll

+ DISCUSSION



LIVE
Reveal results later ▾
Published on 00:00 21 June, 2020

FREEZE RESULTS



- Responded
- Did not respond
- Yet to view element

Undo Redo Upload Duplicate Arrange Narrate Time Delete



Poll is live and open for voting

Environmental Science

Lesson 1

Greenh...Effect

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4
- 9 poll

+ ADD ELEMENT

< Environmenta...ouse Effect/9 ?

Published

Instructor View

PREVIEW

EDIT

Which consequence of the man-made greenhouse gas emissions do you think is the most serious one?

- A Intense weather events 1 12.5%
- B Altering natural habitats 2 25%
- C Rising sea levels 3 37.5%
- D Heat waves 2 25%



LIVE
Reveal results later

Published on
00:00
21 June, 2020

FREEZE RESULTS

8/25 answered



- Responded
- Did not respond
- Yet to view element

9 assignment_poll

+ DISCUSSION

- Undo
- Redo
- Upload
- Duplicate
- Arrange
- Narrate
- Time
- Delete

Poll is live and open for voting

Environmental Science

< Environmental...ouse Effect/9 ? v

Published

Instructor View

PREVIEW

EDIT

Lesson 1

Greenh...Effect v

1 01_co...pt.ppt

2 02_co...pt.ppt

3 vid1.mov

4 www.conce...

5 eg3.txt

6 06_slide

? 7 07_quiz

8 summary.mp4

? 9 poll

+ ADD ELEMENT

Which consequence of the man-made greenhouse gas emissions do you think is the most serious one?



LIVE
Reveal results later v

Published on
00:00
21 June, 2020

FREEZE RESULTS
25/25 answered



Responded
 Did not respond
 Yet to view element

9 assignment_poll

+ DISCUSSION

Undo Redo Upload Duplicate Arrange Narrate Time Delete



Poll is live and open for voting

Environmental Science

Lesson 1

Greenh...Effect

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4
- 9 poll

+ ADD ELEMENT

< Environmenta...ouse Effect/9 ?

Published

Instructor View

PREVIEW

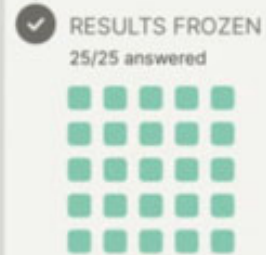
EDIT

greenhouse gas emissions do you think is the most serious one?



LIVE
Reveal results later

Published on
00:00
21 June, 2020



- Responded
- Did not respond
- Yet to view element

Discussions Forum

Looks like changing natural habitats are a major concern! Can you think of consequences of greenhouse effect that you have come across in your life? Share 1-2 examples here.

DISCARD

POST

- Undo
- Redo
- Upload
- Duplicate
- Arrange
- Narrate
- Time
- Delete

A discussion element is added



Synchronous Interaction

Environmental Science

< Environmental...ouse Effect/10

ADD

Lesson 1

Greenh...Effect ▾

- 1 01_co...pt.ppt
- 2 02_co...pt.ppt
- 3 vid1.mov
- 4 www.conce...
- 5 eg3.txt
- 6 06_slide
- 7 07_quiz
- 8 summary.mp4
- 9 poll question

+ ADD ELEMENT

Previous



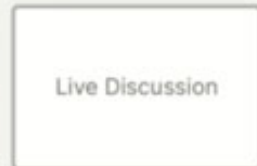
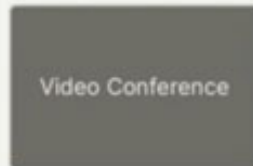
9 poll question

From Existing Content

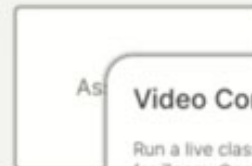
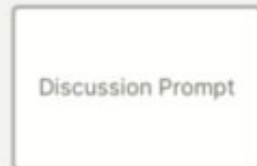
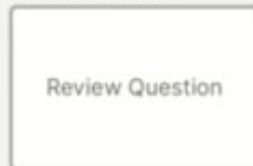
drag and drop content, paste a URL or

BROWSE

Live/Synchronous



Asynchronous



Video Conference

Run a live class using our plugin for Zoom, Google Meet, Microsoft Teams and other video conferencing platforms.

Share elements and interactions straight from your course in BodhiTree.

