

Assessment 101: Assessment Tips with Gloria Rogers, Ph.D. Making a List and Checking It Twice

August 2004

I always cringe when someone tells me that they used someone else's program assessment plan as a model for their own plan. When I ask why the particular plan was chosen, I generally get the reply, "Well it was on the web and the program just got accredited so it must be good." As educators, we are often faced with helping students know how to filter all the "stuff" that is on the web, which they tend to reference and sometimes (to our dismay) copy. One of the ways we help them is to provide guidelines to follow as they search out credible reference materials. How do you know if someone else's program assessment plan is worth emulating (whether you found it on the web or not)? How do you know if your plan is consistent with good practice? The following check list is designed to guide you in your evaluation.

Is the assessment question known and explicit?

Is it clear what assessment question is being asked? Some possible questions are:

- Have we achieved our desired program learning outcomes?
- Can we demonstrate the value added that our program provides students?

Each of these questions requires a different approach and emphasis in the development of measurable outcomes statements, data collection processes, analysis, and evaluation criteria. In other words, it is important that the plan includes demonstration of a clear understanding of the question that is being explored. It is important to note that even if the question is question 1, which implies summative assessment (i.e., can we demonstrate that we have achieved our outcomes at the end of the program?), it is good assessment practice to be taking measures along the way to determine your progress BEFORE the end of the program (formative assessment) so interventions can be made if students are not making adequate progress.

Are educational objectives¹ clearly stated, developed with the input and review of your constituents and aligned with educational outcomes²?

For those who have attended ABET-related workshops or program evaluator training, this has almost become a mantra.

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However, if this statement is dissected, it demonstrates the importance of aligning the curriculum with the needs of key constituents and early career graduates. It creates an important relationship between faculty and those practicing in the field and enables faculty to maintain curriculum relevance.

Are outcomes defined and the number manageable?

Because the definition of student learning outcomes is the most critical and overlooked element of the assessment- planning process, this is where serious effort and/or scrutiny should take place. Regardless of what you call the statements that define your outcomes, each outcome should have a **few** high level performance criteria³ that are the focus of your data collection process.

In the absence of definition, it is impossible to have any direct measures of student learning at the outcome level. If you are participating or considering participating in commercialized benchmarking studies that provide an opportunity to benchmark your student/alumni/employer responses regarding ABET outcomes against those of peer institutions, remember that in the absence of a common definition of what the outcomes mean the usefulness of the data are interesting but not very informative for the purpose of program improvement. That is, if a program finds that its students or alumni self-report that their level of achievement on a certain outcome is lower than their peers, what can be done with that information?

Certainly, program faculty can discuss the issue and determine that they need to add additional modules on the outcome in their courses, but what would they add? What does it mean to have “the broad education necessary to understand the impact of engineering solutions in a global and societal context”? What did it mean to those from your program who responded to the survey? What did it mean to the respondents of peer institutions? Is it possible that it means different things for different programs? Be cautious when the only evidence of student learning is based on self-report of ill-defined or undefined outcomes whether they are benchmarked or not. These data cannot lead to well-focused program improvement.

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Are educational strategies aligned with anticipated outcomes?

The concept of curriculum mapping is becoming very common. Aligning curriculum with educational strategies (usually through courses but not always limited to courses) provides a clear understanding of where in the curriculum students are getting opportunities to learn, practice, develop, and demonstrate the performance criteria related to the program outcomes. This information provides faculty with the opportunity to make informed decisions about data collection – where to collect the data, from whom to collect the data, and how often to collect the data.

Do assessment methods include both direct and indirect measures, and are they appropriate to the program context?

When choosing assessment methods, it is important to use a multi-method/multi source approach to maximize the validity and reduce the bias of any one approach. It is also important to have at least one direct method that provides for the direct examination or observation of student knowledge or skills. There appears to be almost exclusive dependence on the use of indirect measures such as surveys. Although indirect measures have some usefulness, they generally cannot provide the rich information of direct measures. Which assessment methods you choose should be appropriate to your outcomes and meet your needs for validity and affordability (time, effort, and money) – at least one measure should be a direct method.

The data collection processes systematic and flexible?

When making decisions about what outcomes to assess, how often to assess them, and from whom to collect the data, it is important to remember that the focus of program assessment is on the program and not on the individual student. A multi-year timeline should be established that demonstrates multiple cycles through the process for each outcome (at least two cycles). The nature of the timeline will depend on the assessment question.

Results are evaluated and appropriate action taken and/or success of outcomes achievement is validated.

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There is more to evaluating your success than just looking to see if your learning outcomes are met. If you find that 95% of your students could demonstrate the anticipated learning outcomes by the time of graduation, there seems to be great cause for celebration. However, if only 35% of your entering students actually graduated, then it is a hollow victory. It is important to place the results in context of your program, who your students are, and the resources you have available.

The nature of your institution (open enrollment vs. selective, etc.) will dramatically impact the anticipated results and the context within which evaluation will take place. Looking for other program assessment plans in order to model or benchmark your own can be a very informative process. However, it is important not to assume that just because the program has been accredited that the plan is appropriate for you or that another program evaluator may have the same view of the plan. If your assessment program includes the elements of the checklist, you are well on your way to establishing meaningful assessment processes, which will not only enhance the educational experience of students but also provide focused, efficient processes for your program to monitor its own progress toward excellence.



- 1** For the purpose of this article, educational objectives are defined as the early career attributes (3-5 years) that you anticipate your graduates will be able to demonstrate upon graduation. There is no one correct term to describe this concept.
- 2** For the purpose of this article, educational outcomes are defined as the attributes you anticipate your students will demonstrate by the time of graduation. There is no one correct term to describe this concept.
- 3** Specific, measurable statements identifying the performance(s) required to meet the outcome; confirmable through evidence.