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Introduction to the AALHE Proceedings for 2018

By Kathleen Gorski, Editor-In-Chief



I am pleased to share with you the Salt Lake City Edition of AALHE Conference Proceedings. This document has been compiled so that all AALHE members can access information that was discussed at each annual conference.

As you know, AALHE is a professional association for those of us who are assessment practitioners at colleges, universities, and in higher education support organization. Our mission is to provide resources and a forum to support assessment practitioners' professional development and the open discussion of issues, strategies, policies, and processes association with higher education's use of assessment as a tool to improve student learning.

AALHE's Annual Conference Proceedings was created to support the work that you do at your institution or organization. Please read through the Proceedings and feel free to contact those presenters whose ideas have sparked interest for you. It is with this networking and collegial communication that our field can continue to grow to support learning in higher education.

Thank you to the authors of this edition for their time and commitment to share beyond the annual conference. Their work continues to inform and inspire.

I also would like to extend a thank you to our editors for volunteering their time and talent:

2018 Conference Proceedings Editors:

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Disclaimer: The views and opinions expressed in the articles in this publication reflect those of the authors and not necessarily those of the Association for the Assessment of Learning in Higher Education.

No More Silos: Improving Assessment Through the Development of a Systematic Institutional Process of Gathering Student Learning Outcome Data

By Lisa K. Bonneau and Kimberly Grieve, University of South Dakota

Abstract: Assessing student learning is a difficult process, but necessary to set the framework of a program and assess whether learning took place. Creating a holistic picture of campus assessment data can be cumbersome especially in institutions where assessment in student affairs and academic areas is localized with results reported solely to the individual campus silos. The University of South Dakota implemented strategies to improve the assessment process across campus as a result of implementing assessment tracking software. Since, program review informs strategic planning and closes the loop on the assessment of student learning, the institution also added program review to the software solution. The program review process was modified in academic affairs, and for student services areas, CAS standards templates were incorporated into the software. This provides a comprehensive view of strategic initiatives and provides data for internal and external accountability. Access to assessment data is now provided to stakeholders at multiple levels across campus. This is a case study of how a public flagship university developed a systematic, holistic process for assessing student learning.

Keywords: Assessment Culture; Co-curricular Assessment; Data Collection; Assessment Silo; Institutional Assessment; Accountability.

Introduction

How would you answer the question: *Is there a silo approach to assessment on your campus?* Based on the interaction with professionals participating in the session at the 2018 AALHE Conference in Salt Lake City, it is clear that many institutions have information about student learning for curricular and co-curricular areas, but the data aren't housed in a centralized location where administration and other stakeholders can easily access it. In other institutions, assessment in student affairs (or co-curricular areas) may be in its infancy or tracked solely via student participation numbers, and it is likely that, in these institutions, assessment information may not be shared with academic affairs. This trend is problematic in light of the fact that regional accreditation stipulates assessment in academic and co-curricular areas with the expectation of a process which supports continuous improvement (HLC, Criteria for Accreditation, Criterion 4 <https://www.hlcommission.org/Policies/criteria-and-core-components.html>). As stated in Dean (2017): "Accountability, program improvement, student learning and development, and program or departmental effectiveness are some of the reasons for the increased need to demonstrate learning on college campuses". Shifting from a silo structure would allow institutions to capture the value-added nature of assessment that is becoming increasingly important in the impact on student learning.

Historically, the assessment process at the University of South Dakota (USD) could be considered as operating in silos. The assessment of learning in academic areas was under the purview of the Director of Assessment with reports submitted in a traditional four-column format. The reports were then reviewed by the director with a rubric and archived in a shared drive accessible only to academic affairs personnel. The assessment of co-curricular areas was under the purview of the Vice President of Student Affairs with reports annually submitted and housed in binders in the VP's office. With this assessment strategy, the two assessment leaders did not coordinate assessment efforts in any organized way. Coordination of efforts was further confounded because keeping assessment reports in binders limited the ability of the VP and directors of student affairs functional areas to view historical data, see assessment trends, and relate assessment to strategic planning and budgeting. Even archiving assessment reports on a shared drive in academic affairs inhibited, from an institutional perspective, the broad use of results of student learning outcomes assessment.

While assessment in academic affairs was relatively robust with a culture that included broad participation, this was not the case in student affairs areas. Functional areas within student affairs were additionally challenged by having a young staff in a rural location which contributing to issues associated with high turnover, little knowledge of program evaluation or student learning assessment, and little understanding of the importance of the impact of learning in the development of graduates.

Program review was an additional challenge in both silos. In academic areas, program review and departmental strategic planning were disconnected from student learning assessment. The data for program review in academic affairs were historically provided on an ad hoc basis or at the time of the program review itself, so faculty may not have always been aware of graduate, student, and credit hour data associated with their programs. In student affairs, CAS standards were implemented, but as with assessment results, the individual department areas kept all documentation in separate binders in the VP's office. Ultimately, the silo nature of the assessment and program review processes at the institution made it difficult to close the loop and required significant manual work to provide any meaningful student learning data for connection to strategic planning, budgeting, or other institutional level initiatives.

Strategy for Improvement

The university implemented a software strategy to move forward with assessment in a systematic, data-informed way. The software solution was implemented in academic areas first, and upon completion of the implementation process, the suggestion was made to incorporate student services areas in the software to assist the institution in moving toward a more integrated assessment process. The Director of Assessment met with the VP of Student Affairs to discuss the merits of the incorporation of co-curricular assessment within the software solution, the first step in eliminating the silo nature of assessment on campus. Further discussions led to the discovery that in addition to training on how to use the software, personnel in student affairs areas needed additional training and guidance on the development of appropriate student learning outcomes. As a result, a high touch approach to the improvement process was implemented.

As part of CAS standards, it is recognized that student affairs staff should be as adept at writing learning outcomes and evaluating student success based on those outcomes as faculty in academic programs. In addition, student affairs programming should be intentional in regard to the assessment of student learning. With this in mind, directors of functional areas in student affairs were provided a professional development session (using a similar methodology to that used to assist faculty in refining student learning outcomes) to guide them through the process of creating effective learning outcomes of their own. A rubric (Figure 1) was provided to assist the directors in creating assessment plans for their functional areas. The directors were asked to reflect on information found in five seminal documents to assist them in the development of their student learning outcomes: The Noel Levitz survey, NSSE, the Inclusive Excellence Guidebook, the appropriate CAS Standard Evaluation criteria, and the University Strategic Plan. The VP of Student Affairs and the Director of Assessment continued to work with the directors to modify and refine student learning outcomes and assessment methods to ensure the learning outcomes were measurable and appropriate.

Learning Outcomes	Assessment Strategies <i>List all strategies used to assess each outcome. Consider using varied strategies and assessing outcomes at different times/levels in the program curriculum. Possible strategies include: test questions, case studies, presentations, problem-solving activities, synthesis papers, productions, performances, interviews, portfolios, capstone projects.</i>	Assessment Work Plan <i>For each assessment strategy, indicate when the assessment will occur, how often it will occur, and how extent of learning will be measured.</i>	Assessment Reporting Plan <i>For each assessment strategy indicate how the department will analyze, discuss, and use the information collected. Keep in mind that departments will be using Report Form B to report at the end of each semester an assessment findings and plans for improvement.</i>	Changes made or to be made due to assessment findings. <i>Be sure to include how and when you will be making changes based on your assessment findings.</i>

Figure 1. Student Affairs Assessment Rubric

Improvement in student learning outcomes in student affairs is evidenced in the before and after examples of learning outcomes in Figure 2. Though all programs in academic affairs began with student learning outcomes and assessment plans, analysis of the plans revealed areas for improvement (many programs had a single measure of assessment for learning outcomes, for some programs there was a lack of explanation of the methodology for assessment, and there was little discussion of how results are communicated to constituencies). The high touch approach of working with faculty to refine assessment plans resulted in similar gains in the expression of student learning outcomes in academic areas.

Before

- Articulates personal values; acts in congruence with personal values; makes decisions that reflect personal values; demonstrates willingness to scrutinize personal beliefs and values; identifies personal, work and lifestyle values and explains how they influence decision-making.
- Student will indicate an improvement in balance between education, work and leisure time; articulates and meets goals for work, leisure and education; Overcomes obstacles that hamper goal achievement; Functions on the basis of personal identity, ethical, spiritual and moral values; Articulates long-term goals and objectives.
- Students will indicate choosing behaviors and environments that promote health and reduce risk; articulate the relationship between health and wellness and accomplishing lifelong goals; Exhibit behaviors that advance a healthy community.

After

- Student will indicate improvement in balance between education, work and leisure time.
- Students will articulate long-term goals and objectives.
- Students will indicate behaviors and environments that promote health and reduce risk

Figure 2. Examples of Student Learning Outcomes in Student Affairs

The software solution also improved the program review process. Academic areas can access institutional data required for program review without the need to make an ad-hoc request. Since the data are available at all times,

progress toward goals can be tracked annually rather than just during the year of the review. The end of the process requires programs to close the loop by modifying department goals and student learning outcomes based on the results of the review process. Incorporation of the CAS standards into the software for student affairs eliminates the binder process, provides continuous access to all review documents, and facilitates closing the loop in student affairs.

The university has established diversity and inclusive excellence as a pillar of the strategic plan which spans curricular and co-curricular areas. With a silo assessment approach, institutional initiatives like the diversity initiative, become difficult to review unless a holistic assessment process is constructed to provide stakeholders and administrators across the university the ability to access student learning data outside of their functional area. An intentional process allows for the impact of the achievement of student learning outcomes to be broadly discussed and provides for a more cohesive and systematic approach for improvement in institution-level initiatives.

Holistic Approach

The institution maintains accreditation through the Higher Learning Commission and is subject to its accreditation standards (<https://www.hlcommission.org/Policies/criteria-and-core-components.html>). Criterion 4 references that student learning outcomes be assessed in both the curricular and co-curricular areas, and is the most cited of the criteria during the re-accreditation process. This is a further indication that an institution should move away from the silo nature of assessment. Because of the cohesive nature of the assessment reporting process developed at the institution, it has now eliminated the silos and moved toward a more holistic approach to the assessment of student learning, especially as it relates to the diversity initiative.

As an example, diversity was identified as an area for improvement in the previous accreditation comprehensive evaluation; it is a pillar of the strategic plan, and is the current Quality Initiative for the institution based on the HLC accreditation process. Specifically, the strategic plan for the university states: that USD has “a commitment to a systematic, intentional, comprehensive, and holistic approach to diversity and inclusive excellence; integrating diversity and inclusive excellence into all areas of university life.” With this being the case, diversity outcomes were specifically targeted by both student affairs and academic affairs to be tracked within the software. As a result, all functional areas in student affairs have at least one diversity student learning outcome, and in academic affairs a workshop was provided to intensively train faculty to write student learning outcomes with inclusive excellence as a foundation. It becomes much easier to close the loop with a global, institutional perspective in the area of diversity and inclusive excellence as leadership can review reports that completely encompass all aspects of diversity assessment (student and academic affairs) at the same time.

Summary

Even in 1996, Upcraft and Schuh speak to the importance of a comprehensive approach to assessment to meet external constituent pressures for accountability in regard to “accessibility, cost-effectiveness, quality, and results (p 31).” This holds true today as institutions still strive to meet regional accreditation requirements and provide information to legislatures and the public during a time when there are questions regarding the cost/need for higher education.

Since “[s]tudents learn best – and assessment works best – when education is a purposeful, integrated, collaborative experience (p. 3)”, USD is continuing to work on its holistic approach to the assessment of student of learning and program evaluation for academic and student affairs areas. The software solution has provided the opportunity to update training in assessment for all internal constituencies and has reduced the silo nature of assessment at the institution due to collaboration between student and academic affairs leadership. Further, data collection via the software has provided more transparency across all concerned audiences and facilitates the ability of leadership to confirm that assessment results are used and implemented.

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Using Assessment to Strengthen and Improve a Collaborative Course Redesign Initiative

By Christopher C. Willis and Traci L. Temple, North Carolina State University

Abstract: This paper, based on the AALHE 2018 Conference presentation titled, “There to Here to There: Assessment’s Impact on a Collaborative Course Redesign Initiative,” offers a brief look at how one office, North Carolina State University’s Distance Education and Learning Technology Applications (DELTA), works to integrate assessment across all stages of project and program analysis, design, development, implementation, and evaluation. Because building a culture of assessment in a large, university service-oriented environment requires ongoing communication, problem solving, sharing, and faculty buy-in, the role of assessment has evolved into a team effort for understanding and identifying the ways in which the institution’s Course Redesign Initiative, centered on innovative technologies and teaching practices, helps solve instructional challenges and build student success. This paper discusses the strategies, practices, and challenges of data-driven design, highlighting its impact on student learning and engagement, faculty commitment, and teamwork, and demonstrates how assessment strengthens the initiative as a whole. It aims to help readers recognize and encourage the myriad ways in which assessment can be a valuable tool not just for demonstrating efficacy or impact, but also for creating a collaborative and adaptive culture that values data-driven decision-making via institutional initiatives and cross-campus collaborations.

Keywords: Assessment Culture, Faculty Engagement, Learning Improvement, Course Redesign, Use of Results, Collaboration, Professional Development

Background: A Team Approach to Course Redesign

Table 1. DELTA Grants Summary

DELTA CPR Grants
From 2012-2013 to 2017-2018...
<ul style="list-style-type: none"> • 21 projects • 38,000+ students impacted
In the last 2 academic years...
<ul style="list-style-type: none"> • 7 projects • 1,900+ students impacted • 15% more A, B, C grades • Up to 70% drop-in fail rates

North Carolina State University’s Distance Education and Learning Technology Applications (DELTA) office began awarding provost-funded competitive grants for Large Course Redesigns, later renamed Critical Path Course Redesigns (CPCR), in 2008. In 2013, these grants merged with another grant program within the office that focused on distance education and exploratory projects (DELTA, n.d.). By providing financial and staff resources to help faculty leverage instructional technology, the CPCR grants aim to enhance teaching and learning by increasing access, improving student learning outcomes, and helping students successfully transition to more advanced study in courses with large enrollments and that satisfy one or more general education and/or academic program core requirements. Most grants center on investigating the use of technology to achieve more efficient and effective instructional methods. *Table 1* summarizes the impact DELTA CPR grants have had over

the last six years. Projects run from fall semester to fall semester; therefore, analysis begins in the first fall, and faculty implement the fully redesigned course the following fall semester. The process also loosely follows the ADDIE model for instructional design (Morrison, Ross, Kalman, & Kemp, 2012).

The success of these projects’ hinges on their team-based nature. In addition to the faculty member who receives the grant and serves as the project’s principal investigator, CPCR projects also utilize the skills and expertise of an instructional designer. Depending upon the project’s nature and scope, the project team may also include an instructional technologist, video production specialist, media developer, and/or app developer, in addition to an assessment and evaluation specialist.

Due to the potentially broad and significant impact inherent in redesigning this type of course, and due to the scope of resources needed to deliver a successful project, assessment is required after its full implementation. This typically occurs in the first semester of implementation, though it can happen later if extenuating circumstances arise, such as unforeseen changes or interruptions in the proposed structure/schedule. This paper, like the presentation that preceded it, outlines how DELTA works to build communication, collaboration, and culture in evaluating educational technology and innovative course redesign. It does so by outlining how assessment plays a key role in the course redesign process, from analysis and design to project and/or program evaluation.

Communication: Friend & Foe

It has been well documented that higher education institutions are not designed to encourage collaboration, despite its positive impact on efficiency, effectiveness, and student learning (Kezar, 2005; Kezar & Lester, 2009). Moreover, because higher education has a complex and distinct history, including a unique combination of governances, values, and goals, colleges and universities often differ from other institutions, and involve a mixture of scholarship, teaching, and service that make the lessons built in the private industry difficult to convert (Bolman & Gallos, 2011). Though DELTA's project team composition may be specific to the nature of its work, the underlying rules of communication, collaboration, adaptability, and continuous improvement by which it operates apply across all types of projects, programs, and relationships in which individuals must work to achieve common set of deliverables or goals.

In the context of DELTA's course redesign projects, as in many cases of project management, communication overarches everything as both friend and foe: if done well, projects run more smoothly, often resulting in high-quality courses and in-depth analyses that encourage data-driven changes to instructional materials, structures, assessments, and other course elements. If communication is poor, or it only occurs sporadically, projects can get overburdened, take longer to complete, and may even be indefinitely postponed (Project Management Institute, 2013). Moreover, as with many organizations and institutions, DELTA has struggled, and continues to struggle, to perfect this fine art of communication in a way that encourages both risk-taking and model-based building; both exploration and continuous improvement/refinement of processes. In part to that end, in 2016 DELTA added a new assessment position to the office, after which the Planning and Assessment team asked itself:

How does one begin or improve assessment-related communication internally? With faculty? With university leaders?

For the Critical Path Course Redesign (CPCR) projects discussed throughout this paper, assessment was (and is) a required condition of receiving the grant. However, prior to 2016 the nature, scope, and comprehensiveness of resulting reports varied depending on the level of involvement assessment staff (including temporary employees and graduate research assistants) had during the project's design and development. To improve communication in these highly impactful and resource-heavy projects, DELTA's new assessment coordinator met with individual DELTA directors and managers – individuals leading professionals in instructional design, enterprise learning technology, app development, and project coordination – to discuss their needs, wants, and questions as they related to assessment and project evaluation. Such topics included, among others:

- Current data collection/evaluation processes, deliverables, etc.
- Views or questions on assessment, evaluation, data collection, analysis, reporting, etc.
- Ideas, wants, or potential needs for future research/data collection projects

Since then, it has become established policy for a member of the Planning and Assessment team to participate in CPCR project meetings from the very beginning, starting with internal (and then external) kickoff meetings where teams discuss potential deliverables, discuss questions with the faculty principal investigator, and begin to determine evaluation needs or concerns. The next section discusses just how this works during a project's early phases.

Analysis: Helping People Organize and Operationalize

As hinted at above, past projects in DELTA (and indeed in many similar settings) could easily become derailed or grow too cumbersome without good communication practices in place. While the office’s project coordination professionals helped alleviate many of these issues over the years, there remained the need to clarify and enhance the role of assessment and reporting in the context of the many grant projects completed each academic year. In other words, teams were sure good work was happening, but there was little “proof” to point to in the form of “hard data” and reports documenting whether CPCR goals, as stated at the beginning of a project, were actually met. Thus, the Planning and Assessment team asked itself, and its colleagues:

How should (or could) one think about assessment at the beginning of a project?

After the internal and external kickoff meetings, the Planning and Assessment team continues to participate in early meetings as team members clarify and define formal project goals, and as the analysis and design stages progress. This allows assessment and evaluation to factor into decision making as early as possible in a project, which in turn helps project leads establish measurable, accurate, and limited (in scope and timeframe) project goals and deliverables. For example, a long-term goal for a 100-level course redesign project may be to improve students’ abilities in high-level career skills, or their performance in a capstone course. However, a clearly defined project goal should focus on students’ learning solely within that course, while the project’s impact on student learning in subsequent courses could be a focus of a different research initiative entirely, depending on the needs and interests of involved stakeholders. This process not only helps team members, including faculty, organize and build model-based structures and pedagogical materials, but also helps ensure the right kind of data is gathered to demonstrate project success. *Table 2* highlights more examples of how project goals/objectives can be clarified to improve clarity, relevance, and/or scope.

Table 2. Creating High Quality Project Objectives

<i>Issue</i>	<i>Instead of...</i>	<i>Try...</i>
<i>Clarity</i>	“Improve student learning.”	“Redesign course materials and activities to improve student learning outcomes in selecting appropriate data structures and algorithms.”
<i>Relevance</i>	“Create a visually aesthetic [LMS] navigation with high quality visuals.”	“Create an organized, visually stimulating, and easy-to-navigate LMS structure to improve consistency across course sections and instructors.”
<i>Scope</i>	“Ensure students have career-ready skills upon graduation.”	“Increase connections with XX 100 and XX 300 by integrating [common concepts], best practices, and tools.”

In addition to helping clarify and enhance project goals, having an assessment-focused view from day one has allowed DELTA to have high-level data points, and a broad understanding of multiple projects, readily available for presentation and reporting requests for DELTA’s senior management and university leadership. This allows the office to compare multiple measures of student achievement, engagement, and motivation across different pedagogical models, course structures, subjects, colleges, and underlying challenges. In time, it will help create a clearer picture of the impact different tools, materials, or models can have under varying circumstances, which in turn will help improve overall knowledge and understanding in instructional design, technology, and other related fields, as well as internal processes and programs.

Figure 1. shows a simplified structure for how assessment plays a role in grant and research projects within DELTA. What it does not reveal, however, is the change in how faculty and DELTA staff view assessment, and how ad-hoc

projects, research ideas, and other improvements have arisen from this change. Establishing assessment as a collaborative process allows faculty, instructional designers, technologists, and other team members/staff to see the assessment team not as an “other,” but as an integral part of the team who is there to help document and disseminate DELTA’s good work to the larger university community. While the Planning and Assessment team is always working to improve its reporting and presentation abilities, even the small changes described above have allowed project reports to become more than a final wrap-up. Instead, data analysis and reporting inform, in almost real time, ongoing practices and processes across different teams within the office, depending on the nature of the report/project in question. Moreover, establishing this relationship with faculty from the beginning has allowed innovations and ideas to diffuse to other parts of the university, through faculty piloting redesigned elements on their own; applying to work with DELTA in the next round of grant projects; and exploring new technologies in the classroom on their own or with some support.

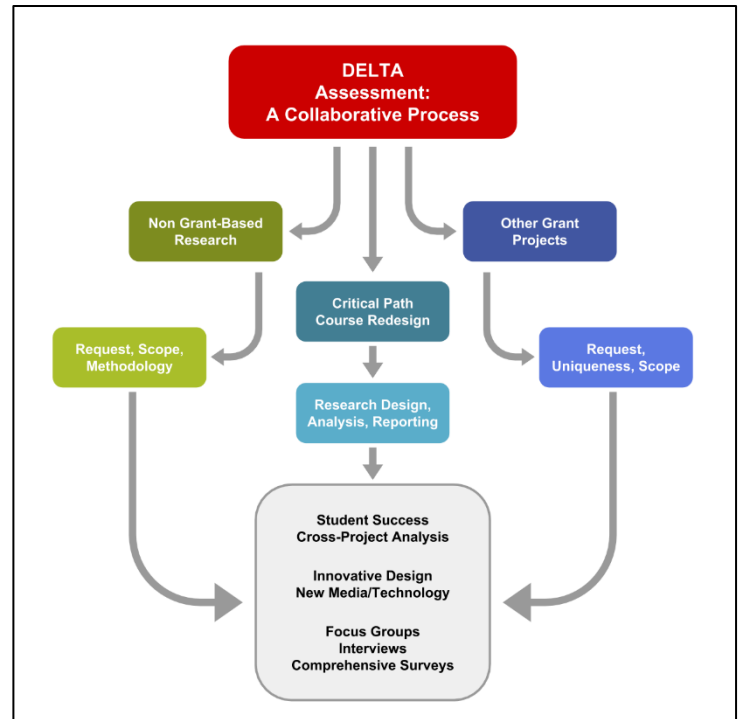


Figure 1. DELTA Assessment Flowchart

In developing and maintaining this type of relationship across DELTA and with colleagues across the institution, staff are able to see the assessment team as what they truly are, and how many in the field see themselves: as helpers and experts in their field. Over the years, instructional designers, technologists, media developers, and others across the office come to the Planning and Assessment team for questions on research design; finding validated surveys or scales; writing good quality project goals; creating and administering surveys; and other research- and assessment-related questions or ideas. Out of that, a culture of assessment and data-driven design has begun to develop and thrive.

Design & Development: Improving Practices

Beyond the aforementioned early discussions, clarifications, and research- and analysis-related expertise, it is difficult to determine the scope of an assessment professional’s responsibilities. Once a project reaches the design and development period, which often intermingles naturally, Planning and Assessment staff will typically step out of regularly scheduled meetings to allow instructional designers and other team members to develop content and create deliverables. Though the assessment professionals are always available to answer questions, join the conversation, and discuss newly arisen ideas or concerns, this leads to a decision that will be unique to each team and project: How does a team know that it is choosing the right deliverables, tools, and materials?

DELTA staff and the faculty principal investigator(s) must decide how to ensure design choices, structures, and materials are the best option for NC State University students. Of course, as professionals in their field staff follow best practices within the literature of instructional design, technology, and media, as well as content-specific best practices, but to continually improve practices and skills within the office and across NC State, direct evidence of impact is best. For example, this data can help make connections between specific course elements (materials, structures, tools, etc.) and student engagement, learning, and collaboration. One way of demonstrating impact has been to gather baseline data, from non-redesigned sections of the course before any changes are made, typically in

the first semester of the project (fall), and/or during the design and development stages in the next semester (spring) depending on the project schedule and course availability. This can only occur, of course, after project goals have been established and therefore an evaluation plan has been at least drafted to know what kinds of data will be useful.

Baseline data collection, as well as data collection during course “pilots” (where, for example, only a few flipped course modules are included in the class that otherwise remains unchanged) relies heavily on student feedback. This is collected primarily via focus groups and surveys created by DELTA’s assessment staff, and by utilizing externally created validated scales on constructs such as motivation and self-regulated learning. For example, in one course redesign project, a clinical skills course embedded a competency-based assessment tracking system into the course Learning Management System to facilitate students providing evidence of their learning. This course was unique in that it is delivered three times per semester with approximately 5-7 students enrolled at a time, or about 15-20 students per semester. Thus, to assess whether the “right” instructional and technological design choices had been made, at the request of faculty and the project’s instructional designer, Planning and Assessment conducted a series of focus groups with students to give an opportunity for each student to voice their feedback (see Sheats, et al., 2018).

Spontaneous faculty-student interactions, especially in projects that pilot or test a variety elements or ideas, also inform practices during a project’s design and development stages. For example, in spring 2018 one project piloted a number of new elements, including an onboarding project and one centered on better preparing students for collaborative (team-based) learning. Throughout the semester, the team received regular updates, guided by probing questions from the instructional designer, on student reactions and comments to course materials and assignments, while surveys allowed students to provide feedback directly to the team in a more confidential manner. Depending on the focus of the evaluation plan, assessment staff then connect student feedback to student performance via assignment grades, test scores, and/or overall final course grade.

Since the beginning of the 2017-2018 academic year, the Planning and Assessment team has been working on a plan to better integrate assessment, and assessment thinking, into all of DELTA’s projects - not just the Critical Path Course Redesigns that are the focus of this paper, or ad-hoc projects driven by scope, impact, or uniqueness. This is part of an effort to increase visibility, accountability, and productivity across all divisions within DELTA, so that data is more readily available, and so that cross-project analyses that better demonstrate the office’s broad impact can be completed. In such discussions, however, a key question has emerged:

On a given project, what level of influence is appropriate for an assessment professional?

The way goals are written will necessarily influence a project’s deliverables, as well as how it is analyzed and summarized. For example, in Table 2 above, the third sample goal, “Ensure students have career-ready skills upon graduation,” would require assessing students’ “career-ready skills” (which are themselves ill-defined in this case) many semesters after a student completes the course. This would be in addition to comparing it to those who did not take the redesigned version, meaning evaluation for this project could not be completed in a timely manner. The alternative project goal, which outlines evaluating ties to other program courses, more cleanly aligns itself with a typical project scope. In either case, how the goal is written has a significant impact on how a project will be evaluated or assessed upon its completion. What is less clear, however, is the level of influence assessment professionals should (or even could) have beyond providing basic expertise or insight. In other words, for some institutions even this level of influence may be too much, meaning it may be preferable for assessment professionals to limit their influence as much as possible in the name of impartiality, or in favor of faculty-driven or team-driven goal and priority setting, and even analysis/reporting. For some examples of this type of debate, see Morley (2003); Moss, Girard, and Haniford (2006); and (Weiner (2009).

To be clear, one must note that in DELTA's case the Planning and Assessment members are part of the team and thus are not subject to providing "outside" influence. Moreover, their role is not to guide any project to a particular goal or proposed outcome, but rather to help clarify and make measurable the goals that led faculty to apply for a grant in the first place. To illustrate this issue, consider two examples: one in which the assessment team was not brought into a project until well into the piloting and developing phase, and one in which assessment thinking was used intentionally to influence multiple stages of a project from the beginning.

In the former, though it is understood that instructional designers follow best practices, and that the resulting course will be a high-quality academic offering, the evaluation scope became limited and somewhat questionable. The project was built on goals that used certain terminology incorrectly (for a separate example, it would be similar to referring to "co-regulated learning" as a focus of the project, when in reality the project relied mostly on natural study group formation - see Panadero, 2017). In addition, piloting began before initial contact with the Planning and Assessment team. Both combined create a situation in which it was difficult at best to determine if the stated goals were met, in large part because clear data cannot be collected.

The latter project is an example of using assessment thinking from the beginning to influence course analysis, design, and development. Outlined in Willis and Salam (2017), this project gathered attitudinal feedback from students taking the course in its traditional (non-redesigned) format to allow students to contribute to the course design. Faculty peers from across the nation also provided insight (via survey) - a unique opportunity afforded to this project due to the faculty principal investigators' close connection with their professional organization's listserv. In contrast to the first project, the Planning and Assessment team were included from the start, and therefore had in-depth knowledge of its goals and needs, including the needs and preferences of the faculty who would necessarily have to approve such contact with their students. The resulting analysis helped to confirm some assumptions inherent in instructional design best practices (such as creating a better-organized learning management system structure), while rejecting others (such as the need to replace the traditional "course pack" with a technologically innovative alternative). This helped the course redesign to be as effective as possible, not by strictly following best practices outlined in the literature, but by choosing what works best for NC State's students.

