ChemBridge: How might we improve engagement and learning outcomes for high school chemistry students tackling complex concepts?

Learning Platform

We designed a learning game that would be part of a comprehensive platform. Features of the game were derived from various steps in our design process.

Game Features

- Scaffolding
- Real-world Analogies
- Real-time Feedback

Process

Research
Academic research and expert interviews with high school teachers led us to focus on the topic of stoichiometry utilizing scaffolding and real-world analogies.

Ideation
We broke down complex stoichiometry concepts into micro tasks. We decided a game was the best medium to convey this information.

Usability Testing
We tested our paper prototype with high school teachers and participants not familiar with stoichiometry, which resulted in the implementation of real-time feedback.

Concept Testing
Over 100 high school students tested our prototype. 86% of students responded that they would use this learning game to supplement their education.