Assessment That Matters: Trending Toward Practices That Document Authentic Student Learning

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NILOA Mission

The National Institute for Learning Outcomes Assessment’s (NILOA) primary objective is to discover and disseminate the ways that academic programs and institutions can productively use assessment data internally to inform and strengthen undergraduate education, and externally to communicate with policy makers, families, and other stakeholders.

Acknowledgements

NILOA sincerely thanks the Indiana University Center for Postsecondary Research for their administration of the survey. In addition, NILOA very much appreciates the provosts and their designees who set aside time from their very busy schedules to complete the questionnaire. We are in your debt.

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Executive Summary

Assessment of student learning remains an ongoing and prevalent activity for United States higher education. To take a snapshot of institution-level assessment in 2017 and trends over time, the National Institute for Learning Outcomes Assessment (NILOA) conducted its third nationwide survey of provosts between April and September 2017. Respondents from 811 regionally, accredited, undergraduate degree-granting, institutions from throughout the U.S. participated. This report summarizes the major findings and presents implications for policy and practice.

Major Findings

1. The vast majority of institutions have statements of learning for all undergraduate students and growing numbers have aligned learning throughout the institution. Alignment of learning outcomes throughout the institution has increased since the 2013 survey, with 82% of respondents confirming their institution has established learning outcomes for all students; half of all respondents reported that all of their programs have defined learning outcomes that also align with shared institution-wide statements of learning.

2. Assessment continues to be driven by both compliance and improvement, with an emphasis on equity. Taken together, the focus on improvement and equity concerns as reasons for undertaking assessment, in addition to accreditation requirements, substantiates the ongoing interplay between compliance and improvement at the institution-level.

3. Institutions are trending towards greater use of authentic measures of student learning, including rubrics, classroom-based performance assessments and capstones, which is consistent with what provosts indicate are most valuable for improving student outcomes. The key take away is that institutions are using a variety of data collection approaches that yield actionable information, reinforcing the principle that there is not “one right way” to assess student learning.

4. Institutional needs for advancing assessment work have shifted since 2009 from engaging more faculty in assessing student learning to supporting faculty use of assessment results and wider stakeholder involvement. Although some opinion what is perceived to be limited involvement of faculty in assessment of student learning, provosts are more interested in finding ways to help faculty and staff develop the attitudes and tools to produce actionable results along with the skill set to use results to improve student learning.

5. Institutional research offices and staff along with faculty-led assessment committees provide needed support of institution-wide assessment activities. While a variety of organizational features are increasingly supportive of assessment activities, policies on promotion and tenure lag behind.

6. Institution-level assessment results are regularly used for compliance and improvement purposes, addressing accreditation and external accountability demands along with internal improvement efforts. Accreditation remains the driver and main use of institution-level information about student learning since 2009. However, various internal improvement efforts, including program review and program improvement, also regularly benefit from institution-level assessment results. Yet, assessment results informing co-curricular improvement, resource allocation, trustee and governing board deliberations, and equity goals, is low.
Executive Summary cont.

7. The majority of changes made and uses of evidence of student learning occur at the program- and course-level. About two thirds of provosts (64%) provided examples of changes made in policies, programs, or practice informed by assessment results. Of those, the most frequently cited example of change was at the assignment, course, and program-level.

8. Effectively communicating information about student learning remains a target of opportunity for assessment work. Institutions provide limited publicly available information on assessment activities on their websites. Yet, what was more important to provosts was not what to share, but how to share information.

9. While assessment-related technologies hold promise of assisting with alignment and integration of learning across the institution, meaningful implementation remains elusive. Provosts indicated they were unsure how to implement software solutions in a manner that would fit with the institutional culture they were trying to support and build connections within and across the institution.

10. The larger the size and greater the selectivity of the institution, the less likely it is to employ a variety of assessment activities. For almost every category of assessment activity, the larger and more selective the institution, the less likely to employ various assessment approaches or use the results.

Implications

Looking across the current landscape of institutional assessment processes and practices, the trend that is emerging is an authentic form of assessment that values evidence produced in the context of teaching and learning, represents students’ work, supports faculty use of evidence of student learning to improve programs, courses and assignments, and is connected to a variety of institutional learning initiatives. There is much about which to be hopeful, including growth in the use of authentic measures of learning, integration of various initiatives and efforts to improve student learning throughout the institution, and use of results embedded within course- and program-level improvement. Yet with all the momentum, there are areas that need attention for assessment efforts to continue to advance student learning and institutional effectiveness.

Communicating effectively about student learning remains a challenge. Colleges and universities must more clearly and persuasively communicate relevant, timely, and contextualized information on their impact on students and value to society.

While use of assessment results is increasing, documenting improvements in student learning and the quality of teaching falls short of what the enterprise needs. Provosts provided numerous examples of expansive changes at their institutions drawing on assessment data, but too few had examples of whether the changes had the intended effects.

Equity is an important consideration in assessment work, but underemphasized in data use. Survey respondents indicated that addressing issues of equity was important to assessment efforts and disaggregation of evidence of learning by various groupings of students was beginning to occur. However, using assessment data to support the achievement of equity goals was uncommon.
Governing boards have a key role to play in sustaining and further developing meaningful assessment. They can endorse policies and priorities that support and encourage assessment and invite wider stakeholder involvement.

Professional development could be more meaningfully integrated with assessment efforts, supporting faculty use of results, technology implementation, and integration of efforts across an institution. Throughout the institution, there are various points where assessment support may be provided such as librarians, centers for teaching and learning, and student affairs staff and partners.

Moving Forward

Institutions of higher education in the United States are involved in a variety of initiatives to improve student learning of which assessment is but one. In fact, a wide range of activity is occurring to advance authentic student learning. For example, provosts indicated that their institutions were undertaking curriculum mapping, facilitating work on assignment design, engaging in developing pathways to completion, revising general education, and scaling high-impact practices to name a few.

There is much to applaud about the current state of assessment practice. Granted, there are compliance issues that must be managed and the field should speak more frequently about the worth and value of higher education. But there is also the discernable trend toward using assessment data to guide improvement efforts and increased use of embedded approaches that focus on ensuring authentic learning for individual students.
Assessment That Matters: Trending Toward Practices That Document Authentic Student Learning

Natasha A. Jankowski, Jennifer D. Timmer, Jillian Kinzie, and George D. Kuh

Introduction

Over the past decade, the National Institute for Learning Outcomes Assessment (NILOA) has been documenting what colleges and universities are doing to gather evidence about student learning and helping institutions to productively use assessment data to strengthen undergraduate education. NILOA also has been monitoring how institutions communicate with policy makers, families, and others about their efforts to enhance student learning and institutional effectiveness.