Assessment: Demonstrating Success by Telling the Story

As mentioned previously, DELTA's Planning and Assessment team are heavily involved in data collection during baseline and piloting phases when a project necessitates them. This continues in the implementation phase of the project, when faculty teach the fully redesigned course, usually during the new course's first semester. Prior to the start of the semester, Planning and Assessment steps back into project meetings and work with the team to determine key administration dates for any student experience surveys that were created in collaboration with all project team members and the faculty PI. The team also uses this time to confirm any student-level data that faculty will need to provide upon completion of the semester, such as assignment grades, test scores, or overall course grades. Note that all projects follow protocols established by the university's Institutional Review Board.

Typically, student surveys are administered approximately two weeks after the semester begins and again just before final exams. Sometimes a shorter mid-semester survey is also administered, for example when a project may center on changes in student habits, perceptions, or goals. These surveys are a relatively new addition to DELTA's assessment repository, and are driven by finding common ground between the data needs and wants of the faculty, instructional designer, and DELTA itself. Prior to 2016, due to limited personnel most CPCR evaluations in the past relied heavily on final course grades pre- and post-redesign, and possibly a very short and focused survey on a specific new tool if it was the project's primary deliverable.

Since the 2016-2017 academic year, evaluation has included questions driven by the research and practical interests of project team members, including faculty. Common survey topics now include students' engagement with course

materials, their perceptions of the new structure compared to more traditional face-to-face/lecture-based courses, and their self-efficacy regarding their learning in the courses. Other questions might ask about the media used in the online course structure (videos, banners, etc.), or about animations used as instructional aides, which would provide valuable feedback for instructional technologists, media developers, and app developers. Assessment staff also conduct focus groups when appropriate, though these typically occur in piloting phases, as discussed in the clinical skills example above. Go to http://go.ncsu.edu/DELTA_Survey_Items to view a sample of items used in recent CPR project evaluations.

DELTA's goal is to provide an evaluation that creates a complete picture of the project - to tell what Braskamp and Engberg (2014) call a "special type of story" in a "clear, focused, simple, and easily understood" way, in order to promote transparency, continual improvement, and high-quality discussion of the needs and future of NC State's students (p. 3). Past conference proceedings, and indeed researchers across the higher education landscape, have studied, and attempted to clarify, best practices in assessment reporting and how best to share assessment results and inferences with larger audiences (see, for example, Chrystall, 2017; King, Dodd, & Cunliff, 2016; or McMichael, 2016). DELTA assessment reporting attempts to both follow and improve upon these practices, and the first step in this is the ongoing open and collaborative communication between team members through all stages of a project that have been the focus of this paper and the preceding AALHE presentation.

Knowing When to Say "When"

Finally, one challenge that is common in many fields, but especially in research, is knowing when to say "when" in terms of workload, new projects, and new ideas. This can be particularly difficult for those in the assessment field, as professionals often work tirelessly to increase or improve capacity, buy-in, practices, deliverables, and related struggles, and thus may be hesitant to deny or postpone a project or idea. Though the processes outlined in this paper can help to mitigate some of this by taking on a team-based approach to documentation, data collection, and reporting, there is of course no way to continually take on more, even if a project sounds incredibly interesting or worthwhile. In the past, this issue has emerged due to mistakes surrounding two key issues: (1) communication, both early on and throughout a project's development, and (2) failing to establish boundaries and clear roles at a project's start.

In the former instance, for example, some projects had goals change after they were established. Thus, poor communication led to a completed set of deliverables that, while in the end were what the faculty wanted, became difficult to impossible to evaluate and assess in the context of both the project as a whole and of the new goals, which were not as clear as they could have been. This is partly because documentation as to why or how the project shifted focus was sparse at best, and partly because the Planning and Assessment team was not made aware of changes as they occurred, leading to an incomplete data collection plan.

In the latter case, projects may have seemed to run smoothly, until it came time to complete analyses and write up the report. During this stage, for example, findings may not be what was expected or ideal, or they may not be as cleanly causal (or correlational) as might be preferable, for instance in an ideal experimental or quasi-experimental setting. In this case, communication was not the only issue. Instead, a large part of problem rested in failing to establish clear boundaries and expectations at the start, especially in terms of analytical and reporting roles and responsibilities, and who ultimately had "final say" on when a report was satisfactorily completed. Both situations resulted in projects that went far beyond their planned completion dates, and in the end led to changes in policy to allow for improved communications; clearly defined roles and responsibilities; and a better idea of when to say "when."

Conclusion: Lessons Learned

In their proceedings, Howell and Schroeder (2016) emphasize that their vision of the course design process “calls for a collaborative process to tap the diverse expertise of the design team” that relies heavily on a respectful and communicative relationship between faculty subject matter experts and instructional designers (p. 71). Though their work is in the context of a different type of institution, it shares many similarities with DELTA’s focus on communication and collaboration at all stages of a project, and the relationship they describe is one that DELTA has worked to build as well. In NC State University’s case, however, the relationship that had to be developed was not between faculty and instructional designer, but rather between the Planning and Assessment team and both internal and external project team members. A sense of respect, and expectation, permeates a successful team, and it is the assessment professional’s responsibility to see and to report, “interrelationships rather than things, for seeing patterns of change rather than static ‘snapshots’” (Senge, p. 68).

With that in mind, this process has resulted in the following lessons learned, highlighted and discussed in detail in the preceding pages:

1. Communication is key; it should be open, collaborative, and respectful
2. Integrate assessment into *all* stages of the project
3. Stay involved and informed as the project progresses
4. Be transparent in both your needs and your responsibilities
5. Recognize connections, and make appropriate use of them
6. Validate, refine, and continually improve your tools and processes

The authors hope that the above may prove useful for any sort of project team, but especially for those in the field of academic, program, and institutional assessment. Only when communication is open; when collaboration is the norm rather than the exception; and when expectations are both shared and respected can one expect to face the challenges of bringing higher education into the new millennium.

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Creating A Faculty-Centric Approach to Successful Assessment and Accreditation

By Valerie Landau, Penny Bamford, and Christine Broz, Samuel Merritt University

Abstract: A faculty-centric culture of continuous improvement sparks faculty curiosity to assess and improve teaching and learning. Employing simple but effective philosophical guiding principles that openly support and defend faculty can motivate faculty to participate in meaningful assessment activities, such as: conducting Scholarship of Teaching and Learning, experimenting with new pedagogy, and participating actively in improving teaching and learning. In this faculty-centric model, all policies, tools, and services also directly benefit faculty. Data visualization can be used to shape the narrative that can both inspire and document culture change. A strategic assessment plan that aligns faculty-centric guiding principles (philosophical tenets) with objectives and actions has been key to the speed of culture change at Samuel Merritt University.

Keywords: Faculty-centric, curricular mapping, strategic planning, goals, assessment, culture

“We cannot solve our problems with the same level of thinking that created them”

— Albert Einstein

Keywords: Curriculum Mapping, Strategic Planning Assessment Culture

As we approach the third decade of the 21st century, higher education is tasked with making cultural shifts quickly and on a scope and scale that will prepare our graduates to meet the challenges they will face. However, the very mechanisms, processes, and policies that have protected our institutions for centuries from the whims of monarchs, despots, and dictators also hinder our ability to change quickly. Accrediting bodies struggle to adapt and adopt policies that validate the educational effectiveness of an institution. They may not have gotten the language exactly right to precipitate the kind of change needed, but the intent of assessment of educational effectiveness is to push institutions to develop a culture of continuous improvement in teaching and learning.

In response to the need for change, the Teaching and Learning Excellence Group at Samuel Merritt University (SMU) implemented a faculty-centric approach to grow and nurture a culture of continuous improvement. Rather than relying on a standard strategic planning template the group developed a unique way to align our goals, objectives, and actions with philosophical guiding principles. The guiding principles serve as philosophical pillars that inform all actions and ensure that the means justify the ends.

This strategic planning effort resulted in a robust change in curriculum and pedagogy. The majority of faculty now incorporate student engagement in their courses. This change is a huge shift from just a few years back when most faculty lectured and administered tests. We have evidence of improvement in teaching with 122 action research reports and presentations, an insightful curricular map linked to authentic evidence of student learning, and no recommendations for improvement in educational effectiveness by multiple accreditors (WASC Accreditations as well as multiple specialty accreditations).

Faculty-centric Assessment Planning Methodology

Strategic plans can either help organizations achieve their goals, or be considered a time-consuming bureaucratic process. At SMU, the strategic planning process for assessment is influenced by the Objectives and Key Results (OKR) methodology implemented by Silicon Valley companies like Google and Intel (Dooer, 2018), as well as the

work of technology visionary Douglas Engelbart. Engelbart's work focuses on augmenting human capabilities by leveraging collective intelligence through mapping and assessing the current state in order to imagine and pioneer the future state (Landau, Clegg, Engelbart, 2010).

Faculty-centric assessment plans focus on results that improve teaching and learning, rather than focusing on assessment activities. In a plenary address at the 2018 AALHE conference, Erik Gilbert (Gilbert, 2018) stated that too much effort is spent on assessment activities rather than on the desired result: improvement in teaching and learning.

A faculty-centric model focuses on supporting and defending faculty and achieves its goal and objectives by following guiding principles. In this model all policies, tools, and services directly benefit faculty. No assessment policies are put in place that require faculty to engage in additional work unless it is in their best interest. Faculty are told if an assessment activity is assigned to you that you do not think is productive, or you feel it is overly bureaucratic "don't do it." Each step of assessment (gather, display, analyze, share, improve) purposely serves as a catalyst for continuous improvement and directly benefits faculty. The result is documentable change and a rich narrative demonstrating continual improvement in teaching and learning.

Strategic Plan as a Call to Action

A strategic plan can become an integral part of a narrative, a call to action. John Hagel (2017) describes the difference between story and narrative.

In short, stories for me have two characteristics: they're self-contained (they have a beginning, a middle and an ending) and they're about the story teller or some other people, but they're not about you (although you can use your imagination to explore what you might have done in the story). In contrast, narratives for me are open-ended, there is no resolution yet, but there is some significant opportunity or threat on the horizon that is yet to be achieved and it's not clear whether it will be achieved. The resolution of the narrative hinges on you: it is a call to action to those you are addressing, telling them that their choices and actions will play a material role in helping to resolve the narrative.

The more a strategic plan creates a compelling narrative, the greater the opportunity for significant shifts in culture and innovation. A planning narrative can encompass more than just text. The narrative can include symbols and graphics.

Data visualization expert Bonnie DaVarco summed up the importance of including data visualization as a key ingredient in meaningful cultural change. In an interview with Valerie Landau on November 24, 2011 she stated, "visuals create a bridge between the quantitative and the qualitative to provide a landscape. Visual language provides a visual context to express data as a visual narrative."

At the core of gathering and sharing assessment data is the motto, *Non Satis Scire* "To know is not enough". Assessment data should inspire tangible and documentable change and improvement. In her TED talk Giorogia Lipi (2017, Lipi) states:

...to make data faithfully representative of our human nature and to make sure they will not mislead us anymore, we need to start designing ways to include empathy, imperfection and human qualities in how we collect, process, analyze and display them. I do see a place where, ultimately, instead of using data only to become more efficient, we will all use data to become more humane.

These ideas influence the way the strategic plan is implemented. Visuals can serve as a shortcut that help communicate complex stories about teaching and learning and weave our humanity into our strategic planning process.

Faculty-centric Strategic Plan at Samuel Merritt University

At Samuel Merritt University, the strategic planning for assessment of student learning aligns to a simple goal and objectives that are paired with guiding principles and actions. The articulation of a faculty-centric approach led to widespread adoption of authentic assessment practices.

The assessment strategic plan was created by first defining a simple goal and objectives that focus on cultural change. Each objective was assigned a color. (See Figure 1: Assessment Goal and Objectives)




Goal: Create a continuous cycle of improvement to promote excellence in teaching and learning.		
Objectives		
 Faculty regularly engage in the scholarship of teaching and learning	 Teaching excellence is regularly rewarded and supported	 Experimentation and transformation to enhance student learning is the norm

Figure 1. Assessment Goal and Objectives

A set of guiding principles that outline the philosophical tenets were then articulated. Each guiding principle was assigned an icon.






Guiding Principles				
 Support and defend faculty 1. Assume every teacher wants to be a great teacher, therefore improving teaching and learning is in their interest 2. Ensure all policies and initiatives are in the interest of the faculty and directly benefit them	 Make assessment meaningful and flexible	 Create institution-wide goals and honor individual approaches	 Remove barriers, annoyances, and bureaucracy	 Leverage technology to add value and eliminate tedium

Figure 2. Guiding Principles




The next step was to define the actions that would achieve the desired objectives. An analysis of the infrastructure led to the definition of four types of actions that could be initiated:






- Policy/Process
- Services
- Technology
- Incentives

A set of actions were then defined in each of the four infrastructure areas. Each action was aligned with both the objectives and the philosophical guiding principles. That became the map for our actions. (See Figure 3: Sample Assessment Plan)

The map in the Illustration (figure 3) uses shape and color to represent each objective and guiding principle. The objectives are represented by color and the guiding principles by shapes. This makes it easy to align multiple objective and guiding principles with each action. So rather than aligning actions with one objective, actions can address multiple objectives. This mapping allowed for an increase in effectiveness because instead of creating a new action to address each objective, one action can meet multiple objectives. In addition, it becomes clear which guiding principles and objectives were put into action most frequently. If some actions, deemed important, were underrepresented it may be necessary to revise either the objectives, the guiding principles, or the actions. This helps reduce the number of assessment activities and maximize the effectiveness of each. Aligning the actions with the objectives and guiding principles facilitates quick assessment, helps create a narrative, and augments the impact of each action.

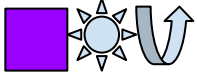
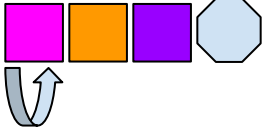


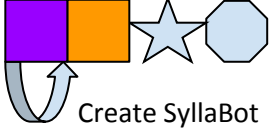

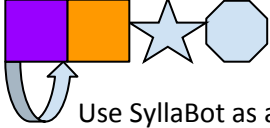
Assessment Department Strategic Plan

<p>Goal: Create a continuous cycle of improvement to promote excellence in teaching and learning to ensure student success</p>		
<p>Objectives</p>		
<p> Faculty regularly engage in the scholarship of teaching and learning</p>	<p> Teaching excellence is regularly rewarded and supported</p>	<p> Experimentation and transformation to enhance student learning is the norm</p>

<p>Guiding Principles</p>				
<p> Support and defend faculty</p> <ul style="list-style-type: none"> • Assume every teacher wants to be a great 	<p> Make assessment meaningful and flexible</p>	<p> Create institution-wide goals and honor individual approaches</p>	<p> Remove barriers, annoyances, and bureaucracy</p>	<p> Leverage technology to add value and eliminate tedium</p>

<p>teacher, therefore improving teaching and learning is in their interest</p> <ul style="list-style-type: none"> • Ensure all policies and initiatives are in the interest of the faculty and directly benefit them 				
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<p style="text-align: center;">Actions</p> <p>Infrastructure categories help organize actions and tactical implementation.</p>			
<p>Policy/Process</p>	<p>Services</p>	<p>Technology</p>	<p>Incentives</p>
<div> </div> <p>Encourage each academic program to assess and improve student learning in a way that is meaningful to them</p>	<div> </div> <p>Facilitate Academic program meetings to assess and improve curricular maps at the course and program level. Help faculty align assignments to CLOs.</p>	<div> </div> <p>Use an innovative curricular mapping tool that facilitates insight and aligns learning outcomes with evidence of student learning, assignments, and rubrics and is engaging by incorporating sound, color, and animation</p>	<div> </div> <p>Faculty showcase excellence in teaching and learning</p>
	<div> </div> <p>Provide training and instructional design support for aligning assignments to learning outcomes.</p>		

	 <p>Provide assistance for specialty accreditation</p>	 <p>Integrate assessment software with Learning Management System (Canvas)</p>	
	 <p>Provide training and instructional design support for improving assignments and creating more engaged classrooms</p>		
 <p>Improve Process for Curricular Change in the Curriculum Committee</p>		 <p>Create SyllaBot tool that automatically builds a draft syllabus from info from the LMS, the learning outcomes, and policies. Saves faculty time and reduce syllabi errors.</p>	
 <p>Work with Curriculum Committee and Registrar to streamline small curricular changes so does not waste Curriculum Committee time</p>		 <p>Use SyllaBot as a catalyst for improving course communication</p>	

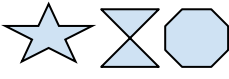
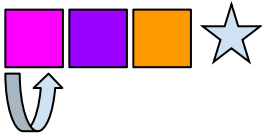
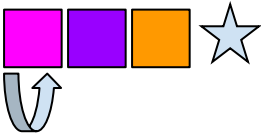

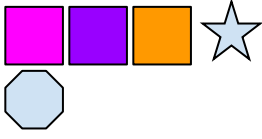
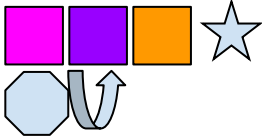
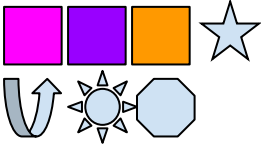
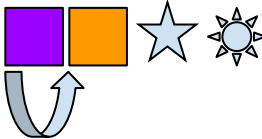
 <p>Research Committee changed policies to include “The Scholarship of Teaching and Learning” as research. (Boyer’s model)</p>		 <p>Create online repository for reports/posters of the Scholarship of Teaching and Learning</p>	 <p>Robust Scholarship of Teaching and Learning action research program “Improving Teaching with Technology Grant” Initiative to encourage the majority of our faculty to experiment with new pedagogy and tools, and conduct ongoing meaningful assessment of student learning.</p>
 <p>Faculty Development Committee includes Scholarship of Teaching and Learning in Faculty Research Symposium</p>	 <p>Collect, archive and print the STL posters for the Faculty Research Symposium</p>	 <p>Create PowerPoint poster presentation template as the grant report.</p>	 <p>Scholarship of Teaching and Learning count towards scholarship for the poster presentation and as receiving a grant.</p>
	 <p>Faculty attend workshops to improve teaching and learning</p>		

Figure 3. Example of Assessment Plan

Creativity is essential for innovation. To allow for innovation in strategic planning, elegant tools facilitate the manifestation of complex ideas in simple ways. By using symbols and colors to represent big ideas such as objectives and guiding principles, organizations can make their intentions clear at the implementation level.

Examples of Actions and Results

Plans are easy. Action and implementation are where the truth lies. The following are some examples of how each action in the strategic plan was conducted at Samuel Merritt University.

Curriculum Mapping Initiative

Technology has served as a catalyst for change. History shows us that with the advent of an effective tool, culture changes rapidly. Samuel Merritt University designed and developed several tools and initiatives that sent a clear message to faculty that aligning and assessing learning outcomes was focused on improving teaching and learning.

The Curriculum Mapping Initiative app (CMI), developed at SMU, provided a key element in our change strategy. It allows faculty to view dense data in a context that has meaning and allows them to critically view where their courses are situated in the landscape of the curriculum, sparking faculty interest to assess the effectiveness of their curriculum.

CMI creates a portfolio for an academic program. It displays the entire curriculum a whole and has engaged faculty to think deeply about their own teaching practice. It provides, easy to use, and fun ways to assess, document, and share a how students are demonstrating the learning outcomes.

Faculty can look at exemplar assignments, rubrics, and authentic evidence of student learning. They can reflect on the quality of the student work and get some perspective about how they might improve their own teaching practice. The learning outcomes are also integrated into each course in the LMS.

Faculty view curricular maps enhanced with data visualization, graphics, and music. These maps provide a shared vision and motivation to analyze program strengths and weaknesses. This serves as a catalyst for faculty dialog on:

- Alignment of learning outcomes to professional standards
- Quality of evidence of student learning
- Curricular gaps and overlaps

	PLO 1	PLO 2	PLO 3	PLO 4	PLO 5	PLO 6	PLO 7	PLO 8	PLO 9	PLO 10	PLO 11
Compassion	■	□	□	□	□	□	□	□	□	□	□
Ethics	■	□	□	□	□	□	□	■	□	□	□
Critical Thinking	■	■	□	■	□	□	□	■	□	□	□
Clinically Competent	■	■	□	□	■	□	□	■	□	□	■
Evidence-based Inquiry	□	■	□	■	■	□	□	□	□	□	□
Communication	□	□	■	□	□	□	■	□	□	□	□
Cultural Competence	□	□	□	■	□	■	□	□	□	□	□
Leadership	□	□	□	□	□	■	■	□	■	□	□
Information Technology	□	□	□	□	□	□	□	□	□	■	□

Figure 4. Screenshot of CMI display of PLO-ILO alignment matrix with sonification of curricular maps

To spark conversations about curriculum, CMI displays the alignment of Program Learning Outcomes (PLO) to Institutional Learning Outcomes (ILO). Each ILO is represented in a row and is assigned a color and a musical note. The software plays the PLO-ILO matrix as a musical score. Each academic program has its own song. This is called sonification. By hearing and seeing the high-level assessment information, faculty begin to think openly and critically about their curriculum. The music and visuals help faculty engage with the data using different parts of the brain often leading to new insight.

The Mosaic View Screen provides a dense but rich way to very quickly conduct assessment at the program level.

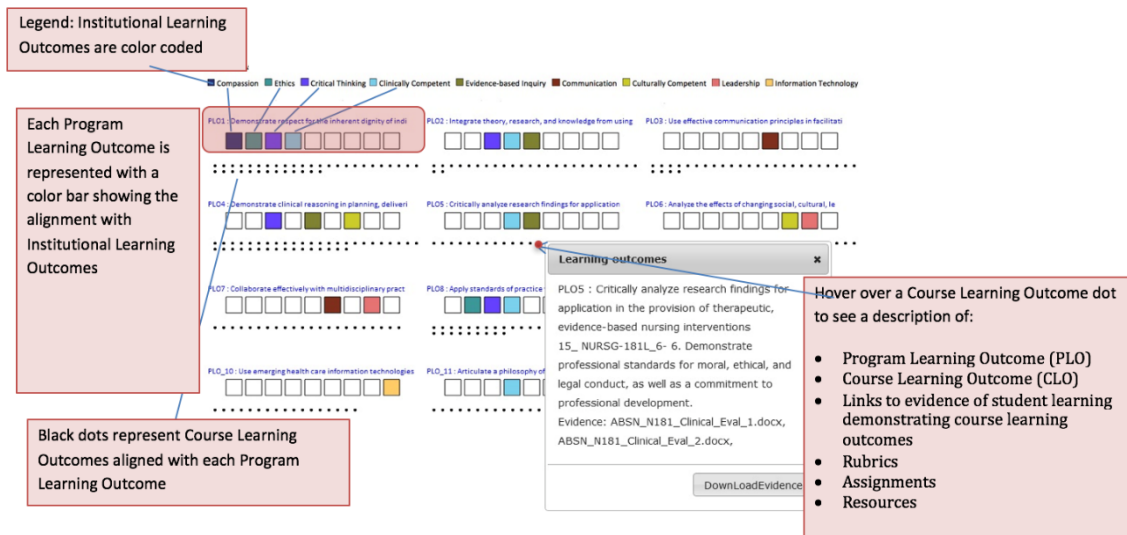


Figure 5. Mosaic View Screen show institutional-program-course learning outcomes with evidence of student learning, rubrics, and assignments

The CMI software illuminates curricular strengths and weaknesses with powerful displays. The software provides a program portfolio for assessing each CLO, as well as creating curricular maps displaying the alignment of CLOs-PLOs-ILOs. The gathering, display, analysis, and sharing of assessment data occurs all in one place.

Linking learning outcomes with evidence of student learning honors individual approaches by allowing faculty to decide what evidence demonstrates student learning in their course. Each faculty member can explain or upload and showcase how student work demonstrates competency for each CLO. It provides a transparent assessment tool that enables faculty to evaluate how well student work demonstrates mastery of the CLOs. It also shows how all the CLOs combined fulfil the PLOs. Specialty accreditation displays are also generated to show how each standard is met.

Assessment data displays can support faculty to analyze and strategize and then develop rich narratives that inspire action to achieve excellence in teaching and learning. The data visualizations and sonification of alignment has facilitated faculty to be creative in their thinking. By creating views that literally represent a shared vision the technology has augmented the collective intelligence of academic programs. The central purpose of the CMI app is to generate discussion and analysis rather than generate reports that do not require critical thinking and dialog.

Once the curriculum is updated, course level assessment is where the continuous improvement happens. For in depth assignment level assessment action research is a powerful tool.

Results

- All academic programs improved learning outcomes except the undergraduate nursing program.
- Increase in assessment of authentic evidence of student learning
- Increase in program-level coordination around assignment content and timing.
- Alignment of learning outcomes and specialty accreditation standards

Scholarship of Teaching and Learning as Assessment

Action research is a form of scholarship that is designed to improve the researcher's own practice. According to Jean McNiff (2002) action enquiries begin with the question, 'How do I improve my work?' She identifies the steps for action research as:

- identify an area of practice to be investigated;
- imagine a solution;
- implement the solution;
- evaluate the solution;
- change practice in light of the evaluation

The Provost supported an assessment initiative to incentivize faculty to conduct action research as part of the scholarship of teaching and learning. Faculty receive a small grant for experimenting and assessing new pedagogies or technologies in their class. The Office of Assessment created a PowerPoint poster template for faculty to present their findings as poster presentations at the annual Faculty Research Symposium and in an online archive.

This initiative sparked collaborations and the sharing of best practices and recognition of excellence in teaching practice. The majority of full-time faculty have completed action research projects (currently 122 completed reports). This initiative has also led to pervasive and effective use of technology-enhanced pedagogy and improved student success.

The majority of the action research projects centered on the use of video; including adding videos, the use of video for online office hours, and video feedback in online courses. The next most popular topic was the effect of simulations on student learning. Faculty also found that using some form of student response system (clickers, phone-based, and paper-based systems) all yielded both quantitative and qualitative improvement in student satisfaction and improving test scores. Other topics included student collaboration, cultural competence, and test preparation methods as well as a host of other topics.

Results

- Improves teaching practice
- Recognition of action poster presentation toward scholarship
- Recognition for receiving a grant (includes a stipend that is added to paycheck)
- Grant award demonstrates fulfillment of one or more of the faculty pedagogy competencies
- Action research projects can serve as a springboard for peer-reviewed publications
- Faculty share innovations
- Archive demonstrating faculty assessment of teaching and learning at the course and assignment levels
- Creating a culture where action research is rewarded

SyllaBot

The SyllaBot app collects the latest information from official sources and uses it to automatically generate a draft editable syllabus in Word. The app imports the course number, title, term, section, description, and pre- and co-requisites, course credits, and current university policies from the university databases. Then, from the LMS, it imports the name of each module, assignment groups assignment weights and grading scales, as well as the alignment of assignment with learning outcomes. Then it imports the course and program learning outcomes from the Curriculum Mapping Initiative (CMI) app.

The intention of the SyllaBot is to save faculty time in gathering and formatting clerical information, and instead engage faculty in the creative work of course and assignment design. In addition, the SyllaBot has dramatically

reduced the number of errors in syllabi content and helps faculty see ways to improve their course design in the LMS.

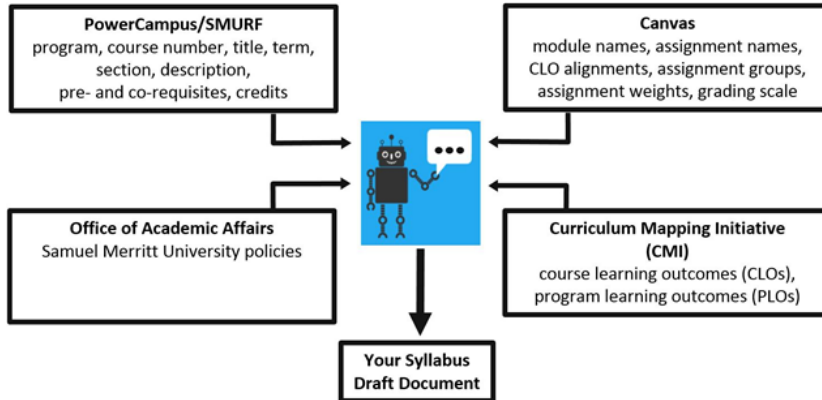


Figure 6. How SyllaBot gathers information from a variety of online sources

Results

- The majority of faculty surveyed report saving time and found the SyllaBot format helpful
- Reduction in errors on syllabi
- Standardization of syllabi in some academic programs
- Improvements in course organization in the LMS
- Help identify issues such as poorly written university policies, errors in program-level grading scale in the LMS, inconsistencies between course descriptions on syllabi and in the catalog.
- Reduction in inconsistencies between information on the syllabus and the LMS

Services

The Teaching and Learning Excellence Group is comprised of the Library, Academic and Instructional Innovation, and the Office of Assessment. At monthly meetings, the three groups meet to discuss how to best support faculty.

Meetings and Committee Work

The Office of Assessment also facilitates meetings to discuss improving teaching and learning, mostly done at the academic program level. Often the annual faculty retreat includes a two-hour session to assess program weaknesses and make plans for assessment.

