

VENOMventure | aVENENOtura

Formative testing results and deployment plans from an immersive serious game for bilingual families

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What is it?

VENOMventure | aVENENOtura is a pop-up, educational escape room about evolution and medicine for English-speaking and English/Spanish bilingual families. Teams of 2-5 players with youth aged 8 and up work together to solve puzzles, identify an antivenom, and save the world. In the process, players collaborate to interpret evolutionary trees and what they represent, making connections across multiple visualizations of evolutionary processes and relationships.

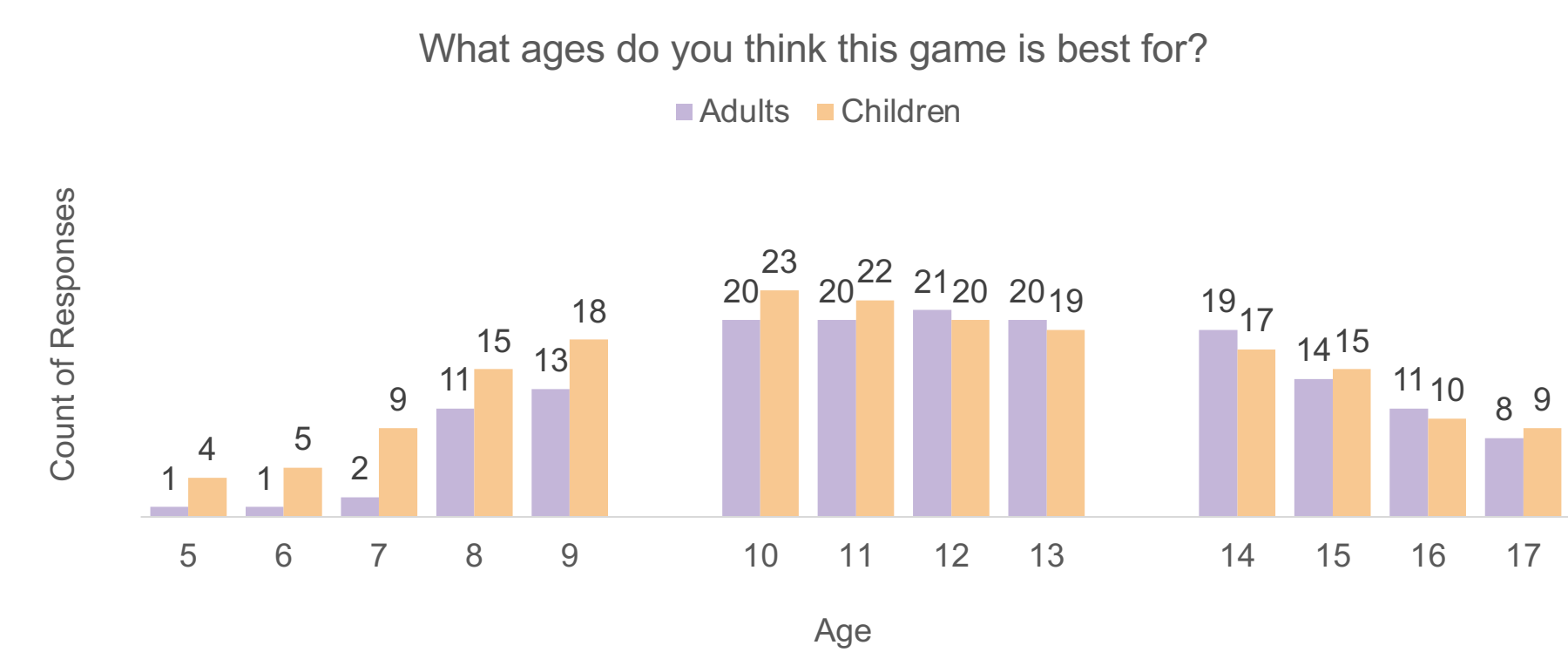
Formative testing suggests that the game:

- is fun, motivating, and intense
- teaches about evolutionary relationships
- helps learners make connections between these ideas and medical applications

