


Project Title – Engaging Engineering Students with Transportation Safety: An Educational
University – University of Florida
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Total Project Cost – \$5,220
Agency ID or Contract Number – 2012-085S
Start and End Dates – 7/1/12–12/19/13
Brief Description of Research Project – The objective of this project is to develop, pilot-test, refine, and disseminate an educational module in transportation safety. The educational module will be aimed at undergraduate engineering students, whose exposure to this topic is extremely limited, if they are exposed at all. The module will incorporate a number of items, including lecture material (both instructor and student versions), in class activity, and laboratory exercises. It is expected that results will show that the module is an effective tool for improving student understanding, appreciation, and interest in transportation safety.
Describe Implementation of Research Outcomes (or why not implemented): Increase the number of students exposed to transportation engineering. Improve the quality of education. Improve transportation safety.
Place Any Photos Here Example slide from lecture material: 

In-class activity scenarios: emphasize performance measures through a distraction

ACTIVITY: DESIGNING TO MINIMIZE DISTRACTION

- Remember the list of performance measures we learned about in lecture.
 - Which performance measures are most applicable to this case?
- Consider two users:
 - User A:** A driver is traveling down the road toward the marked crosswalk. She is running late for an appointment with a client and is trying to call the client to alert them to her delay.
 - User B:** A pedestrian is walking across the road using a marked crosswalk. As he crosses the street, he is texting his colleague about an agenda item for their afternoon meeting.



In-class activity scenarios: emphasize user differences through an age

ACTIVITY: DESIGNING FOR ALL AGES

- Remember the list of user differences we learned about in lecture.
 - How would age impact driver behavior in this case?
- Consider two users:
 - User C:** A driver is traveling down the road toward the marked crosswalk. She is a relatively new driver (age 17), but has driven on this road often.
 - User D:** A driver is traveling down the road toward the marked crosswalk. He is an older driver (age 79), but drives often and knows the roadways well.



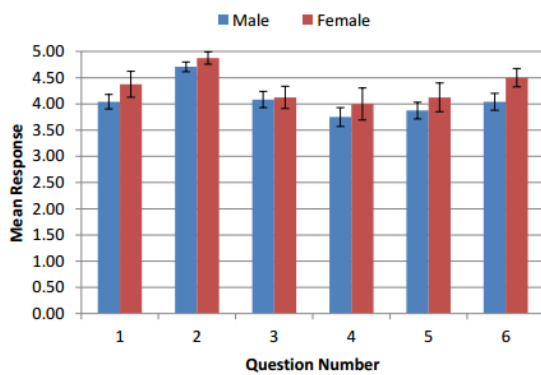
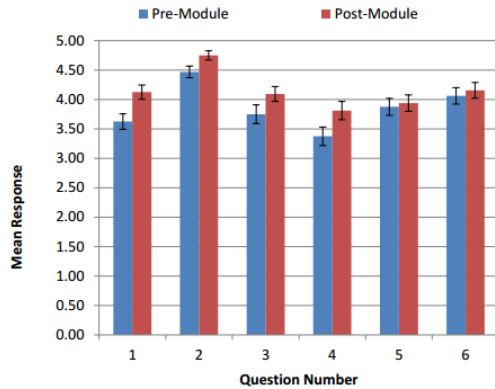
Laboratory Assignment: Interventions

TYPES OF INTERVENTIONS

- Infrastructure
 - Aspects of the transportation system
 - Includes roadways, signs, etc.
- Vehicle
 - Features of the vehicle
 - Includes technology, safety features, etc.
- Training
 - Methods to educate the user
 - Includes training material, programs, public service announcements, etc.
- Combination
 - Integrating infrastructure, vehicle, and training
 - Includes intelligent transportation systems, connected vehicles, etc.



Class survey:



Impact/Benefits of Implementation (actual, not anticipated):

The module was recently piloted in an undergraduate Industrial Ergonomics courses.

Students' perception of the importance of transportation to themselves and society increased significantly post-module. The module also increased their interest in learning more about

transportation safety as well as its perceived usefulness in their field of study. Thus, the module proved to be successful in raising knowledge and awareness of transportation safety. Additional positive effects of the module can be seen in the exam scores. Exam 3 was taken prelab activity and the final exam was taken after completing the lab. There was a sizeable increase in the mean scores between those exams. Therefore the module also increased the students' ability to apply the information they received on transportation safety.

Project Website – http://www.stride.ce.ufl.edu/uploads/docs/strawderman_2012-085S_final_report.pdf

Final Report on TRB/TRID: <https://trid.trb.org/view/2014/M/1323296>