The Assessment Office has a representative who participates in the Faculty Organization Curriculum Committee and Faculty Development Committee to support their work and champion the goal of creating a continuous cycle of improvement to promote excellence in teaching and learning. This often takes the form of supporting moves to improve processes and remove barriers that so their work is more fulfilling.

Sample Results

- Academic Programs reduce the number of assignments and improve assignment design by coordinating assignments
- Faculty development events engage active learning
- Faculty presentation quality improved
- Streamlined process for course change
- Support staff included in faculty development events

Conclusion

Using philosophical-based guiding principles that are staunchly pro-faculty informs our practice and allows faculty to engage in improving student learning rather than spending time complying with assessment activities. The results have been profound and accreditors have granted Samuel Merritt University the highest commendations for educational effectiveness.

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Defining Student Learning Outcomes: Case of Diversity

By Comfort M. Ateh, Providence College

Abstract: Learning outcomes are at the forefront of academic planning processes and can be defined at the institutional, program, and course levels. Faculty can be challenged in aligning course learning outcomes to the program and/or institutional outcomes when the institutional and/or program outcomes are not explicit. This is the case of a small liberal arts college in the north eastern region of the USA where the graduation requirement for students includes a 3-credit course approved for diversity proficiency. This paper presents the diversity proficiency requirement at the said liberal arts college in discussing the challenges that faculty encounters in creating course learning outcomes that align with the institutional learning outcomes. The paper further discusses the way forward towards explicit learning outcomes that will enhance the alignment of learning outcomes at all three levels to ensure students gain the knowledge and skills expected of them at the end of the learning experience.

Keywords: Learning Outcomes, Learning Objectives, Learning Goals, Instructional Tasks, Instructional Assessment, Faculty Engagement, Assessment Culture, Learning Improvement

Learning Goals and Learning Objectives

Learning outcomes, learning objectives, and learning goals embody what students are expected to learn and know and have been used by some educators interchangeably, which can be challenging for practitioners who rely on various resources in enhancing their knowledge and practice. Some authors have made distinct differences among the concepts, which I believe is necessary towards standard knowledge and application. A Canadian research group based in Ontario defines learning goals as brief statements that describe, for students, what they should know, understand, and be able to do by the end of a period of instruction (e.g., a lesson, a cycle of learning, a unit, a course). Success criteria on the other hand describe, in specific terms and in language meaningful to students, what successful attainment of the learning goals looks like. (Ontario. Ministry of Education, 2010).

Learning goals can represent knowledge and skills to be developed over both long- term and short-term periods. Long-term goals typically represent a “significant skill ... the kind of *learning outcome* requiring a number of lessons for students to achieve it” (Popham, 2008, p. 24). Teachers use short-term goals to identify “step-by-step building blocks” students need to achieve the long-term goal. Popham refers to these clusters of short-term goals as learning progressions, “a sequenced set of sub-skills and bodies of enabling knowledge that ... students must master en route to mastering a more remote curricular aim” (Popham, 2008, p. 24).

Long-term learning goals are usually conceived directly from the standards and are usually perceived as abstract, which might be challenging especially for new teachers in creating curriculum for instruction. On the other hand, the short-term learning goals consisting of enabling knowledge and skills towards more sophisticated knowledge and skills are less challenging for teachers in identifying instructional resources. It is crucial to have clarifying learning goals so that students are able to answer the questions: where are we going with the instruction? What are we expected to learn? Learning goals must thus be written in student-friendly language. When students understand what they are to learn (learning goals) and what the learning looks like (success criteria) they will be more prepared to monitor their learning, receive feedback and adjust their learning towards success defined by the learning outcomes.

William and Thompson (2007) suggested that teachers should plan effective classroom tasks and discussions with questions to elicit evidence of students’ learning. This can be effective if teachers define the *learning goals* and *success criteria* within building blocks that will guide the creation of adequate tasks embedded with questions to elicit student knowledge on what they bring into the learning environment. Hattie and Timperley (2007) define a framework of three questions that embody assessment for learning: Where am I going? How am I going? Where to

next? Identifying and sharing learning goals with students at the beginning of a period of instruction provide an explicit answer to the first question, 'Where am I going?'. The learning goal sets the direction about what the students are expected to learn. Making the success criteria explicit helps students to determine the answer to the second question, 'How am I going?'. Explicit criteria help the students to determine traits that will guide them monitor their progress towards the goals.

Every piece of knowledge acquired during a learning experience is important and contributes to the overall learning experience. It is crucial to capture students' engagement at every stage of the learning experience and determine the extent to which they are amassing the pieces of knowledge and skills that contribute to the overall learning experience and knowledge. Teachers are thus continually encouraged to implement formative assessment (FA) also known as assessment for learning in their instruction, based on research that learning can be significantly increased, if FA is effectively implemented (Black, Harrison, Lee, Marshall, & Wiliam, 2003; Black & Wiliam, 1998). This kind of assessment in addition to improving student learning helps students become independent, self-monitoring learners (Black & Wiliam, 1998; Clarke, 2008).

Effective learning goals are based on the curriculum are stated in a way that supports the learning needs of students. Some students need to learn in smaller increments than others; some need to "leapfrog, then circle back" (Popham, 2008, p. 28) in a non-linear path. In writing a learning goal for a lesson or cycle of learning one begins by examining the overall curriculum expectations for the subject or course followed by selection of a related specific expectation. The learning goal represents the knowledge and/or skills outlined in the expectation, which are usually complex and abstract requiring some 'unpacking' or stated in smaller incremental specific learning goals embodied in the learning progression. The short-term smaller specific learning goals support the teacher's ability to create instruction that meets the needs for all students. An example can be seen in the content area of mathematics where students are expected to simplify polynomial expressions. Shorter learning goals for students to be able to simplify polynomial expressions include the following: identify polynomial expressions; identify like and unlike terms; group like terms. Students must attain these sub-learning goals to be able to simplify polynomial expressions.

An important step for teachers to effectively implement FA is to have *clear learning goals and success criteria* within a logical sequence of instructional activities that guide a progression in students learning from what they know to what they are expected to know. This sequence represents smaller learning blocks that show crucial components of learning progression, that are critical for teachers and students to support teaching and learning. Learning progression presents a number of opportunities for curriculum developers and instructional planning to support students learning. It enables teachers to focus on important learning goals in the domain, centering their attention on what the student will learn rather than what the student will do. Teachers are able to see connections between what comes before and after a specific learning goal. To be effective, FA cannot be treated as a series of *ad hoc* events. Instead, evidence of learning needs to be elicited in systematic ways so that teachers have a constant stream of information about how student learning is evolving toward the desired goal.

Learning Goals and Learning Outcomes

Learning goals focus on what students are expected to learn without emphasizing how they will demonstrate what they have learned. Learning outcomes are explicit through knowledge, skills and attitudes that students acquire and can demonstrate at the end of the learning experience. Unlike a learning objective that is mostly specific to a shorter lesson and/or topic covered during a learning experience, learning outcome represents a bigger picture of what students should know and be able to do at the end of a lengthier learning experience.

Documenting what students learn, know and can do is of growing interest to colleges and universities, accrediting groups, higher education associations, foundations and others beyond campus, including students, their families, employers, and policy makers. The National Institute for Learning Outcomes Assessment (NILOA) established in 2008 prides itself as a leader in making learning outcomes visible and useful to the public. NILOA'S focus is mostly

at the institution and program levels, which might challenge the involvement of faculty in responding to engagement in assessing and documenting students' learning towards program and institutional evaluation.

Accreditation is the primary vehicle for quality assurance in American higher education and the major driver of learning outcomes assessment (Kuh & Ikenberry, 2009; El-Khawas, E, 1986, 1995; Peterson, Augustine, Einarson, & Vaughan, 1999). In an initial report on improving learning outcomes the researchers recommended that faculty systematically collect data about student learning, carefully examine and discuss these results with colleagues, and use this information to improve student outcomes (Kuh & Ikenberry, 2009). The researchers noted that the process of assessing learning outcomes could reveal flaws on the part of students, instructors, the curriculum, and institutions that could be improved. Unfortunately, "Colleges... do so little to measure what students learn between freshman and senior years. So, doubt lurks: how much does a college education – the actual teaching and learning that happens on campus – really matter?" (Leonhardt, 2009) It is crucial for students to acquire the skills, competencies, and dispositions that prepare them for a lifetime of learning in an increasingly competitive global marketplace. Stakeholders must have adequate information on what undergraduate students learn to make informed decisions about instructional approaches, staffing, resource allocation, and other policies and practices that will help students attain the desired outcomes. Stakeholders must have a common understanding of the learning outcomes at the various levels (institutional, program, course) and their interconnectedness must show alignment from the course level to the institutional level. Failure to have explicit learning outcomes will result in poor data to understand and inform what is working and what is not; and to identify curricular and pedagogical weaknesses, which are crucial towards for improving performance.

Many faculty members see the documentation of learning outcomes at the program or institution level as a waste of time. This can be attributed to the top-bottom approach in creating learning outcomes with minimal faculty involvement. Learning outcomes assessment that involves gauging accomplishment, understanding what is working, spotting weaknesses, and using data to make better decisions is critical in realizing the broader higher education agenda. Such data can guide the allocation of resources equitably so every student will be successful. It is in the above backdrop that I was motivated to initiate a study on the diversity proficiency core required of undergraduate students at a small liberal arts college in the north east region of the USA.

APPLICATION OF LEARNING OUTCOMES

Learning Outcome Conceptualized

Learning outcomes are linked to the mission of a college or university and the focus is for learning to be an intentional outcome rather than accidental of what students are learning. This intentional paradigm assures equity in learning opportunities for all students served by a program. It is the big picture or the ensuing knowledge, skills and attitudes that results from the overall learning experience. Thus, it must be explicit for teachers and students. Learning taxonomies like Bloom's Taxonomy of Objectives for the Cognitive Domain (1956) are effective in creating intended learning outcomes for a course or learning experience. The focus is on action verbs that describe measurable knowledge and skills that students will acquire at the end of the learning experience.

At the recent June 2018 AALHE conference in Salt Lake City it was interesting to note the variations in perspectives on learning outcomes, objectives and goals. The overarching position was that learning goal represents the big picture of what students will be learning and is usually stated abstractly; learning objective is specific on what students will learn and be able to do; and learning outcome is what students will know and be able to do. Learning outcome was applied at the level of a lesson, course, program and institution learning experience. The following is the format for a measurable learning outcome: By the time the students finish the course, they should be able to This statement can be completed using a strong action verb like describe, explain, demonstrate, compare etc. that describe students' performance in the course. The choice of the verb is based on several factors including the expected course cognition level and the type of knowledge (factual or procedural knowledge). The above perspectives on learning outcomes constitute the framework within which I will discuss the study that was

presented as a poster presentation: Defining Student Learning Outcome: Case of Student Learning Outcome in a Diversity Proficiency core.

Higher institutions of learning define a program of study for students as having a minimum number of credits within specific programs and courses towards a specific degree. In the case of Providence College, students are expected to pursue a course of study that must include courses approved for various cores. One of the cores is diversity proficiency. The rationale for the diversity proficiency is stated as follows:

The pursuit of truth that animates the academic mission of Providence College cannot be rightly undertaken by individuals isolated from community. Education is not merely an acquisitive process, but a formation of mind and heart directed toward the sharing the fruits of one's contemplations with others. In today's world, we are more and more aware that these others reflect a wide diversity of traditions, cultures, religious convictions, abilities, and experiences. For this reason, an education for truth must involve serious consideration of the differences within the human community. Accordingly, each student will be required to take a course devoted either to the exploration of a culture outside of the American and Western European ambit or to the study of differences within the American context. Both options reflect the Catholic commitment to the unity of the human family above and beyond all distinctions.

The objectives for the diversity proficiency core are listed under two options defined by the core: 'cross cultural understanding' and 'diversity.'

Objectives for Courses Under the Cross-Cultural Pathway:

1. Introduce students to a different culture and help students think about what constitutes a cultural identity and the fundamental assumptions which underlie cultural differences.
2. Provide students with the opportunity to understand and appreciate the perspectives of others who encounter and interpret the world in significantly different ways, while simultaneously providing students with new perspectives on their own culture.
3. Explore the theoretical, methodological, and/or ethical issues involved in encountering cultural differences.
4. Provide students with significant opportunity to use their understanding of cultural differences to reflect on their own behavior and decisions.

Objectives for Courses Under the Diversity Pathway:

1. Introduce students to the meaning of social identities, such as race, ethnicity, gender, class, and disability and their intersections.
2. Offer students the opportunity to discuss and understand multiple forms of oppression including, but not limited to racial and ethnic intolerance and resulting inequality as it occurs in the United States or elsewhere.
3. Explore comparisons of discrimination such as those based on race, ethnicity, religion, disability, social class, age, or gender.
4. Stimulate critical reflection on theoretical, methodological, and ethical issues involved in encountering differences stemming from race, gender, class, religion, and disabilities and help students to think systematically about the fundamental assumptions underlying such differences.

The course syllabus for the diversity proficiency must include how each of the objectives of the diversity proficiency core is met and explain how students will be held accountable through assignments and assessments. The syllabus must also include the diversity proficiency requirement(s) that the course satisfies, a listing of the course objectives

for the requirements, and the percentage (30% is recommended) of the student's final grade in the course that is based upon assessment of the diversity proficiency.

In an exploration of cores in the spring of 2015, the core committee (CCC) noted positive feedback by students for the diversity proficiencies. During the 2016-2017 year, the CCC formally assessed some of the cores approved before 2016 including the diversity proficiency core and noted that despite evidence that the core objectives had been met, several responses to the review did not provide evidence as requested but simply noted "see syllabus."

The rationale for the diversity proficiency core is rather complex and requires some chunking. The objectives are stated as learning goals and not explicit on what students are expected to know and be able to do after taking a diversity proficiency course. The most current report on cores by the CCC (2017) noted that "The two formal options ("cross-cultural" and "diversity") for this proficiency are confusing for students and faculty... Several faculty members teach courses that center on the theme of diversity within their fields of study, but do not specifically achieve the objectives of this proficiency. There is, in such cases, a concerning juncture between course content and our objectives for the diversity proficiency." These issues with the diversity proficiency core leave it wide open for variations in interpretations of the objectives and thus learning outcomes expected for this core. There is therefore a need for an in-depth study of the diversity proficiency core towards an explicit understanding of the learning outcomes associated with this core.

Discussion on Learning Outcomes

Major national faculty unions (American Association of University Professors (AAUP), American Federation of Teachers (AFT) and National Education Association (NEA) affirm the importance of assessment emphasizing that faculty must have a central role in determining how it is to be done and how the results are used. They assert that faculty involvement in assessment is essential in order to ensure that the principles of academic freedom and shared governance are honored in all phases of the assessment process. Furthermore, they prefer that evidence of student learning be used by the institution to enhance the quality of the student experience (Gold, Rhoades, Smith, & Kuh, 2011). The study I am conducting on learning outcomes for the diversity core is in line with the guidelines for conducting such research by engaging faculty who will have a central role in determining assessment and the necessary curriculum modifications to enhance learning. The AAUP sees student learning and reform of teaching and academic programs as core academic activities and the primary responsibility of faculty who should "collectively take on the task of identifying student learning outcomes, conducting those assessments, and revising curriculum accordingly" (Gold, Rhoades, Smith, & Kuh, 2011, p. 7).

Learning must be defined within specific outcomes that define what students will know and be able to do at the end of instruction. This is conceptualized as learning outcomes usually expressed in statements as knowledge, skills, or attitudes on what learners will know and be able to do or value as a result of taking a course or completing a program. Learning outcomes are based on educational needs defined as: "something individuals should learn for their own good, for the good of their organization or profession, or for the good of society" (Knowles, 1970). Learning outcomes flow from a needs assessment, where a need represents a gap between the learner's current level and the desired level of knowledge, skills or attitudes. Learning outcomes thus represent solutions to the needs and guide planning for effective instruction to attain the needs. Good learning outcomes must specify action by learners that is observable, measurable, and doable, and hence can be assessed. They are generally written in the following format: As a result of participating in (program/course name), you (students) will be able to (Action verb) (Learning statement). Bloom's Taxonomy provides some useful verbs to write objectives for different levels of learning. It is this format of learning outcome that is missing in the diversity proficiency core, which calls for a needs assessment towards revision.

Learning outcomes guide instructors on selecting course content, designing assessments that allow students to demonstrate their knowledge and skills, and designing strategies that help students to develop knowledge and skills. Explicit learning outcomes enable students to decide the good fit for the course for their academic trajectory:

to know what they need to be successful in the course and to take ownership of their progress and to be mindful of what they are learning. Standardization obscures the ways in which students' identities are transformed by their engagement with disciplinary and professional knowledge, hence the danger of throwing the baby out of the bathwater. It is thus important to be cautious of the various contexts of courses in creating learning outcomes for the diversity proficiency.

Questions that are crucial in constructing learning outcomes and in the case of the diversity proficiency core are as follows:

1. Do students' level of awareness need to be raised?
2. Do students need to understand better the context in which diversity exists?
3. Are there things about diversity that students need to unlearn?
4. What are the most essential things about diversity that students need to know or be able to do?
5. Do students need a strong rationale to buy into the need for a diversity proficiency requirement?
6. What specific skills or strategies do students need?
7. How important are students' level of confidence with learning about diversity?
8. What are the obstacles students face in applying the knowledge and skills learned about diversity?
9. What are the most important things students need to be able to do when they complete a diversity proficiency course?

It is important to ensure students accomplish what they need to respond to the challenges of the 21st century and to contribute meaningfully and responsibly to civic life. Outcomes assessment is more extensive than some think, but considerably less than is needed to secure the future to which we aspire. Interview of stakeholders including faculty teaching diversity proficiency courses and students who have taken the course will continue during the fall semester of 2018. Analysis of primary and secondary data will include determination of themes that align with the college mission in relation to diversity: stakeholders' perspectives on the learning goals and what students should be expected to know and do as well as skills to be acquired at the end of a diversity proficiency course. The overall aim is to present the findings to institutional and programmatic decision makers to guide modifications in the learning goals for the diversity proficiency core and to enable decisions of measurable learning outcomes that will guide faculty creating and/or teaching courses that will allow students attain the expected learning outcomes at the course, program and institutional levels.

Conclusion

Learning is easier when learners understand what goal they are trying to achieve, the purpose of achieving the goal, and the specific attributes of success. There is an issue with the diversity proficiency core at the small liberal arts college where the study is being conducted. The study that was outlined in the poster presentation at the 2018 AALHE conference is an attempt to identify and fix the problem. Preliminary findings suggest that learning outcomes should be created using a bottom-up approach in which faculty are at the forefront of identifying and examining instructional and assessment tasks that will enhance students' attainment of explicit learning outcomes. In this paper an in-depth literature on learning outcomes and its relatedness to learning goals and objectives have been presented. I am looking forward to sharing the findings from the study in the next AALHE conference in Minnesota in June 2019.

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Promoting Faculty Engagement and Assessment Efforts: A Case Study

By Ryan Chung and Kelva Hunger, Oklahoma State University

Abstract: Getting faculty engaged and excited about assessment can be difficult. This session shared straightforward and practical strategies to boost faculty ownership of program assessment activities by way of faculty development efforts. We posit that promoting open dialogue with faculty and addressing their needs and interests related to teaching and learning will support a culture of continuous improvement. In this session, audience members formed by groups of three to five, and discussion questions were used to facilitate a dialogue amongst the audience and presenters. Questions covered topics such as the challenges with getting faculty engaged, the use of workshops (or other training opportunities), incentives for faculty, and others. The intended audience included anyone who has used assessment or has been part of assessment at a higher learning institution and who was interested in participating in a lively discussion about faculty development to learn about practical strategies for increasing faculty engagement. Not only did the presenters share strategies for the promotion of faculty engagement in program assessment, but audience members shared their experiences as well. At the end of this session, the attendees gained ideas of strategies that could be used for engaging with the faculty and supporting their ownership of the assessment process.

Keywords: Faculty Engagement, Faculty Development, Program Assessment, Institutional Assessment

Introduction

In their introduction to the presentation, the speakers asked two questions: (1) Who has seen the movie, *Field of Dreams*? and (2) What is the famous line from this movie? Session participants responded to the second question with the answer, “if you build it, they will come.” Perhaps a little confused, the audience soon realized the connection from the presenters’ follow-up question, “This applies to faculty wanting to join a university assessment effort, right?” After this fun quip, the presenters posed the main problem and reason for the presentation: faculty engagement in assessment is hard, and this session was designed to introduce ideas and facilitate discussion in order to promote faculty development.

Even though faculty engagement may not be easy, it is not impossible. Faculty often ask “what’s in it for me?” or “why should I spend time doing this?” Most faculty have very little time to do anything outside of research, course preparation, and teaching. Listening to concerns and perspectives shared by the faculty can be instrumental to establishing a strong working relationship. Through the experience of the presenters, we have found that it is best not to sugar-coat anything related to the assessment process, communicate expectations clearly, explain and suggest best practices in assessment processes and procedures using a non-confrontational approach. Most importantly, the focus was to clarify the meaning of assessment and how it will also build their programs and strengthen their roles as faculty members.

According to Linda Suskie (2009), *assessment* is systematically gathering, analyzing, and interpreting evidence to determine how well student learning matches the expectations and uses the results to further understand and improve student learning. Given the vital importance of assessment for all levels of the university, it is important that we are clear about exactly what *assessment* is and how we can use it to achieve those benefits. When students are able to see connections amongst their learning experiences, their learning is deeper and more lasting; it is the same holds true for faculty. When faculty can see the big picture of engaging in assessment, they reveal the potential benefits for all. The presenters believe that assessment should not simply be viewed as collecting data for program evaluation but that it should be viewed as ongoing self-evaluation, development, and improvement of a program.

Assessment benefits not only the faculty, but also the students, the academic programs, and the institution as a whole. Assessment designed to facilitate improved student learning can offer a number of benefits to students. For students, assessment can help clarify their instructors' expectations through clear, measurable learning objectives that should be stated in the syllabus. The students can also focus more on learning as they come to see the connections between learning and course content. They also can become more self-reflective learners. Lastly, students can benefit by gaining a clearer understanding of their own strengths and weaknesses as learners. A student-centered/learning-centered classroom can lead to high-impact practices. High-impact practices typically demand considerable time and effort from students, facilitate learning outside of the classroom, require meaningful interactions with faculty and other students, encourage collaboration with diverse peers, and provide opportunities for frequent and substantive feedback.

Academic programs that engage in assessment efforts can create stronger programs through a better understanding of the connections between what is done in the classroom (short-term) and the bigger picture (long-term). Academic program assessment can also strengthen programs by benchmarking for program comparison. Programs are also enhanced by assessment through accountability and being held to a standard that promotes student success.

It is important to have an institutional assessment process for a number of reasons. Having a process in place ensures there is continuous improvement of student learning. It helps promote direct feedback to students and faculty. Institutional assessment can also enhance instructional strategies by shifting instruction from an instructor-centered classroom to a student-centered/learning-centered classroom.

The current presentation was an interactive session. At the beginning, 22 participants were split into four groups and were instructed to get to know the others in their group. During this session, we all shared straightforward and practical strategies to boost meaningful faculty ownership of program assessment activities through faculty development. Most importantly, the presenters wanted more than just a lecture; they wanted to learn and wanted everyone to learn from each other by sharing stories and ideas about making assessment important to faculty. At the end of this session, the attendees gained ideas of practical strategies that could be used for continuing faculty development and increasing faculty ownership of the assessment process. During the session, the three question prompts that follow were posed by the presenters in order to facilitate discussion and explore solutions to issues that occur with faculty engagement.

Question Prompt #1: At your institution, what faculty training or resources exist to engage faculty in assessment? Are there workshops offered?

Many session participants expressed concerns that their institution did not offer faculty training workshops; however, some participants, as well as the presenters, did have experience with offering some sort of faculty training at their institutions, and an exchange of ideas and discussion ensued. It was mentioned that, in offering workshops, some faculty are just getting introduced to the assessment process. Workshops also allow the assessment facilitator to make valuable connections with faculty while also allowing the faculty to make valuable connections with their peers. In a workshop faculty get to know others who may have similar struggles and how others have overcome their struggles. When assessment facilitators make connections with faculty, it is important to build on those relationships. It was suggested that they can even meet up for lunch or coffee to make sure that faculty know a facilitator is there for them as a resource for assessment.

One main objective in offering assessment workshops is to keep the communication channel open and available to faculty. This can be done by assisting with survey design, data analysis, reporting, or even just being a sounding board for faculty. They can then decide what they need or how they want to begin, and, most importantly, they know who they can talk to for assistance if needed. It is important to communicate clearly with faculty, help them identify areas of improvement in their assessment plans, and aid in any improvement plans by offering support and guidelines. When it comes to solutions and strategies for continuing faculty development and increasing faculty

ownership of the assessment process, try to develop and implement practical, campus-wide activities aimed at boosting faculty understanding of the benefits of assessment to the teaching and student learning process.

Question Prompts #2: What barriers exist at your institution regarding faculty ownership of the assessment process? How have you overcome these barriers? What have you tried in order to increase faculty ownership of the assessment process? Any 'out-of-the box' ideas? What succeeded and what failed?

This particular prompt invited productive discussion and strategies to issues brought up by session attendees. Starting this discussion, the presenters and audience members identified typical comments they have heard from faculty about their struggles and concerns in assessment (at both the course and program level) including: "I have never been taught how to do it," "I've got no time for this (until they have no choice)," "Can someone else do it? (I am so busy)," "Ok, I'd like to try but I don't know where to start, find help (resources), or who to talk to if I need assistance," and "What's in it for me? Will I be compensated financially or by time release?" Below are two of the main issues discussed, followed by solutions and strategies generated by the presenters and session attendees.

Suggestions specific to common challenges

Some faculty can be defensive; how can I approach them about assessment?

In many cases, faculty (some, not all) do not like to be told what to do. An assessment specialist should consider his/her position at the institution as an assessment facilitator, not an assessment dictator. Avoid telling faculty what to do and, instead, approach any discussions as a resource that is available for providing suggestions and guidance. Gain their trust and support and have a goal to make allies, not enemies. Assessment facilitators cannot really do their job or fully function without having the understanding and support of the faculty; finding common ground is the first step. The focus should be to ask what one can do to assist them. Additionally, if the assessment facilitator also has the role of instructor, then it is important to bring up this fact to faculty as it can help make the facilitator more relatable since it displays your understanding of faculty concerns and struggles.

How can you get faculty to *value* assessment and not just *do* assessment because they *have* to?

Try to help faculty see the big picture of their careers; begin by mentioning their responsibilities, which can include: teaching, publishing research, and getting tenure. Remind them that we are all here to support one important thing (again, choose your words carefully): student learning. This aspect is often not the central component when reflecting on academic responsibilities, and yet assessment can support both faculty and student success. Assessment can help faculty achieve academic excellence at the highest level of teaching, research, scholarship, and creative activities through the application of knowledge in their fields and, most importantly, in the classroom. Teaching and learning should be seen as inseparable.

Explain how faculty engagement in the assessment process can benefit and support them, making it well worth their effort. Benefits for faculty engagement in assessment efforts include a more collegial environment. Collegial describes "a work environment where responsibility and authority are shared equally by colleagues" (*Vocabulary.com*, n.d.). Assessment should be faculty-driven and faculty-owned. Faculty will gain an improved understanding of the connection between the courses they teach and how they fit into the program as a whole. Another positive outcome is that student learning will be assessed more effectively. Lastly, being involved in assessment provides a service to the university. Furthermore, involvement in assessment-related committees (program assessment, general education assessment, university-wide assessment, etc.) can provide additional benefits to the faculty, including administrative training and experience, research and professional presentation opportunities, and teaching collaboration.

Question Prompt #3: What practical ways could faculty be incentivized to take ownership of the assessment process at your institution?

The presenters shared their current plans to incentivize faculty; they are in progress of creating an award for the best annual program assessment reports submitted each year. Two reports will be selected from each academic college by University Assessment and Testing (UAT) at OSU, and a sub-committee from the Assessment and

Academic Improvement Council will then review the selected reports and select one overall winner. The winning faculty assessment coordinator or team will serve as OSU assessment champions to further assist and collaborate with other departments, colleges, and UAT to promote student learning outcomes assessment at OSU. The review of the reports will be based on key components such as the use of the report by the program, action plans based on findings, faculty engagement with assessment, collaboration amongst faculty within the program, and creativity and innovation of assessment by the program. The assessment coordinator from the winning report will be recognized during a public, academic-related event such as convocation or another institutional ceremony. The winner will receive a financial award to be used for academic purposes. The winner will also be invited to speak and share their assessment stories at faculty development workshops. Other incentives for faculty could be in the form of teaching time-relief and points toward the tenure process.

The Takeaway:

Assessment is the act of evaluating student learning, and accountability is using the results of assessment to demonstrate the quality of a program. Assessment can be a significant factor in cultivating a culture of continuous improvement. The role of the assessment facilitator is to support and assist faculty members, programs, units, and colleges to achieve their plans, objectives, goals, and missions. In order to provide support and services based on the best practice in terms of assessment strategies, faculty and assessment coordinators have to have the courage to stop doing things that are not working, petition for needed resources by linking to strategic initiatives, and reassess their strategies as necessary.

Networking and collaboration with other units on campus can promote sincere dialogue and addresses faculty needs and interests that are directly related to aspects of teaching and student learning. Providing opportunities for faculty to share their stories with each other is essential in promoting faculty engagement in the assessment process. It is also important to network and connect with peer institutions to find the best practice for your institution by asking how and what others are doing. There is no magic formula to creating a culture of assessment; what works on any campus depends on its culture, history, and values. Being flexible in requirements, expectations, and approaches is one of the keys to assessment success.