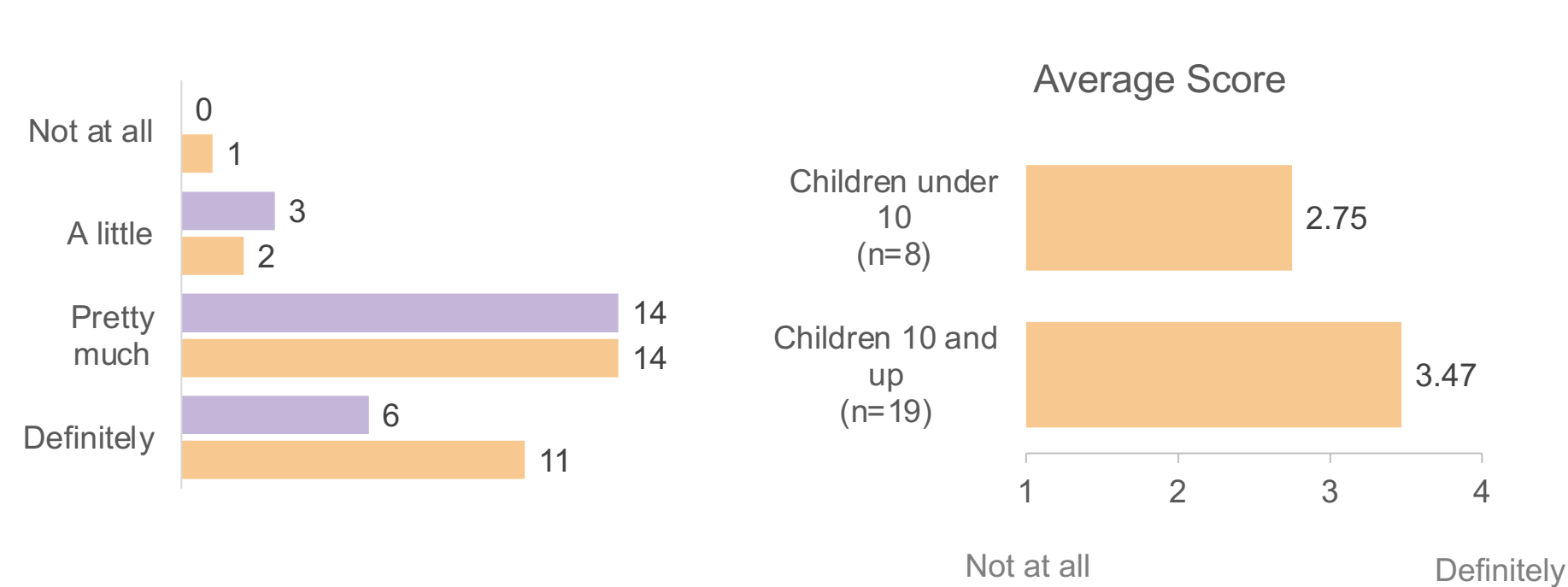
Stages of formative testing

Fall 2019 - Winter 2020 (Y1/Y2)	Early concept testing and paper-based prototype testing
Spring 2021 - Fall 2021 (Y2/Y3)	Early formative testing to examining overall success of game as an educational and entertaining experience
Spring 2022 (Y3)	Formative testing of educational outcomes and near-finalized activities Testing with Spanish-speaking audiences
Summer 2023 - Spring 2024 (Y4/Y5)	Remedial testing of finished product and summative testing of final outcomes

