



COVID & the Curriculum: Faculty Perspectives

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2021 Clinical & Educational Scholarship Showcase Abstracts

The Challenge of Learning Radiographic Skills During the COVID-19 Pandemic

by

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Oral radiology is a fundamental part of the predoctoral dental curriculum at NYU Dentistry. Dental students are expected to develop skills in acquiring, evaluating, and interpreting radiographs by the time they graduate. The development of such skills can be achieved by serious study of the basic sciences and the pathophysiology of disease.¹ Accordingly, faculty need to encourage students to focus on didactic knowledge and learning how to apply such knowledge to clinical practice.

The clinical curriculum in oral radiology can be divided into three main components: radiographic prescription, radiographic technique, and radiographic interpretation.² Traditionally, didactic instruction in oral and maxillofacial radiology was conducted in the classroom; during the COVID pandemic, however, with universities suspending classroom teaching and clinical operations, educators faced challenges to their ability to provide the same level of education to their students. Distance learning via networks was one of the solutions to these challenges.² Santos et al., in their review of the literature, reported that for oral radiology, e-learning is at least as effective as traditional learning methods.³ In this presentation, we share our experience with distance learning at the NYU Department of Oral and Maxillofacial Pathology, Radiology and Medicine during the COVID era.

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Incorporating OSCE's into the Dental Materials Course in Dental Hygiene

by *Kim Attanasi, MS, PhD; Clinical Associate Professor, Department of Dental Hygiene & Dental Assisting*

COVID-19 forced NYU Dentistry to hold summer sessions remotely. Accordingly, second-semester dental hygiene students participated in the dental materials course using remote learning. Faculty quickly adapted course content to a “flipped” classroom format with lectures and labs designed with case studies and Objective Structured Clinical Examinations (OSCEs) to supplement hands-on knowledge and critical thinking skills.

This process aimed to explore the benefit of using OSCEs in dental materials education and to have students understand the properties of dental materials and retain knowledge during the application processes of various materials. In addition, the process aimed to have students think critically about problem-solving skills during patient case scenarios. The goal was to create a virtual learning environment that would allow student participation, communication, creativity, knowledge enrichment, and a sense of community.

Students had two weekly scheduled sessions for 14 weeks. One session was a traditional, virtually-presented lecture to cover didactic content. The second session was lab. All students met virtually, cameras on, and were given the OSCE 10 minutes before start time during the labs. OSCEs consisted of six separate stations using simulated patients in a clinical setting. Four stations tested student knowledge and understanding of assessment, planning, implementation, and evaluation of care. Two stations tested clinical skills. Each lab session started with a quiz in the form of a poll to check for preparedness. Breakout Sessions were created “flipped” classroom style; inside breakout sessions there was role playing of the patient, clinician, secretary, assistant, et al. All students participated and discussed questions and answers.

Students' feedback included comments such as "enjoyed the learning experience" and "breakout sessions provided consistent groups for discussions and familiarity." Students received a 15% higher grade across all examinations and a 100% passing rate on OSCEs. The activities satisfied both formative and summative competencies.

With the utilization of case studies and OSCEs to supplement hands-on knowledge and critical thinking skills in dental materials, students were able to complete the course successfully. All students actively participated, communicated, engaged in peer learning, and felt a sense of community during a time of isolation. Faculty noticed students could retain knowledge longer when they transitioned into a hands-on learning environment three months later.

Practice of Dentistry

Modifying the D3 Clinical Applications in Orthodontics Seminar

Redefining the ICP Experience through Online Learning

Student and Faculty Perceptions of Dental Education During the COVID-19 Pandemic

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Virtual Student Interprofessional Education Indirectly Promotes Telehealth Instruction

by Maria P. Rodriguez Cardenas, DDS, Clinical Assistant Professor, Department of Cariology and Comprehensive Care; Angela DeBartolo, DDS, Clinical Associate Professor, Department of Cariology and Comprehensive Care; and Lucretia DePaola Cefola, MS, DDS, Clinical Assistant Professor, Department of Cariology and Comprehensive Care

Interprofessional clinical education has transitioned onto a virtual platform. Live student and faculty participation has changed. We create standardized virtual scenarios with students, faculty, and patients who now meet on a “Zoom” platform, where simulated telehealth dialogue is taught. Dental, medical, pharmacy, and nursing students participate, and the faculty facilitator may be from any of these professions. The standardized patient is presented as seeking care through “telehealth.” The students individually question and direct the patient to self-examination and forward images which enable the student group and faculty to determine the best course of treatment.