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Using the Academic Program Assessment Model for University Assessment

By Janet Thiel, Georgian Court University

Abstract: Recently, the structure of academic program assessment was used to develop a unit assessment protocol across all units of a university. Based on development of unit goals and outcomes aligned with a newly developed strategic plan, each university unit was asked to develop 3 major goals with aligned outcomes from that plan that would be assessed annually over a three-year cycle. A common template was used for this process. This model allows for the individuality of units across all departments of the university while maintaining a common unifying element of its Mission and Strategic Compass. The theoretical model for unit evaluation and strategic planning is based on Alexander & Serfass' *Strategic Quality Planning and Continuous Improvement* (1999). The underlying theory is that of KAIZEN, continuous improvement. The process includes the elements of internal and external scans, benchmarking success and vision sharing, tactical considerations, and analysis of interrelationships. The university is moving from a history of consultant-based periodic evaluation to an internal model.

Keywords: Assessment, Unit Evaluation, Continuous Improvement, Higher Education, Strategic Planning, Mission Integration, Benchmarking

Theoretical Models

The theoretical model for unit evaluation and strategic planning is based on Alexander & Serfass' *Strategic Quality Planning and Continuous Improvement* (1999). The underlying theory is that of KAIZEN, continuous improvement. The process includes the elements of internal and external scans, benchmarking success and vision sharing, tactical considerations, and analysis of interrelationships. The university used for this study employed the Strategic Compass model for its strategic planning, as developed by Buller (2015) and based on change leadership as a way to transform the university. Once developed using this model and process, its implementation included the framework of using annual operational plans of the various functional and academic units of the university.

Assessment within the university covers many areas and functions. Primary to the mission of any college or university is student learning. Student learning is assessed through the structures of course evaluations, program assessment, discipline-specific and regional accreditation, and government scorecard measures. Assessment or evaluation of the university's functional units is sometimes not so well developed or integrated. However, most universities develop strategic plans and all are accountable to regional accreditors for functional assessment. This functional assessment can take on a variety of forms: use of consultants, annual reports, internal and external audits, or use of surveys on satisfaction and suggested improvements. What is presented in this paper is a model that aligns with academic program assessment and review.

Recent strategic planning is often based on the logic model, as developed by Knowlton and Phillips (2009). This model is based on the premise that better strategies produce better results. Logic models display relationships: between resources and activities, activities and outcomes, outcomes and impact (p. ix). A program logic model details the resources, planned activities, and their outputs that reflect intended results.

Alexander and Serfass (1999) propose futuring tools for strategic quality planning in education. Their hierarchy shows short to intermediate range plans that begin with strategic and long-range plans and flow through business-tactical plans aligned with the long-range goals and actualized through the annual operational plans of many functional areas. The annual plans are based on the Japanese term KAIZEN or continuous improvement. Their schema is a hierarchical plan.

The process of strategic planning as outlined by Buller (2015) is an inclusive process. At the university of this study, the process was implemented by multiple groups of constituents over a period of 24 months. The end result was a

plan with four guiding compass points and related tactics that could be amended, deleted, and changed on a continuous basis, had overall Board-approved key performance indicators (KPIs), and would be implemented through unit assessment planning and the president’s cabinet members’ goals.

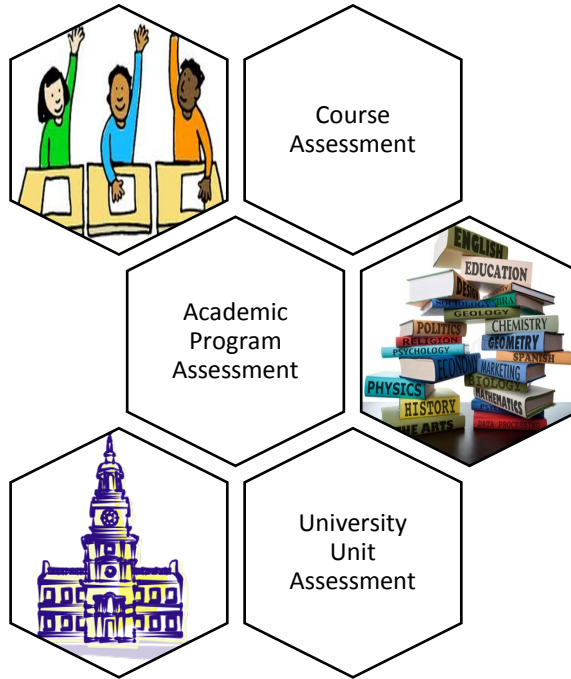


Figure 1. Assessment across the University

Two Paradigms of Assessment

In Ewell’s NILOA’s publication, *Assessment, Accountability, and Improvement: Revisiting the Tension* (2009), he presents two paradigms for assessment. Assessment for improvement is based on continuous improvement to benefit learning and the institution, and assessment for accountability used to meet compliance demands from government and accrediting agencies. The first is considered formative (improvement) while the second is summative (judgement). While both paradigms need to be in use within the university, the improvement models directly affect the day to day life within the university and among its current constituents. The inclusion model was used to develop the unit assessment at the university of this study. The university was already using Suskie’s (2015) guide for academic program assessment.

TWO PARADIGMS OF ASSESSMENT		
	ASSESSMENT FOR IMPROVEMENT PARADIGM	ASSESSMENT FOR ACCOUNTABILITY PARADIGM
STRATEGIC DIMENSIONS		
<i>INTENT</i>	FORMATIVE (IMPROVEMENT)	SUMMATIVE (JUDGEMENT)
<i>STANCE</i>	INTERNAL	EXTERNAL
<i>PREDOMINANT ETHOS</i>	ENGAGEMENT	COMPLIANCE
APPLICATION CHOICES		
<i>INSTRUMENTATION</i>	MULTIPLE/TRIANGULATION	STANDARDIZED
<i>NATURE OF EVIDENCE</i>	QUANTITATIVE AND QUALITATIVE	QUANTITATIVE
<i>REFERENCE POINTS</i>	OVER TIME, COMPARATIVE, ESTABLISHED GOAL	COMPARATIVE OR FIXED STANDARD
<i>COMMUNICATION OF RESULTS</i>	MULTIPLE INTERNAL CHANNELS AND MEDIA	PUBLIC COMMUNICATION
<i>USES OF RESULTS</i>	MULTIPLE FEEDBACK LOOPS	REPORTING

Figure 2. Two Paradigms of Assessment (Ewell, 2009)

Suskie's *Five Dimensions of Quality* (2015) denotes the following dimensions of quality within the culture of assessment: relevance, community, focus and aspiration, evidence, and betterment. This certainly aligns with Ewell's assessment for improvement paradigm. Her dashboard for a college's strategic goal (p. 182) includes all of the required assessment elements considered under the accountability paradigm, but also includes notation of progress to date, target goal for the following year and a long-range target, as well as resulting adjustments based on current data. An overall analysis of achievement to date of the stated goal gives the public communication needed for transparency of assessment results. Thus, assessment quality is critical for the impact of assessment results, however, assessment functions as a critical component of university success, whether by external benchmarks or internal expectations.

Core Elements of Unit Assessment

The assessment cycle of defining goals, setting measurable outcomes and expected benchmarks, collection of data, and analysis of results is applied to functional as well as academic areas of the university. This is the cycle of continuous improvement. Providing focused attention on one or two goals annually increased the actualization of proposed change based on assessment results. Allowing time to implement change prior to re-collection of data that determines goal success allows for assessment to be considered as formative, not punitive. All assessment results are considered as good, even though the data results may be less than satisfactory. If all is well, there is no need for change.

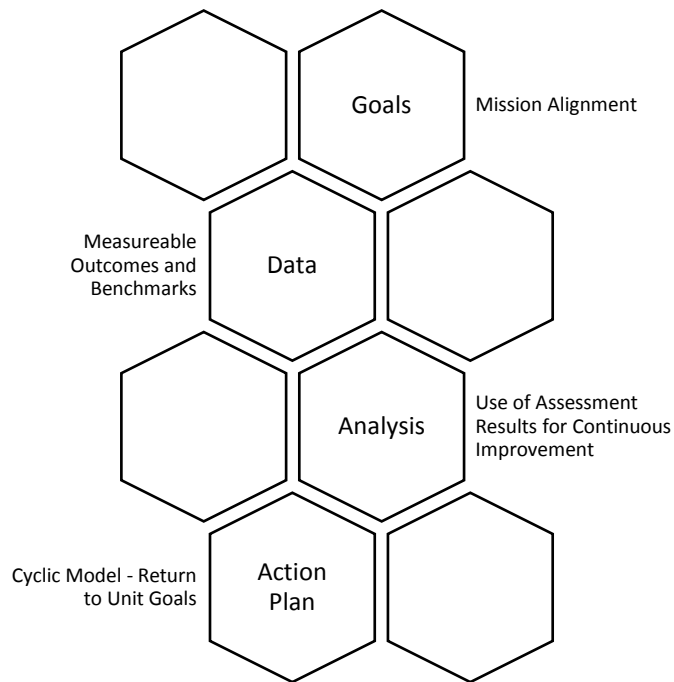


Figure 2. Assessment Cycle

These core elements defined the Assessment Plan and Report for all non-academic units within the university. The university was in the end stages of defining its Strategic Compass (Strategic Plan), along with its four compass points (Academic Excellence, Student Experience, Revenue Diversity, and Organizational Efficiency). The strategic compass points of reference were prefixed with mission integration: Mission Fulfillment through... An overall University Assessment plan was developed and approved, and all unit leaders were to be educated on the new format. The university previously had relied upon external consultants for a review of various units and offices, and non-academic departments were not responsible for their own assessment of functions. To initiate assessment planning for the functional units of the university, planning had to be tied directly to the strategic plan and easy

enough for various levels of constituents to develop and deliver results. It also had to allow for autonomy and diversity in approach and benchmarking.

Common Template

To allow for ease of use across the university, a common template for assessment plan development and reporting was created in Word. A short training session for all department heads was planned within a regularly scheduled President's Leadership Council meeting (February 28, 2018). A sample form was developed. Departments could act as one unit or divide into separate units by function. The university's assessment leader led the training session and was available for subsequent consultation. Assessment plans, once developed by the unit, were submitted using a survey instrument, as will assessment results. This will allow for aggregated data analysis and collect the linking of unit goals to strategic goals, Mission, and accreditation standards.

The outline of the Assessment Plan follows as Figure 4. Use of a survey allows for drop-down menu choices for Mission, Strategic Compass, and Middle States Commission on Higher Education (MSCHE) alignment, where more than one choice could be indicated. It also allowed for drop down menu choices for stating the year each goal will be assessed, as well as the overall calendar years for the plan. Departments were given a two-month time frame to develop and submit unit assessment plans. See Figure 4 for the Outline of the Unit Assessment Plan.

Directions: Complete the GCU Unit Assessment Plan with three goals aligned with GCU's Mission and Strategic Compass. See the template within the University Assessment Plan on the GCU Assessment webpage.

GCU Unit Assessment Plan

1. Name of Administrative Unit.
2. Name of the person completing this report. (Last, First)
3. To which Cabinet Member does this unit report?
4. Calendar Years for the Plan
5. State Goal 1 for your administrative unit.
6. State the Outcomes for Goal 1.
7. State Goal 2 for your administrative unit.
8. State the Outcomes for Goal 2.
9. State Goal 3 for your administrative unit.
10. State the Outcomes for goal 3.
11. Give the Mission alignment for Goal 1.
12. Give the Mission alignment for Goal 2.
13. Give the Mission alignment for Goal 3.
14. Give the alignment with the GCU Strategic Compass Point (s) for Goal 1.
15. Give the alignment with the GCU Strategic Compass Point (s) for Goal 2.
16. Give the alignment with the GCU Strategic Compass Point (s) for Goal 3.
17. With which MSCHE (Middle States Commission on Higher Education) Standard does Goal 1 most closely align?
18. With which MSCHE (Middle States Commission on Higher Education) Standard does Goal 2 most closely align?
19. With which MSCHE (Middle States Commission on Higher Education) Standard does Goal 3 most closely align?
20. What metrics will be used to measure results of Goal 1?
21. What metrics will be used to measure results of Goal 2?
22. What metrics will be used to measure results of Goal 3?

23. What will be the benchmark for successfully meeting Goal 1?
24. What will be the benchmark for successfully meeting Goal 2?
25. What will be the benchmark for successfully meeting Goal 3?
26. Name the person(s) responsible for Goal 1.
27. Name the person(s) responsible for Goal 2.
28. Name the person(s) responsible for Goal 3.
29. In which year will Goal 1 be assessed? Note: Data is collected annually, but analysis is done on a three-year cycle, one goal per year.
30. In which year will Goal 2 be assessed? Note: Data is collected annually, but analysis is done on a three-year cycle, one goal per year.
31. In which year will Goal 3 be assessed? Note: Data is collected annually, but analysis is done on a three-year cycle, one goal per year.
32. Are there any additional comments you would like to add to this report?

Figure 4. Unit Assessment Plan - Survey Questions

The annual assessment report was also determined by a common template. Results will be due annually by January 30th. Data can be used from any appropriate “year” – calendar, academic, fiscal, etc. Data from reports that were already required for external agencies was encouraged, just as student assignments already part of a course requirement were preferred for academic assessment. See Figure 5 for the Unit Assessment Report questions.

Unit Assessment Report:
<p>Data and Analysis</p> <p>Give a summary of data collected and analysis of this data related to the above benchmark.</p>
<p>Achievement of Outcome/ Objective</p> <p>Indicate level of achievement</p> <p>(Exceeds expectations, meets expectations, does not meet expectations, no data submitted)</p>
<p>Next Steps or Actions</p> <p>What, if any, steps or actions will take place as a result of the assessment findings</p>
<p>Budget Implications</p> <p>How will the above actions impact the budget for the next fiscal year?</p>
<p>How will you continue to evaluate this goal until the next cycle of assessment?</p> <p>Major goals will be re-evaluated on a three-year cycle.</p>

Figure 3. Unit Assessment Report (Non-Academic Units)

Peer Review

The newly developed university assessment plan, approved in January 2018, called for the Institutional Effectiveness Committee to act as peer reviewers of the units’ plans. At the end of the deadline for plan submittal (March 30, 2018), committee members met and were given a rubric to use to evaluate submitted plans. The results

of this rubric review were discussed at the next meeting, and committee members were assigned to meet with the author of the plan to review results and give feedback. This same process of peer review will be used with the submittal of annual reports, due January 30, 2019.

Common Elements of the Unit Assessment Plan

All unit goals and related outcomes were to be aligned with one or more strategic compass points. The compass goals were already aligned with the university's mission, but units were asked to choose specific phrases of the mission statement that their goal identified. Goals were meant to be practical, beneficial to the function of the unit, and based on areas that would welcome continuous improvement. In addition to being practical, they had to be measurable. The unit goals were also intended to be used for employee evaluation, as that process was also being realigned with the new strategic plan. The assessment plan was to be an internal evaluation, not dependent upon an outside consultant. It was also to be as cost neutral as possible, but budget implications were to be made explicit. The plan would be on a three-year cycle, one goal assessed per year. The plan could be repeated for subsequent cycles, as needed. Unit supervisors were expected to give approval to the plan prior to submittal on the university's survey. The Office of Institutional Assessment and Accreditation (OIAA) sent the submitted plan to both the author and the supervisor upon receipt. The OIAA also tracked compliance and sent reminders to supervisors and department heads. Within 6 months of the initiation, 88% of the university units submitted a unit assessment plan. Expected compliance was 85%.

Academic Assessment Mirror

The unit assessment plan was intended to mirror the academic assessment plan. Common elements of the academic assessment plan included the following:

- Based on program learning outcomes (3-10) that were written in measurable terms
- Aligned with Institutional Student Learning Goals (Undergraduate or Graduate)
- Aligned with discipline standards or accreditation requirements
- Operational over a 3-year cycle
- Annual reporting (June 30)
- To include assessment accountability – an action plan for improvement
- Reviewed annual by department chairs, deans, peers (Academic Program Review and Assessment Committee)

Common Process

The process for academic and non-academic assessment plans and reports are parallel. Since the Office of Institutional Assessment and Accreditation is responsible for both areas, the calendaring of expected submittals is defined as the academic year for the academic reports and the calendar year for the non-academic units. Changes to the Assessment Plan are also due at discrete times. However, for the unit assessment plans, data can be taken from any convenient year cycle: academic, calendar, or fiscal.

Academic program assessment

- Follows the academic year calendar
- Reports are due June 30
- Changes to the assessment plan due September 15
- Assessment plans are posted on assessment of student learning webpage
- Assessment reports submitted via survey
- Executive report posted on webpage

Unit assessment

- Follows the calendar year
- Reports are due January 30
- Changes to the plan are due February 15
- Assessment plans submitted via survey
- Posted on webpage for OIAA
- Assessment reports submitted via survey
- Executive report will be posted on webpage

Continued Connections

Parallel alignment is now being used with the academic program review cycle and unit evaluations cycle. A regular process for unit evaluations is being established through the University Assessment Plan, and can incorporate both internal and/or external evaluation. The review cycle will be based on a 5-year rotation with the non-academic units. Employee (non-faculty) performance evaluation will be tied to unit goals and outcomes, as well as performance based on current job descriptions. Faculty performance includes assessment of student learning from both course-level and program-level involvement.

The university's strategic plan is both mission- and student-centric. The university wants to see its constituents immersed in a learning environment that will give way to a better tomorrow. Figure 6 shows the interconnectedness of all within the university, with mission and the student experience at the center of its structures. Its assessment structure will give evidence of this goal.

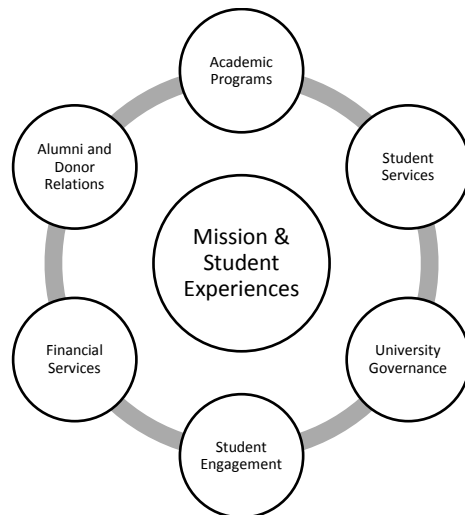


Figure 4. Mission and Students as Central to University Services

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Student Centered Assessment: Using Outcomes Transcripts for Visible Learning

By Suzanne A. Carbonaro, Caitlin Meehan and Mustafa Sualp

Abstract: The educational system of today has glimmers of innovation and evidence of progressive teaching and learning, but it is still rooted in traditional structures, which are constantly being updated. From rigid classroom environments which don't inspire learning to sages on the stages, colleges continue the uphill battle to actively engage its students through robust curricula that supports the whole-student experience, which includes meaningful connections to real-world teaching and learning along with opportunities for the students themselves to self-direct their learning based on need and passion. This paper provides insight into innovations, which support 21st century learners within a competency-driven pharmacy education program, highlighting a pragmatic approach to curricular, co-curricular and experiential education assessment mapping. Here, assessments linked to a pharmacy competency-driven program are spotlighted within a visible learning framework. This system provides unique and transparent evidence of student learning through a transcript of competency artifacts informing visible progress and mastery of skills necessary for successful evidence-based practice in health care. The value of this assessment structure is two-fold: Visible learning allows students to use feedback to self-direct their learning thereby selecting resources and experiences to enhance their learning and practice essential skills and secondly, it offers evidence for programmatic and instructional improvement.

Keywords: Competency Assessment, Curriculum Mapping, Visual Learning Framework

Introduction

Schools in the United States evolved in very unconventional ways and for a very different purpose than they exist today. As educator John Dewey suggests in his "Theories of Education", schools formed in a haphazard way, and rigidly form-fitted themselves into the competing interests of society. Students sat in rows of desks, focused on the teacher, whose teaching pedagogy mimicked a sage on the stage. Students were often apprenticed if they were deemed to have value while other "lesser" students were prepared for jobs that simply supported the community's needs for labor. Yet, W.F. Ward wrote in his analysis of Dewey's educational assessment of schools, "Participation in meaningful projects, learning by doing, encouraging problems and solving them, not only facilitates the acquisition and retention of knowledge but fosters the right character traits: unselfishness, helpfulness, critical intelligence, individual initiative, etc. Learning is more than assimilating; it is the development of habits which enable the growing person to deal effectively and most intelligently with his environment," (Ward, W. F., 1960). We see glimmers of this kind of active learning in classrooms today yet, a 360-degree view of universities reveal that there are still rows of desks and lectures, which could be easily replaced by videos. These environments often lift the thinking and creativity out of learning and don't align well to the mindsets of Millennial and Generation Z students. "This generation is three to four steps ahead. They're coming in saying, 'I want to do this, then when I'm done with this, I want to do this,'" states Army recruiter Gary Stiteler in *Time Magazine's* article "Millennials: The Me Me Me Generation" (Stein, 2013). Today's students will engage in activities where they feel they can contribute and that the activities themselves will add value to their career. However, many students share that when they are toward the end of their college careers, they aren't sure how their didactic coursework transfers into work-related skills necessary for project management, design implementation, product pitching and collaborative group work. Often it comes down to active learning and explicit teaching practices that provide insight into how to transfer coursework into tangible assets in the workplace.

Competency-Driven Curriculum

With the needs of the pharmacy profession in mind along with the need to engage students in meaningful learning to support success in their career in pharmacy, the Philadelphia College of Pharmacy (PCP), the first school of

pharmacy in the United States, recently went through a curriculum revision process led by faculty and initiated by its then dean. The result is a competency-driven curriculum, which maps to an expansive set of program outcomes (competencies) and sub-competencies (measurable abilities) aligned to the needs of the profession. To pragmatically assess the notion of “Do No Harm” for students in this new curricular approach which includes a modular course structure with spiraling knowledge and skills taught within an integrated science and practice sequence, the program developed a fluid structure of curricular, co-curricular and experiential education curriculum mapping, which provides evidence of student mastery of skills necessary for success in their profession.

The competency-driven curriculum at the Philadelphia College of Pharmacy takes into consideration these four educational outcomes: Foundational Knowledge, Essentials of Practice and Care, Approach to Practice and Care and Personal and Professional Development and aligns these domains to the competencies essential for completion of the program (ACPE 2016 Standards). As we design the assessment process for this curriculum, the question we continuously pose is this, “How can we actively engage students in learning WHY they need to know something before HOW?” When we posed this very same question to our audience at the 2018 Association for the Assessment of Learning in Higher Education Conference in Salt Lake City, UT, it was met with mixed feelings. Participants who ranged from health professions educators, counseling and education professors, institutional assessment professionals and directors representing a variety of programs, engaged in discussion around the concept of shifting the learning back to their students, offering more of a psychological approach to why versus a content-specific ‘this is how you do this’. Some had an aha moment while others stayed fixed on a content-approach pedagogy. When we delved deeper into how participants are currently providing specific feedback to learners to support their growth and discussed the work of John Hattie’s Visible Learning research and his meta-analyses on effect size to impact a variety of influences on students’ achievement, they began to open up to a new way of using assessment to drive learning in their own classrooms.

Hattie’s Visible Learning research focuses on viewing learning from the students’ perspective while teachers guide students to see themselves as their own teachers, using feedback to improve. Learning from failure through classroom discussion, peer to peer collaboration and individualized learning plans help students see their areas for improvement and result in increased achievement. In his keynote address for *Education Weekly* in April 2018, Hattie stated as reported by Alix Mammina, “that among the top factors that he’s found improve student achievement, most are related to teacher and school leader expertise—including having high expectations, welcoming mistakes as opportunities to learn, and maximizing feedback to teachers about their impact,” (Education Week Teacher, 2018).

The infrastructure for assessment of the pharmacy education competency-driven curriculum is anchored to the Visible Learning philosophy, designed to provide real-time, meaningful feedback to all stakeholders, informing student learning and program and instructional effectiveness (Hattie, 2012). Helping students move from surface learning to deeper learning is rooted in the feedback at various benchmarks within the professional curriculum leading toward mastery of the twelve pharmacy competencies aligned to best practices dictated by the profession.

When students meet the benchmark, they know why and if they didn’t, they are guided by their own data and their faculty mentors’ feedback to make the shifts necessary to meet programmatic expectations. The key to the assessment system is the mapping to pharmacy competencies and measurable abilities or sub-competencies which generate more specific results for students. Students are able to use the evidence and feedback to direct their own learning while also using the data to formulate an outcomes transcript that includes experiences within the didactic curriculum and outside of it within their experiential and inter-professional activities with other healthcare practitioners. They can turnkey these experiences and artifacts in a visible format for employers and residency directors.

Outcomes Transcripts Provide Evidence of Learning

Heidi Hayes Jacobs provides the example of the Rhode Island Department of Education's requirement of the high school portfolio as a progressive, "innovative and forward-thinking portfolio requirement for graduation. Each student develops a digital portfolio of self-selected work that matches standards" (Jacobs, 2010, p. 23). Up until this year, the portfolio assessment is traditionally used as an alternative assessment when students are unable to meet state testing mandates in many K-12 districts across the country. At the higher education level, there are programs, which require an exit portfolio and some institutions provide internal tools for students to use to develop this program outcome. Students often scramble to put together this portfolio at the closing days of their program. The PCP competency-driven assessment framework provides evidence of the spiral of learning that occurs when students enter, progress through coursework and experiences and exit their programs, populating evidence of learning along the way. As the whole-student movement and education for 21st century learning continues to evolve, there is hope that this type of outcomes transcript will become a component for graduation or even replace the current system of attaining just grades and credits.

Institutions of higher education at large are beginning to look at what the IMS Global Learning Consortium is calling a student's Comprehensive Learner Record. "Emerging educational models focus on the results of the educational process in the form of demonstrated competencies and seek to represent those competencies in digital credentials," (Advancing digital credentials and competency-based learning, n.d.). This extended transcript brings together the learning of the whole student; not just grades in a course but community service, extracurricular activities, leadership roles, teamwork and other non-cognitive aspects of the student's record not indicated on the traditional academic transcript. Assessing the whole student through portfolio, reflective writing and project-based learning enables universities and schools to better construct a more accurate image of their students and students to provide this of themselves to their future employers. In addition, an IMS Global Learning Consortium and the University of Maryland pilot entitled New Learning Model, revealed that students who develop 21st Century digital evidence of their learning versus a traditional academic transcript create a more holistic picture of their value to not only the needs of healthcare but the needs of society (IMS Global Learning Consortium, 2017).

"When you start your grading process by clearly communicating to students what exactly they are supposed to be learning, and when you support summative assessment with formative practice and feedback opportunities, everyone is clear on what needs to be done," (Brookhart, 2017, p. 33). Yet, as many participants shared during our rich discussion, how can university programs begin this process of shifting from summative assessments and grades to formative assessment and feedback which is real time and visible to students? It starts with identifying what it is you want a student to know and do as a result of a course or course sequence. The outcomes approach places the accountability on faculty to design learning experiences which help students provide evidence of their learning. The assessment system becomes a repository of a fluid curriculum map which connects to student learning outcomes (SLOs) of coursework within the program. The SLOs are assessed through multiple measures, providing many opportunities for students to show their learning in various ways and a structure to drive programmatic improvement via pedagogical enhancements, delivery options and individualized pathways leading to student success. The professional pharmacy curriculum uses a category approach to mapping which breaks down student performance, provides insight into how faculty teach and when they teach and a transparent mechanism for sharing continuous improvement to all who can benefit.

Continuous System for Improvement

In our demonstration to participants, we shared our program mapping (Figure 1) to standards, competencies, Bloom's Taxonomy, teaching practices and licensure exam categories within tangible artifacts such as the course syllabus and rubrics. We also provided evidence of feedback to students and achievement results, which linked back to mappings. The gradebook provides the student perspective, offering a visual representation of student progress toward competency mastery. Concurrently, the assessment structure forms an outcomes transcript

(Figure 2) behind the scenes, which can then be leveraged by the student for future sharing on platforms such as LinkedIn, accessed frequently by employers and recruiters.

The key to the entire continuous system for improvement for all stakeholders is centralization of the process and leadership. The technology, although robust, is not a stand-alone; the process needs to be driven by passionate leaders, who are focused on student learning, and educator effectiveness. As we stated at the end of our discussion, our intention is to provide a pathway to lifelong learning for all stakeholders through categorical mapping techniques, meaningful data collection, flexible technology and academic leadership to guide career readiness and student transfer of knowledge and skills.