A video conference is added, to be carried out using plugin for Zoom

UN SDGs - 17 goals - 2030
Agenda for Sustainable
Development - combatting
poverty, hunger... economic,
environmental, social growth



Ask for acknowledgement

RESET ASK

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Yes No
 Yet to reply

YES/NO | POLL

new whiteboard

Me
This brings us to the next
topic. Before starting let's
run a quick check... any
doubts?

Introduction to Sustainable Development

Microphone icon, Video icon, Camera icon, END CLASS, Navigation icons (back, forward, home, thumbs up)

Empty text input field

Teacher's interface

UN SDGs - 17 goals - 2030
Agenda for Sustainable
Development - combatting
poverty, hunger... economic,
environmental, social growth



Any

RESET

Any doubts?

Any questions?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Yes No

Yet to reply

YES/NO | POLL

new whiteboard

Me
This brings us to the next
topic. Before starting let's
run a quick check... any
doubts?

Introduction to Sustainable Development

END CLASS

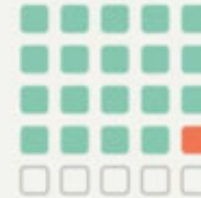
Quick
acknowledgement

UN SDGs - 17 goals - 2030
Agenda for Sustainable
Development - combatting
poverty, hunger... economic,
environmental, social growth



Any doubts?

RESET 20/25 answered



Yes No
 Yet to reply

YES/NO | POLL

new whiteboard

Me
This brings us to the next
topic. Before starting let's
run a quick check... any
doubts?

Introduction to Sustainable Development



END CLASS



Quick
acknowledgement

UN SDGs - 17 goals - 2030
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environmental, social growth



Any doubts?

RESET 20/25 answered



a.dutta CHAT

- Yes
- No
- Yet to reply

YES/NO | POLL

new whiteboard

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Introduction to Sustainable Development



END CLASS



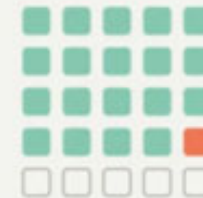
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Introduction to Sustainable Development

Me
Yes, Abhay?

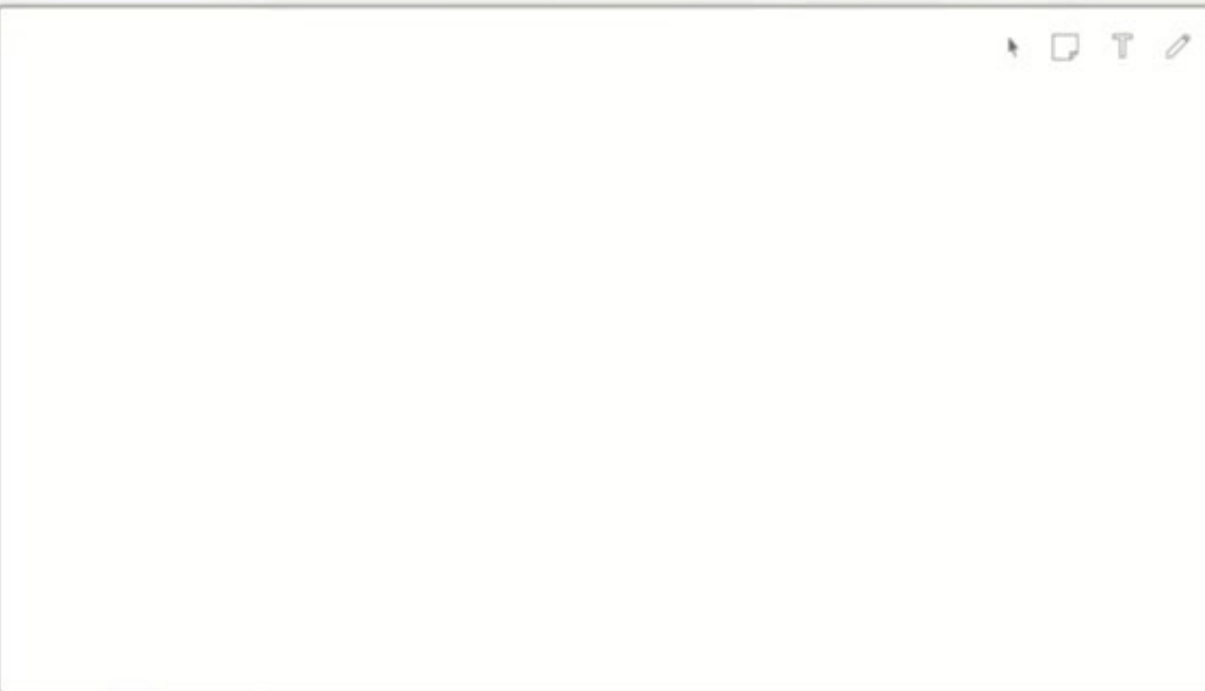
Abhay
"Global warming is not
climate change. They
are related, but not
the same thing."
Could you explain this
part, please?