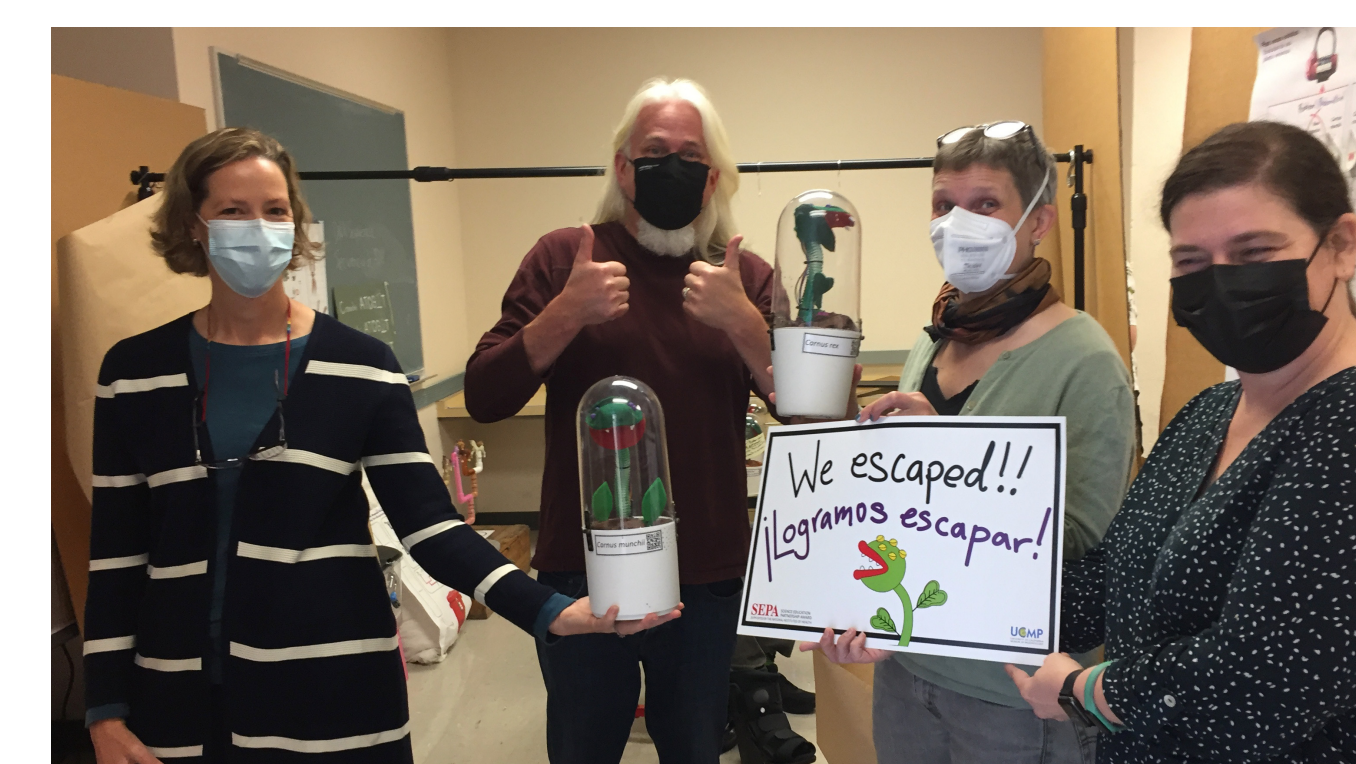
