Interactive Resources: Concept, Purpose, Type, and Development Process

In this session we will explore...

- The concept and purpose of interactive educational resources
- Various types of interactive content
- The basics of script writing and storyboarding for educational activities
- Simple interactive activities using **H5P**, such as Drag the Words

Dictionary Definition

Interactivity is the [involvement](#) of [users](#) in the [exchange](#) of [information](#) with [computers](#) and the [degree](#) to which this [happens](#).

[Definition of interactivity from the Cambridge Business English Dictionary © Cambridge University Press](#)

Levels of Interactivity

- Passive
  - Reading text, watching videos, or listening to lectures.
- Limited
  - Answering multiple-choice questions or marking true/false statements
- Moderate
  - Complex interactions
- Full
  - Highly immersive interactions (simulations, role-playing, or interactive games that require critical thinking and problem-solving)

Interactivity in a teaching learning Environment - three primary types

- Learner-Learner

- Learner-Instructor / Teacher

- Learner-Content

Reference: Moore, M.G. (1989). Editorial: Three types of interaction. The American Journal of Distance Education, 3(2), 1-7.
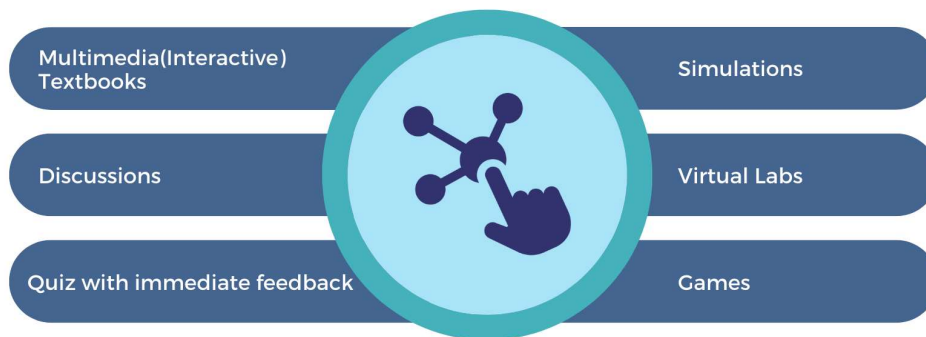
Learning Theories Supporting Interactivity

- Constructivism
  - Learners build their understanding through active engagement with content
    - Interactive resources allow learners to explore and construct knowledge
- Behaviorism
  - Behaviours are acquired thrigh conditioning, which is a process of reinforcement and punishment
    - Interactive resources can provide immediate feedback, which can reinforce knowledge and guide learners towards the desired behaviour

Purpose of Interactive Resources

- Encourage active participation

- Promote Active learning,Critical thinking

- Allows personalization

- Often, bridges gap between theoretical knowledge and its practical application

- Can make learning more inclusive

- Helps students develop digital literacy

- Gives an opportunity to collaborate and communicate

Interactive Content types-examples

Best practices to create Interactive Content

- Define Clear Learning Objectives
- Understand Your Learners
- Use Interactive Elements Strategically
- Promote Active Participation
- Provide Clear Instructions and Guidance

- Ensure Accessibility and Inclusivity
- Balance Challenge and Support
- Optimize User Experience
- Continuously Evaluate and Improve
- Keep it Engaging and Relevant
- Collaborate with Experts

Interactive Content

- Let the situation demand
  - Consider
    - Content demands
    - Learner needs

Avoid adding interactivity just for the sake of it, please.
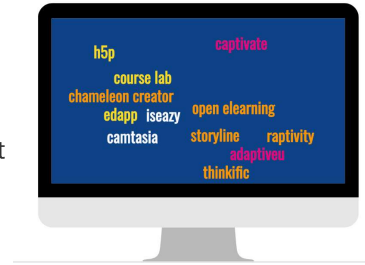
How to Create Interactive Content?

- Using Authoring tool

Authoring tool is a software application that lets its users create multimedia interactive content and publish them without any coding needs (WYSIWYG).

