

# The Impact of “Midstream Evaluation” on Solar Course Delivery

## OVERVIEW

Gathering student feedback and acting on that feedback while courses are still in session offers the best opportunity for students and instructors to succeed. However the National Survey of Course Evaluation in Higher Education (2013) found only 7.3% of colleges administered any formal “midstream evaluation” process. This was even fewer than the 10% reported a year earlier (Champagne, 2012) but relatively unchanged since 1999. That is, although students are more satisfied with course delivery and course content when allowed to give feedback while the course is still in session (Champagne, 2002) the vast majority of colleges have consistently ignored this successful practice.

GEARED faculty are leading the way by administering midstream evaluations in solar courses, while training is still in session and while it still matters to students. The result has been more relevant course content, fewer obstacles to learning and a learning environment where instructors and students are more engaged.

**Participants.** During the Fall 2015 - Spring 2016 school year, GEARED faculty at twelve universities supplemented their existing end-of-term evaluations with a midstream evaluation form, administered several weeks into each term to the 1,522 students in their 44 courses. Faculty chose either the paper format or an online version of a uniquely designed 15-item measure. The items were crafted to accurately gauge student perceptions on the 13 criteria most often addressed in course evaluations. There were also two comment boxes designed to solicit specific and relevant answers that would help improve the course content and instruction. Incorporating another best practice, faculty could add their own course-specific questions to the midstream form.

Table 1. Number of participants was nearly identical across terms.

	Faculty	Universities	Courses	Students	Online	Paper
Fall 2015	20	10	22	780	20	2
Spring 2016	19	12	22	742	21	1

**Response Rates.** In the Fall 2015 term, individual class response rates ranged from 11% to 100% with a mean of 42%. This is consistent with the national average response rate of 48.6% for end-of-term course evaluations conducted online (based on reports from 55 colleges in the 2012 National Survey). Response rates increased dramatically in the Spring 2016 term to 66%. This 57% increase is not surprising given that many of the students enrolled in the Fall were also enrolled in participating courses in the Spring and one outcome of midstream evaluations is far higher participation in the evaluation process due to perceived value and impact.

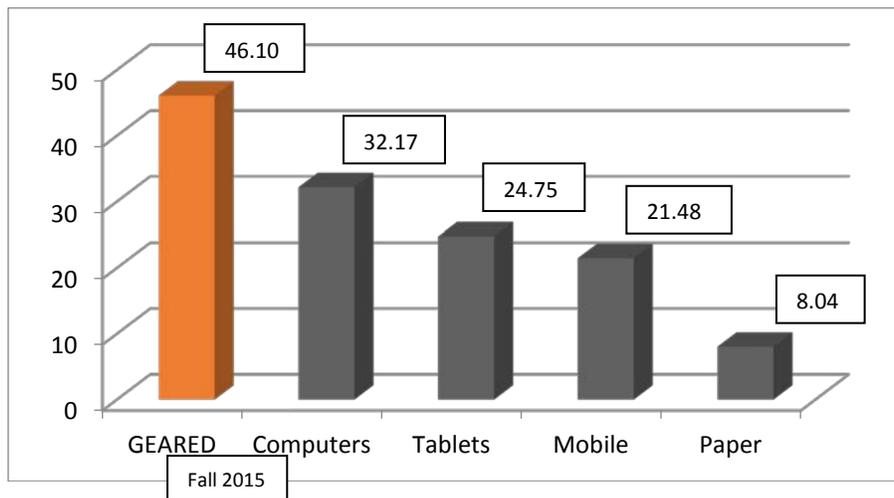
Table 2. Response rates increased from the Fall to Spring term.

	Students	Responses	Mean Rate of Response	Low	High	Mean # of student comments
Fall 2015	780	328	42%	11%	100%	46.10
Spring 2016	742	486	66%	29%	100%	29.30

**Amount of Student Feedback.** More important than response rate was the amount of valuable student feedback in the form of comments. In Fall 2015, students wrote an average of 46.1 words of comments in the two comment boxes provided on the online forms. This is remarkable when put in context: 46.1 words is nearly 50% more comments than typically typed by students on a computer and twice the amount typically typed by students on a mobile device (see Figure 1). The vehicle for responding to evaluations in the solar courses (i.e., computer, tablet or phone) was not captured in this study.

The number of comments provided by students in Spring 2016 (29.3 words) was more typical based on historical data. The reason for the abundance of student feedback in the Fall term may have been due to the novelty to students of instructors stating they would act on student opinions while the course was in session.

**Figure 1.** Number of student comments for GEARED courses in Fall 2015 far exceeded historical values\* for any mode of response.