Using chatbox for
doubt solving

UN SDGs - 17 goals - 2030
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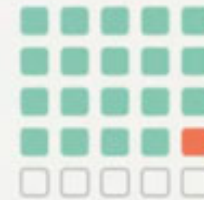


Me
... doubts?
Let's have a look at the
Sustainable Development
goals.



Any doubts?

RESET 20/25 answered



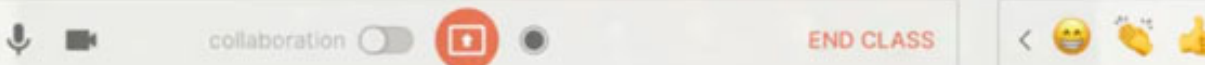
Yes No
 Yet to reply

YES/NO | POLL

Me
Yes, Abhay?

a dutta
"Global warming is not
climate change. They
are related, but not
the same thing."
Could you explain this
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Me
Good question, this
might help:
www.underst.../globalwarming



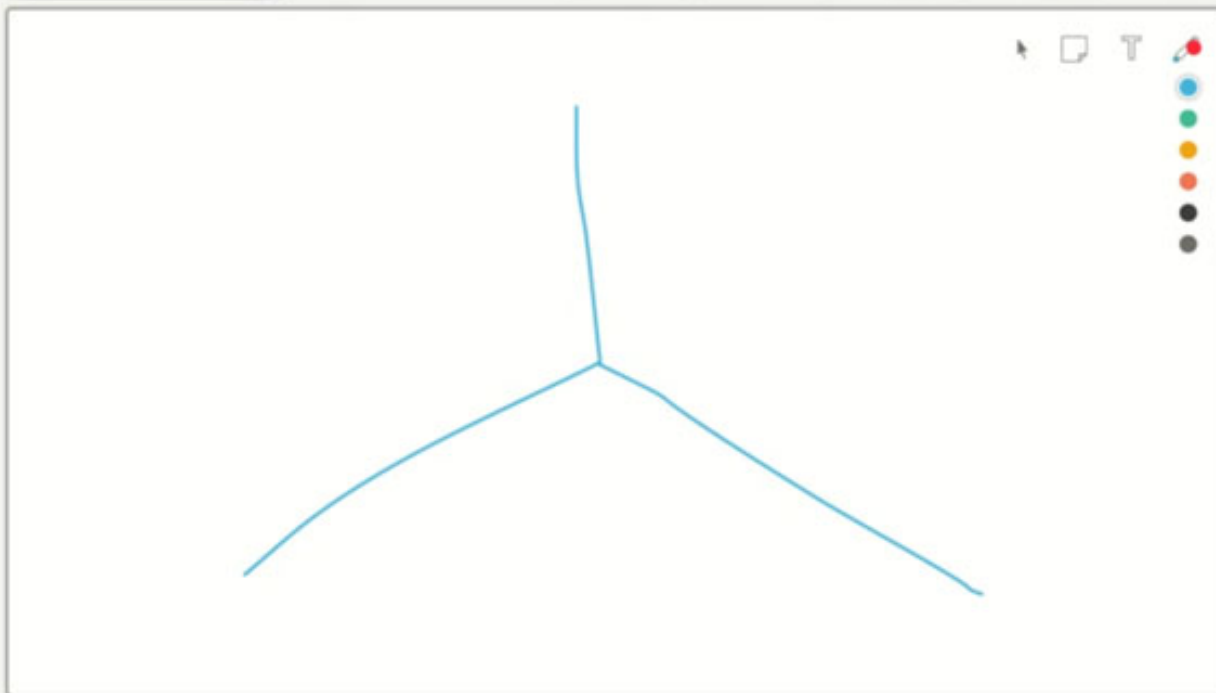
Hands-on learning
through
collaborative
whiteboards

UN SDGs - 17 goals - 2030 Agenda for Sustainable Development - combatting poverty, hunger... economic, environmental, social growth



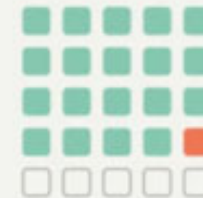
Introduction to Sustainable Development

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Any doubts?

