H5P Branching Scenario Escape Room Teaching

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Acknowledgement

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1. Why Use Escape Rooms as a Teaching Tool?

Using escape rooms as a teaching tool can effectively enhance students' learning motivation and engagement. The gamified environment stimulates learning interest through challenges, immediate feedback, and immersive experiences (Zapušek, 2024), while elements such as points, levels, and narratives further enhance emotional and cognitive engagement (Sailer & Homner, 2020). Additionally, escape rooms inherently rely on teamwork, information sharing, and task coordination, which help cultivate students' collaboration, communication, and problem-solving skills (Ferns et al., 2024). Particularly in virtual formats, they can foster an atmosphere of “equal collaboration” in interdisciplinary contexts (Krouska et al., 2024).

This approach also supports personalized, inquiry-based, and self-paced learning. Its branching tasks simulate processes of self-exploration, resource selection, and project-based learning, reflecting the core characteristics of Education 3.0. Research has shown that dynamic interaction and personalized pathways can significantly improve learning performance (Muengsan & Chatwattana, 2024). More importantly, through structured reflection sessions, students can transform gameplay experiences into solid competency development (Ferns et al., 2024).

Therefore, using H5P to create escape rooms is not merely about "playing games." Instead, it allows students to fully engage in the entire learning process—from knowledge comprehension and collaborative inquiry to creation and reflection—through immersion and interaction.

2. Design Process: From Sketch to H5P Final Product

Conceptualization: Define learning objectives, theme, mission, and student roles.

Paper-Based Design: Sketch a branching flowchart, specifying the scenario, task, and logic for each stage.

H5P Construction: Implement the blueprint using the H5P Branching Scenario tool.

Reflection: Conduct testing and refinement.

2.1 Learning Objectives

What knowledge (e.g., core characteristics of Education 1.0-4.0) and skills (e.g., selecting appropriate education models) should students gain?

2.2 Paper-based "Escape Room Map"

Sketch the branching scenario structure on paper to clarify logic before building in H5P. Below is the example map for the Education 1.0-4.0 Escape Room, which also serves as the direct blueprint for H5P implementation (see Table **Education 1.0-4.0 Escape Room Map & Implementation Guide**.)

2.3 Construction Phase – Implementing the Blueprint in H5P

A Guide to Core Features of H5P Branching Scenario:

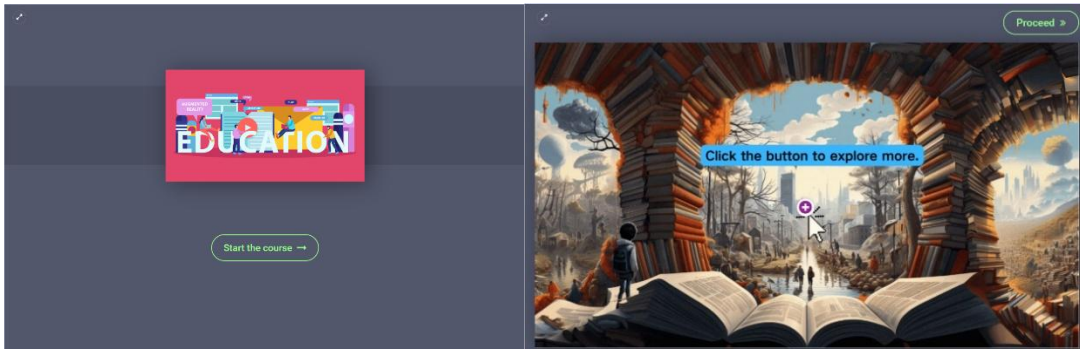
Create Scenario: Select "Branching Scenario" and set up an attractive cover screen with clear instructions.

Manage Nodes:

- **Content Nodes:** Used to present information, videos, or embedded tasks.
- **Question Nodes:** Used to pose single-choice questions, text input tasks, etc., and set branching logic.