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Redefining the ICP Experience through Online Learning

by Angela De Bartolo, DDS, Clinical Associate Professor, Department of Cariology and Comprehensive Care

The Integrated Case Presentation (ICP) provides an introduction to the clinical experience and the importance of evidence-based science to the practice of dentistry. The ICP is part of the Comprehensive Care course at NYU College of Dentistry. The collaboration between the D4 and D3 students in presenting a patient to their peers allows them to form collegial relationships and facilitates a team-based learning philosophy. On entering the clinic, dental students can feel anxious about the responsibility they will have delivering patient care. The ICP allows the D3 novice to be exposed to clinical cases and to establish a relationship with the D4 student, who will then mentor, support, and guide them. The Integrated Case Presentation enhances the students' professional growth by emphasizing the dentist's role as a primary health care provider and a member of the health care team. The initial challenge of presenting the ICP seminars via Zoom has successfully been overcome and accepted by students and faculty.

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Recreating the Clinical Competency in the Zoom World of the COVID-19 Pandemic

by Laurie Fleisher, DMD, Director of Urgent Care, Clinical Assistant Professor, Department of Endodontics,

This virtual Clinic Competency allowed students to demonstrate their ability to meet the objectives outlined in the established rubric. The students exhibited their ability to recognize, diagnose, and discuss appropriate clinical interventions to most adequately address the proper diagnosis of the patient presented in their clinical scenario. The faculty-student interaction in this virtual assessment was successful in mirroring the interaction that would have occurred in a live patient competency setting.

Of the 73 virtual assessments administered, four students had a critical error and needed to repeat the assessment. They were all successful in attaining competency in performing a second clinical scenario. Different learning styles may have had an impact on the students' performance on a virtual exam. Further study and modifications of our initial endeavor may prove this type of assessment plays a positive role within the teaching framework by expanding our ability to establish an additional methodology for case presentation and student evaluation. The pandemic highlighted the need for a more diverse range of assessment techniques.

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The Use of Plastinated Prosections to Teach Anatomy in the Time of COVID-19

by Joshua Johnson, MSc, Adjunct Assistant Professor, Department of Molecular Pathobiology, and Curator, Anatomical Teaching Collection; Johanna H. Warshaw, PhD, Clinical Associate Professor, Department of Molecular Pathobiology; Elisabeth N. Lopez, PhD, Clinical Associate Professor, Department of Molecular Pathobiology; Elena P. Cunningham, PhD, Clinical Associate Professor, Department of Molecular Pathobiology; and Eric W. Baker, M.Phil, Clinical Associate Professor, Department of Molecular Pathobiology

The shift in 2004 from cadaveric dissection to using plastinated anatomical prosections at NYU Dentistry was made with the knowledge that an extensive, though limited, collection of plastinated teaching specimens would be handled by hundreds of students every year. This shift was followed by curricular changes that called for small, consistent groups, frequent administration of low-impact quizzes, and the addition of computers to guide self-directed study (Baker et al. 2013).

In terms of anatomy retention and student satisfaction, we attribute the success of the Head & Neck Anatomy course to the plastinated Anatomical Teaching Collection and principles of small group independent learning (Lopez et al. 2021). We have found that this format of teaching head and neck anatomy proved highly adaptable to the demands of remote learning as a result of the COVID pandemic. This presentation discusses our curricular adaptations to remote learning for Head & Neck Anatomy and our personal observations regarding the impact those changes had on anatomy education and student satisfaction.

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Adapting the D4 Honors in Oral Medicine Course to Enable Remote

Learning

by Arthi Kumar, DDS, Clinical Assistant Professor, Department of Oral and Maxillofacial Pathology, Radiology and Medicine

This presentation discusses how I adapted the Oral Medicine Honors clinical rotation to the requirements of an online platform. The students gained virtual experience via exposure to 1) a plethora of simulated clinical cases, 2) telemedicine sessions, and 3) teaching a topic to their peers during small group Zoom sessions. The students also wrote research papers on a range of topics to complete the academic exercise.

[Zoom recording >](#)

From Clinic to Zoom: Taking a Clinical Course Remote

by B. Jason Kyles, DDS, Clinical Assistant Professor, Department of Oral and Maxillofacial Pathology, Radiology and Medicine, and Debra M. Ferraiolo, DMD, Clinical Assistant Professor, Department of Oral and Maxillofacial Pathology, Radiology and Medicine

Dental education saw many transformations as a result of the pandemic. At NYU Dentistry, clinical course directors were charged with the task of converting their clinical courses to a remote format – not a small task as the hands-on part of dental education that involves direct patient care was lost. This transition included using a different platform while maintaining course content and keeping students engaged. In addition, assessments needed to be redesigned, including "remote" competencies that would be equivalent to the clinical experience. This presentation discusses aspects of the transition for the OMPRM D3 Oral Medicine: Oral Diagnosis and Radiology and D4 Oral Medicine: Oral Diagnosis courses.

