The SAMR Model

Open Education Resources:
Technology Integration into Classroom Learning

Work done as part of FDP201x on OER project

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Open Educational Resource: Technology enabled Teaching and Learning using SAMR Model

We as teacher trainers, are training technical teachers in educational technology and coordinating faculty development programme. The topic for OER activity is "Integrating Technology in Teaching using SAMR model".

- OER is downloadable from
  https://nitttrc.moodlecloud.com/course/view.php?id=4
- Target Audience: Teaching Faculty (any domain)
- Tags: Technology enabled learning (TEL), Web tools, Degrees of classroom technology integration, Digital learning experience, 21st Century Skills
- OER developed in MOODLE CLOUD

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Learning Objectives

After using this OER, learner will be able to:

- Identify at least 2 web tools for each of the SAMR model levels
- Explain the SAMR model's technology infusion with suitable example
- Plan a redefined lesson with SAMR model for collaborative learning

Helpful Documentation

[1] CommonSense Education, Blog Article, "SAMR and Bloom's Taxonomy". [Online].

https://www.commonsense.org/education/blog/samr-and-blooms-taxonomy-assembling-the-puzzle

[2] Glossary of Education Reforms. (2016) Blog Article, "21st Century Skills". [Online].

https://www.edglossary.org/21st-century-skills/

[3] For screen recording using MAC, visit for "learning about screen recording http://osxdaily.com/2010/11/16/screen-recorder-mac/ for more details.

Section 2: Design Decisions

Nature of Decisions taken

The design decisions involved in the creation of this OER were of broadly three types:

- Content Decisions
- Pedagogic Decisions
- Technology Decisions

Content Decisions

The content decisions related to:

- Decided on SAMR model because it's very pragmatic and easy to understand for novice digital tool users. SAMR stands for substitution, Augumentation, Modification, Redefinition. There are 4 levels in this model. It's developed by Dr. Ruben Puentedera.

Pedagogic Decisions

Flipped classroom technique is used for this class, namely,

- Main Video Source URL https://youtu.be/9b5yvgKQdqE with hotspot questions to be discussed in the forum – "How can technology transform your learning design?"
- Watch this video URL https://youtu.be/ZQTx2UQQvbU from 1:25 minutes and answer the assignment quiz
- Watch this video URL https://youtu.be/SWU0Dzz6gs0 for basic understanding of the topic. TPS activity along with forum posts will help student's understanding.

Technology Decisions

Flipped classroom techniques are used:

- YouTube videos are predominantly used
- Screen recorder software for creating screencast videos
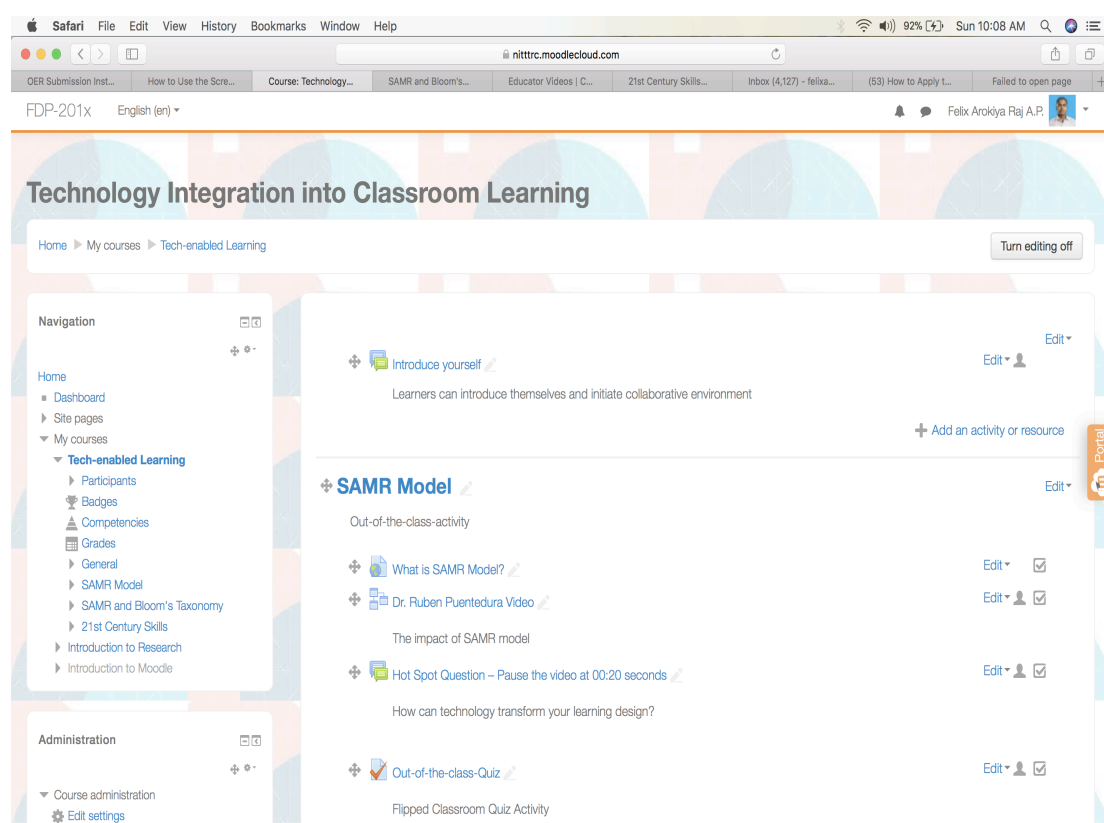
Section 3: OER Description