Design Feedback: Avoid simply stating "Correct" or "Incorrect." Use feedback boxes for formative assessment. Explain why an option is correct or why another is unreasonable to guide student reflection.

Set Navigation Logic: Strictly follow the flowchart you designed. Ensure every path leads to your predefined endpoints. (The following are some images from the escape room.)



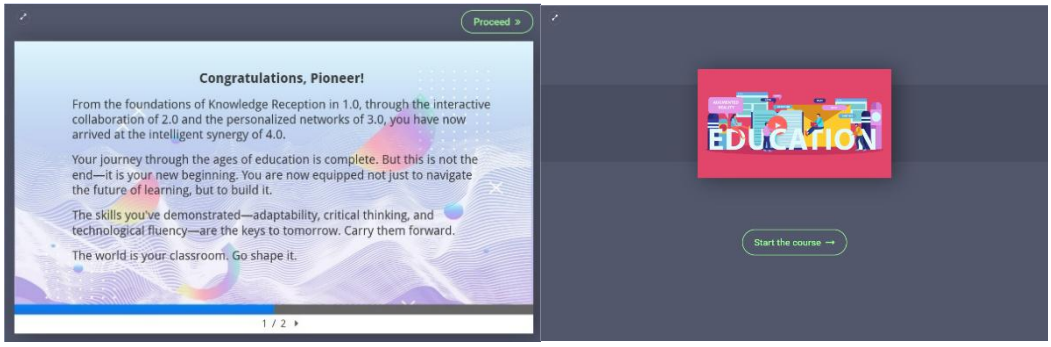
Education 1.0-4.0 Escape Room Map & Implementation Guide

Stage	Scenario	Learning Objective	Student Task	H5P Implementation Steps
Stage 1	Education 1.0–4.0 Overview	Understand the four generations' features	Interactive video	1. Add **Course Presentation** → **Interactive Video**. 2. Upload the evolution video. 3. Insert multiple-choice questions at key points. 4. Set branching: correct → jump to Stage 2 node.
Stage 2	Education 1.0 Room	Recognize "Teacher-Centered" approach	Single-choice questions	1. Add a **Branching Question**. 2. Set the narrative (e.g., "The classroom door is locked."). 3. Set options and feedback. 4. Branching: correct → Stage 3 node.
Stage 3	Education 2.0 Collaboration Room	Experience collaborative learning	Discussion area + Password Puzzle	1. Create a **Discussion** area. 2. Hide a password in the instructions or comments. 3. In H5P, create a **Text Input** or multiple-choice question for password entry. 4. Branching: correct → Stage
Stage 4	Education 3.0 Makerspace	Simulate self-directed learning path	Three-step decision tree	1. Create **three consecutive Branching Questions**. 2. Each step represents a core phase of Education 3.0: Personalization, Connection, Creation. 3. For each step: correct → next step.
Stage 5	Education 4.0 Tech Pod	Understand technology-driven Learning	Drag & Drop Matching	1. Add **Drag & Drop** content. 2. Place Education 4.0 characteristics on one side, technologies on the other. 3. Settings: All correct → show success screen.