One mechanism utilized to understand the landscape of assessment practices in United States higher education has been national surveys of senior academic leaders about what is being done to measure student learning outcomes and how results are used to improve teaching and learning. This report summarizes the findings from NILOA’s third and most recent survey which was conducted in 2017. The results from the first survey reported in 2009 found that there was more assessment work underway than widely thought, but results were not often used; moreover, compliance with accreditation expectations was the primary driver of assessment, and people outside of the institution were rarely informed about assessment practices (Kuh & Ikenberry, 2009). The second national survey report in 2013 argued that the motivations for assessment were increasingly better balanced between compliance with accreditation requirements and institutional improvement efforts, with colleges and universities employing a variety of measures for various uses (Kuh, Jankowski, Ikenberry, & Kinzie, 2014). Taken together, the findings from the first two surveys suggest that assessment is a field of practice evolving in a manner that would produce information that could be used both to respond to legitimate accountability demands as well as to guide institutional efforts to enhance student performance.

This report is based on data collected from provosts between April and September 2017. The sample included provosts/Chief academic officers (or their designees) at 2,781 regionally accredited, undergraduate degree-granting institutions. The questionnaire was completed by representatives of 811 institutions for a response rate of 29%. Nearly 80% of the survey respondents were from within the office of the provost, with the remainder of the surveys completed by those responsible for assessment within the institution. Appendix A contains additional information about the sample and data analysis.

The 2017 questionnaire asked respondents about institution-level assessment, repeating many questions from the first and second survey efforts on assessment methods, uses, drivers of assessment practice, availability of assessment information, while adding a few new questions about initiatives to improve student learning.
Since 2008, NILOA has regularly issued survey reports and studies of assessment practice. Reports on program-level assessment, state policy and assessment, case studies of institutional assessment practice, and assessment communication frameworks, among others, document ways that academic programs and institutions can productively use assessment data internally to inform and strengthen undergraduate education, and externally to communicate with policy makers, families and other stakeholders (Ewell, Paulson, & Kinzie, 2011; Ewell, Jankowski, & Provezis, 2010; Baker, Jankowski, Provezis, & Kinzie, 2012; NILOA, 2011; Hutchings, Jankowski, & Ewell, 2014; Montenegro & Jankowski, 2015). All to say, we know much more in 2018 about the practice of assessment occurring throughout the U.S. than in 2008, and have taken opportunities to distill lessons learned into principles to help inform practice along the way (NILOA, 2016). In this report, we provide a snapshot of the current landscape and place the findings within the ongoing conversation of assessing student learning in the U.S. The report title, Assessment That Matters: Trending Toward Practices That Document Authentic Student Learning, signals a trend toward an authentic form of assessment that values evidence produced in the context of teaching and learning; represents students’ work; supports faculty use of evidence of student learning to improve programs, courses and assignments; and is connected to a variety of institutional learning initiatives.

The Current State of Institutional Assessment of Student Learning

Statements of student learning outcomes remain prevalent across U.S. higher education with 82% of respondents reporting that they have adopted or developed an explicit set of student learning outcomes common to all undergraduates across all majors. In addition, 66% of respondents indicated that all of their programs have learning outcome statements—a number on the rise from prior years (Figure 1).

1. The vast majority of institutions have statements of learning for all undergraduate students and growing numbers have aligned learning throughout the institution.

Alignment of learning outcomes throughout the institution has increased since the 2013 survey, with 50% of respondents reporting that all of their programs have defined learning outcomes that also align with shared institution-wide statements of learning (Figure 1). However, 20% of institutions report that there is no alignment between program-level learning outcomes and institution-wide learning outcome statements, while the remaining 30% indicate there is some alignment. As institutions move towards more embedded approaches to assess student learning in the form of assignments, alignment takes on increasing importance to ensure a coherent, integrated, and scaffolded learning experience that builds towards the institution-wide learning outcomes of interest (Jankowski & Marshall, 2017).
2. **Assessment continues to be driven by both compliance and improvement, with an emphasis on equity.**

As in the past, accreditation remains the main driver of assessment at the institution-level. At the same time, improving student learning has become increasingly important, as more faculty and staff are involved in assessment work (Figure 2). Concerns about equity and supporting achievement for all students was a new response option on the 2017 questionnaire, and the item ranked 5th as a factor prompting assessment. Public institutions (2.07) were more driven by equity concerns than their private (1.81) and for-profit counterparts (1.83). Minority-Serving Institutions (MSIs) (2.13) were more likely than predominantly white institutions (PWIs) (1.91) to indicate that equity concerns were a driver of assessment efforts.

Taken together, the focus on improvement and equity concerns as reasons for undertaking assessment, in addition to accreditation requirements, substantiates the ongoing interplay between compliance and improvement at the institution-level (Éwell, 2009). The influence of national calls for accountability or transparency became a less important driver of assessment, decreasing from 31% in 2007 to only 13% of schools in 2017. A similar trend was noted for the role of institutional membership initiatives, such as the Voluntary Framework of Accountability (VFA) or Voluntary System of Accountability (VSA) which dropped from 21% in 2009, to 7% in 2013, and 5% of institutions in 2017 as an important driver of assessment efforts.

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**Data Snapshot**

Doctoral and master’s institutions were more likely than associate, baccalaureate, and specialized institutions to indicate governing or coordinating board mandates and state mandates as a factor of high importance to their assessment efforts. Associate degree-granting institutions were more likely than all other types to indicate that external funding was a driver.

Assessment work at private institutions was less likely than public to be driven by institutional membership initiatives. Student learning outcomes assessment at public institutions was more likely than at privates to be influenced by external funding.
Figure 2. Importance of factors of forces that prompt student learning outcomes assessment.

3. Institutions are trending towards greater use of authentic measures of student learning, including rubrics, classroom-based performance assessments and capstones, which is consistent with what provosts indicate are most valuable for improving student outcomes.

