

Death by Assessment: How Much Data Are Too Much?

Assessment Tips With Gloria Rogers



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The movement of accreditation – both regional and specialized – toward outcomes assessment is creating positive changes in academe. It is also, however, requiring iterative processes and procedures that, while necessary to ensure continuous program improvement, might be overwhelming if we don't go about them in an effective way. One such process is data collection. If not gathered systematically and efficiently, data collection can be fatal. It can kill time, effort, and enthusiasm.

Is there an antidote? Yes. First, ask yourself: "When is enough, enough?" This question can be answered through a self-examination of your current assessment and data collection processes. Begin by asking the following four "how" questions:

1 How come? (Indiana term for "why?") *Be sure that you have a clear vision of why you are collecting specific data.* Assuming learning outcomes have been defined (e.g., a definition of what knowledge, skills, or other attributes indicate that a student can "work effectively on interdisciplinary teams"), it should be clear what data need to be collected and the purpose of that data. If the outcomes are not clearly developed into measurable performance criteria¹, it is difficult to know what data are relevant. In these instances, there is the tendency to collect anything that even looks like the outcome. There are now several nationally normed examinations and surveys that can provide data about student learning. However, if the questions asked and the concepts tested are not consistent with your outcome definitions, the data are not useful to assess the teaching and learning process. Ask yourself, "Are the data being collected aligned with our specific, measurable learning outcomes?" If the answer is "no," then don't expect the data to inform the teaching and learning process.

2 How much? How many data points are enough to provide adequate evidence of outcome achievement? *It is not always true that more data are better.* If you are conducting senior interviews with a specific set of questions, will the twenty-first student interviewed provide information that hasn't already been provided by the first twenty students? What about

the fifteenth student? Do all 2,357 alumni from your program need to be surveyed to find out what you need to know about your program? Do you need 30,000 ABET-aligned data points? Could alumni surveys be made much shorter by asking sub-sets of questions to different segments of the alumni pool? This will not only increase the response rate (fewer questions) but also present an opportunity to ask questions at the performance criteria level for each outcome.

Understanding and using good sampling techniques can greatly reduce the amount of data you need to collect. Effectiveness and efficiency are the keys to the "how much" question. For example, the learning outcome "oral communication skills" could be approached in a number of ways (assuming of course that you have developed a *limited* number of performance criteria that define the outcome). Once the performance criteria are developed, and it has been identified where in the curriculum students are getting an opportunity to demonstrate their speaking and/or presentation skills, peer and faculty evaluation sheets could be developed to evaluate student performance specific to the criteria that have been developed. Not only will the individual student get immediate feedback and have an opportunity to improve, but the forms can also be used to document, in aggregate, student skills. This process does not take extra time once the performance criteria have been established and the forms have been designed. This process also insures a clear understanding among students and faculty of what the expectations are for oral communication. *It is important not to sacrifice quality, but the focus should not be on quantity alone.*

3 How often? *Data do not need to be collected from every student on every outcome every year.* It is important to pace yourself and strategize for efficiency without sacrificing quality. Continuing to use the oral communication example from above, how often should data on oral communications skills be gathered? The extent to which students are given opportunities to make oral presentations will vary from program to program and institution to institution. Do data need to be gathered from every class or activity in which students make presentations? Do they need to be collected every year? How much data are enough? The answer to these questions will vary with the size of the program and the findings from the data collected. If you find, for instance, that students are not reaching a specified outcome for graduates of the program, you may wish to take measurement more often (i.e., decrease the amount of time in the cycle of data collection).

Develop a three-year plan for data collection. A three-year plan will provide two cycles of refinement prior to any given ABET visit (assuming a six-year cycle). *Do not try to do everything all at once.* Concentrate on a few student learning outcomes per year (depending on the total number), and plan to complete the cycle of all learning outcomes within three years. Or, you can plan on targeting one segment of your constituency every year. The key is to pace yourself.

4 **How used?** Once a strategy has been implemented with an efficient process for data collection, how are the data going to be used? Although this decision should drive the data collection process, far too often it comes after data has been amassed. *Rule of thumb: if the use of the data is not known, don't collect it.* Stories have been told of programs that are signing on to every national benchmarking, student attitude, and standardized survey or test that is available. After literally thousands of data points have been collected, faculty try to figure out what they all mean. This is not only inefficient, but also wasteful (both in time and money).

Each program should decide who is going to be in charge of its process of assessing student learning – the program itself or an external testing agency. A well-thought-out local plan can be both efficient and effective without the investment in external resources. However, if learning outcomes have not been defined, then there are others who would be willing to assess student learning (for a fee, of course.)

Benchmark surveys that ask students whether or not they have learned something at the outcome level (no definition) are not very useful for program improvement. For example, if students said “no,” what would be learned that could be applied to program improvement? If the data being gathered are not aligned to the program’s specific objectives or outcomes for student learning, nor do they provide information of how the program can be improved to enhance student learning, they should not be collected. It is important to target the data collection processes so that you can *maximize the meaningfulness of results, and minimize the work effort on the part of faculty.*

It is important that the value of the assessment process is not minimized. Assessment has taken a bad rap (see title) primarily because, in many cases, it is not being done effectively or efficiently, and the results do not adequately inform the teaching and learning process. It is time to step back and reevaluate what is being done, identify ways to focus assessment efforts, bring common sense into the process, and reduce the stress that is currently being felt by faculty and administrators alike. Technical professionals understand the importance of the quality of performance specifications and designing products/processes within given constraints. It’s time to apply this same know-how to this sometimes-perplexing, open-ended design problem. Don’t be a victim; join FADD (Faculty Against Data Dump) now.

‘Performance criteria define your learning outcomes in such a way as to make them measurable – to make them answer the question, “How will you know it when you see it?”

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