Serving Our Students, Measuring Learning Instead of Teaching

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Abstract: How do we know if we are doing a good job in a physics course or program? Quantitative measures can seem impractical with small numbers of majors. Introducing innovative classroom techniques is not a guarantee of learning. Yet, there are concrete (if somewhat time consuming) measures that can allow us to improve our programs and demonstrate to our administrations that we are being effective. This sort of assessment can be very valuable in securing resources at your institution. The types of data every department should be keeping and how it impacts program development will be discussed.

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Let's focus on the minimum

University strategic plans will often include sentiments like:

- *Enhance our ability to recruit new students of excellent quality and support their success*
- *Provide students the tools for success in the job markets of the future*

The best way to be able to recruit new students of excellent quality is to be able to brag on our graduates.

WVUteach

Critical Components to measure/monitor

- *Class quality* *(I will mention some measures here)*
- *Student learning*
- *Advising quality*
- *Student Career Awareness*
- *Student Research Experiences*
- *OUTCOMES* - *major focus of this talk*

Of course, you track the learning in your introductory courses, for many more reasons than major program evaluation…
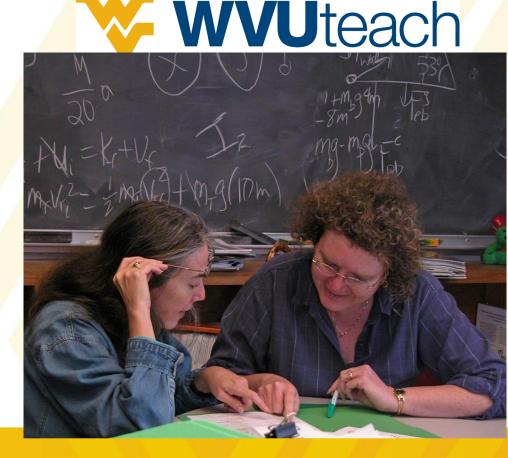
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Request information from instructors in each majors' course. Can be coordinated by a lead advisor or undergraduate program chair or equivalent.

Are the students showing up well prepared? What issues are there?

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Critical data we don't always acquire but we do need - ***OUTCOME DATA***

Baseline:
- Persistent emails
- GRE or similar scores (based on career choice)
- Placement (grad school or employment-right place, did it line up with expectations)

It is important to have in place a way to capture this data

Graduation outcomes: not just did they go to graduate school!

- Did they end up where they expected?
- Were they prepared?
- Did it work out?
- Did they get the critical information they needed along the way?

Feed this information back into the program.
Do they receive information early and often on:

- Research opportunities
- Career options and how to prepare for them
- Preparation for GRE or other professional exams
- Application processes and timelines

Results: More students graduating, many with honors.

(50% go on to grad school in physics or a related field, also, med school, nursing, teaching, unrelated fields and entry into industrial or government careers…)

When you pay attention to student success, (and have more individual award winners than any other department) the chancellor may just have to join the party.

(Comforting when university budget cuts are coming…)

Questions?