

Jay Liebowitz, Seton Hall University

Since March 2020, we have experienced difficult times with the spread of COVID-19 worldwide. Classes went online; unknowns remain for the fall semester and beyond. This article highlights transformations needed to be a successful professor under the "new normal."

he COVID-19 pandemic has created disruptions throughout home and work lives globally. Universities were among those institutions that had to quickly adjust and adapt to virtual learning environments for their students and professors. Fortunately, many of us, as computer science/IT professors, have been teaching either online or in blended learning environments to replace or supplement our face-to-face (F2F) classroom environments. For example, I have been teaching online or through blended learning (as well as

F2F courses) since 2002 using six different learning management systems over the years (Blackboard, Canvas, Sakai, Moodle/Adobe Connect, WebTycho, and D2L). As technology-focused faculty, we were probably better prepared than many of our colleagues in other disciplines. However, we still had to be "transformed" somewhat to adjust to the current coronavirus dilemma.

One of the major adaptations is how best to develop strategies for student virtual engagement and learning via the online course. For example, if you are teaching an IT strategy course that is typically based on case studies, how can we ensure an active level of participation and interaction during this virtual classroom? Many of these learning management systems don't allow you to "see" your students to judge the nonverbal communication and learning taking place. Thankfully, Zoom, Teams, and other software products can allow the professor and students to see each other and then have breakout rooms, if needed, for team discussions. Some classes (particularly graduate courses) are 3–4 h long, where many students are taught synchronously and others asynchronously. For these synchronous online

Digital Object Identifier 10.1109/MC.2020.3004603 Date of current version: 19 November 2020

EDITOR IRENA BOJANOVA NIST, irena.bojanova@computer.org



courses, this long time span may create hardships for engaging the students while they sit at their computers. Certainly, the use of polls, discussion forums, guest speakers, short videos, podcasts, and other techniques can be used effectively to increase student engagement and learning. Having a variety of active learning approaches will help with this virtual student engagement. Some faculty members are using various immersive virtual learning environments and gaming technologies to further enhance student engagement and learning.⁷

As part of the Advertising Education Foundation Virtual Visiting Professors Program (https://aef.com/) during the week of 1–5 June 2020, various talks by senior leaders from IBM, Facebook, R/GA, Ogilvy, and McCann featured discussions about the "new normal." Over the coming months during COVID-19 and beyond, the following trends are expected:

- › Digital will become the norm.
- Individualism now includes "we."
- Ingenuity and quick thinking will be critical.
- Diversity and inclusion will continue to be paramount.
- Students will need to have agility and the ability to adapt as important "new" skill sets.
- People may start to get "digital fatigue," so engagement (with both content and experience) will be even more critical than before
- We will also see Apple, Google, and others developing partnerships with universities for online higher education.
- Advanced techniques, such as data analytics, artificial intelligence, and machine learning,^{4,5} will be used as part of the online student learning process.

As professors, we must be cognizant of these trends. Besides getting up to speed in the pedagogies on instructional technologies and actual use of the online learning management systems, we must also have the diligence and patience to create and assemble the content for our online courses.

CHANGING LANDSCAPE FOR TENURE AND PROMOTION ACTIVITIES THROUGH THE "NEW UNIVERSITY"

In the same way that businesses will have to transform to the new environments, universities will also undergo a transformation. Already, many

One of the major adaptations is how best to develop strategies for student virtual engagement and learning via the online course.

In my experience, creating an online course requires tremendous advance work as well as proper preparation for new materials and insights during the semester. Front-end loading, in terms of thoughtful preparation of the online course well before it is given, is paramount in building a solid, meaningful course. As universities are either fully online in the fall 2020 semester (such as McGill, University of Cambridge, California State University system, and Boston University) or using a Hy-Flex approach (where some students attend F2F and the others in the class attend remotely, but each lecture is recorded live), the professor may face certain challenges. With the HyFlex format, the university will have to ensure larger, fully equipped classrooms to account for social distancing and livestreaming/recording. Alternatively, if a course is delivered F2F, perhaps half the class can attend one of the two offered class days a week, and the other half can attend the other day (with recordings/livestreaming being conducted). Continuing to wear masks, limiting people in the elevators for social distancing, frequent checking for COVID-19, and proper hygiene/sanitizing of the classrooms will all create new types of challenges for the "on-campus" professor (and student).

universities are expecting budget shortfalls, and some of the less fortunate universities, with low endowments, may not even survive. This "new university" environment, due to COVID-19, may also effect a changing landscape for tenure and promotion activities for the professor.