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collaboration

END CLASS



Hands-on learning through collaborative whiteboards

UN SDGs - 17 goals - 2030 Agenda for Sustainable Development - combatting poverty, hunger... economic, environmental, social growth



rosie_paul

harshvardhan



Shreya Iyer

Imad shaikh



Kevin

a dutta

Revathi



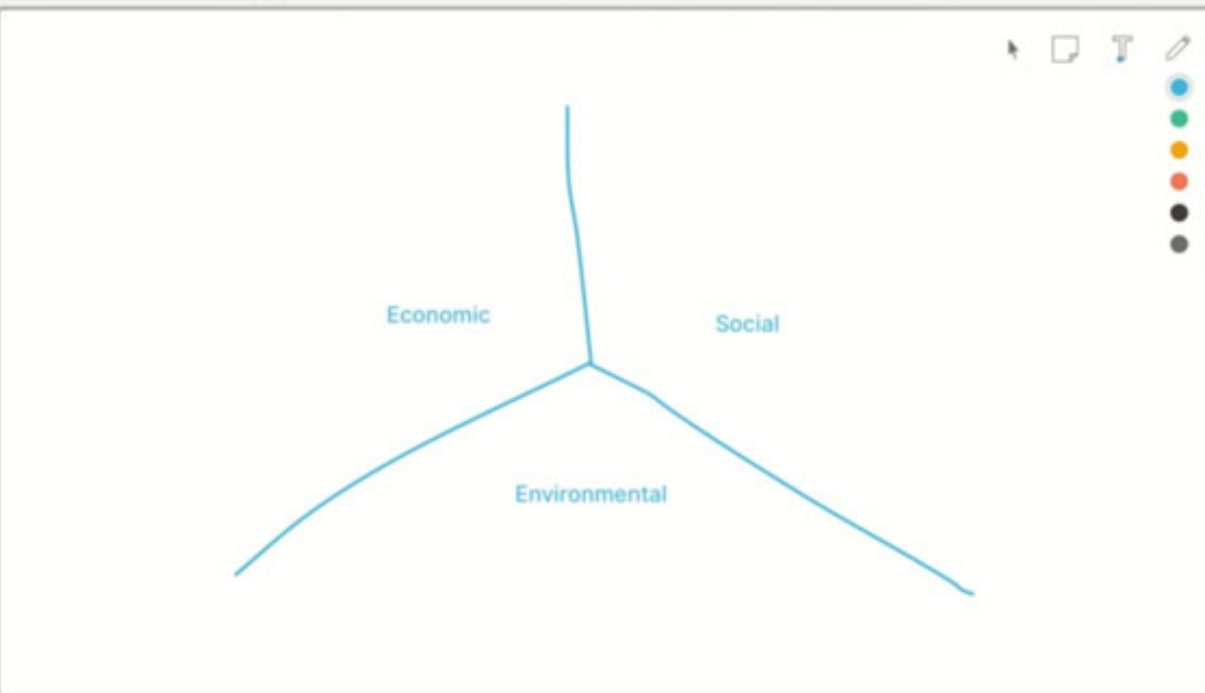
Priya

tejasvini

Introduction to Sustainable Development

Me

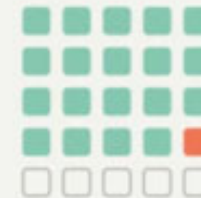
We have three bigger areas. Economic, environmental and social. Let's try to enlist them here



Any doubts?

