

The Future of Engineering Education

Michael Reynolds, PhD

Editor, Journal of Online Engineering Education

Welcome to the first edition of the Journal of Online Engineering Education. It is our hope that this new journal will help the engineering community improve education through the implementation of online strategies. I often find that when I talk to colleagues about online engineering education the first response is about what *cannot* be taught online. While it is true that online education has its limitations, we too often fail to ask what *can* be taught online and how online tools can help us. And the answer is that there are many ways in which engineering schools, both big and small, can benefit from online education. As student populations grow and resources become scarce, finding sufficient classroom space is a problem for many institutions. The adoption of hybrid courses, courses where students do some online learning in combination with traditional lectures, can free up needed class space. As more responsibility (i.e. work) gets placed on faculty members, online tools can help supplement classroom learning, create assessments that take less work, provide feedback to students faster, and give students access to others who hold more expertise in a certain area.

It is this notion of expertise that should be utilized more in engineering education and in education in general. While most professors teach courses related to their discipline, few are truly world experts in their field. And all of us could learn a thing or two from each other. The internet makes such learning possible. Broad efforts such as MIT's Open Courseware or more focused efforts such as the University of South Florida's Holistic Numerical Methods Institute enable our students to connect with great online content. We need to continue to develop and refine this content so that students can better connect to it. Perhaps the future of engineering education will have these online tools be an integral part of most students' experiences. This cannot replace the necessary student faculty interaction nor can it fully substitute for the critical hands-on learning of a laboratory environment. But it does offer the potential for faculty to spend less time teaching and more time doing other things without the loss of student learning. And it offers students the potential of getting truly world class knowledge. While no one knows exactly what engineering education will look like in ten or twenty years, the maturation of online educational strategies offers great hope. What a great opportunity for this new journal!