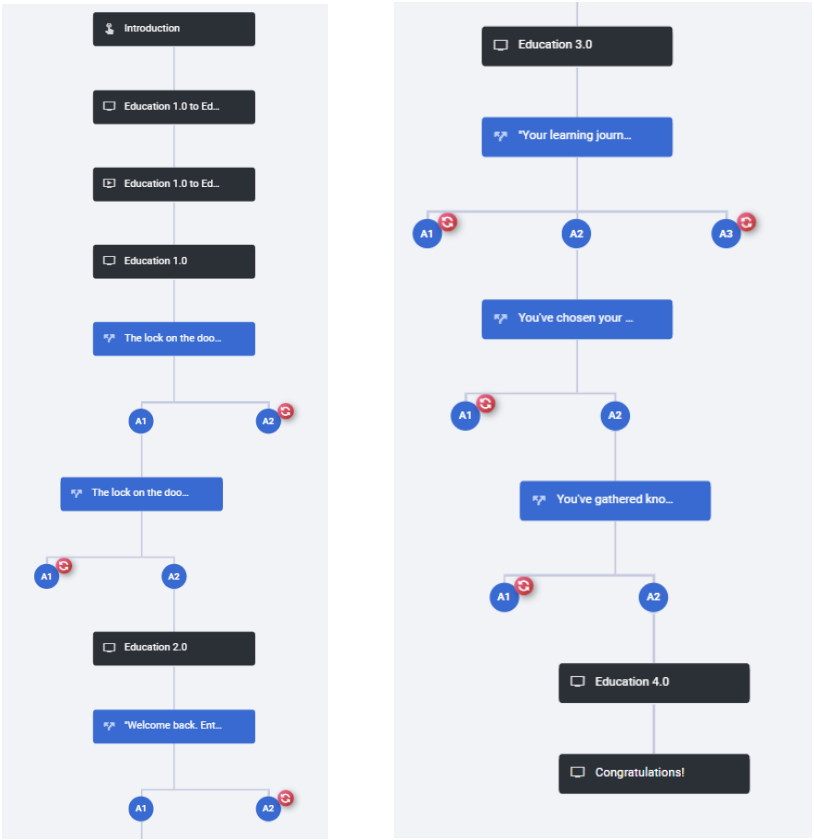
After completing all the above stages, proceed to design the success page.

Settings: All correct → Success screen, incorrect → Provide explanation and allow retry.

Success Screen Example Content: Congratulations on escaping successfully! Summary of key learning points about Education 1.0–4.0. Thank you for participating.



Here is the branching logic diagram for this escape room.



2.4 Reflection and Iteration – Evaluating Game Effectiveness

Internal Testing: Before releasing to students, navigate through all possible branching paths yourself and invite colleagues to test. Check for logic errors or unclear instructions.

Student Feedback: After the game ends, add an anonymous survey node to gather student opinions on game difficulty, engagement, and learning effectiveness.

Data Analysis: Observe which level has the highest failure rate. This could indicate a game design issue or signal that a particular knowledge point needs further explanation.

Continuous Improvement: Make revisions based on feedback and data. A good educational game is developed through iteration.

3. Personal Tips and Practical Experience

Planning Phase: It is recommended to start with a 3-5 node mini-scenario for prototyping, using paper-based flowcharts to clarify the logical structure first, while adhering to the principle of perfecting the narrative framework before designing technical interactions.

Production Phase: Establish a unified naming convention (e.g., "Education 1.0") within the H5P editor and improve efficiency by reusing content modules. When designing feedback, avoid simple correct/incorrect judgments and instead provide guiding hints for each wrong answer.

Testing Phase: Adopt a phased testing strategy to verify each branching path stage by stage. Pay special attention to comprehensively checking error paths to prevent learners from getting stuck in infinite loops. Invite peers to conduct independent blind testing, as their difficulties often effectively reveal design blind spots.

4. H5P-Based Online Escape Room Examples

This section presents publicly available escape room examples that demonstrate the use of interactive components, branching logic, and 360° exploration in building educational experiences.

Example 1: **UTM Library Launch Escape Room**
This branching scenario escape room, designed by University of Toronto librarians, teaches library rules and resource retrieval through an interactive H5P module, making it ideal for new student orientation.

Example 2: **ChatGPT misconceptions**
With the goal of "Debunking Common Misconceptions about ChatGPT and Generative AI," we created an immersive escape experience using H5P puzzles and physical clues, detailing how to integrate H5P tools into offline scenarios.

Example 3: **Designing Educational Escape Rooms**
"Designing Educational Escape Rooms" Online Book Includes a detailed section discussing how to use H5P to develop educational escape rooms and examples of common design mistakes.

Meanwhile, the abundant examples available on the H5P official website can serve as references for using various tools. Covering diverse types such as interactive videos, branching scenarios, and quizzes, these examples help users quickly master the tool operation.

References

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