



# NILOA Perspectives

## 'Rolling Up' Is Hard to Do

George D. Kuh

"Breaking Up Is Hard To Do" is Neil Sedaka's doo-wop lament to a lost lover. It remains a staple of oldies-format radio stations, in part because other artists, including Carole King, The Four Seasons, and Gloria Estefan, later released covers.

Sedaka's song popped into mind while pondering a question from a university administrator about the challenges of combining and "rolling up" student learning assessment results from academic programs and out-of-class activities to create a public profile of the institution's "typical undergraduate experience." Prospective students, employers, policymakers, and others are ostensibly interested in this kind of information.

Documenting how students benefit from attending college has never been more important, given the steady drumbeat of criticism following the Spellings Commission report lambasting higher education for not providing such information (U.S. Department of Education 2006). The press for answers to this perennial question has intensified in recent years, fueled by rising college costs, educational debt,

and employer criticism that graduates lack certain workplace skills.

However, it turns out that "rolling up" student learning assessment data to present a meaningful, digestible, and jargon-free portrait of undergraduate student accomplishment at a given institution is easier said than done. Indeed, it may well be nigh impossible to construct metrics and create narratives that adequately reflect "typical" student performance.

There are several reasons for this seemingly intractable problem. Well-documented but routinely overlooked is that individual student performance varies much more *within institutions* than students' average performance *between institutions* (Pascarella and Terenzini 2005). Indeed, the between-institution variance in student engagement, for example, hovers around 10%, while the student-level within-institution variance can be as high as 95%. In addition, average institutional scores usually populate templates devised to compare institutions. The displays are well-intentioned transparency efforts and appear to offer valuable information about the student experience.

However, they can be very misleading inasmuch as about half of all students fall below—with many well below—the institutional average (Kuh 2007).

The nature of knowledge and ways of knowing differ across undergraduate majors. Thus, it is not surprising there are dozens of approaches to document that aspect of student learning. Predictably, using different assessment tools yields variable patterns of

findings, complicating the process of distilling information from different instruments and scales into a handful of easy-to-communicate and -understand metrics.

Thorngate's (1976) postulate of commensurate complexity offers an instructive perspective on why rolling up student learning outcomes data is so perplexing. Weick (1979) used a clock (Figure 1) to illustrate Thorngate's postulate, which holds that an empirical observation can simultaneously meet *only two of the three objectives* of being *general* (i.e., represents all students at an institution), *accurate* (i.e., fairly describes the benefits realized by students), and *simple* (i.e., uses meaningful metrics to explain student performance in straightforward language that stakeholders understand).

Applying Weick's clock example to assessing student learning means that:

- 10-o'clock assessment approaches that aim to be general and simple (e.g., average score on a standardized general knowledge test) obscure the great within-institution variation in student performance, which compromises accuracy.
- 6-o'clock assessment approaches aim to be accurate and simple (e.g., individual student scores on a major field knowledge test), but the results cannot be generalized to all students.
- 2-o'clock assessment approaches aim to be general and accurate (e.g., the results from multiple student performance measures across all majors displayed in a dense matrix) but do not yield simple, easy-to-understand results.

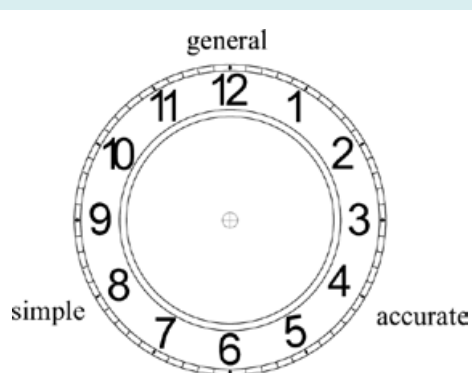


Figure 1: Weick's Illustration of Thorngate's Commensurate Complexity Postulate

Taken together, Thorngate's commensurate complexity postulate and the inevitable substantial within-institution or student-group variance make the prospect of fairly representing student performance at the institution level a fool's errand.

Where does that leave us?

One option is adapting Woodside's (2010) disproportionate achievement approach to student learning outcomes assessment. Accuracy, he argues, is the ultimate goal. Trying to ensure generality (e.g., creating institution-level estimates of student learning outcomes) will compromise accuracy and diminish the utility of findings.

Instead, Woodside proposes substituting *complexity* for Thorngate's simple criterion. Drawing on examples from management and marketing, he

gregating these data by various student characteristics can improve the utility of such numbers by targeting actions to improve these metrics. Doing so is especially important because, as with the substantial within-institution variance noted earlier, *within-group variance* also can be quite large. That is, while it is common to use student background characteristics such as pre-college achievement, family income, or ethnicity to identify student groups likely to drop out, many students in the so-called "at risk" group do persist and graduate, while others do not. Realizing equity-imperative goals is more likely by taking into account noncognitive variables such as conscientiousness and self-regulation to design specific interventions for students likely to benefit from them (Herman and Hilton 2017).

In addition, outliers are easier to identify with program-level data, making it possible to develop interventions aimed at improving learning and teaching of under-performing individuals and groups.

