H5P Active learning guide

HERDSA workshop material

What is H5P?

H5P is an easy to use interactive content creator, giving you access 39 different interactive content types including presentations, interactive videos, quizzes, multiple choice questions, timeline, personality quizzes, flash cards, audio recorder and even mini games. H5P content can be easily created by anyone and can be shared or reused between different Moodle instances. It is also mobile friendly which gives students the freedom to complete their learning activities on any mobile devices. Explore H5P by viewing the examples and downloads on their main webpage https://h5p.org/.

Why would I use it?

H5P allows educators to provide active learning opportunities for their learners beyond the classroom. Active learning is defined as "learning by doing and doing and thinking about the things they are doing" (Bonwell and Eison 1991). This includes activities which promote higher order thinking and promote self-regulated learning among learners. Some examples of active learning activities includes chunked content, learning checkpoints, reflections, case studies, sequence reconstruction and gamification.

H5P is free to use, sharable, re-usable and most importantly, it does not require any technical expertise in order to be utilised. With 39 different interactive content types, H5P is highly adaptable, flexible and allows room for variety and creativity. Educators can easily gain proficiency in creating a simple content type such as "True or False" or "Fill in the Blanks" then progress to advanced types (Rekhari and Sinnayah 2018). In this guide we will explore an example of a chunked learning content utilizing H5P.
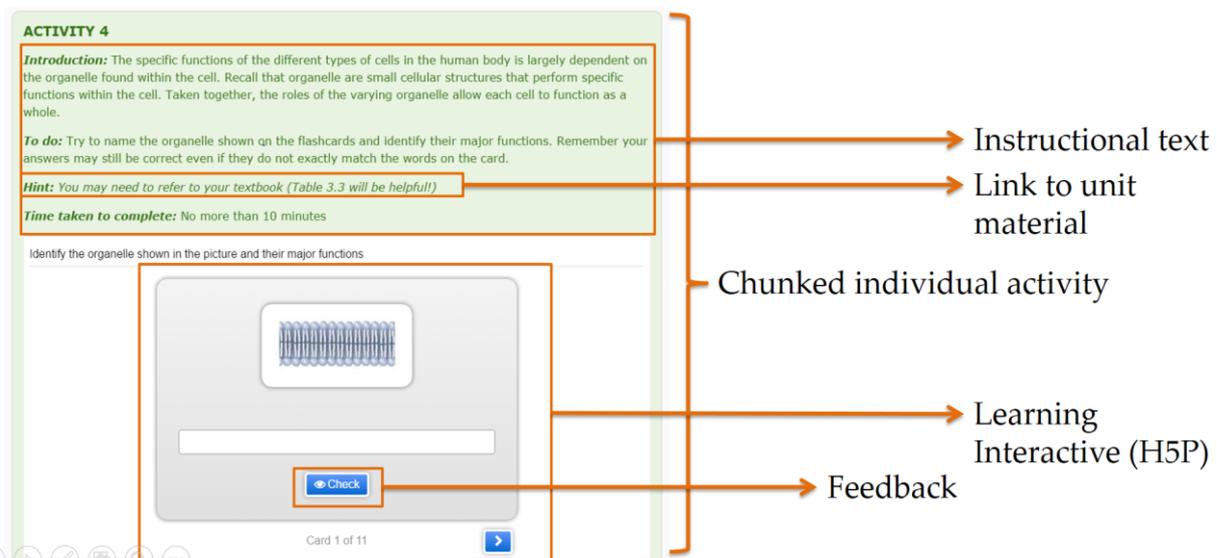
Chunking learning content in H5P

Chunking is defined as the method of breaking a component into smaller "chunks" of related information (Neswig 2014). Chunking reduces students' cognitive load, provides meaning and context to information making it easier to remember. Christopher Pappas identified three common methods of chunking information, this includes classifying and prioritizing, grouping and organizing (2013). View this "Image Hotspot" which demonstrates how information chunking is achieved with H5P.

Use chunking in situations where content can be broken apart into smaller categories or grouped to improve clarity in meaning. This is especially useful when used on content students identify as being difficult to understand. H5P tools such as "Accordian", "Image Hotspot" or "Image Sequencing" can be peppered throughout the course to actively engage and stimulate students with an asynchronous teacher presence.

When embedding these learning interactives into your course content, it is best practice to include instruction via instructional text. This helps to improve clarity of task and provides a structure for students to complete these learning tasks. Rekhari and Sinnayah systematically incorporated instruction to each chunked learning interactive by utilizing the following information below (2018):

- Introduction – Provides a narrative to the activity
- To do – Explicit instructions on what the task is and how to complete it
- Hints – Links task to textbook or lecture material within the course for assistance
- Time taken to complete – Lets the learner know how much time they will need to set aside to complete this task

The second element to creating a chunked H5P is the use of feedback. The use of feedback is a learner's major mechanism to check their progress within a learning task (Lucas 2012). Most H5P learning interactive also allow learners to check their understanding on the particular concept. The "check", "retry" or "show solution" options provides immediate feedback to reinforce and guide learning (Rekhari and Sinnayah 2018). View the image below to see an example of a chunked learning interactive with instructional text.