Type	FOSS	Freemium	Proprietary
Example	H5P	Adaptiveu	Captivate

* **FOSS** :- Free and Open-Source Software

* **Freemium**:- Basic/Limited features will be given without any cost

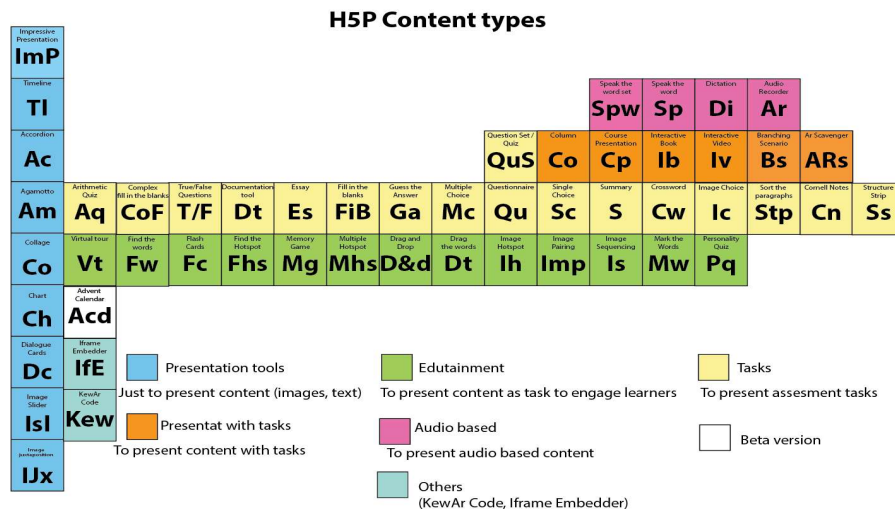***Proprietary:-** Commericial

H5P

Free & Open Source

Easy to Create, Share, Reuse, Modify

- HTML5 Package

- Interactive Content authoring tool

- Free-Open source

- Requires a browser / H5P plugin supported website / LMS like Moodle etc.

H5P Content types

- Around 60 content types

- Various types from simple Single choice set, Drag and Drop, True or False, to Complex content types like Branching Scenario

- Multilingual support

- Ease of creation and use

- Present

- Present with Task

H5P Content types

H5P Content types in periodic table style display © 2020 by Sushumna Rao is licensed under CC BY 4.0. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/

Example   ✅ Check

Example

See the oicture given and Identify the Idiom. If you know the animal name in Hindi, then you can easily identify this Hindi Idiom. Click on Turn to see the answer.

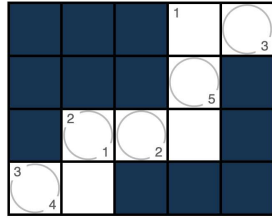| Round 1	Cards left: 3

_____ बेचकर सोना |

✖ I got it wrong   ⟳ Turn   ✔ I got it right!

Example

Solve these Number-based word problems and enter your answer digits into the crossword grid. At the end take note of the secret number and that is your key to access the activity in the class!

Across

1. The sum of 10 and 3 is *(2)*
   ___

2. What is the answer if you multiply 9 with 30 *(3)*
   ___

3. The number of degrees in a right angle *(2)*
   ___

Down
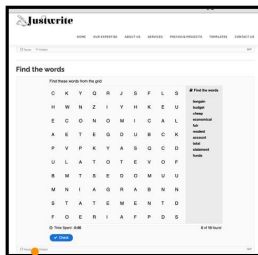
1. The number of centimeters in a meter *(3)*
   ___

2. If each pencil is costing 5 rupees, then what is the cost of the 4 pencils. *(2)*
   ___

1	2	3	4	5

⊘ Check   👁 Show solution   ↻ Retry

↻ Reuse   © Rights of use   <> Embed   H5P
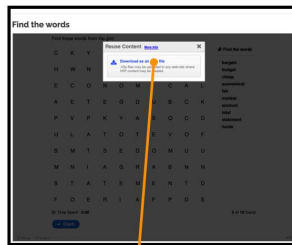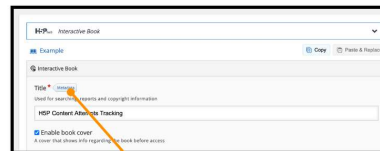
Easy to Share and Reuse

Downloading & Reusing H5P Content

Click on Reuse button

Click on Download

While reusing cite the original H5P content in Metadata tab

Include Title, Author, Editor details, License details in Metadata and save

What kind of Content types we can create?

Video player loading...

Where can we Create and distribute? / share?