To address both compliance expectations and improvement efforts, institutions employ a variety of assessment approaches. On average, institutions implement four different approaches to assess student learning, down by one from the 2013 survey, but up by one from the 2009 survey. The most common are national student surveys (76%), such as the National Survey of Student Engagement (NSSE), followed by approaches embedded in the everyday work of students such as rubrics (71%), classroom-based performance assessments or assignments (64%), and capstone projects (61%) (Figure 3).

In addition to a focus on embedded measures of authentic student learning at the institution-level that build from course-based assessment, alumni feedback has moved into a more prominent assessment role and standardized measures, such as general knowledge and skills, are being used less often.

- Institutions in theWSCUC region (49%) were more likely than those in SACSCOC (16%) to use portfolios at an institution-level to assess student learning as well as capstone projects (WSCUC: 77%; SACSCOC: 26%).
- Institutions in the Northwest region were the most likely to use general knowledge and skill measures (44%) compared with SACSCOC (11%) and HLC (15%) institutions which were least likely.
Institutions in ACCJC and HLC regions were the most likely to use alumni and employer feedback, while institutions in NEASC and SACSCOC regions were least likely.

Public institutions (67%) were more likely than private (34%) and for-profit institutions (36%) to use placement exams.

For-profit institutions were the least likely to use national student surveys (18%), but most likely to use alumni feedback (82%) and employer feedback (86%).

Public institutions were least likely to use capstone projects (52%), alumni feedback (48%) and externally-situated performance assessments (31%).

Figure 3. Percentage of institutions using assessment approaches at the institution-level to represent undergraduate student learning.

Not only are institutions implementing a variety of approaches to assess student learning at the institution-level, but there is variability in the assessment approaches depending on institutional type (Figure 4):

- Associate degree-granting institutions are more likely than all other types to use placement exams and employer feedback.
- Master degree-granting institutions are more likely than specialized, associate, and doctoral institutions to use national student surveys—a group more likely to use local surveys.
- Master’s institutions are the most likely to use general knowledge and skills measures.
- Baccalaureate and specialized institutions are more likely than all other types to use capstone projects at the institution-level.
• Baccalaureate and master’s institutions are more likely than all other types to use alumni feedback in their institution-wide approaches to assessment.

It appears that institutions are using assessment approaches that are of greatest value to them for improving student learning. When we asked provosts to rank their top three most valuable assessment approaches the institution uses for improving student learning, the most frequent response was classroom-based performance assessments or assignments, followed by rubrics, and national student surveys. Thus, the top two sources of valuable information came from embedded approaches to assess authentic student learning. In addition, responses across the top three rankings were consistent in the choices selected, meaning provosts indicated that institutions were using approaches that they find valuable instead of ones they thought they “should” be doing.

Building a meaningful assessment approach from classroom-based assessments to roll-up to the institution-level in ways most meaningful to a particular institution forms part of the basis for the Excellence in Assessment designation (EIA), which recognizes institutions for their efforts in intentional integration of campus-level learning outcomes assessment.

Figure 4. Percentage of institutions using assessment approaches by institutional type.
Frequently mentioned approaches included capstones, licensure exams, employer feedback and surveys, locally developed measures such as surveys and exams, external performance assessments, placement exams, program assessment, portfolios, alumni surveys, and general knowledge and skills measures. The key take away is that institutions are using a variety of data collection approaches that would yield actionable information, reinforcing the principle that there is not “one right way” to assess student learning.

Not only are institutions adapting their assessment approaches to their respective mission, interests, and perceived needs, they discontinue assessment efforts they do not find valuable (Figure 5). While use of national student surveys, such as NSSE, has remained the most prominent institution-level assessment approach over time, rubric use continues to increase. This likely is driven in large part by the work of the Association of American Colleges & Universities (AAC&U) Valid Assessment of Learning in Undergraduate Education (VALUE) project as well as the Multi-State Collaborative to Advance Quality Student Learning initiative undertaken in partnership between AAC&U and the State Higher Education Executive Officers’ association (SHEEO) (McConnell & Rhodes, 2017). In addition, classroom-based performance assessments have also increased over time—an

![Figure 5. Comparison of use of selected assessment approaches, 2017, 2013, and 2009.](image)

1 Not all of the assessment approaches were asked in each iteration of the survey. Figure 5 indicates only those areas that were addressed in all three surveys.
area in which NILOA has been directly involved through engaging faculty in conversations about assignment design and curricular alignment (Hutchings, 2016; Jankowski & Marshall, 2017).

Use of all assessment approaches has increased since 2009, except for the use of general knowledge and skills measures, such as CLA+ or the ETS Proficiency Profile. This finding, together with the uptick in the use of measures of authentic student learning, suggests that provosts and their colleagues involved in assessment are focusing on approaches they find to be valuable and actionable contrasted with continuing activities that were not yielding useful, meaningful information (Jankowski, Ikenberry, Kinzie, Kuh, Shenoy, & Baker, 2012). This judicious selection of assessment tools may explain in part why the typical institution appears to be using fewer assessment approaches by investing only in those that have local value.

**Institutional Needs and Supports for Student Learning Outcomes Assessment**

When asked about what would be especially helpful when assessing student learning, provosts pointed to a variety of needs. This is not surprising, given that institutions differ along many dimensions including their history with assessment, campus culture, administrative structures, and so forth. The most common needs were:

- More faculty using the results of student learning assessment (51%)
- More professional development for faculty and staff (46%)
- Greater institutional assessment staff capacity (30%)

4. Institutional needs for advancing assessment work have shifted since 2009 from engaging more faculty in assessing student learning to supporting faculty use of assessment results and wider stakeholder involvement.

Although some opine what is perceived to be limited involvement of faculty in assessment of student learning, provosts are most interested in finding ways to help faculty and staff develop the attitudes and tools to produce actionable results along with the skill set to use results to improve student learning (Kuh et al., 2014). In fact, in 2009, two thirds (66%) of respondents said more faculty involvement in assessing student learning was needed; in 2013, it was down to 38%, by 2017 it dropped to 23%. A similar decline was found regarding the need for additional valid and reliable assessment measures dropping from 37% in 2009, to 29% in 2013, and to only 15% in 2017. At the same time, there is greater awareness of the need to support faculty and staff through professional development on assessment, along with staff capacity to support the work. So, it seems that provosts recognize that faculty involvement is more about providing professional development to help support faculty using results to improve student learning rather than simply involving faculty in assessment work.