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Figure 1. AEFIS Curriculum Mapping

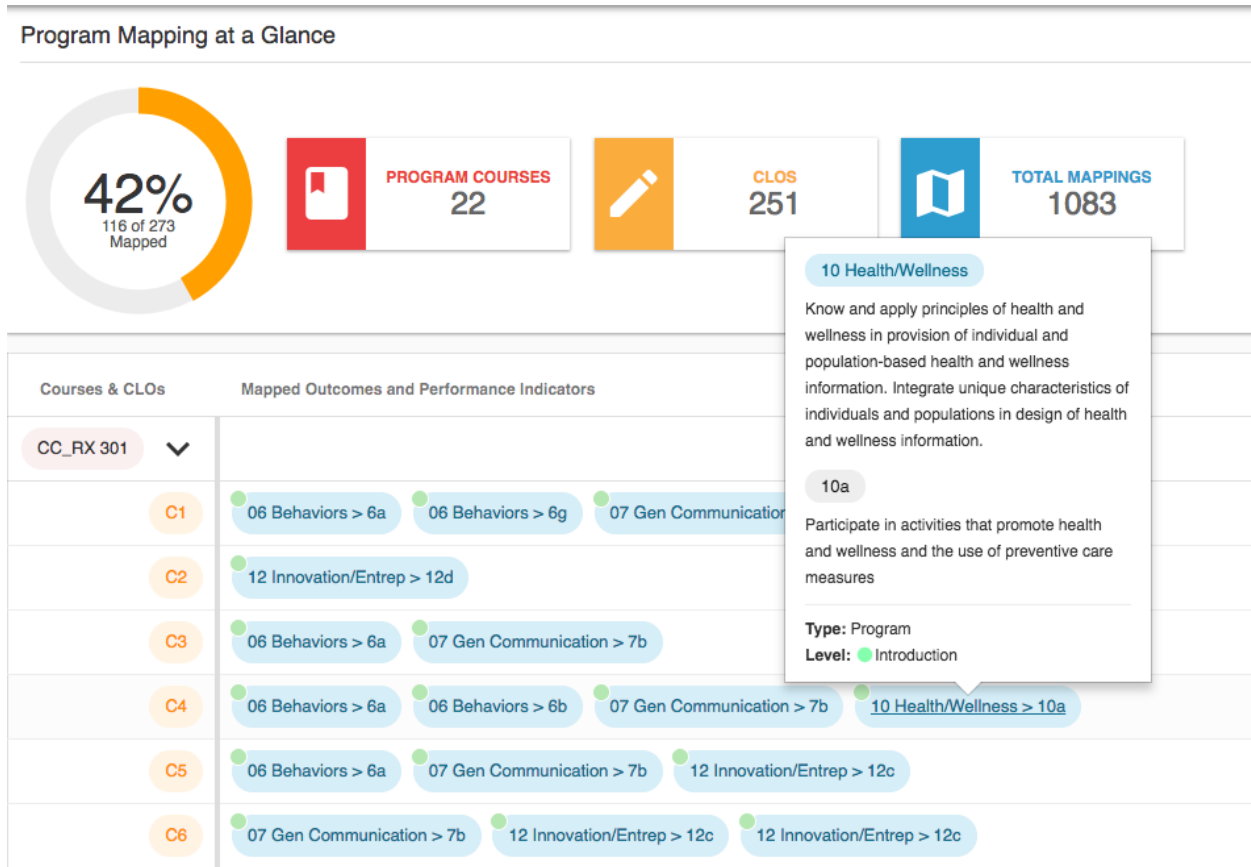



Figure 2. AEFIS Outcomes Transcript

☰ AEFIS University Outcomes Transcript
🔍 🔔⁴ 📄

The AEFIS University Student Learning Priorities Summary



85%

Communication

Employ an understanding of audience, purpose and context to communicate effectively in a range of situations using appropriate media.

Achieved: 17 of 20

Academic Learning

Objective Attempted
Level Achieved
Success

C1

Ability to concisely describe a problem, issue or situation along with current perspectives and potential new approaches.

BMES 382 A - Junior Design Seminar II
 Faculty, Marek
 Summer Quarter 15-16

1

2

3

4

Novice **Apprentice** **Proficient** **Master**

Proficient

Provides a reasonable problem or issue description; Most relevant content areas are addressed; Engineering terms and jargon matches the level of most of the audience

Faculty Note

Good industry analysis and assessment of Yahoo's internal and external environment. Solid value chain and financial analysis and integration.

✔

Achieved

Evidence

Final Project_a...eport.pdf

☰ AEFIS University Outcomes Transcript
🔍 🔔⁴ 📄

Michael Student


Program: Biomedical Engineering
 Cumulative Transcript as of August 7, 2018

@
□
□
□

Overview

Students graduating from AEFIS University demonstrate competency in a field of study evidenced by achievement of a set of program-specific learning outcomes. In addition, they also demonstrate meaningful progress in six core intellectual and practical skill areas and five experiential and applied learning areas. Learning in these core areas supports, and is integrated with, learning in their disciplines. Students exhibit levels of competency in each of these areas appropriate to their program of study, their individual interests, and their abilities. The AEFIS University Student Learning Priorities provide the framework for a broad education across disciplines and lay the foundation for a successful future.

Performance Summary



83%

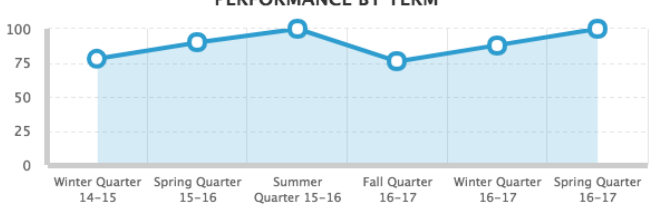
59 of 71 Goals Achieved

🎓 **TOTAL OUTCOMES**
10

✔ **GOALS ACHIEVED**
59

✍️ **GOALS REPORTED**
71

PERFORMANCE BY TERM



Term	Performance (%)
Winter Quarter 14-15	75
Spring Quarter 15-16	85
Summer Quarter 15-16	95
Fall Quarter 16-17	75
Winter Quarter 16-17	85
Spring Quarter 16-17	95

Library Partnership and Assessment: Multiple Stakeholder Evaluation in an Academic Co-Teaching Environment

By Jennifer Brown, Rebecca Larsen, Stephen Maisch, Artemis Sefandonakis, Dale Larsen, Alfred Mowdood and Donna Harp Ziegenfuss, University of Utah

Abstract: The LEAP Learning Communities program at the University of Utah provides over 800 undergraduate students a two-semester, small-cohort learning community course with a peer advisor and embedded librarian. The LEAP/Library partnership provides flexible, real-time collaboration that enables students to achieve a high level of retained library skills, necessary for a major research institution. LEAP's assessment culture, Library partnership, and Peer Advisor advocacy for students fosters multiple assessment practices for real-time course-corrections on course material coverage. Educational Benchmarking Incorporated and Skyfactor assessments conducted since 2010 demonstrate students in LEAP consistently report higher information literacy scores compared to students in similar first-year programs at peer institutions. Internal pre- and post- course surveys and student evaluations demonstrate that library skills are foundational for LEAP students' success. This paper will model our assessment and learning goals that can be implemented into any library's faculty course or institution, collect data and share models of library-student-faculty partnerships, and provide audience engagement on our best-practice of using Alignment Grids. The natural extension of this method is to other undergraduate programs. The paper will provide a model of improved student success through the application of assessment to learning outcomes, and examine how assessments from multiple stakeholders improves students' learning.

Keywords: Faculty and Administrators at the Course and Departmental Levels, Modeling Practice for Real-time Assessment and Alignment Grid for Co-teaching and Multiple Stakeholder Situations.

Introduction

Since 1995, the University of Utah LEAP Program has successfully partnered with instructional librarians to introduce students to library research and information literacy. According to our assessments we outdo peer institutions year after year in terms of the student-perceived value of this partnership. We would like to highlight for you what we believe has made this 23-year partnership a success, with stakeholder-responsive assessment practices providing an essential component.

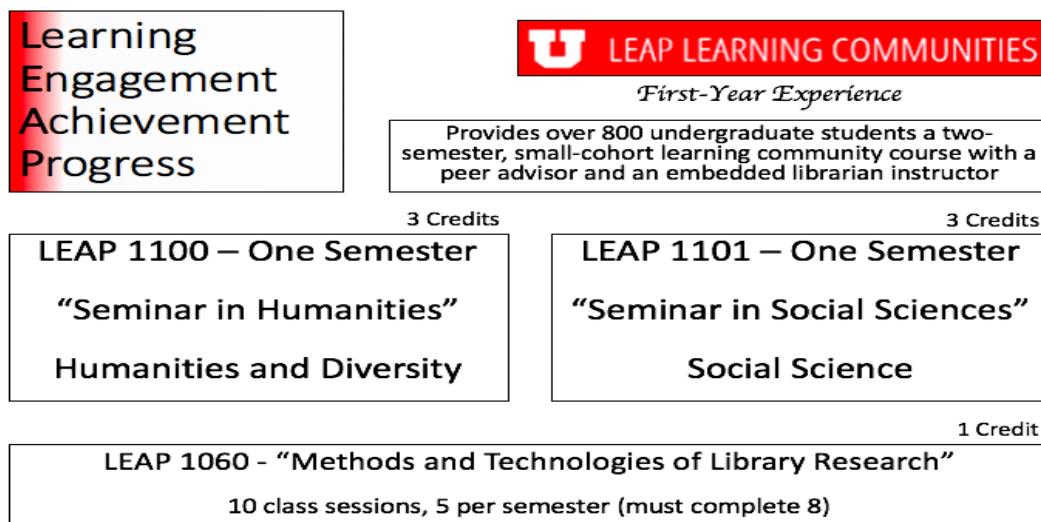


Figure 1. LEAP Program Diagram

LEAP is a University of Utah Program that stands for “Learning, Engagement, Achievement, Progress.” It is a two-semester, small-cohort, first-year experience learning community at the University of Utah that attracts over 800 students per year. Each class section has a Peer Advisor who is a LEAP student that has already completed the course the year before, and a partner librarian instructor. The course consists of a one-semester seminar that fulfills both a general education humanities and diversity requirement, and a one-semester seminar that fulfills a general education social/behavioral science requirement. Each semester has a research component with five library research instruction sessions taught by a University of Utah librarian instructor, for a total of ten library research instruction sessions in all. Students may opt to enroll in LEAP 1060 “Methods and Technologies of Library Research” for an additional one hour of credit if they take the entire year LEAP course and attend and complete eight of the ten library sessions.

Organizational Flowchart

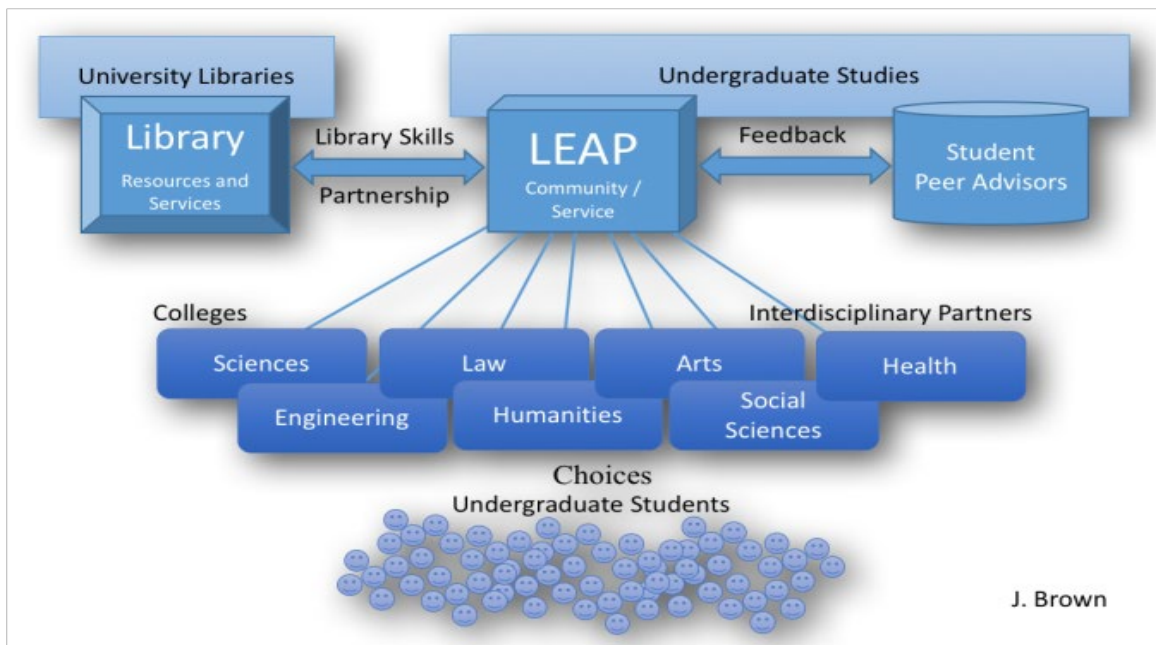


Figure 2. Organizational Flowchart

The current organizational structure is visualized in Figure 2. Students self-select LEAP from the variety of first-year experience offerings on campus. The advantage that LEAP provides is specific LEAP class sections devoted to the different colleges and majors. Students can work through their general education course material via the LEAP Program with a Peer Advisor and cohort of students with similar interests and a curriculum, including targeted library research sessions, that is compatible with their interests and needs. LEAP faculty and the Peer Advisors are administered by Undergraduate Studies, and the librarian instructors by the University Libraries system at the University of Utah.

History of the LEAP/Library Partnership

The LEAP/Library partnership began in 1995. The primary stakeholders were the LEAP faculty, librarian instructors and the students. As pioneers in first-year learning communities at the University of Utah, LEAP concentrated on the goals of quality teaching and library outreach. The assessments used were student-focused teaching

evaluations and course enrollment feedback. The program was recognized by the Boyer Commission on Educating Undergraduates in the Research University (1996-1998). (Boyer Commission, 1998)

From 1999 the program began a long period of growth, expanding to include partnerships with the different colleges on campus. The college partners comprised a new set of stakeholders with a new set of expectations and goals, among which were demonstrating a student-perceived value of the partnership and library instruction tailored to the research skills needed by majors in each college. The following assessments were subsequently added to evaluate the effectiveness of the LEAP Program and of the LEAP/Library partnership to respond to college-specific needs: 1) Office of Budget and Institutional Analysis (OBIA) "Survey of Graduating Seniors" (2005), Skyfactor (2010), 2) Engineering Assessment (Ethics & Teamwork), 3) Information Literacy and 4) ARCL 2000 Instruction.

Beginning around 2012, competing programs began to emerge to involve more students in first-year experience learning communities. University administration has been a stakeholder in these efforts, with the OBIA-2014 HSR requirements to meet national standards based on the catalyst to improve retention and graduation. The LEAP Program and the LEAP/Library partnership has responded to set the standard to improve undergraduate teaching/retention to meet administration directives, using AAC&U assessments for Information Literacy, ACRL Frames and the SAILS test.

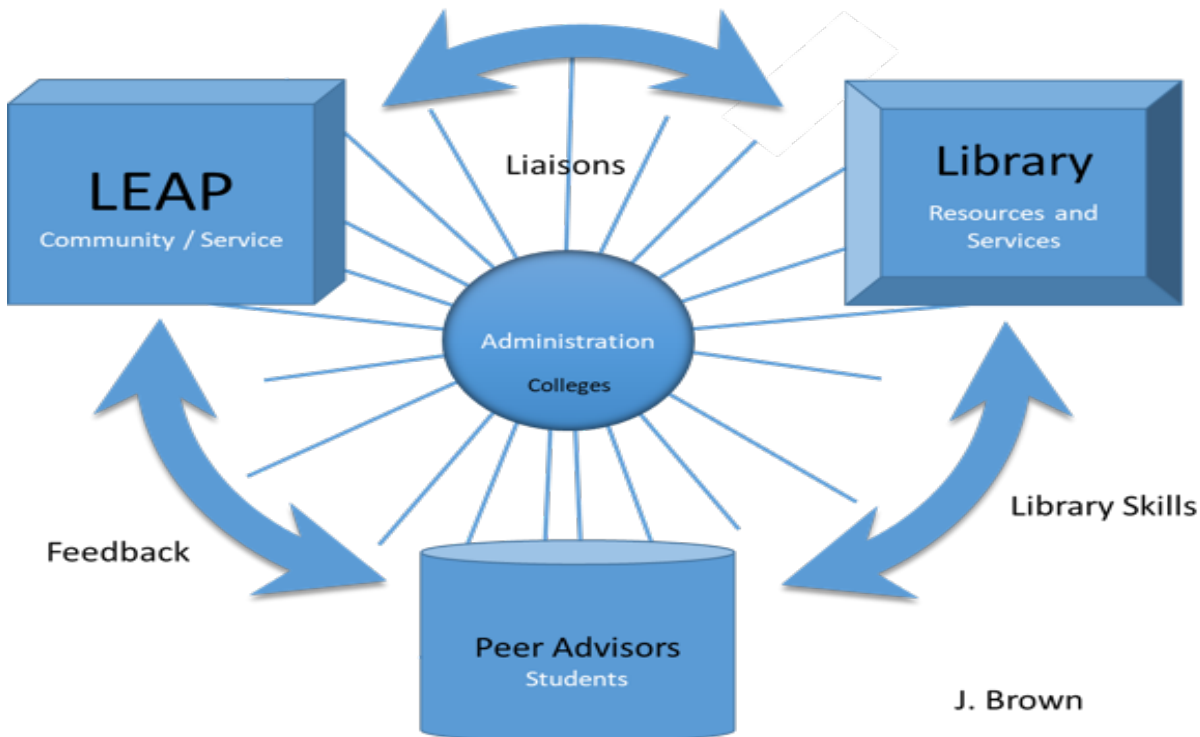


Figure 3. Feedback Loop used by Peer Advisor students, LEAP Faculty, Librarians
The Feedback Loop: An Important Factor in Implementing Successful Assessments

A fundamental key to the LEAP/Library partnership's assessment success has been the intensive feedback loop created at the incipience of the partnership involving the LEAP faculty, the librarian instructors, and the student peer advisors. (See Figure 3) The goal of the feedback loop has been and continues to be continuous review and improvement. Since assessment in the form of ongoing feedback is a natural and established part of the process, new forms of assessment are easily implemented. A unique, key role in the feedback loop that deserves mention for contributing to this success is the Peer Advisor.

Peer Advisors

A Peer Advisor (PA) is a second-year student who has been selected out of his/her first-year class to come back and act as a role model and liaison for the new first-year class. To prepare for this role, the PA obtains training in an online summer class where he/she reads the book, *Students Helping Students: A Guide for Peer Educators on College Campuses* (Newton 2010), and attends a two-day workshop before classes begin. Additionally, the PA attends bi-monthly meetings that further enhances his/her training throughout the school year.



Figure 4. Pictures of Peer Advisors and Students

A Peer Advisor's main responsibility is to act as a bridge between the first-year students and his/her professor for his/her LEAP class. For a PA to successfully complete this, he/she must ensure that the students are comfortable asking the PA questions about class and their assignments, as well as reinforce the class standards and what is expected on assignments. Each PA has his/her own strategy to successfully complete this; ranging from being open about themselves so the students feel comfortable with their PA or creating group messages for students to ask any questions they have, not only in class but also outside of class.

Many students at the beginning of the year do not understand or underestimate the importance of the library classes. Therefore, creating a strong relationship in class between the students and the PA is a crucial component for a student's success. For example, while students are in the library completing their assignments, the PA is there to help show them valuable research tools they can use to succeed in their current as well as future classes. Additionally, the PA's also help further explain the class assignments so the students can successfully complete their end-of-semester projects.

Additionally, the library classes also provide the students with an opportunity to develop a relationship with a librarian who they then can reach out to in their future academic classes. When questions arise about the library, either in class outside of class, or noticed from grading assignments, the PA can make sure to inform the professor and the librarian to ensure students' questions are answered immediately, or in the next library session. These expedient clarifications for the students are why good results are seen.

An Illustration of How Assessments Function in College Partnerships: College of Engineering

In 1999, the Associate Dean of Academic Affairs in the College of Engineering approached LEAP and asked if LEAP could provide a course for first-year engineering students. The College wanted a course that would help engineering majors fulfill the requirements set by the Accreditation Board for Engineering and Technology (ABET). Specifically, the College needed to strengthen its student outcomes in ABET standards, "3(d) an ability to function in multidisciplinary teams," and "3(f) an understanding of professional and ethical responsibility" ("Criteria for Accrediting Engineering Programs 2016-2017"), and asked LEAP to create a course that would help them meet these ABET requirements.

Of course, LEAP eagerly acted on the opportunity to work with the College of Engineering. LEAP instructors took the LEAP model in place at the time, and revised it to fit the needs of the College. Engineering LEAP (E-LEAP) includes the mainstays of the LEAP program, e.g., small classes, a peer advisor, a year-long curriculum, and a structured relationship with the library, but changed the curriculum to a focus on engineering ethics. In essence what has occurred is that the College of Engineering has contracted out its teaching of ethics and some team-building skills to LEAP.

Because the E-LEAP courses were specifically created to meet ABET student outcomes for the College of Engineering's accreditation, E-LEAP instructors are required to report annually to the Department of Electrical and Computer Engineering, and every five years to the College, on how their courses have met the ABET requirements 3(d) and 3(f). As a result of the College-LEAP partnership, the LEAP program had experience with assessment of student outcomes before the University-wide push for learning communities to set learning objectives and assess the quality of their assignments and student outcomes.

E-LEAP was also interested in strengthening the partnership between LEAP and the library and used this partnership to further strengthen students' ability to work in multidisciplinary teams and to recognize their professional and ethical responsibilities. E-LEAP library classes were and are used to help teams complete their team research project on the sustainability of a team-selected technology. In addition, librarians use the library classes to meet their goals of teaching information literacy.

The partnership works through a very structured relationship as library courses and the team project are integrated into the E-LEAP course syllabus, and through an unstructured, flexible relationship between individual E-LEAP instructors and E-LEAP librarians. Engineering LEAP courses have a team research project focused on the sustainability of a technology of the team's choosing. Each of the five library classes are focused on helping teams complete the team research project.

For the E-LEAP team research project on the sustainability of a technology there are five team assignments that lead up to the teams presenting their final research in a mock undergraduate research conference and a written team research report. The five team assignments and five library classes are coordinated so that the team assignments are handed out right before each of the library classes. And the library classes are focused on teaching students the skills they need to complete the specific team assignment.

The E-LEAP librarians help teams complete the research project in varied ways but generally Engineering LEAP librarians: (1) teach students how to find the information they need to complete the team assignments, (2) teach students how to cite sources and the significance of citing sources, and (3) provide opportunities for the student teams to practice talking in front of the class as they describe and explain the work they have completed during library class.

Although this is fairly standard library pedagogical practice how E-LEAP librarians teach these things is not standard. For example, one of the activities an E-LEAP librarian may do is to have a competition among the teams to find a book in the library catalog that is relevant to the team's technology topic and then have the team retrieve it from the stacks and bring it back to class. The winning team is the team that is able to find the book in the library, and that selects a book that is the most relevant and useful in terms of the team's topic.

Another example is having teams use the knowledge found through using business-relevant databases, which were discussed at the beginning of library class, to sell their technology to a group of mock investors. In essence, the activity is Shark Tank with teams attempting to provide data about the potential growth and future development of their technology, in order to get one of the investors to provide money. The fake investors are the librarian, instructor and Peer Advisor who pretend they are Warren Buffett or perhaps Bill Gates. Basically, most library classes provide an active assignment in which teams must use the knowledge the librarian provided in order to

answer a question about the technology or find a quote that relates to sustainability or the technology. Library classes are also used to reinforce the importance of citing sources correctly, and to teach how to cite sources and images correctly in presentations.

In sum, teams learn to work together to complete their library assignment and learn from each other how to cite their sources, how to find information using the library search function and, practice speaking in front of the class. The assessment of E-LEAP library classes is currently primarily completed through an informal process of communication between the librarian and the E-LEAP instructor. The librarian attends the team presentations at the end of the semester and provides feedback to the teams. In addition, the librarian is able to assess how much of the information taught in library class is actually used in the team research. Thus, not only does the instructor provide feedback to the librarian during the semester as teams complete team assignments, but at the end of the semester the librarian attends the presentations and evaluates the team's work. Active communication throughout the semester between the instructor and the librarian is crucial if the library class is to be relevant and useful for the students.

In summary, since 1999 the College of Engineering has had a partnership with LEAP. The College expects Engineering LEAP to help them meet their ABET accreditation requirements. One of the ways that E-LEAP has been able to accomplish this is through its partnership with the library. LEAP was able to create an Engineering LEAP course following the basic LEAP model, and significantly was able to use the LEAP/Library partnership component to not only teach students information literacy, but also to teach how to work in multidisciplinary teams and understand professional and ethical responsibilities.

The Importance of Communication and Partnership to the Success of the LEAP Program

Co-teaching has been defined as when two or more teachers come together collaboratively to share course responsibilities and expertise in a way that they could not do alone (Ferguson, and Wilson, 2011). Co-teaching efforts can result in a richer and more meaningful learning experience for not only the students in the course, but also the collaborating faculty. In this case study of librarian/faculty partnerships, where very different roles and responsibilities might create confusion, co-teaching also serves as a form of professional development (Roth and Tobin, 2005). Since disciplines can vary in guiding tenets and teaching practices it can often be difficult to get on the same page when collaborating on a project, especially a teaching project.

Co-teaching can also mean different things to different teachers, therefore the use of tools to help spur conversations and communication about the pre-planning instructional design and teaching more visually for all stakeholders can help to facilitate the discussion. Table 1 is an example of a tool used by some librarians to help facilitate discussion about learning outcomes, assessments and teaching activities in this LEAP partnership. This alignment grid is adapted from a planning grid used by Fink (2003) for helping faculty do backward design and align assessment and teaching to their course learning outcomes. For the LEAP teaching project this also helps visualize the alignment between library learning outcomes and LEAP general education learning outcomes. The matrix provides a tool for talking about the alignment and a venue for discussion about goals and learning activities, as well as for how the library research component can be integrated into the LEAP writing intensive course. This grid can be used to design instruction at the one-shot class sessions or an entire course.

Another tool developed in the library is used by some librarians to help guide the building of working relationships with faculty partners. Table 2 resulted from traversing brainstormed values articulated by a unit of teaching librarians (row 1) with four phases of a campus-wide course design mode (column 1) used to design face-to-face and online courses called the QCF, or Quality Course Framework (Ziegenfuss, Thomas, Hjorten, Li & Sanders, 2010-2018).

Table 1. A Collaboration Tool Example: L. Dee Fink's Alignment Grid (2003)

Leap 1101 UG Learning Objectives:	Library Outcomes Students will be able to:	Assessments	Teaching Activities/Student Practice	Technology/Teaching Needs
<p>1. Critical Thinking</p> <ul style="list-style-type: none"> reading for main ideas assessing issues from different perspectives <p>2. Collaboration</p> <ul style="list-style-type: none"> small group discussions work in teams negotiation and compromise <p>3. ACRL Frames for Library Learning</p> <ul style="list-style-type: none"> Searching as Strategic Exploration Scholarship as conversation 	<p>Engage in the research process and construct knowledge by:</p> <ul style="list-style-type: none"> Define a research topic/keywords Articulating information needs and research purpose <p>Demonstrate effective information seeking skills for locating, selecting, retrieving and evaluating information by:</p> <ul style="list-style-type: none"> Discerning between scholarly/popular sources Using popular sources to explore topic Locating books in Usearch and finding them in the stacks 	<p>Students will complete and submit a concept map by brainstorming ideas for research subtopics which will yield keywords for starting a preliminary searching</p> <p>Students will do a preliminary search on the subtopics – each member in a group finding different resources to help them narrow down their search –</p> <ul style="list-style-type: none"> Look at current popular resources Google hacks - Look at reputable govt and organizational websites Look at online books in USearch Assessment - They will submit a reflection about what they learned 	<p>Brief Introduction to the structure of information, how to use Google Hacks to use google better, strategies to explore reputable information sources, and Usearch</p> <p>Quick demo on accessing Google Drive and setting up a group work space</p> <p>Spend most of time working on narrowing down the research topic in their groups and do preliminary searching</p>	<ul style="list-style-type: none"> Canvas Page - where all class materials will reside Concept map sheet they will complete in class and submit after class Popular Resources: for the selected topics will be collected for each topic <ul style="list-style-type: none"> Reputable popular sources (new republic, the Atlantic, the Economist, Pew Research Center, etc.) Bring some books and periodicals to look at in class from the collection

Table 2. Teaching Guidelines for Librarians Co-teaching with Disciplinary Faculty

A3 Instruction Librarians We Value:	Faculty Partnerships and Collaboration	Effective Instructional Practices	Supportive and Shared Learning Environments	Professional Responsibility
Phase 1: DESIGN Instruction	<ul style="list-style-type: none"> Contact the professor before the scheduled class to plan the session length and content based on professor and student needs 	<ul style="list-style-type: none"> Design a coherent lesson plan that includes: outcomes, assessments, and teaching and learning activities that aligns to the course syllabus. 	<ul style="list-style-type: none"> Use relevant or real-world examples if possible to help engage students in the session 	<ul style="list-style-type: none"> Use professional experience and teaching expertise to select appropriate content for library sessions
Phase 2: BUILD Learning Activities	<ul style="list-style-type: none"> Collaborate with faculty on the development of the session to include teaching and learning activities and assessments 	<ul style="list-style-type: none"> Develop strategies to integrate students' prior experience/knowledge or questions into lesson Design formative feedback opportunities to gather student feedback about the value of the library instruction session 	<ul style="list-style-type: none"> Build into the lesson opportunities for support into the Canvas course, library guide, and session (like tutorials or step-by-steps) to encourage learning beyond the session 	<ul style="list-style-type: none"> Create professional looking materials Provide a plan for implementing the lesson
Phase 3: TEACH F2F/Online	<ul style="list-style-type: none"> Request to be embedded into the Canvas course to provide better connection and access to students 	<ul style="list-style-type: none"> Use questioning and discussion techniques (one example is think/share/pair) to break up lecture components Finish the session by reviewing what was covered 	<ul style="list-style-type: none"> Establish a rapport with students Is aware of student questions or raised hands 	<ul style="list-style-type: none"> Be on time for the instructional session to get set up and greet students Be interested in and excited about the material
Phase 4: REVISE Instruction:	<ul style="list-style-type: none"> After the session, share reflections, observations, and ideas about the session(s) with the instructor as well as your plans for improvement 	<ul style="list-style-type: none"> Reflect on how the teaching session went. What to improve? What to omit? Review formative feedback if collected from students for improving instruction Ask for feedback from the instructor once an assignment is completed by the students 	<ul style="list-style-type: none"> Gather data about the student research experience and attitudes about doing research 	<ul style="list-style-type: none"> Plan for professional growth and development in the area of teaching Request feedback from peers about teaching

The QCF (Figure 5) available at <https://utah.instructure.com/courses/493229> is a course design framework adapted from the Fink (2003) Backward Design Model by a group of University of Utah instructional designers in search of a straightforward model to use when working with faculty as they design courses. The purpose of this framework is to help faculty step through the phases of Design, Build, Teach and Revise, as they plan, teach and evaluate courses. This framework has been used to design traditional, blended and totally online courses at the undergraduate and graduate levels. Additional materials on the collaborative alignment grid, the teaching guidelines, the QCF and library learning outcomes can be retrieved at: <https://utah.instructure.com/courses/503136>.