Just as Rod Stewart crooned, "Every picture tells a story." One can imagine web-based videos tailored for prospective students, family members, or employers in which students, faculty, and staff talk about student outcomes data and what they represent. Such information will always be more powerful and persuasive as well as more accurate than institution-level student learning metrics compromised by the understandable but ill-fated pursuit of trying to be general, simple, and accurate simultaneously. ■

**The goal is to craft a data-informed narrative drawing on quantitative and qualitative information to tell a program-level story about student attainment. Program-level performance measures are likely to be discipline-appropriate, ensuring a reasonable level of accuracy.**



illustrates disproportionate achievement using a series of algorithms incorporating advanced analytic methods and software research tools that integrate qualitative data from individual and focus group interviews and demonstrations with quantitative data from surveys, rubrics, tests, and other types of positivist approaches. Such an approach is intended to minimize the trade-offs between Thorngate's criteria of generality, accuracy, and simplicity.

It remains to be seen whether such a complicated, mixed-methods approach can be adapted to "roll up" multiple sources of learning outcomes data to accurately depict what students know and can do. Moreover, the headwinds are formidable, as various stakeholders understandably want general, simple institution-level metrics, such as persistence and graduation rates. Disag-

For the time being, it seems prudent to focus less on aggregating multiple student outcome data points to produce institution-level metrics that are almost certain to be inaccurate. Rather, we should concentrate on what can be discovered from program-level student performance measures. The goal is to craft a data-informed narrative drawing on quantitative and qualitative information to tell a program-level story about student attainment. Program-level performance measures are likely to be discipline-appropriate, ensuring a reasonable level of accuracy. They also may ward off what Rosovsky (1990) labeled MEGO (my eyes glaze over), a common affliction of faculty members (as well as others) who receive reports about student performance aggregated at the institution level that do not readily appear to be about "their" students.

## References

- Herman, J., and M. Hilton (Eds.). 2017. *Supporting Students' College Success: The Role of Assessment of Intrapersonal and Interpersonal Competencies*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24697>.
- Kuh, G. D. 2007. "Risky Business: Promises and Pitfalls of Institutional Transparency." *Change: The Magazine of Higher Learning*, 39(5), 30–35.
- Pascarella, E. T., and P. T. Terenzini. 2005. *How College Affects Students—Third Decade of Research, Volume 2*. San Francisco, CA: Jossey-Bass.
- Rosovsky, H. 1990. *The University: An Owner's Manual*. New York, NY: Norton.
- Thorngate, W. 1976. "'In General' vs. It Depends': Some Comments on the Gergen-Schlenker Debate." *Personality and Social Psychology Bulletin*, 2(3), 404–410.
- U.S. Department of Education. 2006. *A Test of Leadership: Charting the Future of U.S. Higher Education*. Washington, DC: Author.
- Weick, K. E. 1979. *The Social Psychology of Organizing*. New York,

(continued on page 12)

## NILOA Perspectives

(continued from page 9)

NY: McGraw-Hill.  
Woodside, A .G. 2010. "Bridging the  
Chasm Between Survey and Case  
Study Research: Research Methods

for Achieving Generalization,  
Accuracy, and Complexity."  
*Industrial Marketing Management*,  
39(1), 64–75.

*George D. Kuh is an Indiana  
University Chancellor's Professor  
of Higher Education Emeritus and  
National Institute for Learning  
Outcomes Assessment senior scholar.*

## The MePortfolio: Electronic Media Capstone Portfolios for Student and Program Assessment

(continued from page 7)

ple of created works. The sample needs to include a variety of pieces that exemplify the student's abilities in a brief amount of time, generally around two minutes. In the media industry, we often refer to this content as the demo reel or montage. The montage includes quick snippets of student professional work that demonstrate

their abilities to perform the tasks associated with their desired industry position, the identified skills from the job postings. Students will need to assemble the selected artifacts into a montage and feature this montage prominently on the ePortfolio site, as it is most likely the thing employers will want to see when visiting

their site. Once the montage is assembled, students will need to upload it to an appropriate hosting site, and provide access to the complete works associated with the clips in case employers wish to access the full content.

Design the portfolio using well-thought-out placement and navigation decisions. Many website-building options exist. Students should choose one with an interface that suits their construction needs, and will allow them to build the

### Call for Proposals International Conference on Assessing Quality in Higher Education Berlin, Germany June 25–27, 2020

The Assessment Institute in Indianapolis invites you to join us for our global event, the International Conference on Assessing Quality in Higher Education. This smaller, more intimate gathering will be held in Berlin, Germany, June 25–27, 2020.

Proposals are being sought on the following topics:

- Quality assessment and continuous improvement, including their impact on institutional development
- Assessment of teaching and learning
- Quality models/frameworks/approaches
- Faculty/staff development
- Assessing the impact of innovations in higher education

To propose a poster, paper, or panel, send a 250-word abstract and a 1-2 page proposal containing presenter(s) name, affiliation, contact information, and session details by Friday, November 15, 2019 to:

Stephen P. Hundley, Ph.D.  
Senior Advisor to the Chancellor for Planning and Institutional Improvement  
Professor of Organizational Leadership  
IUPUI  
301 University Blvd., Suite 4049  
Indianapolis, Indiana 46202 USA  
Phone: +317-274-4111  
Email: [planning@iupui.edu](mailto:planning@iupui.edu)

Learn more at: [assessmentinstitute.iupui.edu](http://assessmentinstitute.iupui.edu)

Copyright of Assessment Update is the property of John Wiley & Sons, Inc. and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.