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Implementing Sustainable and Useful Educational Outcomes Assessment

**A White Paper
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The Logical Underpinnings of Assessment

There is a fundamental logic underlying the idea of assessment that is surprisingly easy to grasp but even easier to lose sight of when implementing an assessment program. That logic suggests that first you should clearly identify what you are trying to accomplish (goals/objectives). Second, you measure outcomes to determine the degree of success the program is having at achieving the objectives. Third, you examine the program process to try to identify the variables responsible for any identified weaknesses and make adjustments to the program. Finally, you collect follow-up data to see if the adjustments eliminated the weaknesses.

Note that in this assessment sequence, the examination of process variables follows the measurement of outcomes. Process variables derive meaning from their relationship to known outcomes. Yet the tendency to focus on process variables as indicators of quality has a long history in assessment and program evaluation. This reliance on process requires one to *assume* a positive relationship between the process variable --- say percent of program faculty with doctoral level degrees --- and program outcomes. Such assumptions are rarely justified. However, since process variables are usually easier to measure and present less threat to program staff, this tenacious, though illogical, practice persists.

Processes Do Not Equate to Outcomes

There are at least three unfortunate results of process focused assessment. The first should be obvious: the actual impact of the program on outcome objectives remains unknown. The second is less obvious. Equating process variables with program quality tends to drive up program costs. If more PhDs and more lab equipment are taken as evidence of a better program, the press for more of both can be expected regardless of their actual effect or lack of effect on program outcomes. Finally, the assumption that certain processes are evidence of quality is an impediment to change in pursuit of improvement. Why continue to search for practices that produce better outcomes when some current practice is accepted as “best?”

Emerging Mandates

In recent years, educational accrediting agencies have mandated that institutions focus on learning outcomes. This mandate has helped to weaken the allure of exclusive reliance on process variables and raise the probability that outcomes will be examined and assessment results will meaningfully impact programs. However, the confusion still persists among faculty and administrators. Indeed, while accrediting and licensing agencies press institutions to engage in outcomes assessment, they continue to judge the quality of institutions largely on the basis of process variables. Should we be surprised, then, that process variables continue to be touted as evidence of excellence? It's true: people do what the boss inspects.

Meaningful Outcomes

Focusing on outcome measures is not an automatic panacea. There is another related confusion in educational assessment that hampers the implementation of improvement focused assessment. All outcomes are not equally meaningful. Outcomes can range from very global to ridiculously idiographic and everything in between. As in the case of the process/outcome confusion, there is confusion among teachers regarding the appropriate specification of outcomes. The tendency is for faculty to focus on idiographic classroom

outcomes that primarily gain relevance only when their contribution to the attainment of higher-level outcomes can be shown. They are intermediate steps. Unless the higher level outcomes are known, it remains possible that successful attainment of idiographic low-level outcomes is irrelevant to the higher-level outcomes that are of most interest to those paying for the program.

Many Levels of Outcome Assessment

Outcome assessment activities in education can be focused on any one of several different levels within an organization: (1) institution, (2) department/program (3) course or (4) individual student. (In large institutions the department or program levels may be subdivided into additional organizational layers but the logic being suggested still holds.) Ideally, all levels should receive attention at some point and generate data appropriate for addressing questions relevant to the respective levels. However, it is important to understand the distinction among the levels in terms of the kinds of questions that can be addressed, the kind and quantity of resources required for the assessment effort, and the effects on the implementation and sustainability of the assessment program. Failure to recognize the differences can (and usually does) result in failed implementations, wasted resources, and unutilized data.

- I. Institution-Level Assessment. Assessment at this level asks: Is this institution achieving its outcome goals? Measures of goal attainment tend to be global in nature, often consisting of data aggregated from lower level assessments. Logically speaking, the institution-level goals will be attained to the extent that program-level objectives have been met and are consistent with institutional goals. Data at this high level can usually be collected and managed by the institution's institutional research office and results can be shared with those at lower levels for consideration. There is but one institution to assess.
- II. Department/Program-Level Assessment. Assessment at this level asks: Is this department or program achieving its academic goals/objectives and are the goals/objectives consistent with institutional goals? Measures of objective attainment may consist of measures such as alumni or employer feedback or it may consist of aggregated course or student level data. But in neither case is it necessary to use data from all courses or all students. Representative samples will suffice. Nor is it necessary to collect the data continuously. Appropriate time samples will suffice. While there is but one institution, there are many departments/programs. However, the number of departments/programs in an institution will be far fewer than the number of courses. While all faculty who are involved with the program's delivery must be involved with the consumption of the assessment results (interpretation, response-plan), only one person needs to be assigned responsibility and sufficient incentive for managing the program's assessment plan and data. Note that clear statements of institutional mission and goals must *precede* the implementation of institutionally meaningful program-level assessment.
- III. Course-Level Assessment. Assessment at the course level asks: Is this course achieving its academic objectives, and are the course objectives consistent with program level objectives? Measures of objective attainment may consist of aggregated student-level data which address the course

objectives. Course objectives should be specific but not necessarily as granular as individual student-level objectives. Implementation of the assessment cycle at the course level is significantly more difficult and time consuming than institution or department/program level assessment, since it requires the training and provision of incentives to *all* teaching faculty who must maintain their course assessment plans and data. And remember, each faculty member usually teaches several courses. In many – probably most – institutions, the reality of time and financial constraints suggests that *on-going*, systematic assessment at the course level is an unrealistic ideal not likely to be achieved across most institutions. A far more realistic and efficacious approach is to use course-level assessment diagnostically when weaknesses or deficiencies are identified at the program level. The course or courses suspected of being responsible for the weakness or deficiency can be targeted for assessment activities long enough to remedy the department/program-level weakness. Note that clear statements of department/program-level objectives must precede the implementation of programmatically meaningful course assessment.