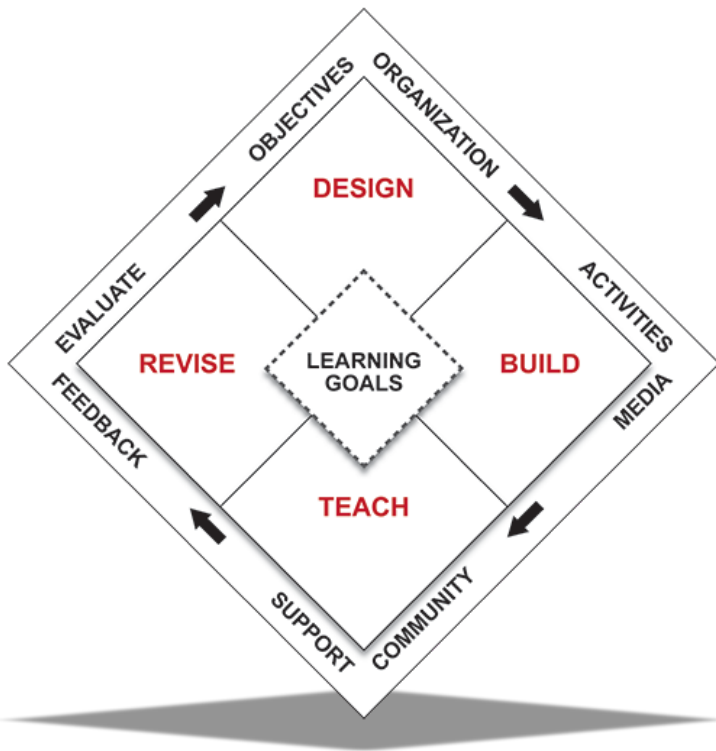


Figure 5. The Quality Course Framework (QCF)

LEAP Assessment

LEAP's programmatic interest in assessment began with the "Twin" study (Bliss et al. 2012). This study compared the effects of LEAP participation on Fall to Fall retention by looking at 1491 demographically identical students, one of whom took LEAP and the other did not. All of the students entered the University of Utah between 1999 and 2006. In terms of Fall to Fall retention, LEAP students averaged 66.2% while non-LEAP students averaged 61.4%. The results were more apparent for female LEAP students who averaged 82.1% while female non-LEAP students averaged 75.2%. Noting this success, LEAP began looking at what factors could be responsible for the higher retention rates. To assess what could be driving these higher retention rates LEAP began using the Skyfactor (formerly EBI) survey to parse out how LEAP was viewed by students. LEAP began administering this survey in 2010. Skyfactor is a 106-question survey with 16 categorical questions, 90 scaled questions (1-7), 23 Factors (e.g. Course improved critical thinking, course improved information literacy, course improved academic skills). The factors are then compared with 26 different institutions (2016-17) throughout the United States.

Looking to the Skyfactor results in regard to the *Information Literacy* factor and the *Critical Thinking* factor, (see Figures 6 and 7 for the 2016/17 academic year) for student perception of what they were learning, LEAP declared two of three program-wide Learning Outcomes. As can be seen in Figure 6 and Figure 7, the LEAP program performs quite well relative to other institutions on these two learning outcomes. In the case of Critical Thinking LEAP outperformed the Select 6 and Carnegie Class significantly with $p < .001$ and $p < .01$ respectively. In the case of Information Literacy LEAP significantly outperformed all classes at the 1% level ($= p < .001$).

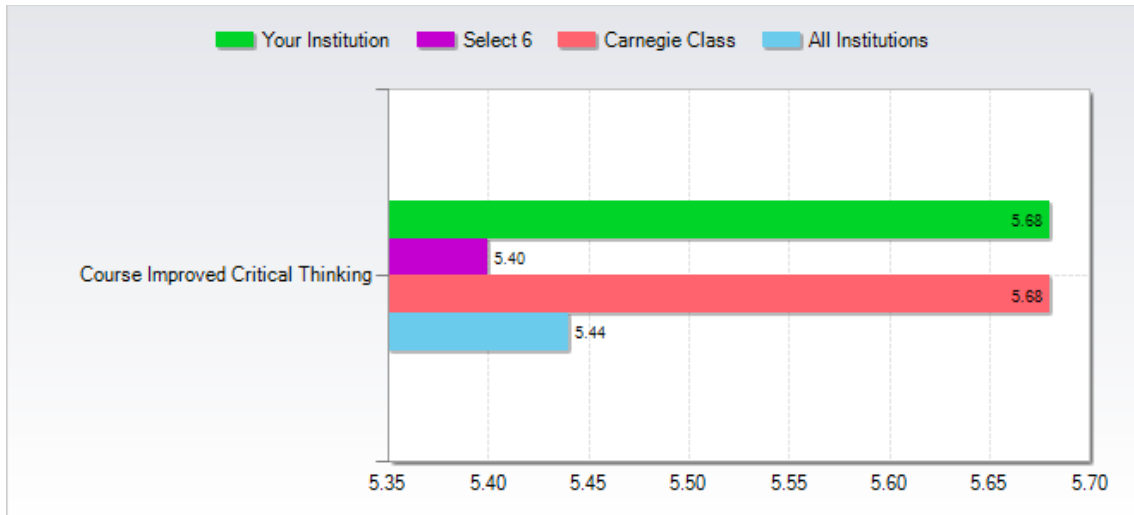


Figure 6. Critical Thinking

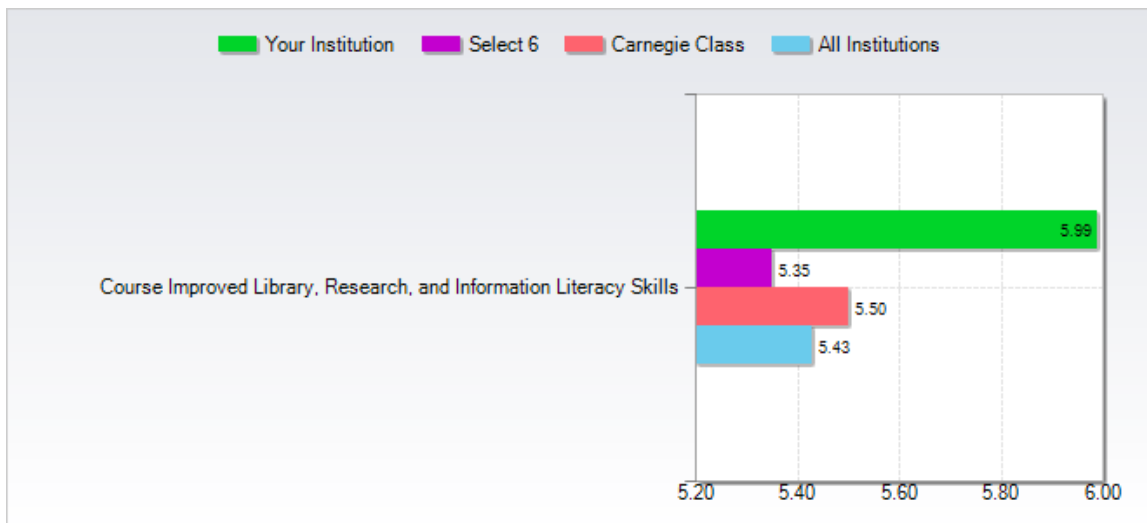


Figure 7. Information Literacy

Libraries Information Literacy & Assessments

Information literacy has been discussed in libraries worldwide since 1974 (Demo, 1986, p.6). While libraries have always collected data, libraries in the 1990s more frequently developed internal plans and methods for assessing library services and activities (Wright & White, 2007, p.11). In 2001, The Association of College and Research Libraries (ACRL), the largest academic and college libraries association in the United States, approved the *Information Literacy Competency Standards for Higher Education (ACRL, 2001)*. With the approval of these standards, several groups developed test instruments to measure competencies in information

literacy. Standardized Assessment of Information Literacy Skills (SAILS) was developed by librarians at Kent State University and has been widely used by many institutions (Kent State University, 2000-2018). During this time, iSkills™ was created by Educational Testing Services (ETS®) to measure both critical thinking and information literacy; ETS® called this skill “digital fluency” and offered this test until 2016 (Katz & Wynne, 2012).

Our institution has also used other assessment and survey tools in general library instruction and assessment. The National Survey of Student Engagement (NSSE) has allowed institutions to ask additional questions about student use of campus resources and what students do on campus. Our University has included questions on the use of libraries in the past on NSSE. Additionally, the University’s internally developed exit survey for graduating seniors had question(s) on libraries, however these questions were removed in the year 2014. Megan Oakleaf’s work on the *Value of Academic Libraries* in 2010 and the AAC&U Value rubrics fostered discussions on updating information literacy standards in academic libraries. In 2016, the *Framework for Information Literacy* was approved by ACRL and the American Library Association. The Framework was promptly adopted by librarians at the University of Utah.

Assessments by Librarians

With the focus on assessment in information literacy programs and first-year courses with a library component, Graduate and Undergraduate Services internally developed a 12-item multiple choice test based on the new ACRL Framework. From the outset, it was important to the LEAP library coordinator, Dale Larsen, to include the opinions of all the stakeholders; primarily librarians from two academic libraries representing many disciplines. The questions were developed by the librarians from over 20 different information literacy testing sources ranging from Project SAILS samples, information literacy scholarly articles, and freely open online samples from academic libraries throughout the United States. The test was made as brief as possible to minimize disruptions in regular class time and was administered via SurveyMonkey. The assessment typically took no more than five minutes of class time. In fall semester, 2017, the test was given to 28 different sections of LEAP and was administered by 10 LEAP faculty and 12 librarians. In total, 626 LEAP students took the pre-test in early September, 2017 and a smaller group of 440 students from the same group took the post-test in later November, 2017. The initial results from this pre/post test showed improvement in all five frames of the ACRL framework. (For sample questions and results see: <https://utah.instructure.com/courses/503136>)

To learn more about first-year student learning in libraries and information literacy skills, SAILS enables our university “to measure information literacy skills, gather national data, provide norms and compare information literacy measures with other indicators of student achievement” (Kent State University, 2000-2018). Two challenges were cost (\$5 per student) and time; the test took approximately 35 minutes in a classroom setting. Approximately 350 students completed the assessment by the end of spring 2018 semester. While the results are forthcoming, the LEAP program and Libraries are keenly interested in the results and norms.

The LEAP program has fostered a practice of continuous assessment and evaluation for nearly 25 years. The involvement of student peer advisors and librarians distinguish our first-year learning community. The longstanding partnership between the library and the LEAP program has benefitted the institution, the LEAP program, and the library. The adoption of alignment grids, librarian teaching guidelines, and the ACRL framework highlight successful practices that can be adopted by other higher education institutions. These teaching tools and assessment practices have also enriched the pedagogy used by both librarians and LEAP instructors for the benefit of the first-year learning community as a whole.

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Reproducible University Quality Assurance of Program Learning Outcomes

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Abstract: This paper shares the three-year experience of implementing the university's quality initiative: Central Quality Improvement Process (CQIP). This initiative also serves as the university's quality assurance of program learning outcomes. First, the paper shares the experience of upgrading the university's systematic assessment of program learning outcomes, especially embedding the best practices to significantly engage faculty, administrators, and stakeholders in assessment activities at the program level. Secondly, the paper shares the multiple models of peer review of the program assessment report (meta-assessment) during a significant budget reduction period. Thirdly, the authors share experiences communicating the evidence of student learning to internal and external stakeholders. Lastly, lessons learned, plans to improve assessment practice and strategies to sustain assessment activities are discussed.

Keywords: Academic Assessment Best Practices, Program Assessment Rubric, Multiple Models of Peer Review (Meta-assessment); Communication of Assessment Results, Sustainability Strategies

Introduction

Developing and establishing a sustainable approach to quality assurance is an ongoing task that requires monitoring and a willingness to change and adapt. The University of Central Missouri (UCM) is a regional, comprehensive university with an enrollment of approximately 12,000 students. UCM's Carnegie classification is master's programs, larger programs and the highest degree conferred at UCM is the education specialist. The university was founded in 1871, and though it has a long history of accreditation with HLC, it has undergone many transitions in its approach to quality assurance and assessment of program-level outcomes.

Knowledge gained from interactions with peers, professional development, and technological advancements have played an important role in shaping our assessment practices. Accreditation requirements and best practices also influence our processes. As many universities have likely experienced as well, changes and turnover in faculty and key staffing positions can have an impact on the continuity of assessment. Those changes can spark advancement and improvement in some of the practices. Sometimes those changes can be positive, and other times they can be less positive.

Many of the aforementioned changes have led to UCM reworking our program level outcome assessment process and timeline. We have adopted a software platform, TK20, to assist with capturing and documenting our student performance and changes implemented based on the outcomes. The hiring of a full-time assessment coordinator in 2016 also provided some new perspectives and dedicated focus on assessment across the university. Our approach has been to scaffold the changes and to add or make additions to the annual timeline each year as opposed to implementing all of the changes in one year. The philosophy was that a graduated implementation would be more likely sustained and allow us to better perfect our methodology for each change in the process. This paper outlines the timeline of those changes.

CQIP

Central's Quality Improvement Process (CQIP), has been the guiding framework for the university's assessment process and continues to be the underlying structure from which we formulate our assessment processes. The CQIP model is typical of most frameworks in that it requires programs to establish program-level student learning outcomes. Those outcomes are collaboratively established by the faculty and internal and external constituents of the program. Those outcomes must be measurable, and the process of collecting and reviewing student performance data needs to be a systematic and defined process.

Another key component of the CQIP model is that programs clearly communicate student learning outcomes to students and faculty, particularly new faculty. This communication needs to include how the outcomes are an integral part of the degree program's curriculum. Programs create curriculum maps that document and demonstrate how the outcomes align within the curriculum and where they are introduced, practiced, and assessed. The programs must perform regular formative and summative evaluation of student artifacts to assess levels of attainment and mastery of the program outcomes.

Progress in the Academic Program Assessment

In order to conduct systematic assessment for all academic programs at the university level, CQIP serves as the conceptual framework for all academic programs to provide evidence of student learning. With the many changes, both in structure and with staffing, the university needed to revamp and reinstate some of its formal assessment processes. For programs not regularly following the CQIP requirements, it would have been difficult to require all programs to meet all the requirements from CQIP in one year. Therefore, the gradual additional best practices were added annually so that programs had enough time to implement them. After three years, most of the CQIP requirements and best practices in assessment were fully implemented in the process.

Table 1: Three-Year Academic Program Assessment Progress

CQIP + Best Practice	2015-2016	2016-2017	2017-2018
Deadline	Early in Spring, 2017	October 30th	Sep 15th
SLOs	Measurable	Measurable +Validated by advisory Board	Measurable +Validated by advisory Board (evidence)
Curriculum Map	N/A	Simple (Assessed Point)	Full (all courses in the curriculum) and key words of program and course SLOs. Discuss with faculty
Measures	Formative and Summative (direct)	Formative and Summative (direct)	Formative and Summative (direct)
Results	Descriptive analysis	Descriptive analysis + Discuss with faculty (evidence)	Descriptive analysis + Discuss with faculty, chair and advisory board (evidence)
Actions	Actions +Evidence of Improvement	Actions +Evidence of Improvement	Actions +Evidence of Improvement (evidence if applicable)

In our first year of the full implementation of the revised CQIP in 2015-2016, the university required all programs to provide fundamental assessment data such as program SLOs, formative and summative assessment, assessment results, and actions for improvement in TK20. During this year, many repeated program assessment trainings were provided for department chairs and program coordinators. Also, in the assessment training, the program

assessment rubric was discussed to ensure program coordinators knew the university expectations. Curriculum mapping was emphasized in the training since it was the following year's additional requirement.

For the second year, the university agreed to enter data into TK20 from spring to mid fall. The university required programs to validate the program SLOs with the advisory board. To get the process started, the university only required programs to provide a simple curriculum map that identified the assessed points. In an effort to build a culture of assessment and engage faculty in meaningful assessment activities, the university required program coordinators to document program assessment results, discuss them with faculty within their discipline, and provide evidence of the faculty meeting minutes in the system. Additional training on full curriculum mapping was offered. Any courses taught in the program needed to align to at least one program SLO and be identified at the Introduced (I), Reinforced (R) or Mastered (M) level. The map also needed to include the key words of course SLOs and program SLOs to facilitate the peer review process.

In 2017-2018, the university required programs to provide evidence that programs validated program SLOs with the advisory board and that faculty communicated the program SLOs to students. Programs provided a sample syllabus that aligned course SLOs with program SLOs and encouraged faculty to discuss the alignment with students on the first day of the class. For the curriculum map, the university required programs to attach a full map and evidence of a faculty meeting in which the alignment of course learning outcomes with program learning outcomes was discussed. To engage more stakeholders in addition to faculty in the assessment activities, program coordinators were also required to discuss assessment results with department chairs and advisory boards and document their recommendations, and use the recommendations to make their actions for improvement. This discussion also facilitates the department chairs to document assessment evidence for their annual department report. This practice followed a suggestion in Kuh et al. (2015) to embed assessment activities into the integral structures and processes of the institution. For the first two years, it was optional for programs to provide evidence of improvement in the report; however, from 2017-2018, programs were required to document the evidence of improvement to ensure the actions or the interventions programs made in the previous years had a positive impact on student learning. To facilitate the CQIP implementation institution wide, the university also provided a timeline to clarify the expected activities for each semester (see Appendix A: University Assessment Timeline 2017-2018). Within three years, most of the CQIP requirements and best assessment practices were covered in the university requirements.

Multiple Models of Peer Review (Meta-Assessment)

To improve the quality of the assessment process, a program assessment rubric was developed to facilitate the meta-assessment. The university required program coordinators to use the rubric to self-evaluate their program assessment report. This practice was a good way for program coordinators to reflect on their own practice and determine what to improve the following year. Sixty percent of 150 programs provided the self-evaluation and scored three and above in SLOs, Measures and Results.

In 2016-2017, the university assessment coordinator was a member of the Faculty Senate University Assessment Council (FSUAC) and engaged the members to participate in the peer review process to triangulate the results of the assessment reports. All the members were trained to review the report. After reviewing one sample report in a group, individuals reviewed two additional assessment reports and provided the scores to the university assessment coordinator. Documented scores were discussed. This calibration process ensured that FSUAC members interpreted the rubric and scored the report consistently (Ames and Curtis, 2016; Chrystall, 2017; Fulcher et al., 2016; and Orem, 2012).

Table 2: Peer Review of Program Assessment Report

	2015-2016	2016-2017	2017-2018
Peer Review	Self-Evaluation	Self-Evaluation University Assessment Council (including vice provost and assessment coordinator)	Self-Evaluation (Optional) 4 College Assessment Committees University Assessment Coordinator

Due to the limited number of FSUAC members, representative reports from 27 departments were randomly chosen for the review. The meta-assessment results showed that 50% of 27 programs met the benchmark, scoring three or above in the program assessment rubric. It could be seen that the peer review results were much lower than the self-evaluation in the previous year. After the review, the vice provost and assessment coordinator set up meetings with program coordinators (PCs) to discuss the constructive feedback and answer questions. The individual feedback was very helpful for the PCs to improve reports the next year. In order to provide more feedback to as many academic programs as possible, in 2017-2018, four college assessment committees were reactivated to support the meta-assessment process. They went through the same calibration process as FSUAC members to be ready to review the 2017-2018 reports. Self-evaluation was optional for 2017-2018 reports.

The multiple models of peer review fit the organizational structure of the university that are under significant budget reduction, and there is only one staff member in the assessment office. More importantly, in the calibration process, faculty were placed in the evaluators' role to review the reports; therefore, they had an opportunity to engage thoroughly in program assessment for continuous improvement. Since they are the representative from each department, they are a good resource for other PCs to communicate university expectations to their group and provide additional feedback to the peers in report writing. This widespread faculty engagement supported and strengthened the focus of closing the assessment loop (Paloma and Banta, 1999). This approach also strengthens a culture that focuses on student learning outcomes and institutional success (Fernandez, Kleinman, Rivera, 2017), a trend in assessment (McDougal, 2017) and a sound evidence for HLC accreditation standard 4.B.4. *"The institution's processes and methodologies to assess student learning reflect good practice, including the substantial participation of faculty and other instructional staff members."*

During the calibration process, the program assessment rubric was revised and updated accordingly (Table 3). In 2015-2016, there were simply four dimensions (SLOs, Assessment Measures, Results and Actions for improvement) and multiple statements in each dimension. In 2016-2017, FSUAC members suggested separating multiple statements in each dimension to facilitate the scoring. The rubric was revised before FSUAC members reviewed the reports in pairs. In 2017-2018, the four college assessment committees also provided some rubric language feedback to avoid misinterpretation in the review. In addition, the rubric was updated to align with the CQIP requirement in 2017-2018 such as adding communicating SLOs to students in SLOs; full curriculum maps; assessment methods appropriate to program SLOs in measure; quality of evidence, assessment of evidence (Allen, 2015) and sharing of assessment results with faculty, staff and students in result. See Appendix B for more information about the updated program assessment rubric in 2017-2018.

Table 3: Updated Dimensions in Program Assessment Rubric

Dimensions	2015-2016	2016-2017	2017-2018
SLOs	Measurable	Measurable	Measurable +Communicating to students
Curriculum Map	N/A	Simple (a bonus point in rubric)	Full, key words of program & course SLOs
Measures	Formative and Summative	+Assessment Criteria	+Assessment methods appropriate to program SLOs
Results	Data results	+Analysis of finding/ Results matches methods	+Quality of Evidence + Assessment of Evidence + sharing of assessment results with faculty, staff and students
Actions for Improvement	Actions+ Evidence of Improvement	Actions+ Evidence of Improvement	Actions+ Evidence of Improvement

Communication of Assessment Results

Maki (2010) stated that it is necessary to interpret and share results to enhance institutional effectiveness or assessment results serve as a function to meet administrative reporting requirements. Assessment reporting is a significant key to the effective communication of assessment results. The major components of full assessment reports are the overview of assessment (definition of assessment, assessment cycle, and assessment responsibilities of department chairs and faculty), assessment results, and institutional actions based on the program assessment report. In an effort to close the assessment loop, the assessment report also provided the analysis of the results of actions for improvement from all assessment reports in the assessment management software. The coding differentiated two major types of actions for improvement: Process-based actions and finding-based-actions (Smith, Good, Sanchez and Fulcher, 2015). In 2015-2016, the key assessment results were presented at an academic council meeting and followed up with a full assessment report. In 2016-2017, a one-page program assessment report was created to sharing with multiple committees such as academic council, FSUAC, and the College Assessment Committee. Full reports were provided if there were any additional questions. Since the university assessment website followed the NILOA Transparency Framework, all the assessment information was loaded to the assessment website as part of the institution's effort to be more transparent to the public regarding student learning and success (Robinson, Frederick, Demeter, Pettazzoni, Jost, McNelis and Soler, 2017).

Lessons Learned

As with most large-scale projects and implementations, there are some valuable lessons to be learned. For example:

- emphasis on the ties between the assessment process and program/student benefit should have been communicated more. Additional examples of the continuous improvement cycle could also have been beneficial to faculty.

- Numerous programs on campus with specialized accreditation and CQIP experience were more prepared and had examples of program improvement. Programs relatively new to assessment needed more examples to better understand the benefits and the process as a whole.
- Assigning additional faculty and offering stipends or release time to assist in the review and ensure that outcomes, measures, and benchmarks appropriately aligned would have been helpful.
- Training sessions were critical to help faculty understand the difference between program, course and student level assessment. Providing open lab sessions to help faculty and coordinators enter data proved to be very helpful.

Although there was some grumbling about additional work, faculty, program coordinators, and chairs all stepped up to complete the needed requirements. And one of the most important confirmations learned through the process was that faculty and staff are committed to student learning improvement.

Leadership Support

Having support across the leadership spectrum from program coordinators, chair, deans, on up to the president, is critical to the success of large-scale implementation. The administration provided and sent key individuals to national conferences and various training opportunities. The administration was supportive in their communication and facilitating the collaborative teamwork required to implement the new software platform and to support a truly campus-wide process of assessment.

Internal resources were also provided or allocated to assist with the transitions. The Center for Teaching and Learning on campus provided additional assessment related training to faculty and staff. The university's learning day, a once a semester in-service day, offered sessions focusing specifically on assessment. Deans, supportive of assessment allocated associate dean time and other designated faculty time to focus on peer assessment processes and review.

What's Next

First, more practices will be added in the 2018-2019 academic year to improve the assessment process. Examples include scheduling an appropriate deadline to submit assessment data so that results can be included in program and department annual reports for deans to use for resource allocation. This ensures assessment results can be used by mid-level and high level of administrators for decision making and evidence of institutional effectiveness for HLC standard 5.C.2 *"The institution links its processes for assessment of student learning, evaluation of operations, planning, and budgeting."* In addition, program SLOs will need to provide evidence to meet expected achievement of degree level by referencing Bloom or Degree Qualification Profile (DQP). Other measures currently planned include the addition of indirect assessment data (e.g. student's survey, exit survey or employer's survey) in the assessment results and to include the assessment results in discussions with advisory boards for recommendations.

Second, to improve the quality of meta-assessment, college assessment committees will review assessment plan SLOs and Measures (formative) to provide in time feedback for programs before they collect the 2018-2019 data. The university will consider embedding assessment activities into faculty service in promotion and tenure to recognize participation in the review process. This provides a way to monitor scores and learn the impact of peer review on the quality of assessment reporting. The 2018-2019 assessment report will capture the impact of peer review on the quality of assessment reporting. Third, to communicate assessment results more effectively, the university will consider implementing an interactive dashboard (e.g. Power BI) to include in university assessment reports. In addition to present results to university committees, the university will find additional channels to present results to internal stakeholders such as University Learning Day, Summer Chair Boot Camp to ensure

involved people are update-to-date with assessment activities and understand responsibilities to improve the process.

Sustainability Strategies for Assessment

After three years of embedding best practices in the assessment process, it is necessary to have a mechanism to sustain assessment activities and make them more meaningful to faculty. The first strategy is to embed the assessment of student learning into academic program review (APR) process (Gorski & Stemler, 2017). In addition, the university will look for opportunities to associate strategies, policies and processes associated with the use of assessment to improve student learning and institutional effectiveness. This should make assessment practice more meaningful to the University's strategic planning. This also helps the university to document the evidence that meets HLC 5.C.2

Conclusion

The university's transition of the assessment process and scaffolded implementation of best practices has been a successful undertaking. There have been challenges in the process but overall, it has been a successful implementation of the entire campus community getting on board to collect effective and useful assessment data. There is still some fluctuation in total reporting and some variation in assessment cycles from program to program. Some of the annually reported metrics are not at 100%. For example, last year, all of the approximately 150 programs across the university did not complete all assessment components, but there was a considerable increase from 59% in 2015-2016 to 91% in 2016-2017.

Sharing the results and reports with faculty, programs, departments, and colleges and modeling how to use those results in decision making and resource allocation is a critical component of the assessment process. Once faculty, coordinators, and chairs began to see the results of the compiled assessment data, they can see how it impacts student learning. Once the campus community begins to understand that others can use the data and it serves multiple purposes to improve learning, it becomes more meaningful. It is not just another task that faculty have to undertake that no one really looks at or understands.

The challenge moving forward will be to sustain the model and continue to improve it. UCM, like many universities has had strong assessment processes at times. Some of those more refined assessment processes were limited to departments or programs and not uniformly implemented across all programs. This model and implementation plan have created the uniform assessment across all programs needed for sustainability.