In addition to professional development for faculty on using results, there is growing awareness of the need to involve other stakeholders in the assessment process. While involving student affairs staff in assessment work at the institution-level remained a relatively low priority or listed need, it was still higher than in past years and 13% of respondents for the first time...
indicated that increased participation of students in assessment activities was a need—a positive sign for supporting greater student involvement in the assessment process.

Needs to advance assessment work did not differ by accreditation region, MSI status, or institutional control (public, private, for-profit). But degree-level did matter.

- Doctoral institutions were the least likely to indicate a need for additional staff capacity (14%) while baccalaureate institutions were the most likely (37%).

- Doctoral institutions were more likely than all other types to indicate the need for stronger administrative leadership and support (15%), but least likely to indicate more student affairs staff using the results of assessment (0%).

- Baccalaureate institutions were the most likely to indicate the need for more student affairs staff using results (10%).

- Doctoral institutions were more likely than all other types (by 20%) to indicate the need for more faculty involvement in assessing student learning (46%).

More than half (53%) of provosts took advantage of responding to an open-ended question about what their campus needed to improve student learning. Professional development for faculty related to assessment work was a common theme, including getting help to create synergy across related initiatives underway on campus through curriculum mapping, alignment, assignment design, technology, and general education reform. Provosts were also interested in developing and managing sustainable systems of assessment in times of budget constraints. These needs were followed closely by a desire for help in using assessment data to “close the loop” resulting in evidence of improvement. Provosts indicated that they also needed assistance with communicating and clarifying to faculty and staff the value and purpose of engaging in assessing student learning beyond compliance by better integrating student learning outcomes assessment with teaching and learning. They were looking for ways to use assessment results to improve student learning at the program-level, and advice for effectively involving adjunct and part-time faculty in assessment efforts. Other comments worth mentioning were how to help communicate assessment information externally, involve more students in the process, and revise the assessment process to be less burdensome. And, as the results from the 2009 and 2013 questionnaires indicate, provosts wanted examples of how best to support faculty, provide space for meaning-making conversations around use of results, and information on what other institutions were doing in terms of assessment practices and processes.

5. **Institutional research offices and staff along with faculty-led assessment committees provide needed support of institution-wide assessment activities.**

Figure 6 summarizes the different areas of support for assessment efforts on a scale of “Not at All” to “Very Much”. The most supportive aspects

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Survey respondents were able to select N/A for each of the supports. N/A responses were not factored into Figure 6. For instance, 28% of institutions indicated they did not have a center for teaching and learning and 19% indicated that they do not currently have an assessment management system or software in place, thus they were unable to comment on how well it supports or does not support their assessment efforts.
were the institutional research office, assessment committees, institutional policies and statements in support of assessment, administrative leadership, and professional staff dedicated to assessment. In fact, 70% of respondents indicated that institutional policies or statements on assessing undergraduate learning were “Quite a Bit” or “Very Much” supportive of assessment efforts. However, only 13% indicated that current faculty and staff recognition or reward for involvement in assessment activities was “Quite a Bit” or “Very Much” supportive. In addition, more than two thirds (68%) indicated that their president/CEO or provost was “Quite a Bit” or “Very Much” supportive of assessment work. Almost a quarter (24%) did not find their assessment management system or software to be supportive of assessment efforts at all, with 27% indicating it was somewhat supportive. Only 30% indicated that technology was “Quite a Bit” or “Very Much” supportive.

- Doctoral institutions were less likely than all other institutional types to indicate that student and faculty involvement were supportive of assessment efforts—an area where they indicated greatest need. However, doctoral institutions were more likely than all other types to indicate that professional staff were supportive of assessment efforts.

- While there were not significant differences by control for needs to advance assessment work, when asked about what supports assessment work, a few differences emerged. For-profit institutions were more likely than public and private institutions to find institutional policies on assessment, faculty/staff recognition and reward, and professional development as supportive, but they were least likely to indicate that assessment management software was supportive.

![Figure 6. Extent to which assessment activities are supported.](image)
In terms of changes in supports over time, 41% of respondents in 2013 indicated that professional development offerings were supportive, while 55% indicated such in 2017. Thus, while professional development remains high as a need, it is becoming increasingly supportive of assessment efforts.

**Using Evidence of Student Learning**

Accreditation remains the driver and main use of institution-level information about student learning since 2009. However, various internal improvement efforts, including program review and program improvement, also regularly benefit from institution-level assessment results. While concerns about equity were offered as an important factor for undertaking assessment, data use in this area is low at the institution-level. Further, while professional development was indicated as a need and increasingly supportive, results of assessment are not often used to inform professional development at the institution-level (Figure 7).

![Figure 7. Extent of use of assessment results for various purposes.](image-url)
6. **Institution-level assessment results are regularly used for compliance and improvement purposes, addressing accreditation and external accountability demands along with internal improvement efforts.**

In addition to the different types of uses of institution-level assessment results, we asked respondents to indicate the extent to which they made changes in policies, programs, or practices informed by assessment results at various levels within the institution. The vast majority of change (2.98/2.97 or “Quite a Bit”) was at the curricular/course and department/program level, followed by the school or college level, then the institution, and finally the co-curriculum (Figure 8). It is encouraging to note that changes are being made at various levels throughout the institution. And the levels at which change occurs is similar across accreditation region, institution type, and MSI status, consistent with results from the 2013 survey.

7. **The majority of changes made and uses of evidence of student learning occur at the program- and course-level.**

About two thirds of provosts (64%) provided examples of changes made in policies, programs, or practices informed by assessment results. Of those, the most frequently cited example of change was at the assignment, course, and program-level. As one respondent put it, “Our changes occur mostly at the departmental or program level…the programs may change course requirements or practices in specific courses.” Particularly promising is that areas that touch large numbers of students—math, composition, and first-year experiences—were mentioned frequently as being modified in response to assessment information. Actions taken at a course- or curriculum-level included eliminating redundant courses, changing course sequencing, aligning outcomes, and addressing complex learning outcomes.

An example of programmatic changes from a Criminal Justice and Criminology (CJC) major:

Every year, the CJC faculty reviews assessment results at a regularly scheduled faculty meeting, including the comments from the open-ended questions, and discusses how we can improve our undergraduate program. This critical analysis process has produced a dynamic program that evolves in response to this data. As a result, we have further developed and expanded our internship program; we offer greater flexibility in course offerings, including more evening, summer, and online classes, and do a better job advertising the CJC Club. Students requested an increased emphasis on some of the SLOs in earlier CJC coursework; these suggestions led us to elucidate the links between theory, research, and policy in foundational courses and provide more opportunities for students to improve their writing and speaking skills.

