

A CONVERSATION WITH Dr. Elena P. Cunningham and Dr. Johanna Warshaw

New digital technology helps boost students' scores on Part I of the National Board Dental Examination.

Global Health Nexus (GHN): Please tell us what motivated you to introduce the online learning technology known as Cerego to your preparation course for Part I of the National Board Dental Examination (NBDE).

Dr. Cunningham: In 2013, NYU Dentistry increased the number of freshmen enrolled in the predoctoral DDS program from 235 to 350. Prior to this increase, second-year students spent six hours in class preparing for the anatomical sciences section of Part I, working in small groups using plastinated specimens. We were determined to continue to offer this same small group experience to the Class of 2017, and to future classes, despite the increase in size.

GHN: How did you learn about Cerego?

Dr. Cunningham: I attended an NYU Academy of Distinguished Educators lecture presented by Dr. Jan L. Plass. Dr. Plass is the Paulette Goddard Chair in Digital Media and Learning Sciences at the NYU Steinhardt School of Culture, Education, and Human Development. When I told him about our objective, he suggested Cerego as a technology that could help.

GHN: How was the digital component of the course developed?

Dr. Warshaw: Dr. Cunningham and I transferred half of the course's content online, filing the data under three central topics — muscles of mastication, neuroanatomy, and oral cavity. We then divided each topic into sets and subdivided each set into what Cerego calls items. Given my background in graphic design, I was able to create illustrations to accompany each item, and Dr. Cunningham added the illustrations and corresponding content to Cerego using a selection of design templates. Cerego also welcomes multimedia content, including photos, sound bites, and video clips.

GHN: In what ways is Cerego-enhanced learning more effective than standard classroom instruction?

Dr. Cunningham: Cerego employs two learning concepts — memory retrieval and spaced practice — and adapts to each student's learning speed to ensure that he or she remembers the material as it's presented. Throughout each lesson, Cerego tracks the length of time each student takes to answer a question and his or her accuracy in responding. The program uses this data to determine which questions should be repeated, when the next review session should occur, and which of the five levels of competence the student has achieved, with the highest level being mastery.

GHN: How has Cerego improved the study of plastinated specimens?

Dr. Cunningham: The ability to review basic anatomical information prior to class has helped our students gain a better understanding of the more conceptually complex data they encounter while working with plastinations in the lab.

GHN: How are the College of Dentistry faculty benefitting from the use of Cerego?

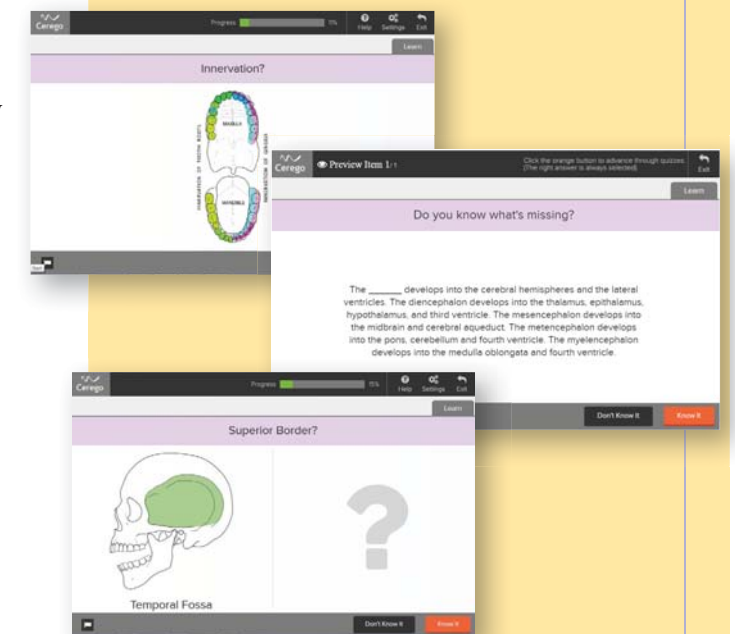
Dr. Warshaw: Cerego is built on proven memory science to help students learn faster and remember longer. Without Cerego, our faculty would have had to devote an additional 96 hours of teaching to the Part I NBDE review course. This interactive learning tool not only affords our faculty more time for covering complex review topics in class, but it also offers personalized data that make it easy for faculty to determine and address the basic online review items that may present a problem for one student or for the entire class.

GHN: It sounds like Cerego has been a win-win for both students and faculty. Do you agree?

Dr. Cunningham: Yes, indeed. Thanks in part to Cerego, the Class of 2017 achieved a 100 percent first-attempt pass rate on Part I of the NBDE, and scored 2.6 standard deviations above the national mean in the anatomical sciences. Since introducing Cerego as a key component of the Part I NBDE review course, Dr. Warshaw and I have received numerous inquiries from colleagues interested in using it for conferences and in other College of Dentistry courses. ■



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From left: Johanna Warshaw, PhD, clinical assistant professor of basic science and craniofacial biology, and Elena P. Cunningham, PhD, clinical associate professor of basic science and craniofacial biology