RESET

20/25 answered



Yes No
 Yet to reply

YES/NO

POLL

Me

Yes, Abhay?

a dutta

"Global warming is not climate change. They are related, but not the same thing"

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collaboration



END CLASS



Hands-on learning through collaborative whiteboards

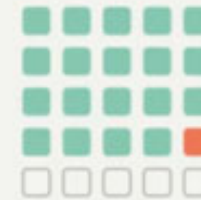
UN SDGs - 17 goals - 2030 Agenda for Sustainable Development - combatting poverty, hunger... economic, environmental, social growth



Me
Venu, next one. Zero hunger

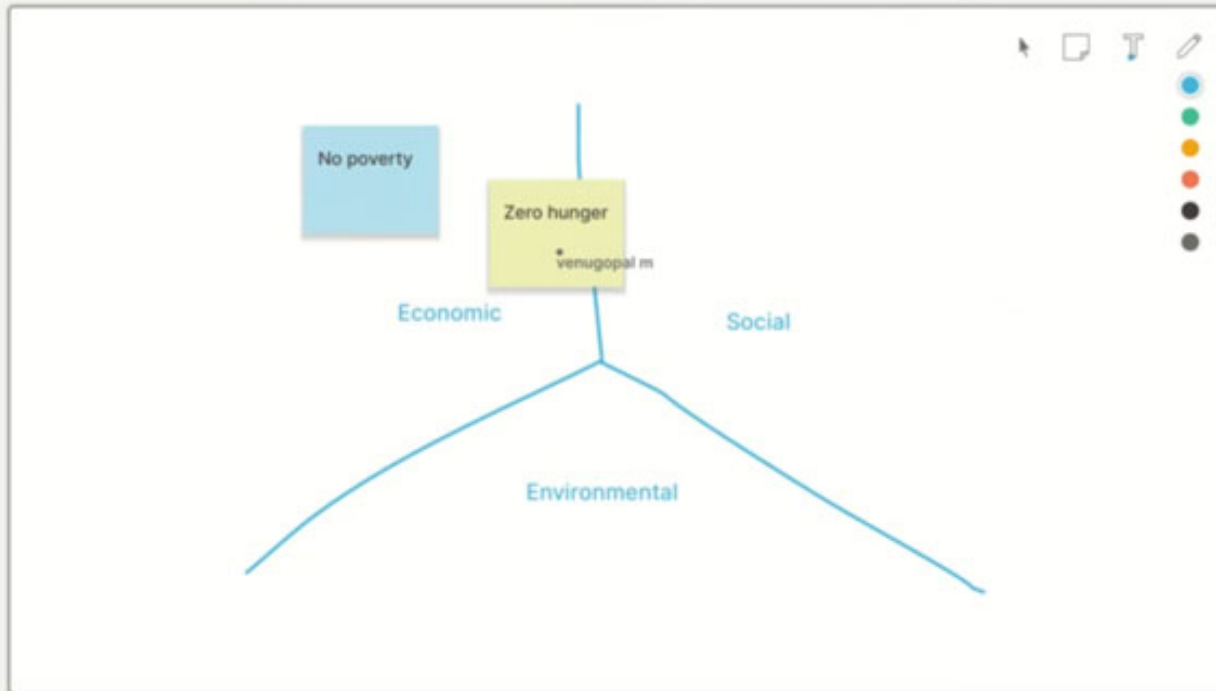
Any doubts?

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Yes No
 Yet to reply

YES/NO | POLL



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collaboration END CLASS

Hands-on learning through collaborative whiteboards

UN SDGs - 17 goals - 2030 Agenda for Sustainable Development - combatting poverty, hunger... economic, environmental, social growth

Introduction to Sustainable Development



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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Yes No
 Yet to reply

YES/NO | POLL

Would you like to generate class notes? Choose all you want to include:

AUTO-GENERATED TRANSCRIPT	CHAT WITH SHARED FILES AND LINKS	COLLABORATIVE WHITEBOARDS
---------------------------	----------------------------------	---------------------------

CREATE DOCUMENT



Me
Yes, Abhay?

a dutta

“ Global warming is not climate change. They are related, but not the same thing.”

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Me
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www.underst.../globalwarming

collaboration END CLASS

Generated class notes

UN SDGs - 17 goals - 2030 Agenda for Sustainable Development - combatting poverty, hunger... economic, environmental, social growth



	rosie_paul	harshvardhan		
	Shreya Iyer	Imad shaikh		
	Kevin	a dutta	Revathi	
asees	jignesh_p	Priya	kiran ravi	tejasvini

Introduction to Sustainable Development

Me
Venu, next one. Zero hunger

Any doubts?