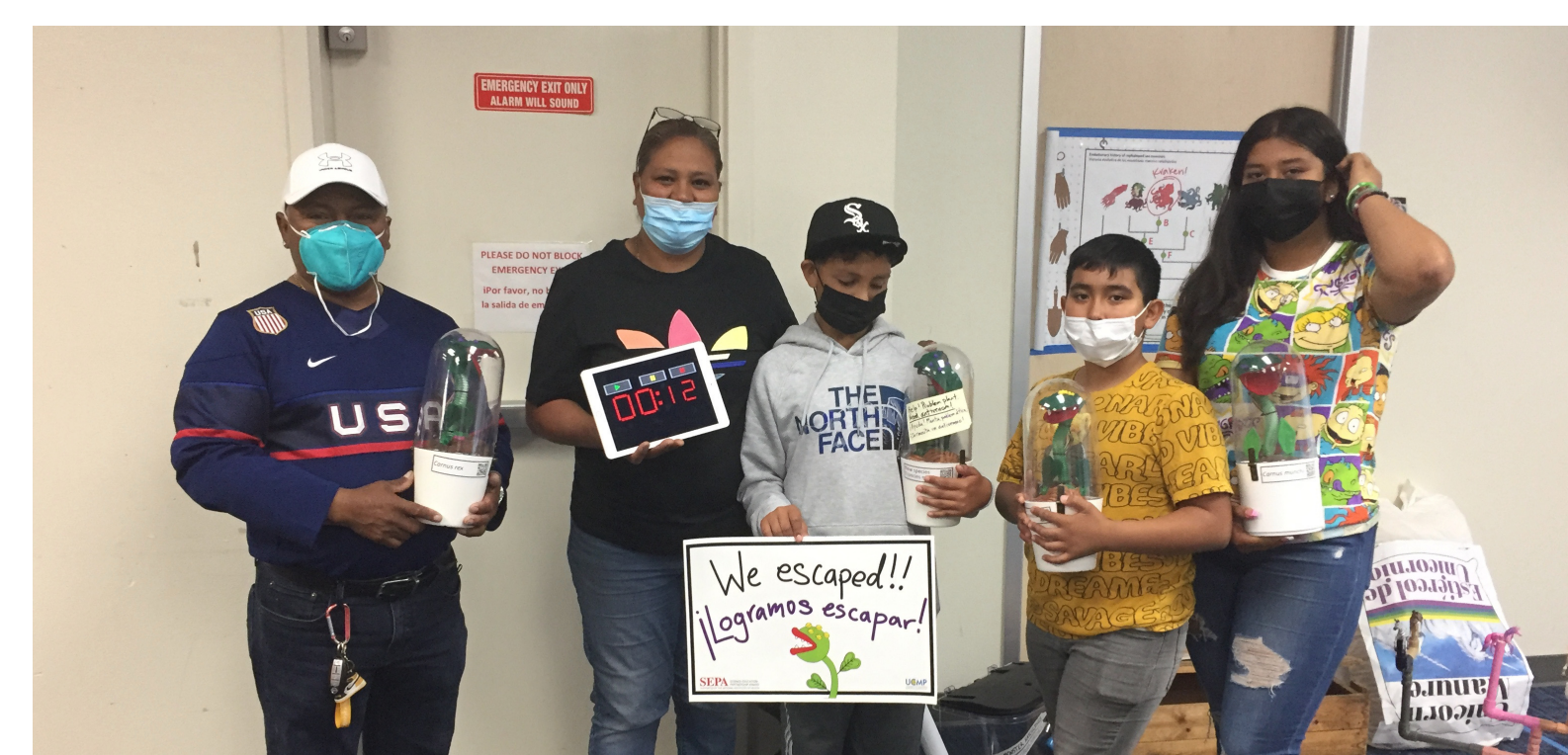
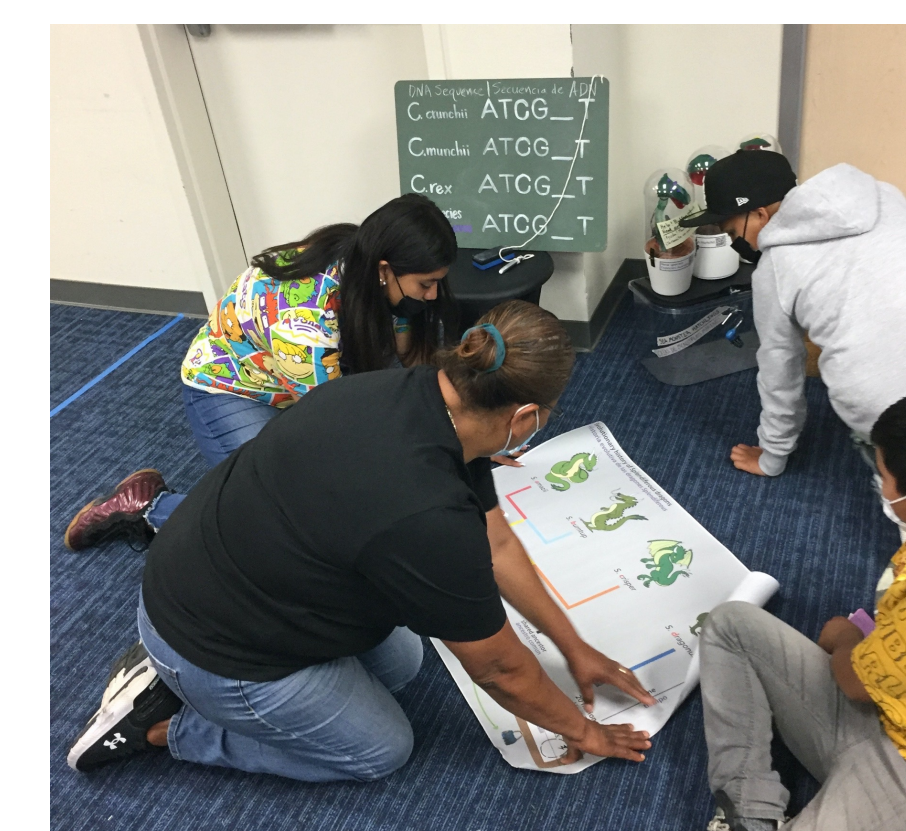