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Adapting the DDS Curriculum to the Requirements of the Integrated National Dental Board Examination

by Marci Levine, DMD, MD, Clinical Assistant Professor, Department of Oral and Maxillofacial Surgery, and Analia Veitz-Keenan, DDS, Clinical Professor, Department of Oral and Maxillofacial Pathology, Radiology and Medicine

With the new Integrated National Dental Board Examination on the horizon, we are actively working to prepare our second-year students to incorporate and translate medical knowledge into clinical dental contexts. This way of teaching is a new adaptation for our dental school curriculum, and through the creation of the novel D2 Body and Disease Course, we are working to achieve this goal. We will share our experiences with the course and discuss how the global pandemic has affected our content delivery in both positive and challenging ways.

Rethinking Instruction and Assessment of Competency in the COVID-19 Era

by *Mitchell Lipp, DDS, Clinical Professor, Department of Orthodontics*

Despite obvious challenges, the COVID pandemic has given educators time to pause and consider how to construct remote instruction that is effective – and possibly better than – the use of traditional methods. The purpose of this report is to contrast pre-COVID and COVID-era methods, describe new methods developed, and present early outcomes data. Key points include:

- Increasing active formative "clinical" experiences
- Methods to enhance in-class engagement
- A new case-based competency assessment that evaluates the student's ability to make evidence-based decisions in diagnosis and patient management

Although this report is based on a D3 course, "Clinical Applications in Orthodontics Seminars," these methods can be used in any clinical area that emphasizes critical thinking skills.

Student and Faculty Perceptions of Dental Education during the COVID-19 Pandemic

by *Elisabeth N. Lopez, PhD, Clinical Associate Professor, Department of Molecular Pathobiology*

In fall 2020, the Academy of Distinguished Educators convened a working group to examine how the curriculum changes in response to COVID had affected the students and faculty at NYU Dentistry. The changes made to the dental and dental hygiene curricula to comply with University and local and federal guidelines were provided:

- remote instruction
- small group discussions
- faculty office hours via Zoom
- performing preclinical lab work remotely with equipment delivered to students at home
- discussing clinical cases with faculty via Zoom prior to the student seeing patients face-to-face
- taking exams remotely via ExamSoft.

The working group sent out two similar surveys: one to instructors and one to students to gather the opinions of community members. Responses were collected in December 2020 and January 2021. A total of

248 people responded to the survey (74 faculty and 174 students). Students liked taking exams and attending lectures remotely via Zoom, but very much disliked doing preclinical work remotely. Faculty liked to discuss clinical cases remotely and to give lectures via Zoom and disliked remote exams. Students felt more positive than faculty about remote exams, while the reverse was true for Zoom breakout rooms and preclinical work done remotely.

Both students and faculty members were anxious about how remote learning would affect the students' future clinical abilities. Finally, we asked students what they would like faculty to know about the student experiences in the pandemic. The most common student responses were that faculty members need to be proficient in the technology used (Zoom), and that they need the appropriate equipment (good microphones and cameras). Students also reported that they needed more engagement and interaction with faculty members and classmates, that communication among administration, faculty, and students should be improved, especially regarding schedule changes. Students don't feel that their voices are heard; they do feel that student mental health is declining as a result.

[Zoom recording >](#)

Livestreaming: The Flipped Clinic Model for the Multidisciplinary Practice of Dentistry

by Fabiola Milord, DDS, MPH, Clinical Assistant Professor, Department of Cariology and Comprehensive Care; André V. Ritter, DDS, MS, MBA, PhD, Professor, Department of Cariology and Comprehensive Care; Kenneth Allen, DDS, MBA, Vice Chair and Clinical Professor, Department of Cariology and Comprehensive Care; and Lillian Moran, MS, Senior Educational Technologist, Office of Educational Technology, Adjunct Instructor, Department of Molecular Pathobiology

The COVID-19 pandemic has placed new emphasis on remote learning. Maintaining social distancing while offering the same quality clinical education is a high priority. The "flipped clinic model" is based on the flipped classroom: instruction moves from the traditional classroom space to online teaching and videos. Traditionally, first-year students would be in the clinic for their introductory sessions when they role play the dentist-patient scenario. With the flipped clinic model, this is replaced by only faculty going into the clinic and students looking into the clinic operatory and being instructed via the Zoom video conferencing platform. The equipment consists of mobile phones and a computer.

[Zoom recording >](#)

Transition to Virtual Pipeline Programming Amid the COVID-19 Pandemic

by Cheryline Pezzullo, DDS, Assistant Director of Community-based Programs, Clinical Assistant Professor, Department of Cariology and Comprehensive Care; and Lorel Burns, DDS, MS, Assistant Professor, Department of Endodontics

This study described and evaluated efforts to transition an established pre-dental pipeline program to a remote platform, in response to the COVID pandemic.