(\*Historical values based on 410,437 student responses on 95 campuses gathered January 2011 – August 2012)

**Quality of Feedback.** Participating faculty overwhelmingly felt that student feedback was not only abundant but also useful and relevant in making modifications to their courses. Typical quotes from faculty were:

*“My students appreciated the opportunity to communicate with me about their needs.”*

*“Students were happy to see I was very serious about their feedback.”*

*“I distributed the results to the students - they thought it was interesting to see what each other had to say.”*

*“This was indeed helpful in finding out what the students actually think.”*

**Timely Feedback.** An important factor to achieving positive outcomes was the ability for faculty to “close-the-loop” and share results with students in a timely manner, usually by the following class period. Within 24 hours of the close of the evaluation, faculty received results and instructions on how to best share specific (but anonymous) comments and ratings. A 5-step training guide was developed in Fall 2015 and modified for Spring 2016 based on faculty feedback. This standardized guide was critical in generating the positive student outcomes measured.

Table 3. The 5-step Faculty Training Guide.

**1. Illustrate Commonalities.** Based on the at-a-glance results provided, faculty pointed out the most popular answers and interesting suggestions given by students. Real examples were:

- *“The note packets are very helpful.”*
- *“The micro quizzes help me remember the material.”*
- *“I like the idea of meeting in a larger class on Monday, and then meeting in smaller classes on Wednesdays. This adds to the personal feel of the class.”*

**2. Illustrate Differences.** Faculty shared student comments to illustrate the difficulty of navigating the best path to teach students who have different opinions, for example:

- *One student wrote: “I appreciate that he (the Professor) calls us out with a name card, just because it makes me feel that the class is more connected and responsive as a whole.”*
- *Another student wrote: “I do not like being singled out in front of a group to test my intelligence.”*

**3. Changes that CAN be made.** Faculty demonstrated that the students' voices were heard by agreeing to make certain changes to the course delivery, for example:

- *"A few students said they would prefer to go over the homework on Mondays, so let's do that from now on."*
- *"Several students preferred that I use the whiteboard while teaching rather than read the slides, and I will consider this".*

**4. Changes that CANNOT be made.** Faculty could still acknowledge student feedback while explaining why certain suggestions could not be implemented, for example:

- *"I see that a couple people said they wanted more advanced notice of when homework assignments are due, but in reality I can't give more than 2 days notice due to the nature of this course."*
- *"Some of you don't like the how I call out names to answer questions but it's my experience that this increases student learning."*

**5. Kudos.** And, of course, faculty shared positive comments given by students, for example:

- *"The professor is actively putting forth a tremendous amount of effort to teach this course. That's uncommon and I appreciate it."*
- *"I think our instructor is very kind."*

**The Midstream Evaluation Instrument.** The foundation for the success of the midstream evaluations was the 15-item measure used by faculty, designed to be the most accurate and informative instrument possible. It is a "meta-evaluation" tool constructed by synthesizing the actual course evaluation measures used at 78 U.S. colleges into distinct criteria. Six instructor-based criteria and seven course-based criteria were selected from the larger pool of criteria, and clearly worded items were created to represent those 13 criteria. In addition, one comment box about the *instructor* and one comment box about the *course* were uniquely worded to generate the most actionable and relevant feedback possible. This meta-evaluation instrument has continually outperformed any other course evaluation instrument in terms of quantity of student feedback and interpretability of results.

**Expansion of the Evaluation Process.** Although the midstream evaluation was intended only to supplement the end-of-term evaluation instruments used by individual universities, two of the participating faculty asked to use the same meta-evaluation tool and process as their end-of-term class evaluation as well. This has been a successful practice used by other universities prior to GEARED (e.g., Pace, NCSU, Quinnipiac) and we would encourage GEARED universities to do the same as a means to address the shortcomings of the typical end-of-term evaluation form and process.

**Building upon Success.** To generate the same positive outcomes at other colleges, faculty and administrators can simply implement the three tools developed by GEARED for the midstream evaluation process:

1. **Faculty Communication Plan** to boost response rates and quickly gather student feedback
2. **The 5-step Faculty Training Guide** to help faculty efficiently "close-the-loop" and demonstrate that student voices were heard
3. **The 15-item midstream meta-evaluation instrument** (online and paper format) to gather the most accurate data possible

**Summary.** Gathering timely and accurate student feedback and acting on that feedback while it still matters helps both students and instructors to succeed. Students become more enthusiastic and engaged in solar courses, recognize the importance of feedback to the learning process, and are more satisfied with course delivery. Instructors are able to remove obstacles to learning once they are revealed, create a superior course environment, and better nurture students in their solar courses.