

Dramatization of the Menstrual Cycle for Medical Student Education

C. G. Hebert, Aniee Sarkissian, Helena Carvalho PhD.
Virginia Tech Carilion School of Medicine,
Department of Basic Science Education

Background

Medical schools nationwide have reported declining classroom attendance and participation in basic science lectures. Several possibilities have been proposed for this phenomenon, including the abundance of third-party learning material, reduced motivation following the restructuring of the USMLE, and general student disinterest in traditional learning modalities.

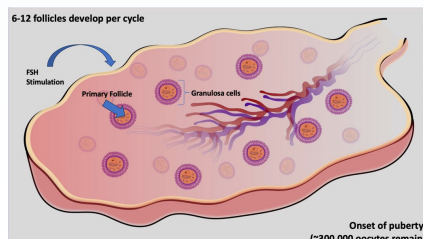
In keeping with VTCSOM's philosophy of inspiring scientist physicians, we propose that educators should strive for innovations in the educational space that encourage student curiosity and interest in basic science concepts. This innovation is especially important for topics related to human physiology, which will remain relevant to students throughout both board examinations and their careers beyond.

Methodology

In a classroom setting, students were invited to participate in a dramatization in which they played the roles of different cells and endocrine organs with important functions in the menstrual cycle. These roles included, but were not limited to, the hypothalamus, the pituitary gland, granulosa cells, and oocytes.

Roles were assigned such that all participants were consistently engaged with the educational activity. Students were briefly taught about different cell types and sex hormones relevant to ovarian development. The participants were then invited to act out the stages of ovarian development using a variety of props. Ovarian development was followed from the prenatal period through puberty, ultimately culminating in the first ovulatory cycle and menarche. As the participants performed their various roles, a slide deck containing graphical depictions of ovarian development was shown and discussed.

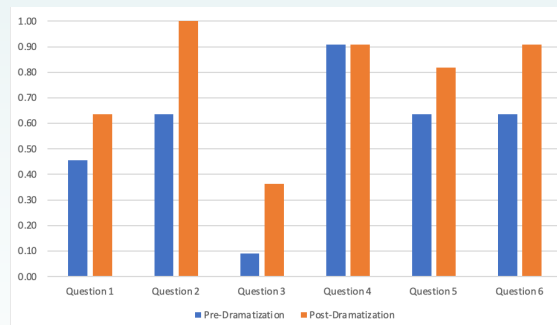
Participant direct knowledge gain, the primary measure, was assessed using pre- and post-testing using a 6-question quiz validated by VTCSOM DBSE faculty. Scores were compared via paired samples t-test.



Results

11 students from the VTCSOM M1 class chose to participate in this exercise. The average score on pre-test among participants was 56%.

Post-intervention, the mean participant score was 77%, showing a significant increase in subject matter understanding ($P < .05$).



Bar graph showing relative scores between pre- and post-testing. A general positive trend in correct responses was noted for each question in post-test, with overall average increase bearing statistical significance ($P < .05$).

Conclusion and Discussion

As educators continue to innovate within the medical school environment, it is crucial that we evaluate the impact of educational experiences on student performance.

The data presented in this pilot study suggests a positive relationship between active participation in the dramatization and increased test scores. We intend to expand on these initial findings with repeated testing, more test questions, and larger sample sizes.

Though these results are promising, relatively little research has been performed on the long-term impact of dramatization in the classroom. Future research will consider a long-term measure of retention to establish the efficacy (or lack thereof) of these tools as potential mediators of future student success.

Acknowledgements

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Student participants acting out the various roles of cells during the ovulatory phase of the menstrual cycle