- It needs a Web browser
- A website with H5P plugin

- H5P.COM **-** SaaS solution
- In LMS or in CMS
  - Canvas
  - Blackboard
  - Brightspace
  - Moodle
  - WordPress
  - Drupal
- In Lumi online app

*H5P.org is for testing purposes only. You should not use it to host "real" content.

Is there any application or cloud platform that we can use to author H5P content types?

Where to Create H5P content?

- H5P enabled web site
  - H5P.com (SaaS)
  - Own Drupal or WordPress site with the active H5P plugin
- Using a Desktop application Lumi
  - Download and install Lumi from https://lumi.education/en/lumi-h5p-offline-desktop-editor/
- Using Lumi Cloud (https://lumi.education/en/lumi-h5p-cloud/)
  - Create, Share and Manage online
- In LMS - LMS with H5P Plugin (Moodle, Canvas, Blackboard, Brightspace)

Or

- Register in https://h5pcatalogue.in/ and create interactive OER and share.

Using Lumi Cloud - Create an account and Log in

Video player loading...

Development Process: Planning is everything

- Plan well and keep all required files ready (Image/Video, Text/data, Audio etc. with attributions)

- Know your learners needs

- Think about purpose of Interactivity

  - Self-check (Formative assessment) - If preparing for self-check purpose make sure to

    - Provide Constructive Feedback - whereever possible

    - Give an option to redo - whereever possible

    - Enable Show Solution - whereever possible

* Make sure you create _accessible_ content. [Check about accessible content types](#)

Introduction to Script Writing and Basics of Storyboarding

- The Role of Script Writing in Interactive Resources
  - Focus on clarity and learner engagement
  - Structure content for seamless interaction
  - Incorporate feedback and branching options
- Steps to Effective Script Writing:
  - Start with clear objectives
  - Outline interactions and content flow
  - Keep instructions concise and learner-focused

Introduction to Script Writing

According to Clark & Mayer (2016) in E-Learning and the Science of Instruction, effective scripts in e-learning should focus on engagement and guiding learners through interactions with minimal cognitive overload.

Script Components:

- **Introduction:** Introduce the activity with clear objectives
- **Interaction:** Define the user action at each step, e.g., "Drag the correct term to the definition"
- **Feedback:** Outline what feedback the learner will receive, ensuring it's constructive and encourages further learning
- **Conclusion:** Wrap up the activity with a reflective or summary statement

Storyboarding

Pre_visualise the learner experience

Storyboarding is the visual representation of the script. It helps in the alignment between content, technology and pedagogy.

The structure laid out visually, helps to adjust or refine the learner's journey for better engagement.

Always meet learning objectives. Each interaction should serve a purpose: reinforcing knowledge, providing practice, or assessing comprehension.

Storyboard Components:

- **Screen Layout**: Arrangement of text, media, and interaction elements on each screen.

- **Navigation**: Arrows or diagrams showing how users will navigate from one screen or decision point to the next.

- **Interactions and Feedback**: Indicate where users will interact (e.g., drag-and-drop, click for a pop-up) and what feedback they will receive (e.g., "Correct!" or "Try again").

How to Create a Storyboard?

Either any Document creation tools like MS Word / Google Doc / PowerPoint /Google Slides etc. or Specialized tools like *Storyboard That* can be used.

There is no fixed way and style, based on the requirements and the environment one can create a storyboard with all the essential elements. Here is a sample done using simple text and table.

Let's Create

Drag the words into the correct boxes

seed   Flower   Root   shoot   Stem   Leaf

The part of the plant that absorbs water and nutrients from the soil is called the

transports water and nutrients to other parts of the plant.

is responsible for making food for the plant through photosynthesis.

is the reproductive part of the plant where seeds are produced.

Self Evaluate

- H5P Content Self Evaluation Rubric

- H5P Image Hotspot Self Evaluation Rubric

H5P Resources

- [Examples and Downloads](#)
- [H5P OER](#)
- [Templates](#)
- [Examples](#)
- [More Examples (Telugu)](#)
- [Cooking OERs with H5P](#)
- [Access a Course on Creating Interactive Content in Moodle as a Guest](#)

Thank You

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https://e-ology.blogspot.com

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Slide	Score/Total
Slide 15: Symbols for Elements Drag & Drop	**0/4**
Slide 29: Drag the Words	**0/4**

Total Score   ⭐ **0/8**