Sustainable Design Education through Modular Online Content

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Proposal
Sustainable design in engineering education is an important yet underserved topic. With the recent availability of online resources, far more students and educators can have access to useful content. One example is the Autodesk Sustainability Workshop, an online collection of video tutorials and supporting materials for individuals to learn and educators to teach green design. Dozens of short, modular videos span the range from introductory fundamental principles in sustainability, to the specific operations of analytical software tools. Related case studies and data sets demonstrate the concepts with real-world examples.

One of the lessons learned from the project is that the bite-sized modular content succeeds where earlier long-form resources did not, because the smaller focused content is easy to integrate into existing curricula. Dozens of schools have begun using the videos in their curricula, including University of California Berkeley, Rochester Institute of Technology, University of Calgary in Canada, and Hongik University in Korea. In addition, the videos have been watched online hundreds of thousands of times. Adil Sharag-Eldin, associate professor at Kent State University, said “Autodesk's multi-media, online tutorials have irrevocably changed the education paradigm by providing unprecedented access to computational tools.” The Autodesk Sustainability Workshop is an example of how online modular content can become a useful learning resource, and in this case, better preparing future designers and engineers to create a more sustainable world.