Active OER

In order to access this OER, the following credentials can be used:

- Username – student2, Password - student2
- Username – student3, Password - student2
- Guest access https://nitttrc.moodlecloud.com/course/view.php?id=4

Lesson Settings

The screenshot for the Moodle OER is presented below:

How to use this OER

To using this OER, you need to have ADMIN previleges in your Moodle course. This is essential for importing acitivities.

Step 1: Download the OER lesson from Moodle

https://nitttrc.moodlecloud.com/course/view.php?id=4

Step 2: Go to the OER lesson in Moodle for importing the resources. Under the "Administration" section, click "Restore".

OER – Technology enabled Learning   6
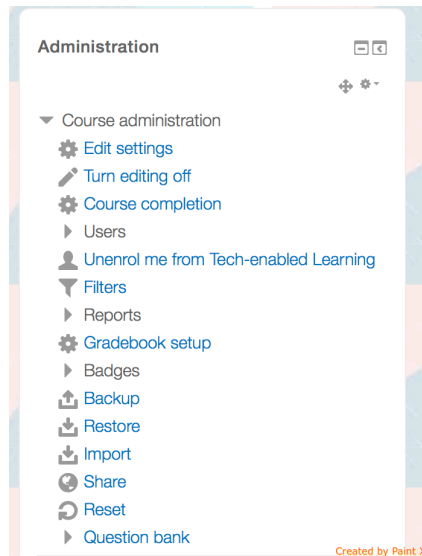
Step 3: Drag and drop the three files into the "Files" area and click restore

OER: Technology Integration into Classroom Learning
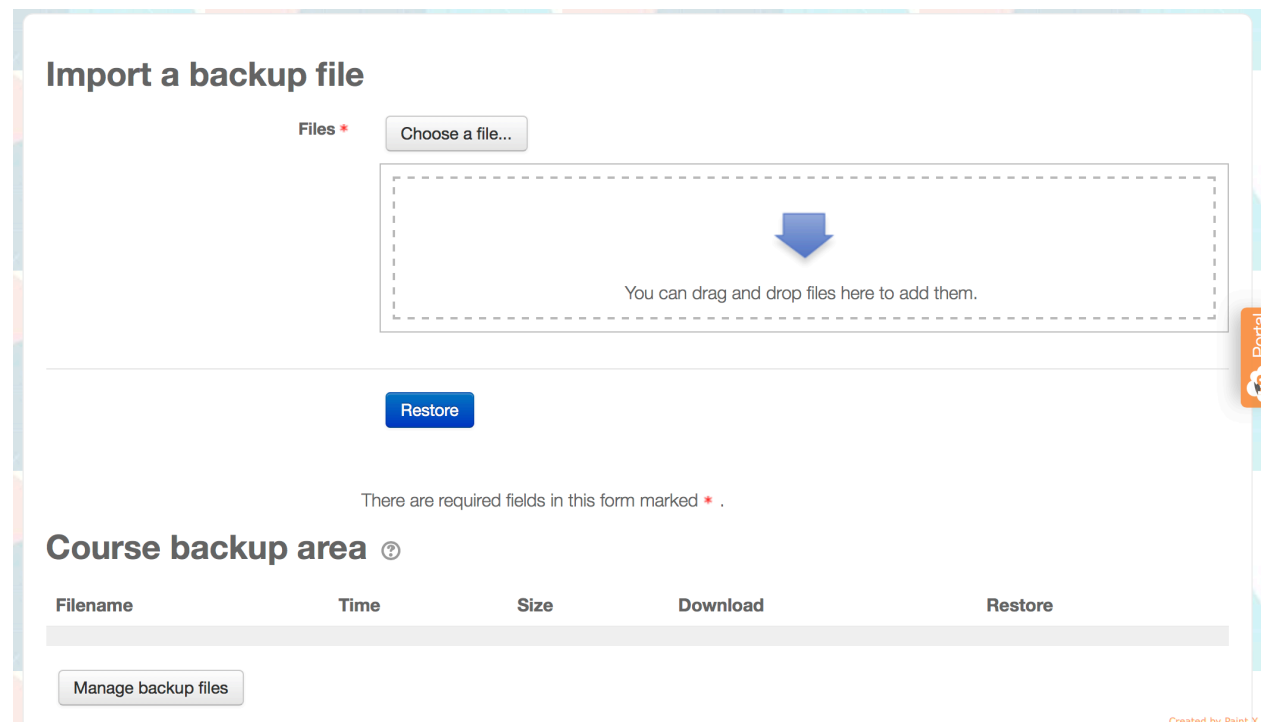
Step 4: Check the contents of the restore by going back to the lesson.