Figure 8. Extent to which changes are made based on assessment results by level within the institution.
in a coordinated manner in multiple courses. While accreditation was a main driver for doing assessment, it was rarely mentioned as an impetus for change.

At an institution-level, examples of changes informed by assessment include:

- Modifying institutional assessment policy
- Changing placement policies for developmental math and english
- Revising course prerequisite policies
- Changing program review processes
- Modifying advising processes
- Shifting the manner in which resources were deployed
- Reforming general education

In addition to indicating concrete changes, several respondents mentioned commitments to faculty development including workshops and seminars focused on specific learning outcomes. However, instead of pointing to assessment results driving change in areas of professional development for faculty, respondents described plans and initiatives to review goals, align outcomes, connect general education with the major, and develop capstone experiences.

Three additional areas of change mentioned by provosts included modifications in the assessment process itself, meaning improving assessment practices and processes. The second was employer feedback serving as a source of information, leading institutions to add courses, change requirements, and modify assignments. The third entailed disaggregation of results to address achievement and equity gaps.

Different types of institutions tend to use assessment data in different ways (Figure 9). For example,

- For-profit institutions were least likely to use assessment results for regional accreditation, while privates were least likely to use assessment results for program accreditation.
- Public institutions were less likely than for-profits to use results for external communication and institutional benchmarking.
- For-profit institutions were more likely than both public and private to use results for learning outcomes revision, supporting equity goals, development of assessment measures or approaches, curriculum modification, institutional improvement, program improvements, and academic policy development or modification.

Overall, for-profit schools tend to use institution-level assessment results more than other types of institutions (Figure 9) and to make changes at various levels within the institution (Figure 10).

- Specialized institutions (2.44) were more likely than associate degree-granting institutions (2.14) to use assessment results for co-curricular improvement.
- Doctoral institutions were the least likely to use assessment results for external accountability and institutional benchmarking.
• Institutions in SACSCOC were more likely than other institutions to indicate that assessment results were used in support of achieving equity goals (2.47) and resource allocation (2.42).

Figure 9. Extent of use of assessment results by institutional control.
Figure 10. Extent to which changes are made based on assessment results by level within the institution and by institutional control.

Figure 11 shows changes in assessment data use between 2009 and 2017. Worth noting are:

- A decrease in using assessment results for governing board deliberations and for informing professional development activities
- A decrease in external demands for accountability as a driver of student learning outcomes assessment
- An increase in public reporting of assessment results

Institutions continue to use assessment results for internal improvement including modifying curriculum program review, allocating funds, and developing or revising policy as well as for responding to accountability demands.
Communicating Information on Assessment

Institutions provide limited publicly available information on assessment activities on their websites. Institutions are most likely to publicly share student learning outcomes statements (Figure 12). They are less likely to share information on assessment plans, resources, and current assessment activities or assessment results on institutional websites, in publications, or in press releases. Very little is made available about changes made or evidence that learning has improved as a result of these changes. This pattern is consistent with prior reports examining the online presentation of assessment information (Jankowski & Makela, 2010; Jankowski & Provezis, 2011).

8. Effectively communicating information about student learning remains a target of opportunity for assessment work.

Determining how to effectively communicate assessment results continues to be a challenge for the vast majority of colleges and universities. As might be expected, public and for-profit institutions are more likely than privates to publicly post assessment information (Figure 13). MSIs are more likely than PWIs to share information publicly on the institution website, in publications, or in press releases on all items—learning outcome statements, plans, resources, current activities, results, and examples of changes made along with evidence of improvement. It may be that MSIs can serve as an example to assist other institutions in advancing transparency and communication.

Figure 12. Extent to which institutions make types of assessment information publicly available.
More than half of provosts (57%) offered views about the kinds of assessment information colleges and universities should make available to demonstrate transparency and accountability. The general sentiment was that information on improvements or changes should be made available, but that evidence comparing institutions with very different missions or student bodies would be misleading and unhelpful. Information that is shared should be meaningful, not as one provost said “demonstrating nothing more than that the institution collected information designed to show that they are in compliance with external standards and regulations.”

The general sentiment was that the following are appropriate to share:

- information on accreditation;
- retention, persistence, graduation, and completion rates;
- licensure and certification exam pass rates;
- job placement and salaries;
- return on investment; and
- costs.

More important to provosts was not what to share, but how to share information. Provosts were reluctant to report results about student performance that came across as “marketing material.” They preferred to tell a nuanced, complicated picture of student learning that coupled evidence of learning outcomes with student success data such as persistence and graduation rates. Another major theme was the need to be sure that information about assessment processes and student learning results be contextualized. That is, care must be taken in helping readers understand and interpret results, given the institutional mission, student characteristics and such. Simply put, leave no number unexplained (Kuh, 2007).

Provosts were also concerned about whether the general reader would understand assessment results and their use, or even be interested in knowing...
about the topic. This suggests more efforts are needed to help audiences both on and off the campus better understand the role and importance of assessment. In addition, there was lack of consensus on whether the information shared should be comparable across institutions; should provide program-level or be institution-level evidence only; and present evidence of learner gains, growth, or value-added by the institution.

As one provost put it:

“We are not that great as an industry at explaining what we do, how our institutions run, and the great value we provide to students and communities. I think the biggest gap is in outsiders understanding student learning. We can provide all the assessment results or data we like, but if others cannot interpret them accurately there is no benefit to transparency or accountability.”

Another provost observed,

“This is something we struggle to accomplish. First, there is the need for constituents to become familiar with and understand the student learning outcomes identified by the institution and why they are important, how they are measured, and what we learn from the results, as well as what improvements were made in response to the results. This is not easy to communicate in “sound bites,” and merely communicating outputs such as employment rates and beginning salaries does not serve as a proxy for student learning and quality of programs. We can, for instance, communicate the results of our annual assessment of the general education program, but we need to find ways to help the general public make meaning of the results.”

**Use of Technology**

An area that was repeatedly raised by provosts throughout the survey was that of engaging with technology. When asked about needs to advance assessment work, technology was raised, specifically with regard to assistance with:

- disaggregation of different student groups,
- aggregation of evidence of learning across various levels within the institution, and
- determining which software or system would be most useful or fit current and future needs.