RESET 20/25 answered

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Yes No
 Yet to reply

YES/NO | POLL

Would you like to generate class notes? Choose all you want to include:

AUTO-GENERATED TRANSCRIPT	CHAT WITH SHARED FILES AND LINKS	COLLABORATIVE WHITEBOARDS
---------------------------	----------------------------------	---------------------------

CREATE DOCUMENT

No pove

Environmental

Me
Yes, Abhay?

a dutta

“ Global warming is not climate change. They are related, but not the same thing.”

Could you explain this part, please?

Me
Good question, this might help:
www.underst.../globalwarming

collaboration END CLASS

Generated class notes

What are the different design ideas involved?

Featured, Unfeatured, Discarded
Useful + User-Friendly
Usage in pedagogy

**SOME IDEAS WHICH FEATURED
IN THE EXAMPLE...**

PLACEHOLDER Elements

Planning lessons within BodhiTree by creating the basic structure using Placeholder elements

They are only visible to the teacher

These can subsequently be replaced by the actual content

And might be used for:

- Creating lesson plans
- Structuring a book/course
- Setting reminders



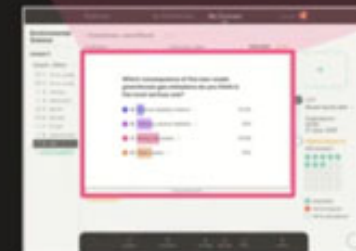
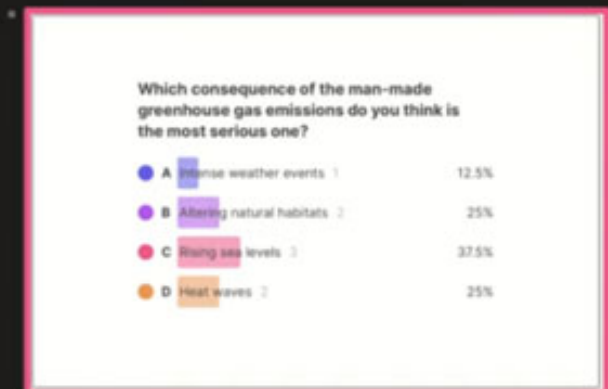
POLLING Question

Multiple choice questions

Interspersed between informational elements or placed towards the end of a module

These might be used to:

- directly gauge understanding/recall
- ask student to self-report if she/he has understood
- collect feedback



VIEWERSHIP Dashboard

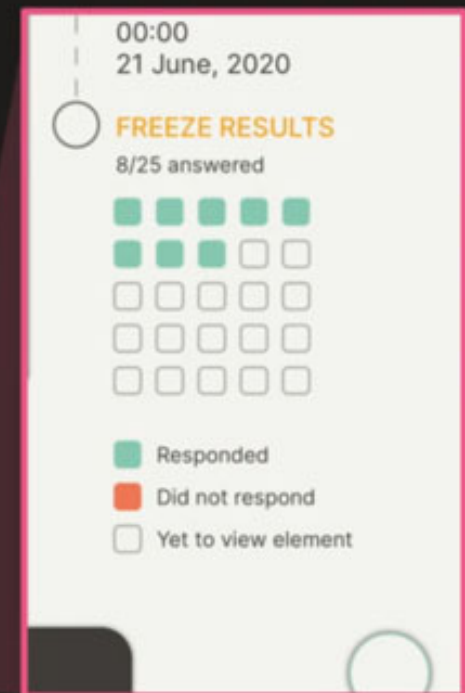
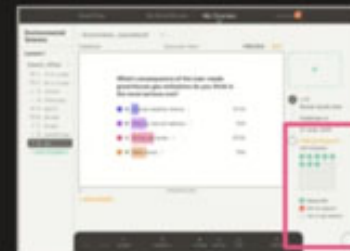
Linked to an element

Indicates if students have gone through a particular element yet

Hovering over each square reveals the name of the corresponding individual

Useful to gauge if some element is being missed

Following up with students who have not viewed/engaged with an element

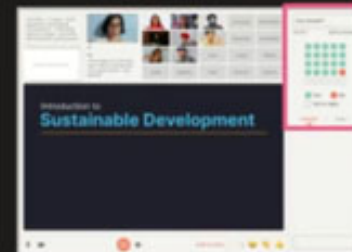


Live Dashboard YAY/NAY

Raising hands, giving acknowledgements, for instant feedback

These might be used for:

- Quick yes/no questions
- Acknowledgements etc.



