



How Do H5P Interactive Questions Affect Student Engagement & Grade Outcomes?

Christy Spivey, PhD
University of Texas at Arlington



What is H5P?

H5P, the acronym for HTML5 Packaged, is an interactive content creation tool for instructional designers and educators across platforms such as Canvas, other LMSs, WordPress, and Pressbooks.

All that is needed to view or edit H5P content is a web browser. H5P content may be created on any H5P enabled web site like H5P.com or Canvas (or Wordpress or Pressbooks) with the H5P plugin installed.

H5P enables educators to create interactive content broadly divided into three categories:

- **Games:** H5P has a number of games, such as flashcards and Find the Words.
- **Multimedia:** It enables development of Image Sequencing, Find the Hotspot, Presentations, Interactive Video, Branching Scenarios, etc.
- **Questions:** It contains various question formats like Multiple Choice, Fill in the Blanks, Drag and Drop, True/False, etc.

Which depicts the city of Paris?



Check

Research Questions

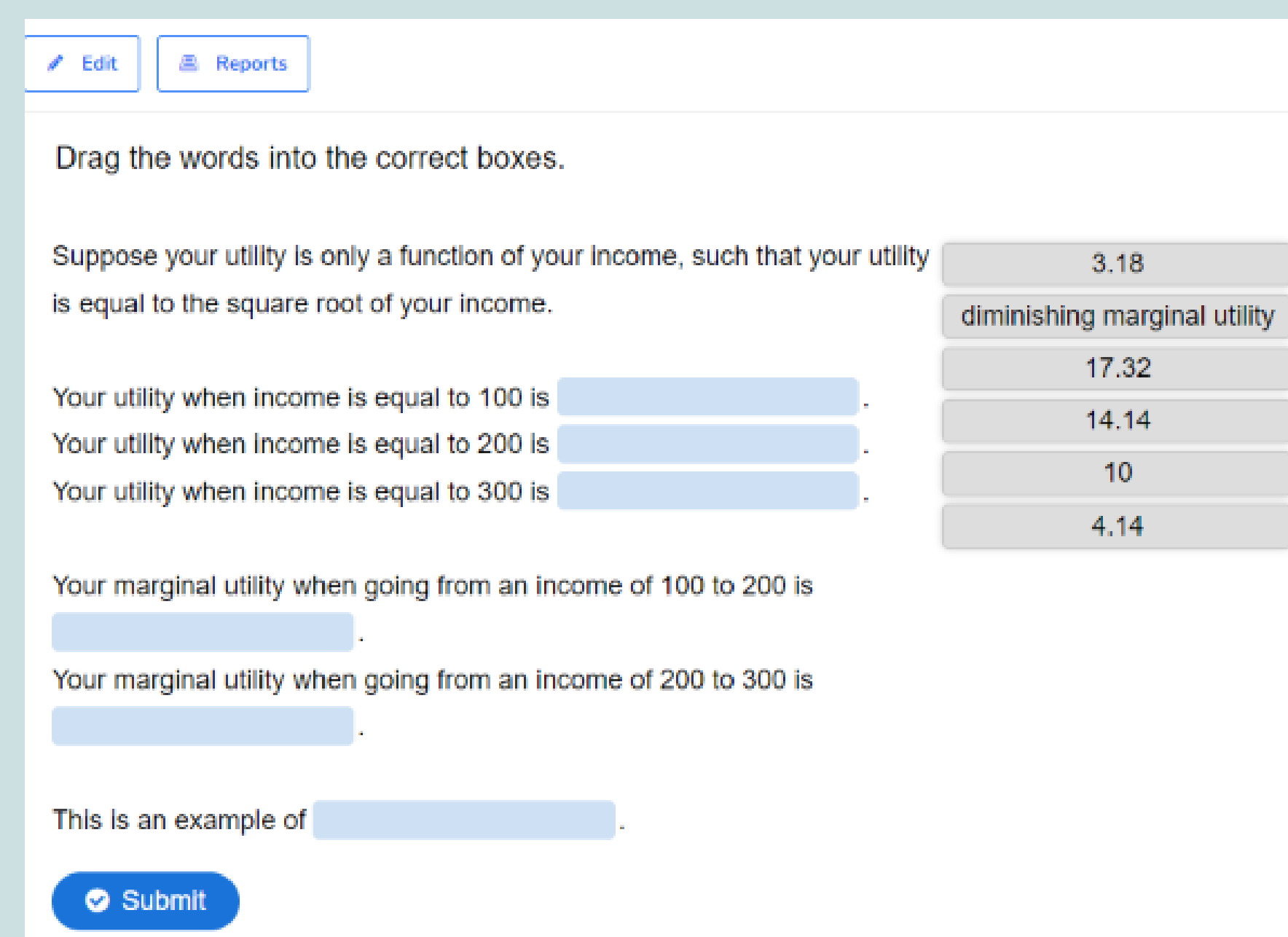
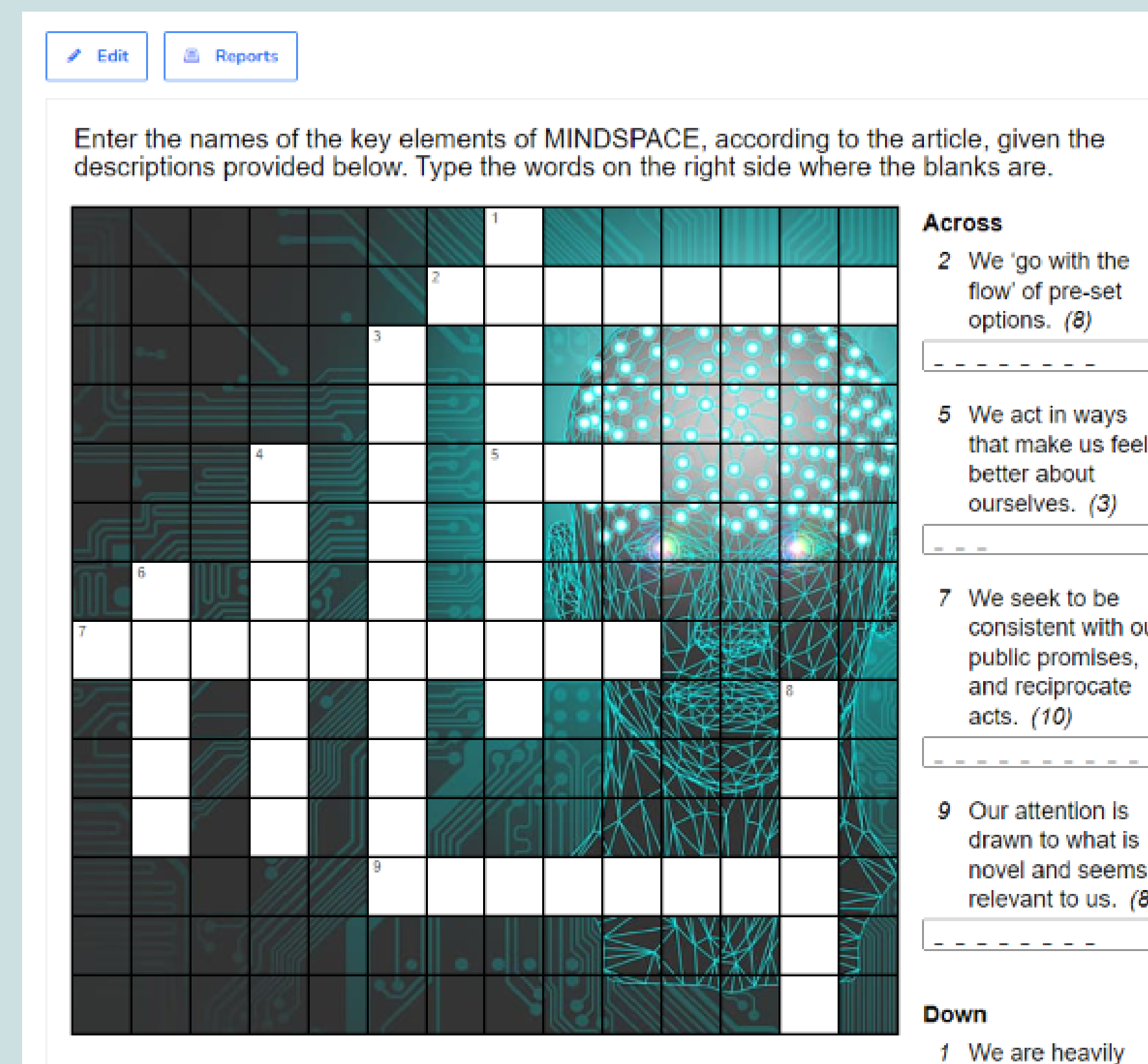
Does availability of the embedded activities increase student-content interaction? In other words, to what extent do students attempt the questions and games?