Step 5: After checking, give the instructions to your faculty trainees to complete the lesson activity before the next class using MOODLE forums.

Step 6: Before the start of the next class, check the reports to see how faculty trainees have performed. If there are some errors made by faculty members, in the classroom, apply Peer Instruction (PI) technique to draw out the misconcepts and help them to understand clearly.

Best Practices with Lesson Activity

This lesson activity in classroom can be used for higher order thinking skills. Here are some suggestions:

1. Share the lesson activity three days in advance.

2. Acknowledge the completion of the activity in classroom session.

3. At the end of the lesson, there has to some concrete output like a new courseware by faculty trainees for which they have used some web tools.

Section 4: Evaluating Effectiveness of OER

The OER effectiveness can be assessed at two levels:

1. At the student level
2. At the consumer level

Effectiveness at Student Level

The metrics to access the performance of students' learning (Faculty trainees) can be done using Moodle lesson report which shows the total no. of students accessing, time of access, marks scored through MCQ, short-answer, participation in forums, etc.

Effectiveness at Consumer Level

Through survey administration, 3 main factors – Ease of Use, Concept Coverage and Concept Complexity, can be measured quantitatively to identify the effectiveness of this OER at consumer level. This is a follow-up activity.

Implementing Survey

This is a survey is the last activity of this OER moodle. If possible, this survey can be send through email IDs of the faculty trainees.

Survey Questions

Factor	Questions	Scale
Ease of Use	I found it easy to download the Lesson Activity	Strongly Disagree to Strongly Agree (5-point Likert Scale)
	I found the instructions to setup the Lesson Activity useful in setting the activity in my Course	
	I was able to successfully create Lesson in my own course	
Concept Coverage	The Lesson covers the	

	required concepts related to concept maps that I need for	
Concept Complexity	The content inside the Lesson is too complex for my students to understand	

Section 5: Consolidated Log of Team Work

The consolidated log of team work is as shown below:

Activity	Team Members	Amount of Time (mins.)
Discussion	Dr. P. Malliga	12
	Dr. Ravi Arunan	10
	Shri. Felix Arokiya Raj (Team Lead)	12
Tool Exploration	Dr. P. Malliga	10
	Dr. Ravi Arunan	12
	Shri. Felix Arokiya Raj (Team Lead)	10
OER Creation	Dr. P. Malliga	10
	Dr. Ravi Arunan	10
	Shri. Felix Arokiya Raj (Team Lead)	10
OER Documentation	Dr. P. Malliga	20
	Dr. Ravi Arunan	20
	Shri. Felix Arokiya Raj (Team Lead)	20

Section 6: Building a community of MOODLE and Flipped Classroom Adopters

Possible Sources for Community Building

Some of the viable sources for building a community are:

1. Teachers who are using Technology for teaching
2. Teachers who plan to use Flipped Classroom Strategies

Plans for Community Building

Twitter Hashtag #OER-India will be used by all the consumers of this OER. Through this hashtag, we can follow each other and get updated. There is a tool called FollowerWonk in Twitter, which can help in finding and following experts in Technology enabled Learning and Flipped Classroom. Every second Saturday, all the interested faculty members can assemble for webinar or through skype.

Works Cited

[1] CommonSense Education. (2014, September) Blog Article. [Online].

https://www.commonsense.org/education/blog/samr-and-blooms-taxonomy-assembling-the-puzzle

[2] Glossary of Education Reforms. (2016) Blog Article. [Online].

https://www.edglossary.org/21st-century-skills/