Create review and assessment modules using an online platform available through the EDGD website (Figure 1).

- Free online service for EDGD members
- Graphics and visualization modules to increase the quality of student comprehension
- Collaborative collection of modules covering a variety of engineering topics

Problem

- Students do a good job with the analysis and fabrication of their project physical prototypes, but final reports are of much poorer quality.

Solution

- All team members are required to watch a review module (Figure 2) and pass an online assessment before turning in their final reports.
- When tested using a working drawing module, improvements were seen after students used the modules and took the assessments. Figure 3 provides a visual representation of this process.

Due to its success at DWC, this module became the pilot course for the EDGD online learning and assessment resource database.
Modules and assessments were uploaded to Moodle. Moodle quizzes allow for specific feedback based on the answer selected (Figures 4 and 5). Questions are randomly shuffled for each quiz.

Fully automated registration process
Broaden the topics to cover courses such as statics, dynamics, strength of materials, and fluid mechanics, and utilize the graphics and animation expertise in the EDGD (Figure 7) to provide high quality review modules.
Potentially use these modules as additional prerequisites for courses.

Figure 4. Sample Question with Feedback for Choice C

Figure 5. Sample Question with Feedback for Choice D

Figure 6. The Registration Process

Figure 7. Helicopter Rotor Showing Mechanical Relationships and Effects of Rotor Tilt. Image provided by Dennis K. Lieu, Berkeley University