Does a student's grade depend upon persistence (whether the student answered until they arrived at the correct answer) and total time spent engaging with the interactive embedded activities?

Do students who perceive the embedded interactive activities as helpful engage more with them and perform better on exams and assignments?

Is there a difference between having H5P "quizzes" versus embedding questions throughout Canvas pages?

- Time spent engaging with the interactive questions
- Likelihood of retrying questions until correct
- Grades on assignments and exams



Methods

In Fall 2021, I used H5P quizzes in place of Canvas quizzes in my online **Health Economics** course. In Spring 2022, I embedded the same 80 questions throughout Canvas pages in the same course.

Students complete a **survey** at the end of the semester, answering questions about the interactive questions as well as providing demographic data.

Additional data is collected as students answer the H5P questions. H5P "drill-down reports" provide information on how many times the questions was attempted, how long the student engaged with the question, and the answers for each attempt.

Forthcoming Research

Data have not yet been collected for the Spring 2022 semester.

Once all data are collected, including grades, survey, and H5P analytics, I will be able to use regression analysis to answer the research questions.

Survey Results from Fall 2021

Students were asked to Strongly Agree, Agree, Disagree, or Strongly Disagree with the following statements.

| | % Responding Strongly Agree or Agree |
|--|--------------------------------------|
| The interactive questions added to the quality of the course. | 91.8 |
| Once I first engaged with a question, I felt compelled to keep answering until I got it correct. | 93 |
| The immediate feedback from the questions helped me understand the course material. | 96.5 |
| The ability to answer the questions again, immediately after my first attempt, helped me master the course material. | 95.3 |
| The variety of types of questions was engaging. | 92.8 |
| I enjoyed answering the questions more than taking standard Canvas quizzes. | 78.6 |
| I did not feel pressured to get the questions correct the first time since they were ungraded. | 81 |
| Having ungraded practice questions helped me do better in the course. | 86.9 |
| I would have been more likely to answer the questions if they were for a participation grade. | 69 |
| I prefer that the questions were ungraded, as opposed to being for a participation grade. | 63 |
| I answered all of the questions. | 65.9 |
| I did not answer any of the questions. | 17.5 |