- IV. Student-Level Assessment. Assessment at the student level asks: Is *each* student mastering the material necessary to reach the course objectives? Measures at the student level consist of grades assigned to course tests and papers. This is what faculties do, and they tend to readily accept this as their responsibility; hence implementation is not an issue. The problem, instead, is that many faculty members see this student-level assessment as all there is to assessment, and of course it is not. Note that clear statements of course objectives must precede meaningful assessment of individual student performance.

Hierarchical Approach to Assessment Planning

Although the teaching processes that faculty use on a day-to-day basis engage primarily at the course and individual student level, assessment *planning* should proceed from the top down. Implementation of *data collection* activities should start first at the department/program level and move down to lower levels only when the complete assessment cycle (plan, data-collection, data-analysis, data use, and follow-up) is functional and viable at the department/program level and when questions at the program level require it. Although individual grading of students may be taking place even before there is consideration of doing broader assessment at the institution, such grading is logically disconnected and uncoordinated with efforts at higher organizational levels – unfortunately a common occurrence. As one moves from level I to level IV, the amount of data, faculty time and financial cost tends to increase dramatically. High-level objectives are usually easier to measure, fewer in number and they are, after all, what the paying consumer really cares about.

Sustainable and Useful Assessment Process

Still another requirement of an assessment process that is to be sustainable and genuinely useful is an efficient means of *managing the assessment process*. The coordination of planning among organizational levels, efficient storage and retrieval of information and a method of getting relevant information to decision-makers in a timely and comprehensible manner must all be addressed. Too often we see assessment plans at various

organizational levels that are uncoordinated or even inconsistent with each other. It is not uncommon to see data collected and lengthy reports generated with little thought given to how they will be used. And even when attention is given to coordination and data utilization, the method of implementation often falls far short of the demands of the fast moving institutional decision process. Planning documents fail to keep up with evolving real-world situations; decisions have to be made before the assessment data can be consolidated and reported. In short, the assessment process too often proves to be too slow and too cumbersome to be of real value for making programmatic and institutional decisions.

Emerging Assessment Solutions

One promising attempt to comprehensively address assessment process- management is embodied in the software application, TracDat.¹ The application allows assessment plans from course level to institution level to be easily coordinated. Uniform, pre-formatted, yet flexible, reports that address critical aspects of the assessment cycle can be quickly generated. Information relevant to assessment at all levels of the organization can be efficiently stored and accessed through the web-based application. When used in conjunction with a pre-planned social structure designed to consume assessment information at the various institutional levels, TracDat has the capability to significantly enhance the sustainability and utility of the assessment process.

Training and Engagement of Participants

Just as with the collection of assessment data, the dissemination of information and the social structure supporting assessment shouldn't resort to a shotgun approach. The entire faculty does not have to have knowledge of research design or statistical analysis. Virtually all institutions have some faculty members who have such skills by virtue of their professional training. They should be utilized and appropriately compensated when such skills are required. Training everyone is neither necessary nor feasible. Similarly, general dissemination of reports with the hope that someone will make some response to them is not enough. Key individuals and groups with responsibility for program decisions should receive well digested summary reports relevant to their responsibilities. Detailed backup information should be made available on an as needed, as requested basis. In other words, the relevant information consumers should be identified in advance and relevant information should be directed to them. Of course, anyone interested in should have access to the information.

Managing Organizational Constraints

We can probably all agree that in an *ideal* organization we would have an ongoing stream of reliable, immediately accessible data from all levels of the organization to use for making decisions. But we do not work in ideal organizations. Rather, we work in organizations faced with pressing time and financial constraints. Our long record of failure at implementing viable assessment processes aimed at achieving the ideal should be instructive. To be sure, processes that mimic authentic assessment have been implemented --- but even then, not for very long after licensure or accreditation has been granted. The argument being made is that authentic and sustainable outcome assessment can be done in our real-world organizations if we (a) recognize the inadequacy of process focused assessment, (b) attend to the hierarchical nature of the assessment process described in this paper, and (c) attend to the need for an efficient means of managing the assessment

process. Having all the data all the time from all levels of the organization is neither realistic nor necessary. The sequential assessment implementation and selective data collection suggested in this paper, together with an efficient tool for managing the assessment process, can result in assessment that is both sustainable and genuinely useful to the institution's decision processes.

Information on TracDat can be found at www.Nuventive.com



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