

Commentary

How COVID has Transformed the Landscape of Forensic Science Education

During this unprecedented time in education, forensic science teachers across the globe have been faced with the added burden of changing their in-class curriculum to an online format. This could be frustrating for the beginning teacher; however, I have been teaching for almost 20 years and find technology an exciting tool to use in the classroom. I teach honors forensic science to seniors at LaSalle-Peru High School in Illinois. My background with a master's degree in Forensic Science has allowed me the privilege of teaching forensic science at my school. During the pre-Covid era my curriculum involved lectures; web-based assignments based on criminals in the news; laboratory experiments; demonstrations and in-class visits from experts in the fields of criminal justice, forensic science, and law. Since I belong to the International Association of Identification (IAI) I have attended many conferences to keep up to date on the latest technology to bring back to my students in the classroom. During this pandemic because the conferences are on hold, I have searched the internet for many creative ideas to transform laboratory experiments and research into an online format. I have a few examples of how I was able to transform my curriculum into an online format to keep it interesting while still holding the students to the highest standards.

My high school is currently in full remote learning. We have been utilizing Google Classroom and Google Meet to reach our students. Students are required to be in attendance for all 7 class periods for only 33 minutes each. This has been another obstacle that teachers have had to face this school year because it cuts instruction time down by over 20 minutes. For the lecture part of the class I post my PowerPoint notes in the classroom page. I share this with them while I go over the material in class, which is similar to how I would present the material in class before the pandemic. I still require the students to interact with me during this time. The web-based assignments which are now posted in the classroom page are research-based about people with crimes that relate to the forensic topic studied at that time. We then spend some time reviewing the importance of those cases.

In class laboratory experiments before Covid have always been a favorite with the students. I have had to modify all of lab experiments in one way or another. I worked with the technology department at the school to help me make pre-lab video demonstrations. Some were made in the years before Covid and include students, administration, and professionals to demonstrate the material and proper procedures for performing the lab in class. This year I have made videos of myself

demonstrating the procedures, sometimes taking close-ups of the evidence and results so they can answer analysis questions. Sometimes I require the students to perform the lab at home. An example of a lab that they can do at home is the anthropometry lab. They are given all of the instructions including the pre-lab video directions ahead of time. I ask the students to have two different family members measure the required body parts using any measuring device. I purchased Taylor's tapes for those that were able to come to the building to pick up the materials. I was very impressed with their results. Photographs of evidence are also incorporated into many of their lab documents, even taking close-ups if necessary. I have purchased several devices, for the computer and the microscope, that allow the students to visualize the evidence at higher magnifications. For example, in their class versus individual evidence lab I usually have 20 different pieces of evidence on the lab tables with evidence markers. The evidence corresponds to the 20 crime scenarios on the lab sheet. This year for a remote lab, I took close-up photos and incorporated them into the document before posting it in Google Classroom. For other labs during their Google Meet sessions, I demonstrate so they can see the proper lab procedures and the results. The students then take the results to complete the lab exercise. The blood typing and testing for blood labs are better accomplished this way.

When school started, I asked the technology department about how to get the many expert guest speakers to talk to the students during their Google Meet. I was disappointed when I found out that they did not believe this was possible without adding them to the classroom pages. It wasn't until I heard from a guest that contacted me from a forensic advice forum on Facebook that I belong to that I soon learned that the impossible is possible. I send the link that posts when I open the Google Meet. The guest clicks on the link in their email and I admit them to the meeting. We have heard from 4 experts from around the United States so far and this has worked out great. They can share their material, PowerPoint slides, models, and other items, with the students. For those experts that are in different time zones and cannot speak in the morning I have set up a separate Google Classroom page for all of my students. We use this one in the afternoon. Since the students are done with classes at 12:06, I use this for extra credit. I am so appreciative for the technology that has allowed me to continue having experts talk to my students.

I have found that during this remote teaching time the internet can be an incredible teaching tool as opposed to an encumbrance. There are many websites where teachers

are posting ideas for remote teaching. Teachers can use this material to incorporate into their own curriculum or make modifications as needed. I have learned to adjust my teaching style this year. It has been exciting for me to use these new tools to bring forensic science to my students.

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