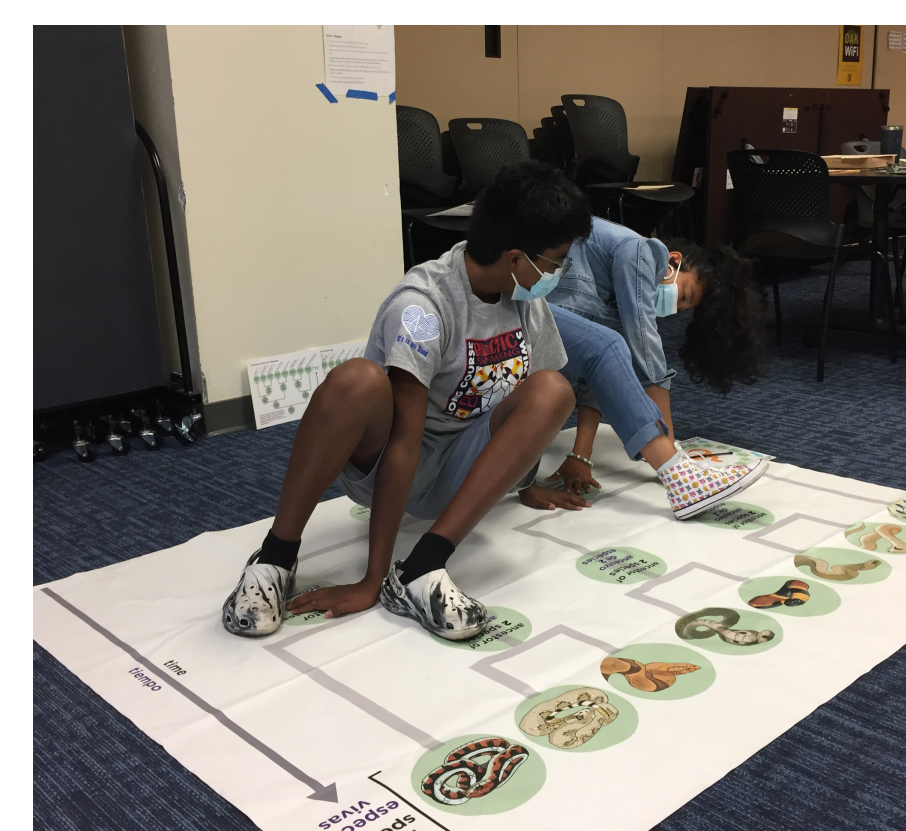