Sourced from: Rekhari, S. & Sinnayah, P. (2018). "H5P and Innovation in Anatomy and Physiology Teaching". *Refereed Paper Presented at the 2018 HERDSA International Conference at the University of South Australia, July 2-5, 2018*. HERDSA: (Re) valuing Higher Education.

Now that we've gone through what, why and how to utilize H5P learning interactives. Please find instructional guides below which will guide you through creating your desired H5P learning interactives.

Step 1: Selecting an access to H5P

There are two ways to start creating H5P learning interactives. With the **H5P site or H5P learning management system plugin.** It is recommended that you use the H5P plugin if it is available to you, as the learning interactives can be connected to the System's Gradebook, has no maximum size limit and does not require you to create a new account.

Utilizing the H5P site to create learning interactives allow you to keep all of your H5P content within one account and prevent any accidental deletions from occurring. However, it also means that you will be the only person that will be able to edit the learning interactive unless you create a central account to be shared with the rest of the team. Another drawback includes the 15mb maximum size limit per learning interactive. However, it is not recommended that you create a H5P file that is too large. It should be used as a bite-sized learning opportunity rather than an entire lesson replacement.

This guide will walk you through the process of creating a H5P learning interactive by utilising the H5P site.

Accessing the H5P site

1. Navigate to https://h5p.org/

2. Click 'Create free account' or log in if you already have one. This is located on the top right hand side of the screen.

3. Once logged in, click 'My account' on the top right hand side of the screen

4. Click 'Create new content'

Step 2: Creating H5P Interactive Content

Explore these content types at your own pace and be as creative as you like. Think about a time when you asked questions within a classroom to promote constructive class discussion or incorporated a classroom activity. Can that be made into an interactive content with H5P?

To make choosing which learning interactive to use easier, we have organised the H5P learning interactives into difficulty levels in creating the different H5P interactive content types below. We recommend that you start creating a learning interactive with an easy difficulty and slowly work your way up to moderate and advanced.

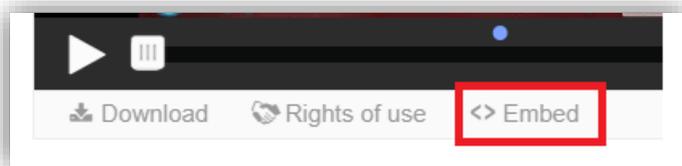| EASY	MODERATE	ADVANCED

• H5P
  o Accordian - (no guide) Vertically stacked expandable text and url
  o Agamotto - (no guide) A sequence of images shown sequentially
  o Arithmetic quiz - (no guide) Time-based arithmetic quiz
  o Audio - Tutorial guide An audio recording for your students to listen
	• H5P
	  o Documentation tool - Tutorial guide A series of text, questions, input fields and goals which can be exported as a text document
	  o Drag and drop - Tutorial guide Drag and drop questions using text or images
		• H5P
		
		  o Impressive presentation - Tutorial guide Create 3D presentations
		  o Personality quiz - (no guide) Create personality quizzes

- o Audio recorder - (no guide)
  A tool for students to record their voices to be exported as a wav file
- o Chart - Tutorial guide
  Generate interactive charts
- o Collage - Tutorial guide
  A collage of multiple images
- o Dialogue cards - Tutorial guide
  Responsive flip cards with images or audio
- o Drag the words - Tutorial guide
  Drag and drop text question
- o Fill in the blanks - Tutorial guide
  Fill in the blanks with text question
- o Find multiple hotspots - Tutorial guide
  A question on finding specific locations on an image
- o Guess the answer – Tutorial guide
  Create an image with a question and answer
- o Image juxtaposition - (no guide)
  Compare two images interactively, either vertically or horizontally
- o Image pairing - (no guide)
  Drag and drop image matching game
- o Image sequencing - (no guide)
  Place images in the correct order question
- o Image slider - (no guide)
  Create a slider of images
- o Mark the words - Tutorial guide
  Create a task where user highlight words
- o Multiple choice - Tutorial guide

- o Essay - (no guide)
  Essay question with immediate feedback using keyword triggers based on found and missing text
- o Memory Game - Tutorial guide
  Create a classic image pairing game
- o Questionnaire - (no guide)
  Create a questionnaire to receive feedback
- o Timeline - Tutorial guide
  Create a timeline of events with multimedia

- • H5P - Multiple interactives in one
  - o Column - (no guide)
    Create multiple interactives vertically
  - o Course Presentation - Tutorial guide
    An interactive presentation with multiple interactives
  - o Interactive Video - Tutorial guide
    Videos enriched with multiple interactives
  - o Quiz(Question set) - Tutorial guide
    Create a sequence of various question types
  - o Single choice set - Tutorial guide
    Create questions with one correct answer

