

Can We Teach Using Dramatization Via Zoom?

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Background

Evidence shows that students actively engaged in learning improve their knowledge acquisition and retain it long-term (1). Active learning increases student engagement and improves learning outcomes, yet traditional lecture remains the dominant method (2).

Dramatization is a teaching methodology that provides an interactive experience that cannot be replicated by passive learning outside the classroom. More importantly, it is the learning experience, where educators create opportunity for a fun class that spontaneously leads students to long-term learning.

Dramatization is a fun activity in which students act out different roles in a 'play' that simulate a physiological process; it has been used effectively to teach Starling forces (3), cardiac cycle (4), membrane transport (5), and cell signaling (6).

Since the beginning of the pandemic, it has become a challenge to include these activities in the curriculum due to its interactive nature that requests physical proximity among participants.

Goal

Our goal was to bring the in-class dramatization experience to online teaching. The project team developed six dramatization videos using Zoom called DramaZoom focusing on endocrinology to teach students at different types of institutions.

Methods

Four instructors at four different institutions in USA and Brazil collaborated to develop six DramaZoom videos on endocrinology concepts. Two videos were pilot tested this past summer in Anatomy & Physiology II at Methodist College. The students were given a pretest, then watched the video, then given a posttest to assess their learning.



Hypothalamus-pituitary axis



Regulation of Thyroid Gland



Growth hormone regulation



Adrenal gland regulation



Neurohypophysis and ADH



Steroid/non-steroid hormones

Preliminary Results

Name of Video	Pretest Average Score	Posttest Average Score
Hypothalamus-Pituitary Axis	36.67%	83.33%
Regulation of Thyroid Gland	60.00%	88.33%

Our preliminary data show students' satisfaction of 4.5 in a scale of 0-5., and improvement in knowledge gain as shown in the table above.

Conclusions/Discussion

Based on the preliminary data from the pilot study we have reason to believe that the implementation of DramaZoom has potential to be widely applicable to teach physiology in an original and engaging way.

These videos will be used as learning tools in future courses at a medical school, private undergraduate professional school and public undergraduate institution during the 2021-2022 academic year.

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