Issues of interoperability, inability to view a holistic picture of student learning, and connect data from throughout the institution and different systems were shared struggles related to meaningful technology engagement and use. Yet, for all the struggles, the need for a more comprehensive institution-wide understanding of student learning was supported by 29% of provosts who indicated wanting technologies and analytics to aggregate assessment results to represent overall institutional performance.

9. **While assessment-related technologies hold promise of assisting with alignment and integration of learning across the institution, meaningful implementation remains elusive.**

Provosts indicated they were unsure how to implement software solutions in a manner that fit with the institutional culture they were trying to support.
and build connections within and across the institution. For instance, provosts indicated that they needed assistance with integration of curricular and co-curricular assessment, general education and the major, program- and institution-level assessment. Issues related to equity, data disaggregation, and using assessment results to help close the achievement gap were mentioned as areas where institutions could use technology to better utilize assessment data to understand differences in learning across student groups.

In the examples of changes made as a result of assessment, survey respondents indicated attempting to make changes through the use of learning management systems and analytics to examine student performance on assignments and to make broader claims about student learning outcomes across the institution. Yet with all the need and efforts to engage with technology, almost a quarter (24%) did not find their assessment management system or software to be supportive at all of assessment efforts with 27% indicating it was somewhat supportive. Only 12% found their technology solutions to be “Very Much” supportive of assessment efforts.

There appears to be experimentation with technology supports, but it remains an area under development. Technology can enable connections and scaling of results within an institution, but much as in 2013, provosts did not rate data management systems or software as supportive of assessment work to the same degree as many other institutional features or conditions. Whether this is a function of the actual utility of these technologies or lack of sufficient familiarity with them to understand their value is not known.

**Institutional Size and Selectivity**

In general, size and selectivity are negatively related to assessment activity. In the 2009 and 2013 survey, we found that the more selective an institution’s admission standards, the less likely to employ a variety of assessment approaches and use results. However, in the 2017 data collection, size appears to have the same impact on assessment activity as selectivity.

**10. The larger the size and greater the selectivity of the institution, the less likely it is to employ a variety of assessment activities.**

For almost every category of assessment activity, the larger and more selective the institution, the less likely to employ various assessment approaches or use the results. For instance:

- have learning outcome statements that apply to all students,
- have programs with stated learning outcomes (36% of very selective institutions versus 53% of inclusive institutions and 41% of institutions with over 10,000 students versus 67% with 1,000 or fewer),
- use portfolios, classroom-based performance assessments, placement exams, and rubrics,
- indicate professional development as a need,
- publically share information on assessing student learning outside of resources on assessment,
- use assessment results for external accountability, institutional benchmarking, strategic planning, program review, learning outcomes revision, assessment development, curriculum modification, program improvement, and academic policy development or modification, and
make changes at the curricular or course-level.
The larger and more selective an institution, the more likely they were to indicate a need for faculty involvement in assessment. And finally, the larger the institution, the less likely to make changes at the institution-level as a result of assessment. Why size and selectivity are negatively associated with assessment activity is not clear and warrants additional investigation going forward.

Implications

Perhaps at no other time has the value of higher education been questioned to the extent it is today. The criticisms of the enterprise are multifaceted, from escalating costs outpacing inflation to the inability to graduate larger numbers of those who start college. Employers say too many graduates are unprepared for what is expected of them in the workplace. Too often, institutions have little to show about what students gain from their studies and what is being done to improve the student experience. Those within institutions of higher education wonder about the benefit of assessment and want to see genuine evidence of learning improvement. However, looking across the current landscape of institutional assessment processes and practices, the trend that is emerging is an authentic form of assessment that values evidence produced in the context of teaching and learning, represents students’ work, supports faculty use of evidence of student learning to improve programs, courses and assignments, and is connected to a variety of institutional learning initiatives. There is much about which to be hopeful, including:

- **Growth in use of authentic measures of learning.** A variety of approaches are used to assess student learning, in ways that appear to meet specific institutional needs and align with what is valued by provosts in terms of generating meaningful information on student learning. Those approaches are also increasingly embedded in the daily work of faculty, directly connected to teaching and learning efforts as opposed to a separate, administrative add-on.

- **Integration of various initiatives and efforts to improve student learning throughout the institution is underway.** Multiple initiatives, such as assignment design, are underway that support engagement with student learning assessment, and stakeholders across campus are increasingly involved as efforts to connect disparate assessment processes unfold.

- **Use of results is embedded within course- and program-level improvement.** Use is occurring at the course- and program-levels that can most meaningfully impact students and their learning.

Yet with all the momentum, there are areas that need attention for assessment efforts to advance student learning and institutional effectiveness.

**Communicating effectively about student learning remains a challenge,** a challenge which the implementation of the Excellence in Assessment (EIA) designation in 2015 was in part designed to address. The Excellence in Assessment designation is co-sponsored by the Voluntary System of Accountability (VSA), NILOA, and AAC&U. The designation recognizes institutions that successfully integrate assessment practices across campus,
provide evidence of student learning outcomes to stakeholders, and utilize assessment results to guide institutional decision-making and improve student performance. The EIA designation is formed around NILOA’s Transparency Framework and serves to recognize the work of campuses that are engaging in vertically and horizontally integrated student learning outcomes assessment, ensuring that all systems are linked and cross-validated. Designees provide a variety of models for others to learn from, but equally important, the process asks institutions to present a coherent narrative of their assessment process—an approach that proves difficult for campuses (Kinzie, Hinds, Jankowski, & Rhodes, 2017).

Colleges and universities must more clearly and persuasively communicate relevant, timely, and contextualized information on their impact on students and value to society. As one provost stated,

“...Institutions should be unafraid of telling their own stories...furthermore, they should take control of the narrative, and show how the institution is embracing these data, highlight what lessons are being learned, and point to what coordinated and organized actions are being taken campus-wide to improve student learning.”

**While use of assessment results is increasing, documenting improvements in student learning and the quality of teaching falls short of what the enterprise needs.** Provosts provided numerous examples of expansive changes at their institutions drawing on assessment data, but too few had examples of whether the changes had the intended effects. Did the policy change or alteration of the assessment process actually have the intended impact? Did the assignment modifications lead to better student demonstrations of their learning? Can we really connect through the learning management system or software assignments at the course-level to institution-level learning outcome statements and understand student learning as a campus? Has student learning actually improved over time? These questions remain areas of future research for assessment scholars and action by assessment practitioners.