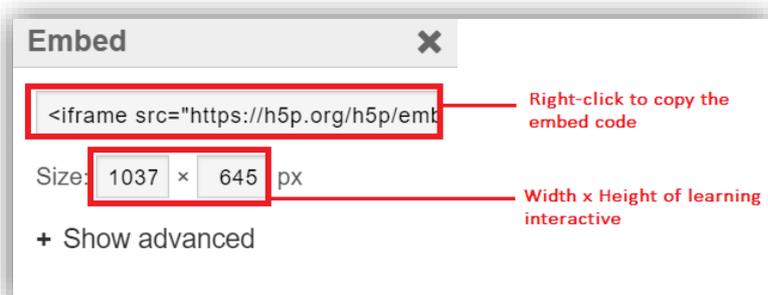|		
Create flexible multiple choice questions		
◦ Speak the words - (no guide) Answer questions using voice (Chrome browser only)		
◦ Speak the words question set - (no guide) Answer a series of questions using voice (Chrome browser only)		
◦ Twitter user feed - Tutorial guide Show your twitter feed using H5P		

Step 3: Placing a H5P learning interactive into your learning management system (LMS)

Now that you have created your H5P learning interactive, let's learn how to embed this into your LMS. Embedding a H5P into your LMS is straightforward. All you need is a tool with a HTML editor available. To embed this into your LMS, please follow the steps below.
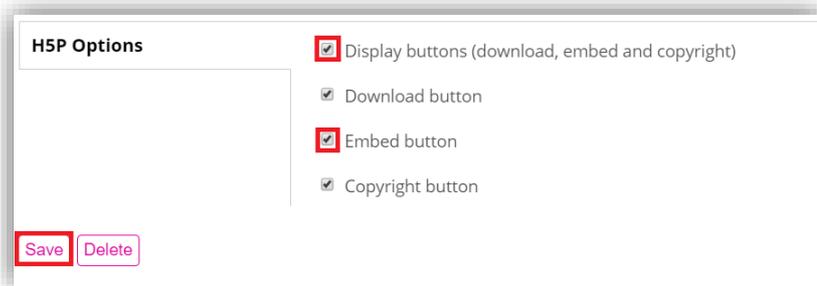
1. Navigate to your H5P learning interactive

2. Scroll down to the bottom of the object and click Embed

3. A pop-up will appear, right-click and copy the code. You can also alter the size of the learning interactive here by adjusting the width by height in pixels (px).
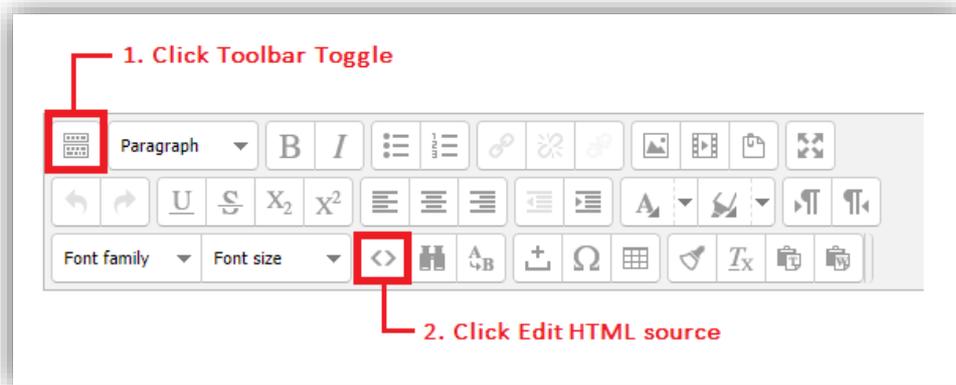
- Note: If you do not see the embed button, edit the learning interactive then scroll down to the bottom of the page. Ensure that Display buttons and Embed button has been selected and click Save

4. Navigate to your course and embed the code into any HTML editor.
   Tip: This is normally depicted by a '< >' symbol.

   If you are a Moodle user, click Toolbar Toggle followed by Edit HTML editor

1. A pop-up window will appear, in any area right-click and paste the Embed Code
2. Click Update
3. Then click Save
4. Your H5P object is now embedded into Moodle.

References

Bonwell, C.C., and Eison, J.A. (1991). Active Learning: Creating excitement in the classroom. *ASHE-ERIC Higher Education Report No. 1.* Retrieved from https://files.eric.ed.gov/fulltext/ED336049.pdf

Lucas, B., Spencer, E. & Claxton, G. (2012). Learning and teaching methods that work. *How to teach vocational education : a theory of vocational pedagogy*. London: City and Guilds Centre for Skill Development in conjunction with the Centre for Real-World learning at the University of Winchester.

Nesvig, B. (2014, June 12). The Power of Chunking: How to Increase Learning Retention [Blog post]. Retrieved from https://www.dashe.com/blog/learning/chunking-memory-retention/

Pappas, C. (2013, June 3). 3 Chunking Strategies That Every Instructional Designer Should Know [Blog post]. Retrieved from https://elearningindustry.com/3-chunking-strategies-that-every-instructional-designer-should-know

Rekhari, S. & Sinnayah, P. (2018). *"H5P and Innovation in Anatomy and Physiology Teaching"*. *Refereed Paper Presented at the 2018 HERDSA International Conference at the University of South Australia, July 2-5, 2018.* HERDSA: (Re) Valuing Education.