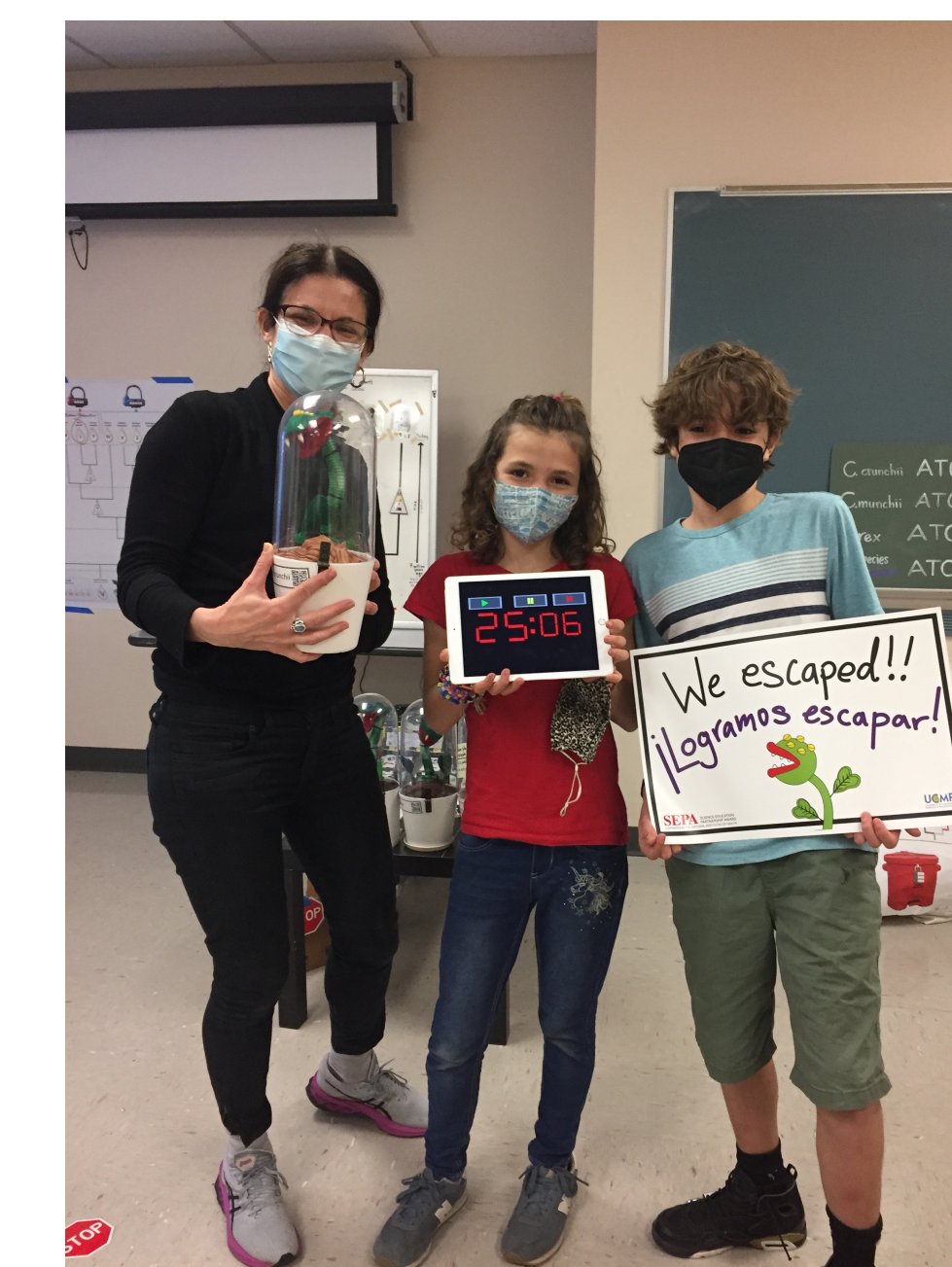
Age range