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Appendix A. University Assessment Timeline

PROGRAM ASSESSMENT CYCLE (2017-2018)	
Time/Deadline	Assessment Activity
Fall Semester	Programs collect assessment data for this semester
By September 15th	<p>Enter data from previous year into Tk20</p> <ul style="list-style-type: none"> • SLOs, Measures, Results, Actions. This will include how student progress on Program SLOs was measured, the results of analysis of the data, and any actions the program plans to take for program improvements. • Document/Attach evidence of outcome communication, curriculum map, and meeting minutes in that year's Results Tab.
September 15 th -30th	<ul style="list-style-type: none"> • Assessment reports reviewed by FSUAC and College Assessment Committee.
October 31st	<ul style="list-style-type: none"> • Feedback to programs on the year's assessment reports • Programs use peer review feedback to discuss and update, if needed, the Assessment Plan (SLOs, Measures) of current year.
End of Fall semester Best Practices	<ul style="list-style-type: none"> • Enter assessment data (Results and Actions) for Fall semester (if needed) • Programs meet to discuss assessment results with faculty/advisory board and determine any actions or changes to be made (if needed)
Spring Semester	Programs collect Spring assessment data
End of Spring semester Best Practices	<ul style="list-style-type: none"> • Enter assessment data (Results and Actions) for Spring semester. • Programs meet with faculty/advisory board to discuss assessment results and determine any actions or changes to be made.
Summer Semester	Programs collect Summer assessment data

Appendix B. Program Assessment Rubric

Component	Highly Developed (4)	Developed (3)	Emerging (2)	Initial (1)	N/A (No evidence to make a decision)	Comments
SLOs						
Measurable Outcomes	All outcomes clearly describe what students are asked to do, using action verbs (identify, explain, demonstrate, etc.), and are stated in terms of measurable knowledge or skills	Most outcomes clearly describe what students are asked to do, using action verbs (identify, explain, demonstrate, etc.), and are stated in terms of measurable knowledge or skills	Most outcomes are not clearly described what students are asked to do, using action verbs (identify, explain, demonstrate, etc.), and are stated in terms of measurable knowledge or skills	No outcomes are clearly described what students are asked to do, using action verbs (identify, explain, demonstrate, etc.), and are stated in terms of measurable knowledge or skills		
Communicating Outcomes (CQIP)	Student learning outcomes are directly communicated with program faculty AND students (e.g., student orientation, advising).	Student learning outcomes are directly communicated with program faculty (e.g., faculty meeting, e-mail).	Student learning outcomes are made public (e.g., by posting them online); however, it does not appear that outcomes are directly disseminated to program faculty or students.	No evidence that outcomes have been communicated to program faculty and students.		
Curriculum Map: A matrix that represents visually the alignment between program student learning outcomes and required courses/experiences.						
Curriculum Map	Curriculum map is provided, and every outcome is aligned with at least one required course/ experience, AND program conveys the extent to which each outcome is developed in particular courses (e.g., Introduced, Reinforced, Mastered). The map provides key words of program SLOs and Course SLOs.	Curriculum map is provided, and every student learning outcome is aligned with at least one required course/experience. The map provides key words of program SLOs and Course SLOs.	Curriculum map is provided; however, at least one student learning outcome does not have a required course/ experience aligned with it. The map provides key words of program SLOs and Course SLOs.	No curriculum map provided.		
Assessment Methods						

Formative Assessment	All outcomes have formative assessment method	Most outcomes have formative assessment method	Some outcomes have formative assessment method	No outcomes have formative assessment method		
Summative Assessment	All outcomes have summative assessment method	Most outcomes have summative assessment method	Some outcomes have summative assessment method	No outcomes have summative assessment method		
Methods Assessment appropriate to program SLO	All assessment methods are appropriate to program SLOs	Most assessment methods are appropriate to program SLOs	Some assessment methods are appropriate to program SLOs	No assessment method is appropriate to program SLOs		
Assessment Criteria	All assessment methods include a specific benchmark (e.g. 75% of students scored 3 or above in the rubric)	Most assessment methods include a specific benchmark (e.g.: 75% of students scored 3 or above in the rubric)	Some assessment methods do not include a specific benchmark (e.g. 75% of students scored 3 or above in the rubric)	No assessment methods include a specific benchmark (e.g. 75% of students scored 3 or above in the rubric)		
Results						
Quality of Evidence	All outcomes collect reasonable evidence (e.g. the sample was representative and reasonably sized)	Most outcomes collect reasonable evidence (e.g. the sample was representative and reasonably sized)	Some outcomes collect reasonable evidence (e.g. the sample was representative and reasonably sized)	No outcomes collect reasonable evidence (e.g. the sample was representative and reasonably sized).		
Assessment of Evidence	All data evidence is reliable and calibrated	Most data evidence is reliable and calibrated	Some data evidence is reliable and calibrated	No data evidence is reliable and calibrated		
Assessment results demonstrate achievement	All assessment results demonstrate achievement of program SLO	Most assessment results demonstrate achievement of program SLO	Some assessment results do not demonstrate achievement of program SLO	Most results do not demonstrate achievement of program SLO		
Analysis of Findings	All results include descriptive and specific analysis of findings	For some results, the analysis of findings is minimal	For most results, the analysis of findings is minimal.	No analysis of findings is included		

Sharing of assessment results with Faculty, Staff, and Students	The report indicated that the assessment results were shared with departmental faculty, staff, supervisors, students, and other stakeholders.	The report indicated that the assessment results were shared with departmental faculty.	Evidence of sharing the assessment results is unclear.	No evidence of sharing the assessment results exist.		
Actions for Improvement						
Actions	All results have specific actions for improvement	Most results have specific actions for improvement	Most results do not have an action for improvement.	No actions for improvement have been identified		
Evidence of Improvement	All actions include evidence of improvement statements	Most actions do include evidence of improvement statements	Most actions do not include evidence of improvement statements	No evidence of improvement statements is included		
Possible Total (56 points)						

The Program Health Index: A New Approach to Program Evaluation

By Erin Crisp, Indiana Wesleyan University

Although the word “index” is commonly used to mean an alphabetical listing of terminology, another usage is as an indicator, sign, or measure of something. For example, a forest fire index is an assessment of the risk of forest fire. There is no singular assessment that provides forecasters with a measure of forest fire risk. Instead, scientists have developed a calculation model where they take precise measurements of a variety of dimensions, and compare those measurements with historic patterns to predict the probability of future occurrences. The dimensions of a forest fire index include surface moisture, humus content, and daily measures of weather conditions such as humidity, wind speed, air temperature, solar radiation, and precipitation. Weather stations, strategically positioned using a lattice-based network of probes, daily deliver hundreds or thousands of data variables to a central reporting system where an algorithm calculates risk. A complicated network of variables is simplified and made understandable to the public using an index, a color-coding system that anyone can understand (The forest fire index, 2018).

Similarly, finance uses an index as a statistical measure of changes in groupings of monetary savings and investment data points. Most people are familiar with the Dow-Jones Industrial Average or the S&P 500. Similar to a forest fire index, these models calculate thousands of data points moment by moment to produce trend information that can be digested by even the most novice consumer. Someone who knows nothing about finance knows that if the Dow and S&P are strong and trending upward, their retirement dollars are probably increasing (Index: Economics, 2018).

The strength of an index is that it makes a complicated concept easier to understand and act upon. Campers in a national park learn not to start campfires when the index signs are red. They know this without specialized forestry training, and they behave according to the index warnings with minimal enforcement or accountability because leaders have worked to develop a culture of preservation and trust. Marketing like *Leave No Trace* and mascots like *Smokey the Bear* create a culture where consumers want to follow the advice from the index.

The weakness of an index is that there is a risk of oversimplification that can lead to assumptions or apathy. If too few individuals have the expertise to dig beyond the surface trends to understand unforeseen pitfalls lurking just ahead, the novice consumer experiences a devastating surprise when the financial index dives and home mortgages or retirement savings are lost. Perhaps some analysts saw the market crash coming, but their voices were not heard or heeded by the right people. What does all of this talk of an index have to do with assessment in higher education?

The Need for a Postsecondary Evaluation Index

Assessment professionals working in higher education contexts will be the first to admit that there are persistent weaknesses in the assessment processes described by most accreditors and adopted by most institutions. These weaknesses have recently been identified and described both within the assessment community, by AALHE member Dr. David Eubanks (2017) and more recently in an article by Erik Gilbert (2018) in the *Chronicle of Higher Education*, which referenced Dr. Eubanks' article.

At the root of these challenges lies the idea that learning outcome assessment data are not valid or reliable enough to support the kinds of interpretations that are common. Gilbert writes, “It turns out that the assessment program your college imposed on you was probably never going to improve anything” (2018). There is truth in this premise—documented improvements have been nascent, however, the premise also assumes that most participants in assessment processes are satisfied with the field’s early efforts when Dr. Eubanks’ asserts that the opposite is actually true. For many academic leaders, the more involved they become in the process, the more they become aware of the needs for continued improvement.

Early efforts in higher education assessment are akin to taking a few surface moisture readings, describing the terrain, sticking a finger in the air to measure wind-speed, and then from those data, making changes that impact a broad swath of individuals, re-evaluating, and reporting on the results. There is uncertainty even among assessment professionals because many people sense that current methods are insufficient or unlikely to produce scalable, measurable change. Yet many believe in the purpose- to improve student learning and to protect students from bad actors in the postsecondary marketplace.

These early assessment model efforts are crucial if we are ever to develop more sophisticated methods and models. To say that most efforts do not result in any sort of improvement, as Gilbert asserts, is unproductive at best and potentially destructive at worst (2018). Improvements can appear in the form of improved learning outcomes; the development of collaborative cultures of data use; increased value for the scholarship of teaching and learning; as well as further maturation of systems for capturing, measuring, and reporting on quality in postsecondary learning. The remainder of this article recommends one shift toward maturation in program evaluation practice- the shift toward the use of an index to capture and share the current status of an academic program.

Measuring Quality in Academic Programs

Quality improvement efforts are notoriously complex. In healthcare, education, business, economics, and public policy, research can be found to describe the complexity and challenges inherent in effective implementation of quality improvement efforts. Read just a summary of Pirsig's *Zen and the Art of Motorcycle Maintenance* where he introduces the metaphysics of quality for further evidence of the complications and variety of interpretations of quality (2006). Numerous organizations support quality improvement efforts including the Carnegie Foundation, The Committee on Standards for Educational Evaluation, and the federal government with its Malcolm Baldrige award for quality improvement. Higher education assessment is not alone in its woes.

Nonetheless, there are effective practices that are emerging from the science of improvement (Marshall & Mountford, 2013) and the field of evaluation instructional design (Williams, South, Yanchar, Wilson & Allen, 2011). The table below (Table 1) describes some current practices in some postsecondary institutions involved in assessment along with a complementary emerging practice that could be adopted instead.

Table 1. Current and Emerging Practices

Current Practice (Perhaps exaggerated)	Emerging Practice
<i>Assessment, as a concept</i> , is not a measurement conversation between instructors and students but instead the hollow work of a few unlucky souls.	Everyone who teaches assesses. <i>Assessment</i> is for students, not for accreditors. It illuminates growth opportunities for students and/or assurances of readiness for next learning steps.
Assessment results are used as an indicator of quality-course quality, instructor quality, program quality etc.	Curriculum and instruction are <i>evaluated</i> using a multifaceted approach that offers but one slice of the pie to assessment results.
<i>Assessment</i> refers to both what happens in the classroom for/with students and what happens among faculty and administrators for the purpose of quality improvement.	<i>Evaluation</i> , a term that evokes its own disciplinary background and standards of practice, is used to reflect quality improvement efforts while <i>assessment</i> is reserved for teacher/student interactions.
We believe that by increasing the validity and reliability of classroom assessment practice, we will be better able to make sound instructional improvements.	We recognize that treating classroom assessment like a scientific experiment undermines the educational professional. The classroom will never be a controlled environment.
Assessment results are lag measures. We measure the outputs (assessment scores, retention, employment ratios, satisfaction surveys) expecting to learn more about the inputs.	Measure the inputs. We know the ingredients of a high-quality learning experience, so measure those variables in addition to the output variable.

We rely on a few poorly obtained measures to make uninformed improvements.	Multiple points of both quantitative and qualitative data are used to triangulate and make informed improvements.
Individuals end up completing assessment reports and recommendations for changes in relative isolation.	Collaborative teams are regularly engaged in expressing diverse points of view with a growth mindset, seeking to learn more about ways to effectively meet students' learning needs.
Achievement, students' cognitive skill development, is paramount and therefore all measures are designed to reflect cognition.	After years of employers expressing that non-cognitive skills are as valuable as any cognitive skill, teams are implementing methods that include measures of non-cognitive skill development (dispositions or affective growth).
For the sake of test scores, active learning strategies and learner-centered instruction are abandoned in favor of more lecture, read, study, test, repeat.	Education involves the whole person inclusive of mind, body, spirit and emotions. Instruction should provide ample opportunity for collaboration, problem-based learning, and other high-impact practices. Evaluation should reflect students' growth in these dispositional areas but need not be exclusively quantitative.
The assessment/evaluation cycle is incredibly long. Data collected in 2010-11 are used for a program review that occurs in the summer of 2011. Changes are made in Fall 2011 and new data are collected in Spring 2012. The N is too small and non-representative, so the same data are collected again in Fall 2012. Assessment day happens in May, so the analysis occurs in May 2013. The results seem inconclusive but around the table, we learn that no one from the original 2010-11 review is still involved in the improvement effort. That was, after all, almost 3 years ago. We hear: <i>What was the problem we were trying to solve again? Oh yeah. That's not even relevant anymore because now we have a new LMS, or a new textbook, or a new department chair, or a new course sequence etc.</i>	The Carnegie Foundation has published the results of 90-day cycles of evaluation and improvement in education (The Six Core Principles..., 2018). These shorter cycles limit the size of the problem to be addressed, but by iterating on many small problems successfully, you find that you soon have a proven process for solving much larger issues.

Our college's efforts to implement a new model for assessment is described below. Modeled after a K-12 emerging assessment model developed by the Brookings Brown Center on Education Policy; our college has been moving toward implementation of the Program Health Index since 2016. It has taken two full years to prepare the sub-processes that need to be in place, but we believe that the end result will be a multifaceted representation of the student experience that will be more useful for quality improvement than past models.

The Program Health Index

What follows is the script for videos that were produced to prepare faculty for the Program Health Index implementation. The official launch will occur in the 2018-19 school year. The narrator in the videos is the director of academic assessment and the audience is all full-time faculty. This video has been shared in multiple venues over several years in preparation for a full launch.

Narration: "When you go to the doctor for a medical check-up, you are interested in your overall physical health. You didn't schedule the check-up because of an accident or illness. It is a check-up to compare your health with some established standards and with your own prior health scores.

Every year, the Office of Academic Assessment and Evaluation facilitates similar check-ups for every academic program in the College of Adult and Professional Studies. We collect indirect and direct sources of data, make it

available to leaders, and assist in interpretation. We developed the program health index as a new way to evaluate and improve academic programs. It provides consistency and yet freedom in the annual review process.

Your overall health is determined by a variety of different numbers-blood pressure, temperature, pulse, ear, nose and throat exam, and blood tests. There is no one measure that tells the whole health story. Similarly, when we are evaluating the health of a program, we want to use a collection of data points since because no one source of data tells the entire effectiveness story.

Before we get to how it works, let's briefly define some terms.

- **Assessment** is the interaction between an instructor and a learner where an instructor compares the learner's work with a defined standard and makes a judgement about how well the learner's work meets the standard.
- **Evaluation** is the interaction between an evaluator (which might be the instructor) and his/her data. The evaluator uses the assessment data to inform decisions about course revision, program development, instructional strategies, assignments needed, resources etc.
- **Mastery** is the level of proficiency expected of the minimally qualified graduate. (It does not indicate that the person is a "master" of something.)
- A **formative** assessment provides the instructor or the evaluator with data about learners' progress toward meeting the defined standard for mastery.
- A **summative** assessment provides the instructor or the evaluator with the synthesized whole of students' knowledge, skills and/or dispositions. It measures transfer of learning from "classroom" to life.
- The last term is **key assessment**. There are many assessments in an academic program, but program leaders choose a few key assessments (3 per program learning outcome) to analyze for program evaluation.

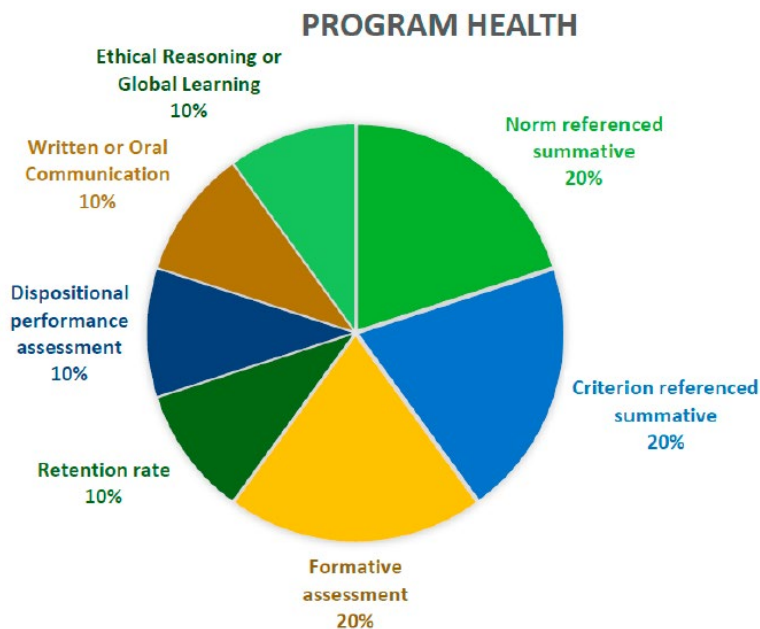


Figure 1. The Program Health Index

Imagine an academic program of study as a whole pie chart, Figure 1. The Program Health Index (PHI) is structured to weight different types of assessment and provide a balanced perspective for evaluation.

Let's start by looking at the norm referenced summative slice and move clockwise through each slice briefly.

Norm referenced summative: A norm referenced assessment is an assessment where learners are compared with other learners (the norm) as the primary method of determining competency. Even though we have rubrics containing criteria, many papers and projects are graded as norm referenced assessments. The best student products get A's and the others rank accordingly. "Summative" indicates that you're expecting mastery of the outcomes. An example could be a portfolio, a paper, or a norm referenced national exam.

Criterion referenced summative: A criterion referenced assessment still measures mastery, but instead of comparing students with other students, we compare students with a defined criterion. For example, if you were a coach assessing a basketball player you might expect him to make 9 out of 10 free-throws to be proficient. That criterion for success is fixed regardless of the norm (his teammates' performance).

Formative Assessment: The formative assessment slice of the pie is determined by measuring the difference between students' introductory assessments on each program learning outcome and their Mastery assessments. We should see growth from the beginning of the program to the end, so resist the urge to inflate introductory level key assessment scores.

Retention rate: The next two slices relate to student behaviors. The first, retention rate, is a measure of student persistence. What percentage are motivated and equipped to persist for 12 months?

Dispositional performance assessment: The second is an assessment of students' dispositions or behaviors. The goal is to determine the extent to which students are developing as people of character, and each program should determine how this aspect of their program is measured.

General Education: The final two slices relate to general education outcomes. While general education courses provide a starting place for students' acquisition of these skills, program courses provide ample opportunity to assess students' ability to apply and transfer general education knowledge and skill. The general education coordinating council determined that, from the 10 approved standards, each program should choose to evaluate either written or oral communication, and either ethical reasoning or global learning. Other general education outcomes are also available for assessment if these don't seem to fit well within the current focus of a program.

All of the program leaders and faculty teams have worked diligently for the past two years to put processes in place that would allow the office of academic assessment and evaluation (OAAE) to provide you with data for each of the program health index elements. If the math makes your brain hurt a little bit, never fear, the OAAE has cooked up a handy calculator for you. The calculator is an Excel spreadsheet with simple instructions. Each tab on the spreadsheet corresponds with one slice of the Program Health Index pie and automatically populates the overall pie chart when you input the numbers. It also reveals trends over time, from one year to the next.

If you teach students, you assess. All types of assessment data are relevant. Program directors have a great deal of choice and flexibility within the structure I've described to choose the key assessments that will contribute to each slice of the pie. Key assessments are not contrived. They are real course assignments that you, as faculty, have developed. The program health Index will facilitate annual conversations to continuously improve because it presents a consistent format for interpreting the data, and it presents the health of your program as a multifaceted whole.

Goal setting is an integral part of continuous improvement, and the Program Health Index should help us track goals and progress, and most importantly, celebrate successes. Our hope is that through continued annual use of the program health index and other resources, our instructional culture will continue to shift away from compliance and toward a culture of continuous improvement."

Faculty are excited about this innovation. The PHI allows leaders to set their own goals and measure from 12 months to the next how those goals are being met. A pie chart was chosen because it reflects that there are sometimes negative unintended consequences in one area (i.e. dispositional performance) when too much emphasis is placed on a criterion-referenced assessment, for example. Faculty are looking forward to representing many aspects of their programs instead of just those that area most easily measured.

For next steps in our assessment and evaluation practice, we are looking to measure the inputs of effective instruction rather than the outputs. Have you heard the commercial ‘Better ingredients; Better pizza?’ That’s the idea for the future.

For example, if I know that effective learning experiences involve timely, relevant, high-quality feedback provided to learners at regular intervals from well-qualified sources, couldn’t I measure the learner’s feedback experience as one lead measure for instructional design quality? Other high-quality lead measures that could be measured include: balanced workload, consistent expectations from course to course, opportunities for structured collaboration, effective use of instructional technology, explicit instruction related to collaboration skill development, instructional materials (relevance, quantity, quality, volume, complexity), variety in types of demonstrations of learning provided to students, and much more.

In brief, we must learn from the assessment missteps of our K-12 friends and colleagues. A high-stakes assessment culture that de-professionalizes education (and educators) does not benefit the learner. Those who choose to engage in the science of improvement by attending to evidence-based instructional design practices that are collaborative, iterative, data-informed, resourced appropriately, and driven by the faculty members will keep at least one foot in the marketplace for many years to come.”

This video included screenshots of resources and has been shared among faculty at various stages in the program’s development. The script you see above was divided into three parts so that each video is 2-3 minutes in length. Accompanying resources include an Excel spreadsheet calculator that allows faculty to input a goal score for each slice of the index and then input actual results. The pie graph is then automatically generated for discussion during program evaluation.

Implementation

The Program Health Index provides a high-level overview of the extent to which each component of an academic program is reaching the goals established by the faculty leaders of the program. One of the benefits of using an index as a regular starting point for conversation is that it helps teams recognize the variety of factors that contribute to overall program health. Making an adjustment for one aspect of a program might have a positive effect on one slice of the pie but a negative effect on another. For example, if we are trying to ameliorate a retention concern by raising the standard for admission to a particular program, we may find that the formative assessment measure is negatively impacted. Formative assessment is the delta- the change in student knowledge and skill from beginning to end.

Leaders’ efforts can be expended in meaningful and systematic ways as they devise methods to set reasonable goals and capture progress for each criterion identified in the index. Just as scientists continue to refine their ability to predict the risk for forest fire or severe meteorological events, assessment leaders are able to refine both the metrics they choose to measure and the methods for measuring those metrics. The program health index provides a systematic framework for communicating the current status and aspirations of an academic program. It makes complex information accessible.

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Placeholder Sections and Tracking of Graduate Student Assessment: A Case Study

By Molly Mann and Laura Schramm, St. John's University

Abstract: Graduate program directors and administrators utilize direct and indirect methods to measure program effectiveness. Herein, we detail a universal methodology designed to collect unbiased direct and indirect program assessment data for students in both master's and doctoral programs strategically using placeholder (zero-credit) courses to assess graduate students' progress toward degree completion. Within a college of arts and science, graduate students study a wide range of fields and being able to track each student effectively allows for accurate and efficient reporting of data and for data-based decision-making. For example, a zero-credit placeholder course for each program's master's comprehensive exams, college-wide, permits the college to analyze the average time it takes for a student to become eligible for the master's comprehensive exam and pass rates by program, by semester. Faculty may then assess pass rates in conjunction with course offerings. Using a zero-credit placeholder for doctoral students' qualifying exams, the program and college can analyze how long it takes a doctoral student to advance to candidacy and determine how long it takes for a student to defend their dissertation after course work completion. Coupled with information on which term the student was admitted as well as their part- or full-time status, the college can more accurately determine a time to degree completion rate. We believe this novel methodology provides valuable indirect assessment data to drive curricula review and revision.

Keywords: Data Collection, Data Analysis, Graduate Education, Program-level Assessment, Data-based Decision-making

St. John's College of Liberal Arts & Sciences (SJC) Graduate Division began the practice of using placeholder courses to track graduate student progress towards degree completion in fall 2016. Best practices in program-level assessment include both the collection of both indirect and direct assessment data, to holistically examine program effectiveness. Herein, we detail a universal methodology designed to collect unbiased direct and indirect program assessment data for students in both master's and doctoral programs strategically using placeholder (zero-credit) courses and attributes to assess graduate students' progress toward degree completion. Lydell (2008) notes a growing importance of innovative assessment methods at the graduation level. With the trend toward increasingly data-based decision-making having structures in place that allow for more effective collection of student data is essential for successful assessment data collection, analysis, and reporting (King, Dodd, & Cunliff, 2016).

Initially, the Graduate Division performed a college-wide assessment of master's comprehensive exam administration practices, including: how programs determined student eligibility; comprehensive exam administration and grading; and student notification of exam results. The college learned through this assessment that no uniform practice was in place for the programs to abide by. As such, the college determined that a zero-credit placeholder course for the master's comprehensive would ensure a college-wide process would be followed for a determining a student's eligibility to sit for the comprehensive exam. Our initial strategy involved a query of our catalog of courses to identify a course number not currently in use by a majority of our programs and we identified "105" as a course number not in use by 99% of our graduate programs. For the one program where "105" was in use we performed an audit to determine if their "105" had been used recently, which it had not, allowing the college to utilize "105" across programs, should our pilot of "105" be successful. Students eligible to sit for the comprehensive exam were registered for "105" (Table 1), zero-credit.

Our pilot of "105" for the comprehensive exam placeholder courses included a few departments to determine the effectiveness of implementing "105." The pilot of "105" allowed the Graduate Division to obtain buy-in from faculty. Further, the "105" placeholder course was zero credit we were not altering any program's total credits or requirements. As such, we did not require any additional approvals from the State or accreditors. The Graduate

Division worked with the graduate programs and the Office of the Registrar to create these new placeholder courses.

By creating a placeholder course, the registration became part of the student's academic history, as does the outcome recorded as a "pass" or "fail" on the student's transcript. The question arose as to what are the benefits of such a comprehensive exam documentation process? First, determining who was eligible to sit for the comprehensive exam became easily reviewed by the college by batch query for all students registered for the comprehensive exams coupled with GPA and credits completed. Students not meeting credits completed or GPA requirements could be easily deregistered from "105." Also, the college could query its students' academic histories to identify students who should be eligible to sit for comprehensive exams and were not registered. Like most universities, our students register for their next semester courses before the final grades from the previous semester are entered into University Information System (UIS). The Graduate Division routinely queries for students with grades of incomplete and for students who are registered for "105." Students with incompletes may not sit for the comprehensive exam in our college and students with incompletes are deregistered from "105", which starts a dialogue with the student regarding program completion. Administration and grading of the comprehensive exam remained program specific.

Creation of placeholder courses automatically generates a course shell in our learning management system, providing faculty a place to provide students with any relevant materials to facilitate student success during the comprehensive exam process. The program director, or chair, is assigned as the course instructor and has a means to easily communicate with students registered for the comprehensive exam, providing constant communication throughout the process. Additionally, students have access to all support materials a program provides for the comprehensive exam electronically, twenty-four hours a day and seven days a week. Furthermore, the learning management system can track whether students are accessing support materials provided by the program, providing faculty an early warning system to contact students not accessing materials required for successful completion of the comprehensive exam. Our learning management system provides the option of anonymous grading by faculty for programs using portfolios, take home exams, or exams in a proctored location using laptops/or desktops with software which locks down the testing environment.

After grading of the comprehensive exam, the "pass" or "fail" is entered into the course shell and students have access immediately after the grade is entered into the shell. Faculty can also use the shell to post a general announcement informing students of the process to follow if they are required to retake the exam. The program director or chair is required to enter the final "pass" or "fail" into our University Information System (UIS), so the student's academic history is updated. Posting the results of the comprehensive exam on the course shell and entering into UIS also means Graduate Division no longer needed to notify each student in the college who sat for the comprehensive exam the whether they passed or failed the comprehensive exam, essentially eliminating paper mail communications from the college.

One unintended benefit of the "105" (Table 1) comprehensive exam tracking is the ease by which the college could assemble its preliminary graduation list using the students' academic history database for master's students within the college. Any student registered for "105" was predetermined to be eligible to sit for the comprehensive exam was also eligible to be evaluated for degree award in that term. The college no longer relied on a list of names provided by the department and a subsequent dialogue to determine if the student was planning to sit for the comprehensive exam. Further, the college could now easily meet the deadlines set forth by the university to produce the university's official *Graduate Commencement* book.

Upon assessment of our outcomes related to the "105" comprehensive exam placeholder course, we pondered the use of similar placeholder courses to monitor various milestones in graduate education which are detailed in Table 1. These placeholder courses provided the college an unbiased mechanism to collect direct and indirect assessment data. Should a program wish to assess the effectiveness of core or electives and pass rates for the

comprehensive exam, the college can pull these data for programs to assess. For example, faculty in a social science program noted a higher rate of failure on their statistics questions on the comprehensive exam and the college could look at final grades in the required social statistics course to determine if there is a correlation. This assessment led to a recitation component being added to the required social statistics class to practice problems, ultimately leading to better pass rates for the statistics questions on the comprehensive exam.

In doctoral programs, by coupling a variety of placeholder courses (Table 1) we can now determine accurately for each program, and by student: average time to complete coursework; pass rates for doctoral comprehensive exams; length of time from passing doctoral comprehensives to passing doctoral qualifying exams; time from passing qualifying exams to dissertation defense.

