VENOM-venture/A-VENENO-tura
Early results and design strategies from an immersive, serious game for families
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What is it?
VENOM-venture/A-VENENO-tura is a pop-up, educational, bilingual escape room about evolution and medicine. Teams of 2-5 players including youth age 8 and up (usually family groups) work together to solve puzzles, identify an antivenom, and save the world.

In the next two years, the escape room will travel to natural history museums, science centers, and libraries across the country. The immersive game will travel with a set of supplementary, educational activities for the host institution to deploy in its programming, and youth players will receive a bilingual comic and activity book to extend the learning experience into the home.

Research and evaluation activities
- Conducted 17 informal playtests as part of game development
- Conducted 25 playtests as part of formative evaluation
- Employed a mixed methods protocol, including observations, interviews, surveys, and pre/post-tests

Key findings
- Players perceive that they have learned about science while playing the game – and this is backed up by preliminary analysis of pre/post data, observations, and interviews.
- Players connect evolutionary concepts in the game to medical applications.
- Game is perceived as fun and highly engaging.

Pilot data (N=10)

![Puzzle arc](image)

Design strategies
- Reserve challenging tasks for STEM content. Make non-STEM game elements pure fun.
- For flexibility in game length, use gatekeeper puzzles (top 3 below), which can be removed from arc without affecting the game narrative.
- Make players’ first puzzle an easy win.
- Repeat tasks with slight variations early in the puzzle arc to orient players to game format.
- Few words, many pictures
- Incorporate debriefing to support metacognitive reflection.

Design lessons learned so far
- True challenge is required for player enjoyment.
- ‘Hiding’ = ‘ensuring that something is found’
- ‘Fun’ details are often undesired red herrings.

An engaging, bilingual, immersive game for families teaches key concepts in evolution and helps learners connect these concepts to medical applications.