Any doubts?

RESET 20/25 answered

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Yes No

Yet to reply

YES/NO | POLL

Powerpacked CHAT

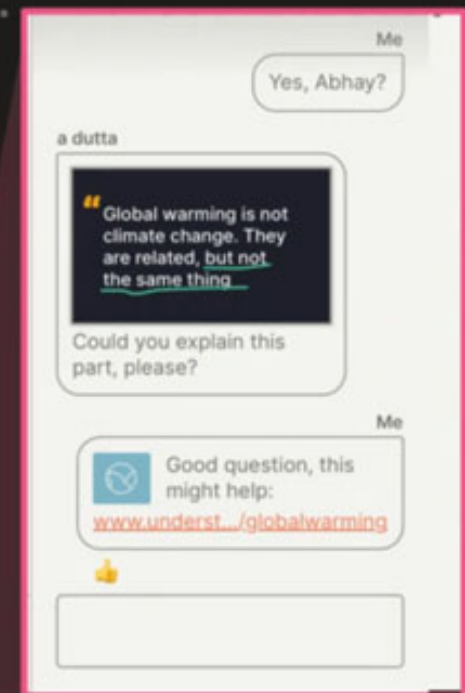
Using the chat pane for different engagement-based actions.

Existing:

- Comments
- Questions
- Link sharing
- Emoji reactions

Additionally:

- File sharing
- Doubts/comments with reference screenshot
- Using chat as 'class notes' or 'minutes'



**SOME OTHER IDEAS WHICH
ARE PART OF THE SOLUTION...**

DISCUSSION Threads

Anchored to an element
instead of being separate

Could be initiated by
student/teacher

Could be used for:

- Doubts
- Comments
- Indicating key points
- Flagging errors

For timed elements, could
include a reference
timestamp



Content LIFESPAN

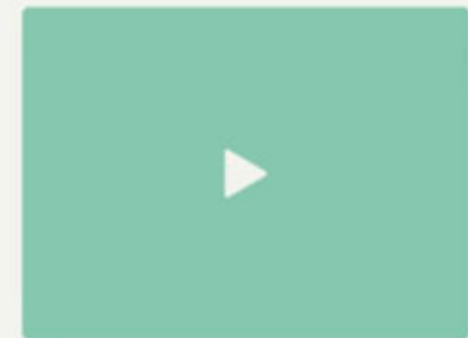
Scheduling particular content to go live and/or to 'expire' at predefined points of time

The element is not accessible to students outside of the specified timeframe

These might be used for:

- Flipped classroom
- Submission links with deadlines
- Giving contemporary examples
- Announcements
- Sharing summary/revision notes a few days before exam, etc.

Lecture 3



Publish on 25 May, 2020

Unpublish on 30 June, 2020



Live Dashboard POLLS

1. Set up poll

2. Control visibility and time constraints

3. Decide what happens to the results

Polls might be used for:

- Demonstrating a point
- Gathering data/ common opinion for further examples
- To gather feedback

What assignment would you like to have for next week?