The semester-long pipeline program, [Saturday Academy](#), aims to educate underrepresented minority and low-income high school students about the college application process and the dental profession through hands-on experiences. The program was conducted remotely through Zoom and by mailing materials for preclinical activities.

At the program's completion, program application and engagement data were analyzed and an anonymous online survey was administered to the high school student participants. The survey included questions about their interest in the profession of dentistry, satisfaction with the Saturday Academy programming, and program engagement.

In its remote format, Saturday Academy had an average attendance of 87.8% at each session. Sixty out of the 60 (100%) high school student participants responded to the anonymous program outcomes survey. Sixty-seven percent reported an interest in the profession of dentistry before participating in the program and 82% after participating in the program. Ninety-eight percent agreed with the statement, "I enjoyed my experience participating in Saturday Academy."

In addition, 97% agreed with the statement "Saturday Academy's virtual programming was effective." Based on these outcomes, we concluded that while challenges such as COVID impact service and recruitment efforts, transitioning pipeline programming, with hands-on components, to a remote format is possible and can result in robust engagement and positive responses from program participants.

[Zoom recording >](#)

COVID-19's Impact on Dental Hygiene Clinical Education in the Spring 2020 Semester

by Kaitlin M. Stier, RDH, MPH, Clinical Assistant Professor, Department of Dental Hygiene & Dental Assisting; Victoria Benvenuto, RDH, EdM, Clinical Assistant Professor, Department of Dental Hygiene & Dental Assisting; Lisa Stefanou, RDH, MPH, Clinical Associate Professor, Department of Dental Hygiene & Dental Assisting; and Dianne Sefo, RDH, MEd, Clinical Associate Professor and Chair, Department of Dental Hygiene & Dental Assisting

When NYU College of Dentistry transitioned to remote instruction in March 2020 in response to the COVID pandemic, the didactic courses in the Dental Hygiene Program were adapted to meet the requirements of the new format with minimal interruptions. However, clinical courses came to a halt as we did not know what alternative methods CODA would allow to permit graduating students to complete their clinical requirements for an on-time graduation.

In 2020, CODA released its guidelines on temporary flexibility. Following these guidelines, a new curriculum was developed that allowed students to complete their clinical requirements remotely. All requirements had

to be completed by May 15, 2020, to ensure that there were no delays in graduation for eligible students, leaving just over a month to develop a strategic plan, train students and faculty, and implement these new activities.

Unlike dental students, dental hygiene students are required to fulfill a minimum number of clinic hours each semester. To meet the remaining requirements and hours, clinical faculty used several different teaching methods, forms of technology, and resources. The principal approach to completing requirements during this time was the utilization of live case-based simulations. Other methods used to test the students' knowledge and enable them to complete their requirements were the creation of "critical thinking assignments" and the use of continuing education courses. There were many advantages to using these different teaching methods. The students had to provide evidence-based responses and utilize critical thinking skills.

Despite time constraints, both faculty and students quickly adapted to this new normal. Using a combination of live case-based simulations, critical thinking assignments, and continuing education courses resulted in a positive response from students. The Dental Hygiene ADEX clinical board exam (CDCA Patient Treatment Clinical Examination) for the Class of 2020 had a 98% pass rate, which increased from 89% in the previous year. As a result of this experience, coupled with anonymous student feedback, the dental hygiene program's clinical affairs committee has decided to incorporate clinical case-based simulations into the curriculum on a permanent basis with the expectation that it will support the development of students' critical thinking skills during clinical practice.

[Zoom recording >](#)

Teaching Dental Anatomy and Operative Dentistry during the COVID-19 Shutdown: Hands Off or Hands-On?

by John Strange, BDS, Clinical Instructor, Department of Cariology and Comprehensive Care

With the advent of the global pandemic in early 2020, the D1 courses, Dental Anatomy and Occlusion and Single Tooth Restoration, were significantly impacted, albeit in diverse ways and differing severity. Each required some novel strategies to deliver programs that would satisfy each student's academic and competency-based needs. This presentation describes some of the problems faced and the solutions we developed.

The 18 months following the March 13, 2020, shutdown of clinical operations at NYU Dentistry were the most challenging. The rapidity with which we had to adapt to an entirely new way of doing things was unprecedented. There were failures, such as our attempt to assess practical exercises remotely. There were also some very valuable learning experiences that continue to influence my teaching as we return to normal. For example, raw recordings of lectures inevitably contain "dead space" (lengthy pauses, irrelevant discussions, technical holdups). In response, I got into the habit of editing lectures before posting to improve students' reviewing experience.

Keeping in mind that the education of predoctoral DDS students is at the heart of our mission, we should not view the challenges we faced during the pandemic as a burden. We owe it to our students to provide the best educational experience, regardless of the circumstances.