**Equity is an important consideration in assessment work, but underemphasized in data use.** Survey respondents indicated that addressing issues of equity was important to assessment efforts and disaggregation of evidence of learning by various groupings of students was beginning to occur. However, using assessment data to support the achievement of equity goals was uncommon. What is the role of assessment in addressing issues of equity (Montenegro & Jankowski, 2017)? What are the best approaches to assess learning of different groups of students? These are questions that the field of assessment has yet to fully explore.

MSIs (65%) were less likely than PWIs (79%) to use national student surveys as part of their assessment system, but MSIs (61%) were more likely than PWIs (52%) to use local surveys (Montenegro & Jankowski, 2015). Is there something to be said that MSIs are using different approaches and how does that impact our understanding of the national picture of student learning overall? For one, it raises concerns about the reliability of our picture of national data to include and represent the diversity of learners, leading institutions to possibly implement solutions that do not address their student populations. For another, it may signal that national surveys are suspect because data might be used to unfairly compare or evaluate institutions, or that national surveys are simply not meeting the needs...
of diverse student populations and/or may be too costly. Addressing issues of equity moving forward is an area of need within the assessment community.

**Governing boards have a key role to play in sustaining and further developing meaningful assessment.** In order to sustain and grow assessment efforts, governing boards can endorse policies and priorities that support and encourage assessment and invite wider stakeholder involvement. At larger and more selective institutions, less assessment activity is occurring overall. There is a wide range of differences between for-profit and private institutions in assessment practices, and a lack of communication across the board. While assessing student learning falls within the purview of faculty and staff, the board should expect that instances and examples of meaningful improvement of student learning be presented in an understandable, coherent manner such that the board can be assured that internal quality controls are unfolding effectively.

Further, there are stakeholder groups not yet actively integrated with institution-level assessment efforts such as student affairs, staff, and students themselves. While student affairs have been involved in assessment for quite some time (Schuh & Gansemer-Topf, 2010), the integration and connection of those efforts with the larger institutional picture of student learning is still young. Areas of additional opportunity for meaningful collaboration include alumni and employers (Jankowski & Tyszko, 2017).

**Professional development could be more meaningfully integrated with assessment efforts, supporting faculty use of results, technology implementation, and integration of efforts across an institution.** Throughout the institution, there are various points where assessment support may be provided such as librarians (Malenfant & Brown, 2017), centers for teaching and learning, and student affairs staff and partners. There is movement within the field of assessment to more intentionally partner assessment offices and staff with centers for teaching and learning to provide faculty and staff with professional development to support culture change towards a focus on student learning (Hersh & Keeling, 2013). Such a model may be a means to address the professional development needs identified by survey respondents and support faculty innovation in teaching practices (Singer-Freeman & Bastone, 2016).

**Moving Forward**

Institutions of higher education in the United States are involved in a variety of initiatives to improve student learning of which assessment is but one. To better understand the myriad of learning related initiatives institutions are involved in, we asked provosts to indicate reform efforts that are currently underway. Not surprisingly, there is a lot of activity going on (Figure 14). Provosts indicated that their institutions were undertaking curriculum mapping, facilitating work on assignment design, engaging in developing pathways to completion, revising general education, and scaling high-impact practices to name a few. On average, institutions were involved in three different initiatives focused at improving student learning.

**A wide range of activity is occurring throughout U.S. higher education to advance meaningful student learning across institutional types.**
Further, institutions are involved in ongoing efforts to align and embed student learning outcomes assessment within the everyday assignments and activities that students encounter in their classrooms. With a focus on more authentic, embedded measures of assessment, issues of alignment and mapping become increasingly critical to ensure that the picture of student learning at the institution-level is an actual representation of learning from across the various levels.

The types of initiatives in which institutions are currently involved points to some of the ongoing efforts to align and embed student learning outcomes assessment throughout the institution. For instance, the number one area of institutional involvement is curriculum mapping, an exercise that strives to make connections across a curriculum on where learning is occurring and documents how various levels may connect over time—in essence, an exercise in alignment. In addition, efforts to engage in assignment design conversations with faculty also address issues of alignment by exploring how course-based assessments align with and are designed to elicit the learning outcomes of interest. In 2013, provosts indicated that one of the most valuable sources of information on institutional learning outcomes was found in the classroom-based performance assessments, or assignments, meaning that alignment of those assignments is crucial if the information gathered is to be utilized at an institution-level. In this survey, we see continued growth and interest in assignments at an institution-level coupled with initiatives and professional development needs underway to support meaningful uptake and growth in this area.

Figure 14. Extent of involvement in national, regional, and local learning related initiatives.
While there are a variety of commonalities regarding institutional involvement in initiatives such as revising general education, mapping curriculum, and facilitating faculty work on the design of assignments regardless of type, size, accreditation region, control, or selectivity, there are some notable differences by various institutional characteristics.

- Associate degree-granting institutions (80%), MSIs (66%), larger enrollment, and public institutions (74%) were more likely than all other types to be involved in developing or implementing pathways to completion as well as state-wide completion initiatives, yet we know that learners struggle to complete a coherent educational experience at all types of institutions.

- In terms of innovation, associate and specialized institutions (29%) and for-profit institutions (39%) were more likely than other institutional types to be developing competency-based education programs, yet they were the least likely to be involved in using VALUE rubrics.

- The more selective the institution, the more likely it was to be attempting to increase the quality of or scale high-impact practices.

- Public and private institutions were more likely than for-profit to be involved in comprehensive student record development (Public: 22%; Private: 27%; For-Profit: 0%) and high-impact practices (Public: 53%; Private: 51%; For-Profit: 13%).

There is much to applaud about the current state of assessment practice. Granted, there are compliance issues that must be managed and the field should speak more frequently about the worth and value of higher education. But there is also the discernable trend toward using assessment data to guide improvement efforts and increased use of embedded approaches that focus on ensuring authentic learning for individual students. An authentic form of assessment that values evidence produced in the context of teaching and learning, represents students’ work, supports faculty use of evidence of student learning to improve programs, courses and assignments, and is connected to a variety of institutional learning initiatives, is emerging.