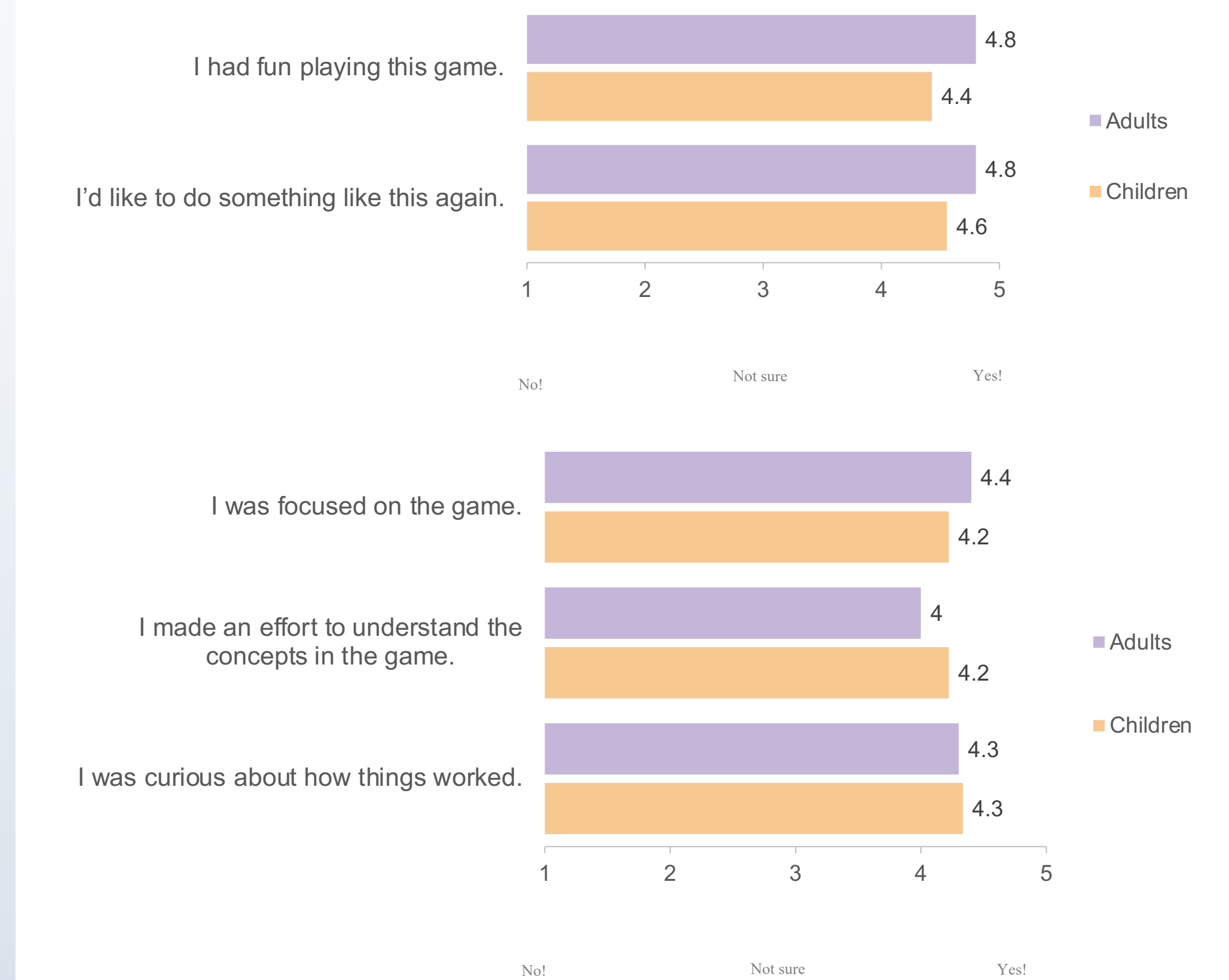
Did the puzzles make sense?



