Edutainment on Display: Enhancing Learning Experiences Through Scientific Dramatizations of Gas Transport at Kids Tech University

Shruthi Prabhakar, MS[1], Brianna Chang, MSc[1], Helena Carvalho, PhD[1]
[1]Virginia Tech Carilion School of Medicine

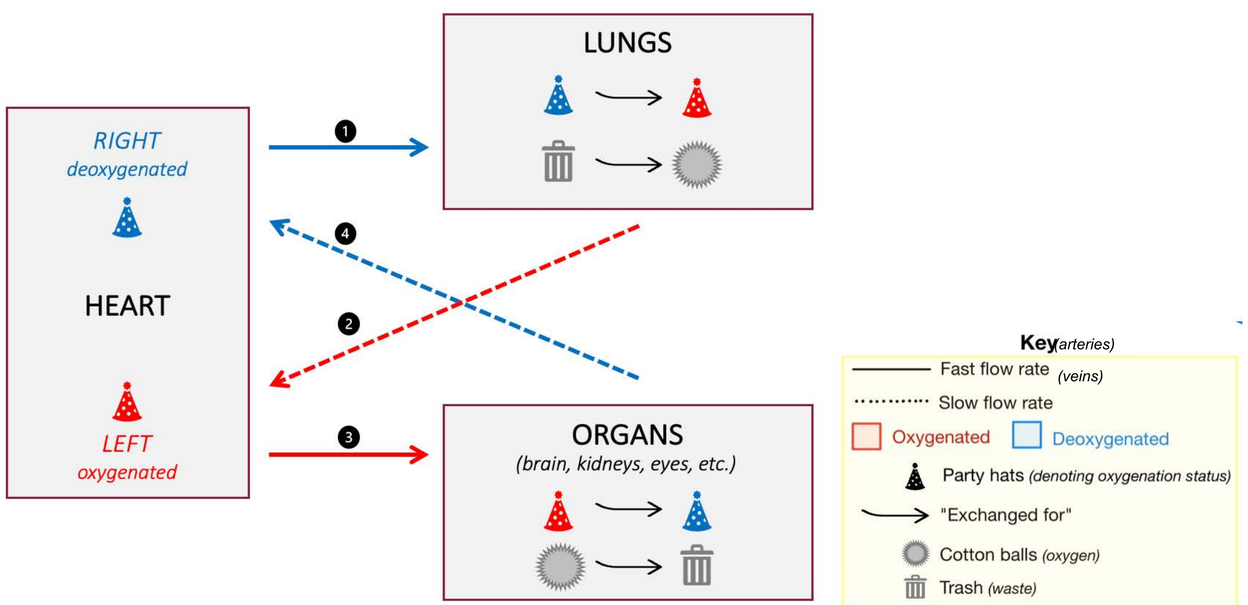
Background

- Edutainment describes the confluence of education and entertainment.
- Dramatization is a form of edutainment where each participant mimics biological entities (cell, hormone, etc) in an interactive group setting to embody the fundamental concept to be learned.
- Dramatization has been successfully applied to medical education and we posit that this approach will better engage learners of all ages across various educational backgrounds.

Objective

- To use edutainment to teach cardiovascular topics to elementary-school learners and evaluate engagement in dramatization and excitement about science.

Spatial Arrangement and Activity Configuration



Methods

- Subjects: Six groups of four to eight elementary-school students at Kids' Tech University at Virginia Tech University in Blacksburg, VA.
- Students attended a didactic presentation on microcirculation and participated in a group discussion to assess pre-activity understanding.
- In the dramatization, students represented red blood cells (RBC), tracing blood flow through different parts of the circulatory system marked by signs in the room (i.e., left atrium, brain, lungs).
- Students transported cotton balls (O2) and recycled paper (CO2), altering speed to mimic flow in an artery vs. veins. To symbolize oxygenated or deoxygenated status, students wore red or blue party hats, respectively.
- To conclude, students discussed and reviewed what they had learned.

Results

- Students engagement was observed allowing them to run through the simulation independently to reinforce concepts.
- Knowledge acquisition was qualitatively observed in discussion post-activity.

Conclusion

- Use of dramatization in teaching the intricacies of the circulatory system to elementary-school students was effective in cultivating interest and engagement in science.
- Curiosity and creativity was stimulated using everyday items (cotton, party hats, etc) that enabled visual differentiation and provided recognizable cues for learning complex concepts.

Check out Kids' Tech University activities here!
https://ktu.fralinlifesci.vt.edu/

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References

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