

A Successful Class Model for Teaching Biochemistry in a 100% Online Environment

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Abstract

Although new endeavors can be hard at the beginning, it can turn out to be much better than expected. This is true for my experience during Summer 2020 with the High Impact Online Teaching and Learning Practices (HIOTLP) and with the online chemistry classes that I have been teaching thus far at LeMoyne-Owen College. In the HIOTLP class, I was exposed to an array of online teaching and learning tools that fostered my confidence on how to conduct my online teaching and courses. Also, the HIOTLP gave me access to numerous online teaching and learning resources that will help me with my course design for many semesters.

Course Information: Biochemistry Lecture (Chem. 410)

Narrative

Human beings resist sudden changes, and they easily can fall prey to their own life's routine. However, I was a bit frightened when our institution LeMoyne-Owen College (LOC) decided that the college would shift teaching modalities and conduct a 100% online teaching model during the fall 2020 semester. Specifically, I was concerned because I had never conducted an online class before. Fortunately, there were scholars who were a couple of steps ahead of us. The Gardner Institute in collaboration with the United Negro College Fund (UNCF) offered a late summer High Impact Online Teaching and Learning Practices (HIOTLP) course. The course was designed to prepare Historically Black Colleges and University (HBCU) faculty to teach online classes confidently. I have to confess that it turned out that online teaching is fun, the HIOTLP course was a very positive experience, and it was much better than I expected.

As a full professor who has been teaching a variety of chemistry courses in institutions of higher education in the United States for 26 years, I thought I know how to handle any class setting. Yet, when I participated in the HIOTLP course I became familiar with teaching resources that I was not familiar with, and those that I knew about, but I had never had the opportunity to use such as Learning Management Systems, Blackboard and Canvas.

In the HIOTLP class, I was exposed to many online teaching tools to build my confidence in

how to teach in an online teaching class environment. For example, I was introduced to Netiquette, a concept that was very new to me, in spite of all of my scholarly experience throughout the decades. I have made “quiz 0” a routine practice for students in all of my chemistry courses this fall in which they had to discover and write an essay on Netiquette. The assignment helped both the students and this instructor with our communication and our collaboration. This was a new model of teaching for me and for my students.

I was exposed before, at another undergraduate institution, to the Blackboard Learning Management System (LMS). However, I was not into online teaching due to the semi-practical nature of the chemistry courses, and the hands-on-laboratory requirement for the courses that I had to teach. Yet, with no choices in hand due to the pandemic, I had to familiarize myself with other teaching tools that our current institution asked us to utilize during this time. Additionally, we began to also utilize Microsoft Teams (MS Teams) as the main online teaching and learning platform.

In addition to applying the rules of Netiquette, one more important point that I have learned from HIOTLP was to make my students feel a sense of belonging in the newly created online class environment. I did that by asking each and every student in all of my classes to introduce themselves to their peers and tell the class why they are taking this class, and what they want to do with their degree from LOC. Every teacher thinks that the subject that they are teaching is the most important subject any college student should learn. Also, I informed my classes that I have just finished a class that taught me how to conduct online classes more effectively. Previously, I would break the ice in the traditional face-to-face classes by asking the students to introduce themselves, but this was the first time I did it in an online teaching setting.

As a chemistry teacher who has been teaching chemistry laboratory classes for decades, I know that it is hard to carry out a laboratory experiment remotely. When I was learning during the HIOTLP, I wondered how I was going to conduct laboratory sessions particularly the upper-level Organic chemistry and Biochemistry laboratory sessions. One of the main digital pedagogical tools from the HIOTLP course was the use of very relevant videos as an alternative to the face-to-face laboratory meetings. I was amazed, but not surprised, about the tremendous number of relevant videos found online that are related to the syllabus I prepared in particular within the organic chemistry laboratory class. I promptly referenced, gave credit, and acknowledged the videos and their authors.

Summary/Conclusion

The main technology tools and/or online teaching resources that were shared with me during the HIOTLP course and which made me more confident during the semester’s online teaching were: (1) Open Access Digital Pedagogy, (2) Best Practices When Teaching with Zoom, (3) The 15-Minute Guide to Teachers on Moodle to name a few. The HIOTLP teachers gave us many online teaching resources that I will review and utilize in the near future. Finally, I would like to thank Dr. Foote, and Dr. Flippin-Wynn and all mentors I encountered during this exciting late summer experience.