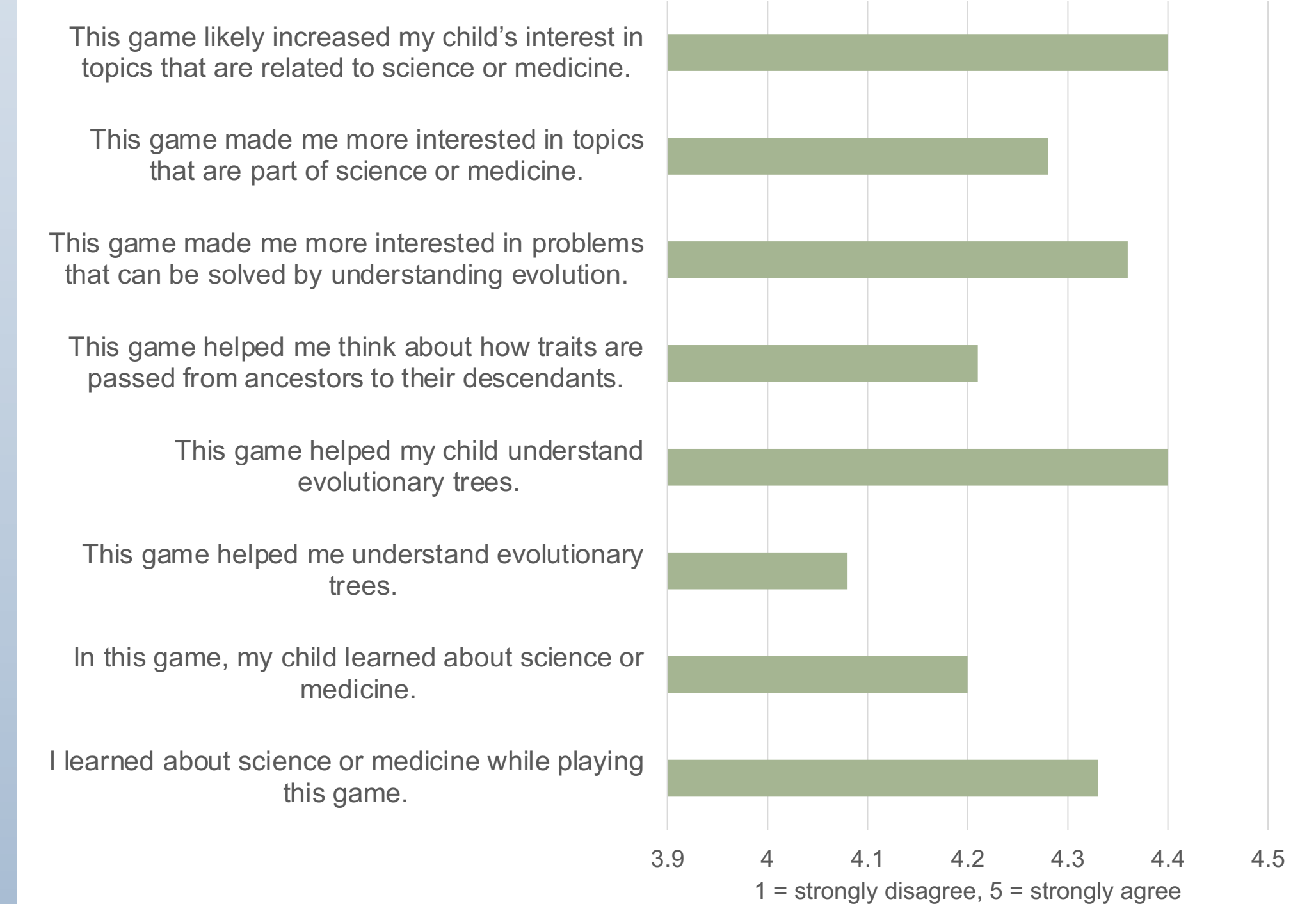
An engaging, bilingual, immersive game for families teaches key concepts in evolution and helps learners connect these concepts to medical applications.



Engagement and curiosity



Learning and connections



Deployment and summative evaluation plans

Summative phase 1 sites:

- Pre/post knowledge survey and post-only reflections and perception items
- Observational protocol tracking connections between puzzles and references to evolutionary concepts
- Free response post-it activity
- Interview on attitudinal and knowledge items
- Longitudinal follow up to track conceptual retention, use of supplementary materials, and family discussions of the game after the fact

Summative phase 2 sites:

- Pre/post knowledge survey and post-only reflections and perception items
- Browser tracking of access to supplementary materials