

Gazing into the post-COVID crystal ball:
Opportunities for the “new normal” in engineering education

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The COVID-19 pandemic forced a radical change on nearly all educational contexts globally, with a severe constraint on using in-person experiences for teaching, learning and assessment over a period spanning multiple academic years, whether in north or south. At this point in 2021 there is a hope that widespread vaccine rollout will allow education to return to “normal”. What is up for debate is the form of this “new normal” as it has already been noted that many aspects of social and economic life will not revert to their pre-pandemic formats.

Across the globe, engineering educators had to quickly adjust to using online tools for teaching and assessment, whether or not this is something that had any prior experience of. There is a plethora of research already published on the faculty and student experience of this “emergency remote teaching”. As with much education research, one needs to dig deeper into an interpretive mode to try and draw out implications for future practice. The credential value of engineering (and all of higher) education was clearly on display during this period, where enrollments stayed more or less steady, despite a shift to unintended educational modalities. The techno-utopians amplified their arguments about the value of online education and its potential to transform everything. Caring teachers did everything they could to maintain engagement with their students at a distance, and some of this has also been reported. In many engineering courses there was a particular concern about how to maintain the integrity of exam-type assessments at a distance. Students mostly expressed a range of challenges of having to adjust to learning in this way, although flexibility and care was noted where it was offered.

In anticipation of a post-pandemic “new normal”, many people are hoping for answers on what aspects of engineering education will revert to the pre-pandemic mode and what will remain changed (hopefully for the better). To engage with these questions, Jenni Case argues that it is needed to go beyond the surface of some of the work published so far on the topic, in order to put these developments in a broader context of ongoing trends in engineering education. There was no doubt an acceleration in the uptake of online tools, but this does not mean that fully online modes will remain widely desirable beyond the pandemic.

The talk moves to focus on new opportunities for advancing the quality of engineering education. Faculty and students have been jointly forced to significantly expand capacities and modes for communication. In line with the thinking of the “flipped classroom” but with some important caveats, in-person teaching should be making the most of its unique affordances for interaction. Moreover, the benefits of in-person “lecturing” should also be evident compared to a one-directional pre-recorded video. At the same time, the possibilities of “blended learning” for careful curation and support of students’ after-class study time should be more fully realized. Likewise, in consideration of laboratory experiences, we should be better placed to be using simulations where appropriate, but fully maximizing the precious opportunity for hands-on learning in a real-life setting.