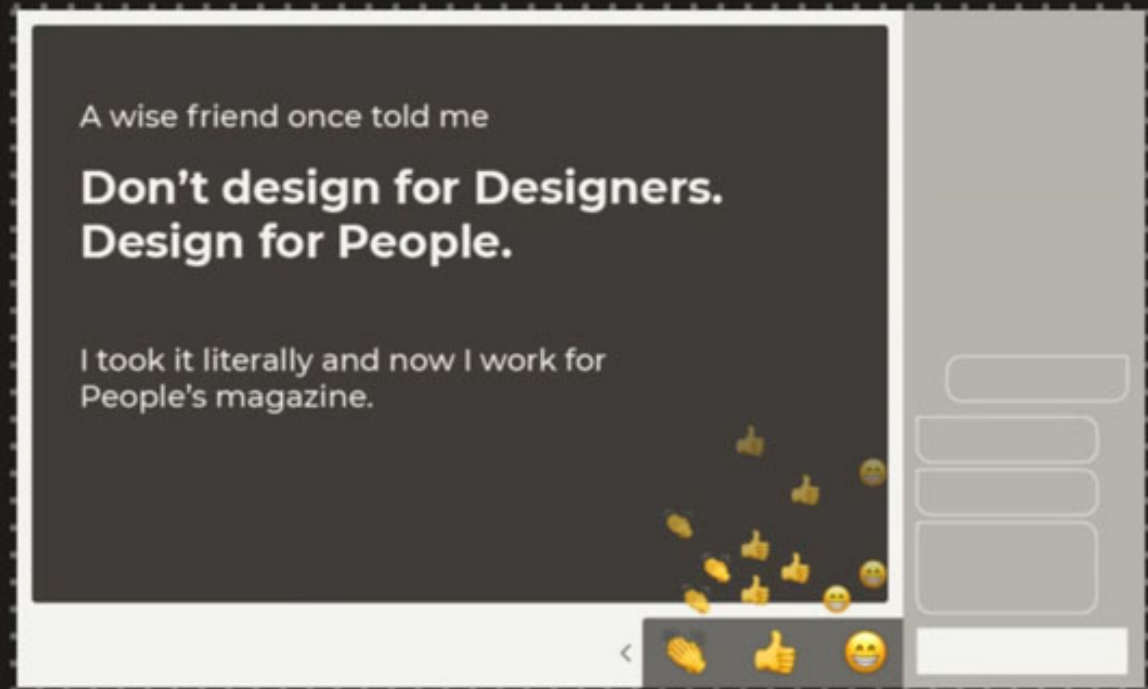


± IDEAS AFTER EVALUATION...

Live Reactions

EMOJI

Spontaneous non-verbal
feedback



DISCUSSION Element

A separate element with a discussion prompt, with three main states:

- Setup
- Open for comments
- Closed/Frozen

Also allows sharing of links, images, files etc.

Could be used for:

- Cultivating different perspectives
- Provoking reflection
- Peer learning
- Collecting examples relevant to the batch

Let's take a look around...

Give an example of Gestalt you can spot around you, and mention the principle/law involved.

Feel free to copy images from the internet (as long as you give references)

Shruti V



I think this is an example of the Law of Similarity. Found this on www.amba.ac.uk/ambastates.co.uk/2238894/

Audio & Video NARRATION

Narration tool allows:

- Recording audio voiceover file anchored to an element
- Grouping elements for continuous voice over

Helps estimate time spent on the element

Can incorporate "talking head" thumbnail

05_gestalt.ppt

Law of Proximity

RECORDING

00:21

05_gestalt.ppt

Law of Closure

RECORDING

00:19

COLLABORATION Whiteboards

Metaphorically similar to whiteboards, with added capabilities:

- Collaborate live or asynchronously
- Movable 'sticky-notes'

Could be used to facilitate hands-on activities and interactions.

In a synchronous setup, these can be switched with displayed elements, and saved as a part of class notes



Making Asha's life easier as an online teacher

Reusing Content

Asha doesn't need to make slides and elements from scratch

She can modify content she already has and simply drag and drop it online

Integrating Familiar Tools

Asha can continue to use PowerPoint, MS Word, Zoom... which are familiar

She does not need to learn an entirely new set of tools for every activity

Better Schedules and Planning

Elements scheduled to be published/unpublished let her run courses in time

Placeholders+reminders help to structure courses without having to populate all the content first

Enriching Asha's online teaching practice

Connecting with Students

Asha can feel closer to her students through sync and async interactions

The VC interface increases eye contact and live participation

Creating Artefacts

Collaborative sessions using whiteboards can host hands-on activities

Live sessions can now also be documented as class notes which can be accessed asynchronously

Flexibility and Control

Asha is free to use the capacities of BodhiTree to suit her teaching style

The content she uploads is entirely under her control, and BodhiTree is just a facilitating tool

How were they tested and evaluated?

Heuristic evaluation

One-one-one remote interviews → analysis

Hacked implementation

Testing and Evaluation

Heuristic Evaluation

1½ hour session with a group of students and professionals (part of the Monsoon HCI course)

Identifying initial issues and minor rectifications before testing at large

One-on-one Interviews

40-60 minute discussions with 12 experts (practicing teachers, educationists) followed by analysis and retrospective mapping

Validating appropriateness and implementation, suggested improvements

Hacked Implementation

Using existing tools in different ways to emulate the idea as far as possible

Idea validation through putting into action

Let's Discuss!

What worked, what didn't work, what could be done differently... future avenues

What I learned in the process and how it helped me as a designer

Any particular part of the project which you'd like to spend time discussing