Already, we have seen an increase in the number of online or open access journals.² Some of these online journals are refereed, and others are not. We must continue to be careful to ensure proper academic rigor and peer refereeing of online (or printed) journals as part of the tenure and promotion metrics for faculty. Citation analysis will continue to be an important indicator of the worth of a given research publication. One interesting change during these times is that, with travel being limited, virtual conferences will become the norm. However, we must also ensure the same quality of high standards for the review of virtual conference proceedings/presentations as we did with F2F conferences. With online being more commonplace, we may see increased interest in altmetrics (alternative metrics) for determining the impact and credibility of the research produced from a given professor. For example, the number of views or downloads, recommendations from peers, mentions on social media, paper

EDUCATION

saves (bookmarks and favorites), references on Wikipedia, references in policy documents, and mentions in news or blogs online may play an increasing role in the importance of a professor's portfolio for tenure and promotion. Of course, other intellectual products, such as patents, software, new algorithms, and the like, will continue to be important in the years ahead.

Teaching evaluations and the effectiveness of online courses may also vary a bit from the more traditional F2F courses that we are used to delivering. For example, Marzano and Allen⁶ performed a study to determine whether students evaluate courses differently, and perhaps more critically, when the materials

- Did your instructor use discussion forums effectively to stimulate thinking?
- Did the online course allow you to explore different pathways through the course content, depending upon the level of your understanding of the material?
- Did the online course allow you to be an active participant in the class?

INTERESTING TIMES ARE INDEED AHEAD

As we progress into the forthcoming semesters, universities will have to be flexible to adjust to the changing times. As of June 2020, some universities (like Seton Hall University

As we progress into the forthcoming semesters, universities will have to be flexible to adjust to the changing times.

are delivered online versus F2F. Their findings confirmed that courses taught by the same instructor, using the same content, were rated lower when delivered in the online modality.6 They further discuss the implications for faculty and administrators, such as a drop in the faculty member's assessed performance and potential morale issues with faculty experiencing reduced job satisfaction due to lower online course ratings.⁶ Brown¹ indicates that "teaching online becomes less about teaching information and more about facilitating student efforts to think critically, apply, and make sense of new knowledge."

For the student evaluations with online courses, they may need to be modified from our traditional F2F student course evaluations. For example, there may be additional questions for online courses, such as the following:

and others) planned on faculty being on campus for the fall 2020 semester starting 24 August 2020 through 24 November 2020. With the speculation that COVID-19 may have a resurgence in November, the students would finish classes by Thanksgiving break, and finals would be completed virtually by 30 November. Students would go home and leave campus for their Thanksgiving and winter/semester breaks. Other universities will be holding only online courses this fall 2020 semester and perhaps longer.

hatever happens, university administrators, faculty, staff, and students must be adaptive to adjust to the forthcoming COVID-19 situations ahead. We do know one thing, as quoted by Heraclitus: "The only constant in life is change." So buckle up, here we go...

REFERENCES

- R. Brown, "13 differences between online and face to face courses," Miami Univ. of Ohio, Oxford, Jan. 16, 2019. [Online]. Available: https://miamioh.edu/regionals/academics/elearning/ecampus-faculty-staff/eccoe-news/2019/01/differences-between-f2f-and-online.html
- J. Liebowitz, Ed., The Guide to Publishing for Academics: Inside the Publish or Perish Phenomenon. New York: Taylor & Francis, 2016.
- J. Liebowitz, Ed., The Business of Pandemics: The COVID-19 Story. New York: Taylor & Francis, to be published, 2021.
- J. Liebowitz, Ed. Data Analytics and AI. New York: Taylor & Francis, 2020.
- J. Liebowitz, Series Ed., Data Analytics Applications Book series. New York: Taylor & Francis, 2020.
- M. Marzano and R. Allen, "Online vs. face-to-face course evaluations: considerations for administrators and faculty," Online J. Distance Learn. Admin., vol. 19, no. 4, 2016. [Online]. Available: https://www.learntechlib.org/p/193254/
- 7. A. Shi, Y. Wang, and N. Ding, "The effect of game-based immersive virtual reality learning environment on learning outcomes: Designing an intrinsic integrated educational game for pre-class learning," *J. Interactive Learn. Environ.*, 2019. doi: 10.1080/10494820.2019.1681467.

JAY LIEBOWITZ is the distinguished chair at the Harrisburg University of Science and Technology and a visiting professor in the Department of Computing and Decision Sciences at Seton Hall University. Contact him at jay.liebowitz@shu.edu