As NILOA’s (2016) work in the field has shown, “focus on improvement and compliance will take care of itself.” Yes, additional efforts are needed to better educate various audiences on the evidence of student learning of interest to our institutions. At the same time, increasing numbers of institutions now have information about student performance based on learning outcomes connected with actual student assignments and work. More institutions engage regularly with faculty and multiple stakeholders and implement assessment approaches that generate actionable evidence to enhance student learning and institutional performance. A shift has unfolded from an emphasis on compliance and reporting structures to a more authentic assessment practice that is grounded in the integration of embedded approaches to document student learning. Although much has been achieved through well-crafted student learning outcomes assessment in recent years, much remains to be done.

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3 For information on the development of comprehensive student records with the American Association of Collegiate Registrars and Admissions Officers (AACRAO) and NASPA: Association of Student Affairs Professionals, see http://www.aacrao.org/resources/comprehensive-learner-record
References


Appendix A: Data Collection and Analysis

The 2017 NILOA national survey of chief academic officers was conducted by the Center for Survey Research at Indiana University between April and September, 2017. The sample included provosts or chief academic officers at 2,781 regionally accredited, undergraduate degree-granting institutions listed in the Higher Education Directory, published by Higher Education Publications, Inc. A total of 811 institutions completed the survey for a response rate of 29%.

As with the 2009 and 2013 surveys, we asked respondents to identify their position within the institution if the chief academic officer was not the person to complete the survey. Table A1 indicates that nearly 80% of the survey respondents were from within the office of the provost with the remainder being completed by those responsible for assessment within the institution.

Table A1: 2017 Survey Respondents by Position

<table>
<thead>
<tr>
<th>Position</th>
<th>%</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provost/CAO</td>
<td>79%</td>
<td>N = 639</td>
</tr>
<tr>
<td>Director of assessment (or person responsible for assessment)</td>
<td>15%</td>
<td>N = 120</td>
</tr>
<tr>
<td>Dean (or assistant/associate dean)</td>
<td>1%</td>
<td>N = 9</td>
</tr>
<tr>
<td>Institutional Research</td>
<td>5%</td>
<td>N = 43</td>
</tr>
</tbody>
</table>

This survey was administered primarily online, with the initial invitation followed by three email reminders. A paper copy of the questionnaire was mailed to those who had not completed the survey after the third email reminder. Web-based completions were the most common by far, with 92% of respondents utilizing this mode. Membership organizations such as the American Council on Education (ACE), the Council of Independent Colleges (CIC), the Association of American Colleges and Universities (AAC&U), and the American Association of Community Colleges (AACC), along with other affinity groups, helped to publicize the survey.

Many of the questions were used previously in the NILOA 2009 and 2013 questionnaires allowing for analysis in changes over time. Other questions were revised or added, informed by changing practices in the field and input from NILOA’s National Advisory Panel, a select group of assessment experts, and a focus group of chief academic officers convened during the January 2017 AAC&U annual meeting in Washington, DC. To view a final copy of the survey please see: https://www.learningoutcomesassessment.org/wp-content/uploads/2019/08/NILOA2017_Provost_Survey.pdf

The survey results were merged with several additional data sources to allow for analysis on a variety of factors including Carnegie classification, accreditation region, control, size, selectivity, and minority-serving status. The characteristics of participating colleges and universities in terms of institutional control (public, private, and for-profit), institution type (doctoral, master’s, baccalaureate, associate’s, and specialized), and accreditation region were generally similar to the national profile except for a slight overrepresentation of master’s and specialized institutions and underrepresentation of associate degree-granting institutions (Tables A2-A5).

Table A2: Institution Type: 2017 Participating Institutions Compared with National Profile

<table>
<thead>
<tr>
<th>Type</th>
<th>2017</th>
<th>Current National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctoral</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Master’s</td>
<td>25%</td>
<td>23%</td>
</tr>
<tr>
<td>Baccalaureate</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>Associate’s</td>
<td>33%</td>
<td>38%</td>
</tr>
<tr>
<td>Other/Special</td>
<td>9%</td>
<td>6%</td>
</tr>
</tbody>
</table>
Table A3: Institutional Control: 2017 Participating Institutions Compared with National Profile

<table>
<thead>
<tr>
<th>Control</th>
<th>2017</th>
<th>Current National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>55%</td>
<td>56%</td>
</tr>
<tr>
<td>Private</td>
<td>41%</td>
<td>40%</td>
</tr>
<tr>
<td>For-Profit</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

Table A4: Accreditation Region: 2017 Participating Institutions Compared with National Profile

<table>
<thead>
<tr>
<th>Region</th>
<th>2017</th>
<th>Current National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle States</td>
<td>17%</td>
<td>16%</td>
</tr>
<tr>
<td>MEASC</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>HLC</td>
<td>39%</td>
<td>39%</td>
</tr>
<tr>
<td>Northwest</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>SACSCOC</td>
<td>22%</td>
<td>23%</td>
</tr>
<tr>
<td>ACCJC</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>WSCUC</td>
<td>7%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Table A5: Minority-Serving: 2017 Participating Institutions Compared with National Profile

<table>
<thead>
<tr>
<th>Type</th>
<th>2017</th>
<th>Current National</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minority-Serving (MSI)</td>
<td>21%</td>
<td>21%</td>
</tr>
<tr>
<td>Predominantly White (PWI)</td>
<td>79%</td>
<td>79%</td>
</tr>
</tbody>
</table>

For each survey item, frequency distributions and mean responses were calculated using Stata 14 both overall and for each subgroup as described above. Chi-square statistics were used to identify statistically significant differences between institutional groupings on items 1, 2, 3, 5, and 14. Items 6-10 were examined for significant differences both treating response options as interval-scaled items using an analysis of variance (ANOVA), and also as categorical items (using chi-square tests) for a robustness check. For items also included on earlier survey administrations, we further examined trends over time. Again, ANOVA was used to examine differences between groups, with groups here being survey respondents in each of the three administration years. An alpha level of p<.05 was used to determine significance for all tests.

Responses to items 4 and 11-13 (the open-ended questions) were each reviewed by two NILOA researchers. Broad codes were then developed in conversation about the general reading of the responses. Each reader, in relation to the assessment literature on needs and effective practices, developed a list of potential thematic groupings of the responses (including themes such as general education, faculty engagement, use of results, etc.) These themes were assigned codes, which were used in guiding a second reading and further coding, analysis, and iterative reclassification of responses—until a final set of themes and codes was generated for each open-ended response item.