Placeholder courses are highly effective for master's programs, but doctoral programs even with placeholder courses can still be cumbersome to assess, which led to the implementation of "attributes" (Table 2) which may be entered into our student information system. The difficulty in tracking doctoral students, after coursework completion, reflects the complex nature of the research process. Student attributes allow for a second layer of assessment information for these students, in addition to the placeholder courses. Thompson (2009) discusses the benefits of attribute mapping in student assessment as a time-saving method of documenting competencies. For the St. John's College (SJC) Graduate Division, administrators and programs can utilize attributes to track doctoral student progress through the dissertation phase, including: advancing to candidacy; oral defense passed or failed; dissertation accepted by SJU. Together, these assessment methods create a complete picture of student progress toward degree and help us to ensure graduate student success.

The oral defense passed (ODP) and oral defense failed (ODF), Table 2, attributes help us to identify students at the end of their research process and who are nearing the completion of their degrees. Though it happens rarely at our institution, students do, on occasion, fail their dissertation defenses, and being able to track this information allows us to identify an increase in frequency that would signal a need for intervention from the Dean's office. Students who pass their defenses may still have revisions to complete before submitting their final dissertation copies, and entering attributes for oral defense passed (ODP) and dissertation accepted (DISA) allows the Division to identify any patterns in the time period between these two data points. For example, are students taking longer than a semester to submit their final dissertation copies after they defend? This would be a signal to us that the Dean's office could provide more support to mentoring research faculty. Even once the final dissertation copy is submitted by the student, the library may request additional formatting changes before accepting it for binding, and we do not enter the DISA attribute until the library approves. Further, the attributes, coupled with our placeholder courses, allow the college to determine which students have completed all requirements for their master's thesis or doctoral degree.

Doctoral students at SJC have a seven-year time limit for their degree, but in line with the University's Vincentian mission we serve a population of graduate students who are often first-generation and 53 percent of our doctoral students in SJC attend part-time. Consequently, issues occasionally arise in research or outside of the doctoral program that require the student to take more time to finish their degree. Students in this situation apply to the Dean's office with the support of their faculty mentor and department chair, and if the Dean's office grants the extension, we enter the EXT attribute. This allows us to track individual student progress, as well as query for extensions granted overall while determining time-to-degree rates. By monitoring the frequency of degree extensions, we can also gauge whether and at what point in the process we may need to implement strategies to improve student success and assist students in moving through their doctoral programs.

As with the "105" placeholder sections, an unintended benefit of the doctoral student attributes is the consequent ease in compiling our graduation lists for the Graduate Division (Table 3). Regularly throughout each conferral period, we query for ODP and DISA to identify students who have successfully defended their dissertations and

have had their final copies accepted by the library. At SJC a dissertation must be accepted by the Library for the degree to be conferred.

These attributes, coupled with our placeholder courses, means the Office of the Dean no longer relies on the departments and graduate program directors to provide these students' names to the Dean's office and have closed the gap in reporting doctoral student progress to degree. We also query the academic histories of students who have attained these attributes to ensure that they are appropriately registered for research or maintaining matriculation sections and meeting the University's policy of requiring continuous enrollment up to the conferral of degree.

To demonstrate the value of placeholder courses in program-level assessment, we provide sample data from one of our "105" courses for two semesters. Table 4 shows how data from a sample "105" placeholder course may be useful in identifying trends in program completion, such as the comprehensive examination. By querying students who register for the comprehensive exam section in each semester, we can track an increase or decrease in the number of students considered to be prepared for the exam over time. Additionally, we can calculate the pass rates for the exam to note patterns across semesters. For example, the data in Table 4 demonstrates that in spring 2017 21.6% of students failed their comprehensive exam; in fall spring 2018 the fail rate rose to 27.5%. "Other" describes students who chose to take an incomplete (INC) grade for the exam, for which they would have until the midpoint of the following semester to satisfy the exam requirements. At first glance, the percent increase in comprehensive exam failures, from 2017 to 2018, appears insignificant. However, by coupling these data with the students' academic history data, the college noted that, in spring 2018, doctoral students attempting to earn their master's degree *en route* to their doctorate failed the master's comprehensive exam 2.5 times more frequently than in spring 2017. These data are shared with programs and departments and initiates a curriculum review, an integral component of effective program-level assessment.

Lepore (2017) notes the barriers to faculty participation in assessment (Lepore, 2017, p. 122). To overcome these barriers, the Graduate Division began implementing placeholder sections on a small scale with a goal of growing engagement after two registration cycles. Through informal outreach to graduate program directors and chairs, the Division identified programs that would be willing to pilot the placeholder sections for one registration cycle. Based on the positive outcomes of that trial period, during which faculty and students reported satisfaction with decreased frequency of contact with the Dean's office over matters related to graduation, more program faculty were willing to participate in the use of placeholder sections as a measure for graduate-level assessment. This ground-up approach proved effective and currently all but two of the 20 master's degree programs in St. John's College and all four doctoral programs are utilizing placeholder sections for student tracking and assessment.

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Table 1. Graduate Student Placeholder Sections

105	Master's Comprehensive Examination
105T	Master's Thesis Defense
105Q	Doctoral Qualifying Examination
105D	Doctoral Comprehensive Examination

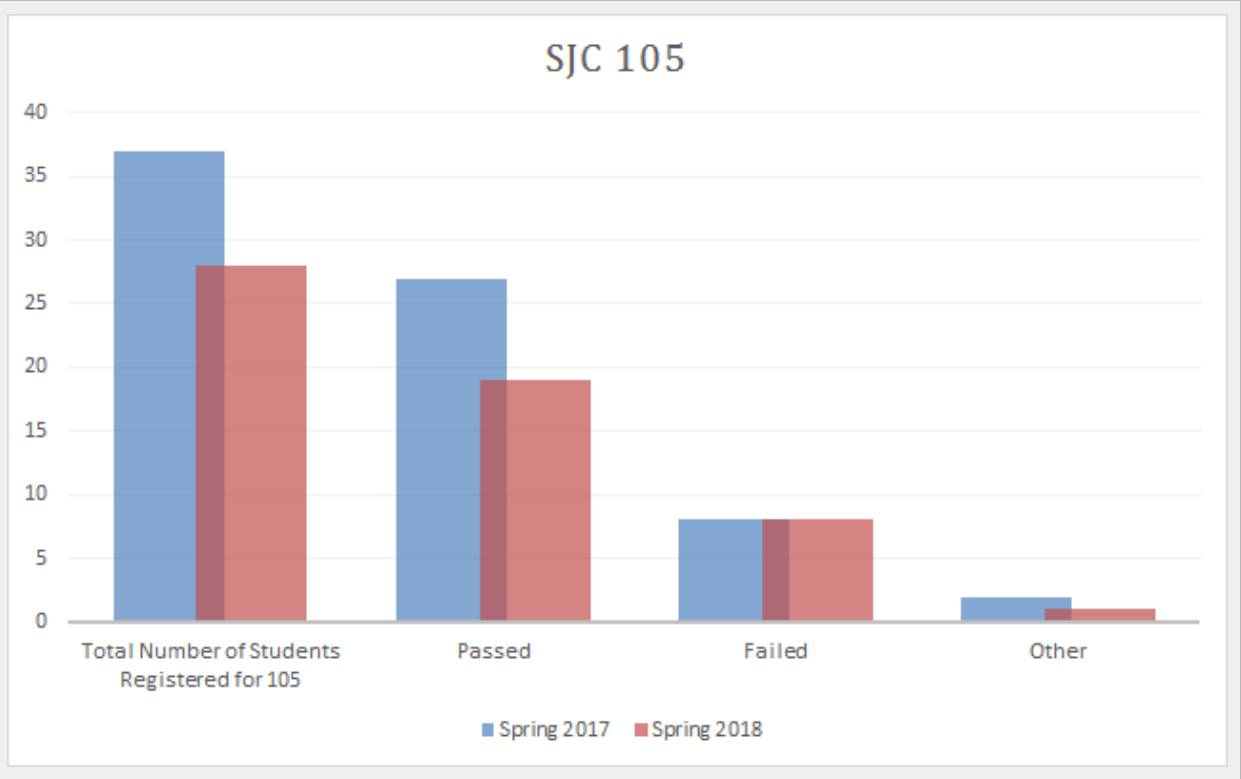
Table 2. Graduate Student Attributes

ODP	Oral Defense Passed
ODF	Oral Defense Failed
DISA	Dissertation Approved
DISN	Dissertation Not Approved
ADVC	Advanced to Candidacy (Doctoral)
EXT	Degree Extension Approved

Table 3. Preliminary Graduation List Based on Placeholder Section and Attributes Query

Degree Status	Campus	Degree	Major	Completed Credits	Transfer Credits	Advanced Standing	Registered Credits	Total Credits at End of Term	GPA	Certificate of Excellence	Passed 105 / 105T / Capstone	Final Thesis	Defense Passed	DISA	INC Grades?	Notes
EV	D	MA	GDSJ	30			6	36	3.97							
EV	D	MA	GDSJ	30			6	36	3.9							
EV	Q	MA	ENG	12			9	21	3.85						Y	ENG 560, ENG 760, ENG 900; Registered for 201830
EV	Q	MA	THE	21			6	27	3.53		N				Y	THE 410, THE 407
EV	D	MA	GDSJ	27			6	33	3.62							
EV	Q	MA	SPES	40			8	48	3.75						N	
EV	D	MA	GDSJ	30			6	36	3.94							
EV	D	MA	GDSJ	30			3	33	4	Y						
EV	Q	MA	GOVIR	33			0	33	3.29						Y	GOV 294 & GOV 296 are permanent INCs
EV	D	MS	LIS2	27			9	36	3.34		N				N	
EV	D	MA	GDSJ	27			6	33	3.86							
EV	R	MA	GOVIR	27			6	33	3.9						N	
EV	Q	MA	SPES	46			2	48	3.74						N	
EV	Q	MS	PSY5	60			6	66	3.4		N				N	
EV	D	MS	LIS2	36			9	45	3.81							
EV	Q	MS	PSY6	81			12	93	3.78		N				N	
EV	Q	MS	CHE	33			3	36	3.73							
EV	Q	MS	CHE	27			3	30	3.39							
EV	R	MA	GOVIR	24			9	33	3.91						N	
EV	Q	MA	GOVAG	42			0	42	2.55		N				N	
EV	Q	MA	SPES	40			8	48	4	Y					N	
EV	D	MS	LIS2	33	3		3	39	3.61							
EV	Q	PSYD	PSY5	108			0	108	3.99				Y		Y	PSY 950 (3), PSY 906
EV	Q	MA	SPES	43			6	49	3.94						N	
EV	Q	MS	PSY5	72			12	84	3.57		N				N	
EV	Q	PSYD	PSY5	102			0	102	4	Y	Y				Y	PSY 950 (3)
EV	Q	MA	LST	36			6	42	3.44						Y	Student will complete capstone in fall 2018

Table 4. SJC 105 Sample Data



Rethinking University Assessment by focusing on Program Learning Outcomes

By *Samantha L. Pugh, University of Leeds, UK*

Abstract: This paper presents a UK perspective on program and assessment design, by focusing on program learning outcomes. It is important, however, to explain the key differences between UK and US university systems and processes for degree design and quality assurance processes.

Keywords: Program Design, Assessment Design in the United Kingdom

Introduction

All US degree programs have external accreditation; however, this is not necessarily the case in the UK. All UK programs are validated and quality assured by a combination of External Examiners and internal Quality Assurance processes; the processes themselves have been, up until 2018, been scrutinized on a regular basis by the Quality Assurance Agency (QAA).¹ An External Examiner is usually Faculty from the same discipline in another comparable institution. They are normally appointed for 3 – 4 years, and their responsibilities are as follows: to scrutinize and approve the examination papers, review student examination scripts to check the quality and consistency of the marking, and to ensure standards are upheld, particularly by making comparisons with other institutions. Most departments will have 2 or 3 external examiners from different institutions, thus ensuring cross-comparisons and maintenance of standards. Similarly, Faculty from within a department will act as external examiners elsewhere, generating cross-fertilization of ideas and maintenance of standards.

For many disciplines, particularly those allied to science and health, there is also external accreditation from the appropriate professional body. These organizations typically inspect a department every 5 years or so. They will check every aspect of a program, including, curriculum, coverage of core subjects, teaching methods, assessment/grading of students, program learning outcomes and students' professional development. This is a very robust process.

In the UK, there is no General Education. All students join university with A-levels or equivalent, often in a narrow range of subjects, and will enroll immediately on their major. They may take a small number of optional modules (typically <20% per year) from another subject area, but this is optional. It is very unusual for a student to change their major.

Degree programs are comprised of courses that are usually 10 – 20 credits in size and a student will complete 120 credits per year for each of their 3 years on a bachelor's degree. In the UK, course learning outcomes tend to be more dominant than program learning outcomes; the program learning outcomes are generally derived from the course learning outcomes. However, this can lead to a shortcoming in that the student will experience courses, rather than a program, and it can be difficult to see the connection between the assessment/grading methods used throughout the program and the program learning outcomes. This paper proposes an alternative approach in that program learning outcomes are the focus, and the student assessments are linked directly to these throughout the program. Currently, a student's performance is graded between 1st class (70%) down to pass (40%).

¹ The Quality Assurance Agency for Higher Education (accessed 2018) <http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/subject-benchmark-statements/honours-degree-subjects>

The overarching aim of the RUALSE project is to investigate whether it would be desirable and practical to redesign assessment at a program level within the undergraduate curriculum at the University of Leeds.

However, in order to design program level assessments, it is important to first establish what the specific program learning outcomes are for a given program. Program learning outcomes can be broadly categorized into two themes: Discipline-specific capabilities, and generic graduate attributes. The disciplinary Quality Assurance Agency for Higher Education (QAA) benchmark statements² set out the discipline-specific capabilities for graduates. Additionally, in some subjects, there are accreditation requirements from associated professional bodies. In many cases, the professional body requirements are much more stringent than those of the QAA. However, even with that level of specificity, the requirements are usually flexible regarding program delivery and assessment methods that are employed to demonstrate capability. An institution may also have requirements in terms of the assessments that are used at certain levels, for a given number of credits. Disciplinary conventions also have a very strong influence on the nature of assessment within a degree subject. This is not surprising; most academics have a strong allegiance to their discipline or profession first, and their institution second.³ This observation must be considered when developing institutional strategy and policy for student education.

In order to develop degree programs with an alternate assessment regime, it is important to establish a number of factors. These are summarized as:

1. The graduate attributes for the discipline (specific and generic)
2. The current choice of assessment methods
3. The rationale for the current choice of assessment
4. The pros and cons of alternative assessment methods
5. The design of the degree program
6. The balance of formative and summative assessment (current and potential)
7. Issues with current assessment methods and program design
8. The feasibility of synoptic assessment
9. Possible solutions that would be in keeping with disciplinary norms.

This paper will address the first factor: What are the graduate attributes for the discipline in question? This study focuses on four Schools within the University of Leeds. Those Schools are Biology, Chemistry, Education, and Performance and Cultural Industries.

Methodology

The approach taken was semi-structured interviews. The style adopted was that of guided conversation and extended discussion, as described by Rubin and Rubin⁴. In this, the participants were regarded as conversational partners in the process; both the interviewer and interviewee could both be regarded as experts in this context and so each guided conversation was unique, where both parties shared knowledge and expertise pertinent to the research topic.

A set of question prompts were used, along with active listening, generating follow up questions and as the interview progressed. The interviewer had considerable working knowledge and experience of the research topic, so the main aim of the research was to establish what was important to the individual participants.

² The Quality Assurance Agency for Higher Education (accessed 2018) <http://www.qaa.ac.uk/assuring-standards-and-quality/the-quality-code/subject-benchmark-statements/honours-degree-subjects>

³ Diamond, R. M. and Adam, B. E. (1995) *The Disciplines Speak: Rewarding the Scholarly, Professional, and Creative Work of Faculty* Forum on Faculty Roles & Rewards, American Association for Higher Education.

⁴ Rubin, H.J. and Rubin, I. S. (2005) *Qualitative Interviewing (2nd Edn): The Art of Hearing Data*, Sage Publications, ISBN 0 7619 2975 7.

Reflexive Researcher

Reflexivity is an important aspect of this work. I am not a researcher that is independent of the research topic; higher education development is at the very heart of my work, and, therefore, I already possess strong views (which are open to suggestion and change) about what a university degree should look like, and perhaps more importantly, what it should do.

My own experience of studying for a Chemistry degree at a Russell Group university was dominated by unseen written exams (>80%) interspersed with continuous assessment/written coursework and a large component of practical laboratory work assessed continuously. Like many of my colleagues in STEM Higher Education, I was successful under this regime; unseen examinations suited my way of learning and ability to remember and so I didn't question it. However, over time, my own teaching has moved away from written exams towards project-based work (often group work), presentations and written assignments. The reason for this is that I believe exams are an excellent way of assessing what a person knows – the information that they have stored and can recall and use – but they have limited use for higher order learning. For students to evaluate, synthesize and create work, they need time, space and resources to do so. I also believe that assessments that give students access to a full range of resources are much more authentic and better preparation for work. Alternative assessments also give much more opportunities for students to develop a wider range of transferable skills, which will be important for their success after graduation. I believe that well designed assessments can overcome issues of plagiarism (one of the popular reasons for using exams) and giving students ownership of their assignments also gives them something to be proud of, which in turn, provides more intrinsic motivation as described by Herzberg.⁵

I also believe that modularization has led to a wide range of small units of learning, each with its own set of assessment. This fragmentation of the curriculum has had two undesirable effects. Firstly, there can be pocketed learning where students don't see the connection between each of the learning units. Secondly, assessment innovation at a modular level has inadvertently led to over-assessment across a program. This can be negative for both staff and students in terms of workload.

However, reducing assessment can lead to mixed views. On one hand, there is a desire to reduce assessment on the part of students as they can become overburdened and stressed at certain times of year. On the other hand, students like having lots of opportunities to accumulate marks towards their classification. Having lots of assessments reduces the risk associated with any individual piece of work. There is a balance to be struck.

I was mindful that I had strong views on certain aspects of pedagogy and program design. Rather than try to hide this (which may have resulted in implicit bias) I chose to be upfront about my views, whilst acknowledging that they were just my opinions and thought prompts, rather than an intended direction of travel. There was no power imbalance between the researcher and the participants, so I would not expect my views to skew the data. In fact, I found that through the conversations, some of my own thoughts and beliefs regarding assessment were challenged.

Research Questions

A set of research questions was generated to cover a range of themes for discussion with academic staff at each of the research sites. The questions were interviewer prompts; not all questions were asked to all participants (as they weren't always relevant, or the question had already been answered).

1. Program Learning Outcomes: How is a graduate of a specific discipline, and of the University of Leeds, defined, in terms of learning outcomes? [B]
 - a. What defines a person as a graduate of your discipline?

⁵ Herzberg, F.I. (1966). *Work and the nature of man*. Oxford, England, ISBN-13: 978-0690003710.

- i. In terms of skills and capability? What can they do?
 - ii. In terms of knowledge? What do they know?
 - iii. Subject specific knowledge and skills?
 - iv. Generic skills?
 - b. What defines someone as a Leeds Graduate?
 - i. In terms of skills/capabilities/attributes?
 - ii. In terms of their experiences?
 - iii. In terms of values?
 - iv. Is there a link between your program outcomes and the University's values (professionalism, integrity, inclusiveness, community)?
- 2. Pedagogy: How do the current learning and teaching methods, and assessment regimes speak to the program learning outcomes? [B]
 - a. What is your current approach to teaching your subject? What pedagogies do you use?
 - b. How much flexibility do you have over your choice of assessment?
 - c. How does your choice of assessment for your teaching speak to the Program Learning Outcomes (PLOs)?
 - d. What are you currently assessing, and why?
 - e. What assessments would be appropriate for assessing students' capabilities with the program learning outcomes?
 - f. What is the purpose of your chosen assessment methods?
 - g. What is the role of coursework in your course?
 - h. What is the role of coursework across the program? How does it speak to the PLOs?
 - i. What is the role of unseen examinations in your program? How do they speak to the PLOs?
 - j. How would you define:
 - i. Examination
 - ii. Assessment
 - k. What do you expect University assessment to look/be like?
 - l. Do you use Assessment for Learning? If so, how?

As the interviews progressed and certain topics emerged, additional questions were added for subsequent interviews. These were:

1. What is your view on viva examinations?
2. What is your view on open book exams?
3. Institution X has introduced a 120 credit first year module. What is your view on this?
4. Some university systems allow the assessment units to be decoupled from the 'learning units/teaching.' This allows for more synoptic assessment. What is your view on this? Would it work for your school, either for horizontal or vertical synoptic assessment?
5. Would synoptic assessment work in your discipline? Do you have this at the moment?

Analysis

In analysis of the interview transcripts, an interpretive constructionist approach was adopted. It was not necessary to generalize the findings, as the aim of the research was to establish the current status quo and explore options for change. One might expect that all respondents within a research site might have the same perspective on the current taught program and related learning outcomes, but this was not a given. One aim was to construct meaning from the conversations to describe the current situation. The second aim was to establish individual

boundaries for ‘acceptability’ in program and assessment design, so that the accepted norms could be established before any recommendations for change could be made.

The first phase of the analysis was that of recognition; going through the transcripts to see what themes, concepts and markers emerged from each, particularly linked to the research questions, but also to see if any unexpected themes emerged.

Secondly, these themes were split into codes. The codes that were established were as follows:

CODE	Sub Code	Notes

Each transcript was then coded.

The transcripts were then considered as ‘batches’ based on the research site. Firstly, common themes were established within a research site. Any divergence within a research site was also noted. This was completed for each research site.

Secondly, themes were compared between sites to establish commonalities and differences between different discipline areas. This is an important consideration as many of the facets of a university’s student education strategy are established at an institutional level. Understanding where the similarities and differences lie is important.

Method

This paper focuses on the first research question, highlighted in **bold**. A number of Individual academics within each of the four schools were asked, ‘what defines someone as a graduate of your discipline?’ The answers generated a range of generic and subject specific skills and attributes. Those that were mentioned repeatedly are highlighted in **bold**. Attributes that could be considered as generic are highlighted in *italics*. The four schools were Biology, Chemistry, Education, and Performance and Cultural Industries. The number of interviews varied between five and eight per school; additional participants were recruited until a level of saturation was achieved and no significant new themes were emerging.

Findings

For each School, the findings have been arranged in terms of subject specific elements followed by more generic elements (whilst recognizing that these will also be nuanced for each discipline).

School of Biology

The discipline of biology is very broad, and a degree can comprise many different subject areas. Students may choose to follow a particular specialism or take a more broad, interdisciplinary approach. The subject is a combination of theory, fieldwork and practical work. The Royal Society of Biology⁶ has accredited the School’s programs, although none of the participants made reference to their criteria; only that the school satisfied their requirements.

⁶ Royal Society of Biology (2017) The Degree Accreditation Handbook, https://www.rsb.org.uk/images/accreditation_home/RSB_Handbook_Accreditation.pdf

A graduate of Biology has the following skills and competencies:

- Has an understanding of the subject (not knowledge)
- Understands current research activity and has a biological understanding
- **Understands nature and understands biological processes and systems**
- Understands nature and origins of biological diversity
- Has a broad comprehension of how everything fits together
- **Technical/practical/laboratory skills**
- Able to become a professional scientist
- Able to communicate their understanding
- Appreciates the nature of enquiry rather than regurgitation of facts
- Literate
- Numerate
- Able to undertake basic statistical analysis
- **Critical thinker**
- **Able to amalgamate and summarise ideas to create an evidence base**
- Confident in self-directed learning
- Confident in self-directed research
- Thinks about problems and knows how to solve them
- **Able to communicate verbally and with focus**
- Understands research methods
- Able to create a balanced argument

School of Chemistry

Chemistry comprises three core branches: Organic, Inorganic and Physical Chemistry (which usually includes Analytical Chemistry). A student will study a balance of all branches initially, then may choose to either specialize or maintain breadth in later years. The subject is a combination of theory and practical work. Several participants made reference to both the QAA benchmark statements for Chemistry⁷. Most participants also referred to accreditation from the Royal Society of Chemistry,⁸ and the importance of maintaining accreditation through meeting their requirements.

A graduate of Chemistry has the following skills and competencies:

- **Know fundamental concepts of reactivity**
- Understand how reactions proceed and their thermodynamics
- **Fundamental chemistry knowledge across the board**
- Ability to predict chemical and physical properties from a given chemical structure
- Skills needed to make and analyze molecules – both knowledge and practical dexterity
- **Able to perform experiments in laboratories**
- Safe and competent in a laboratory setting
- Bring together findings to develop hypotheses, both theoretical and practical
- **Use knowledge to solve unseen or new problems**
- **Have the ability to talk to and work with other disciplines (e.g. Biology, Physics, Engineering)**

⁷ QAA (2014) Subject Benchmark Statement: Chemistry <http://www.qaa.ac.uk/en/Publications/Documents/SBS-consultation-chemistry.pdf>

⁸ Royal Society of Chemistry (2017) The Accreditation of Degree Programs, http://www.rsc.org/images/Accreditation%20criteria%202017-%20update%20july%2017_tcm18-151306.pdf

- **Able to use general and specific software (e.g. Word, Chemdraw)**
- **Familiar with chemistry-specific literature**
- Appreciate how the research process works
- Experience of primary research and able to generate new knowledge
- **Enjoys solving problems**
- **Think critically and laterally**
- Know the limitations of their own knowledge
- Understand and appreciate different points of view
- Able to learn from failure
- **Able to work in teams and groups**
- **Presentation and oral communication skills**
- **Able to write reports**
- Independence
- Persuasive skills

School of Education

The School of Education offers a range of degree programs, from Education to Childhood Studies and TESOL (Teaching English to Speakers of Other Languages). The specific pathway will depend on the program, but the following attributes are common across all programs within the school. There is no specific accreditation that applies to the School although the QAA benchmark statements for Education⁹ were mentioned by one participant.

A graduate in Education has the following skills and competencies:

- Interdisciplinary experience
- **Have a base knowledge of concepts and issues in Education**
- Can relate knowledge to real world issues
- **Criticality about education policy and practice**
- Critically aware of learners and their place in society
- Awareness about their own learning and the learning of others
- They look like really good teachers
- Understands a psychological viewpoint
- Understands a sociological viewpoint
- An ongoing interest in the subject
- **Able to engage with issues and construct arguments**
- Knows how to reference properly
- **Knows how to search for literature properly**
- Engages with the literature in a critical way
- Understands knowledge
- Have the ability to transfer their skills
- The ability to be reflective
- Able to articulate ideas orally and in writing in a convincing way

⁹ QAA (2015) Subject Benchmark Statement: Education Studies <http://www.qaa.ac.uk/en/Publications/Documents/SBS-education-studies-15.pdf>

School of Performance and Cultural Industries

The School offers a single degree program, although there are a number of options that allow students to either specialize in particular sub-disciplines, or maintain breadth. The subject is a combination of theory and practical work/performance. One participant referred to the QAA benchmark statements¹⁰ although it was noted that the benchmark that applied to their discipline was necessarily broad.

A graduate in Theatre and Performance has the following skills and competences:

- **Intercultural understanding and cultural awareness**
- Ability to interpret a text or a situation
- Questions social conditioning
- Politically aware
- Understand human interaction through artistic work
- **Creative**
- Can work out practicalities and see them through to completion
- **Ability to collaborate**
- Ability to deal with conflict
- **Ability to make something happen / enterprising**
- **Thinks critically**
- Questions accepted knowledge
- **Ability to lead, contribute to a team and take on different roles as required by the task / adaptable**
- Self-starter
- **Entrepreneurial**
- Independent
- Deep thinkers
- Ability to communicate orally and in written forms
- Reflective practitioners
- Awareness of how and where to seek help
- Ethically aware
- **Able to work critically with knowledge**

The only generic graduate attributes that appeared in all subjects were:

- Critical thinker
- Able to work critically with knowledge
- Ability to communicate orally and in written forms

Additional Observations from the Research

Two interesting themes relating to the degree experience also emerged from my interviews. These are 'performance' and 'identity.' I would like to unpick both themes in the context of higher education.

Whilst performance is clearly synonymous with a discipline such as 'Performance and Cultural Industries' it has a much wider applicability across many disciplines. I believe that many subjects can benefit from the pedagogy of

¹⁰ QAA (2015) Subject Benchmark Statements: Dance, Drama and Theatre, <http://www.qaa.ac.uk/en/Publications/Documents/SBS-Dance-Drama-Performance-15.pdf>

performance developed in these areas. For example, within the sciences, a key component of any degree worth its salt is practical work. Typically, organized by 3- or 4-hour laboratory sessions where the students are given a brief (experiment) with varying levels of information and then they have to execute the brief to deliver a product. The final product could be a new compound (in the case of chemistry) which will have qualities that can be assessed (amount, appearance, purity, etc.). Often, the assessment criteria will focus on the final output, but I would argue that the process is equally important. In this way, there is much to be learned from the creative disciplines. How did the student begin the task? What theories were they drawing upon, how did they organize their time (the employability skill of time management is certainly well exercised in practical classes!), who did they need to collaborate with (other students, demonstrators, technicians, academics) to successfully achieve their goals, what were the challenges and how were they overcome? Within the creative discipline, there is just as much emphasis on the process as the output (of course the output needs to be fit for purpose) but there is scope to improve the process, which is the transferable element of the exercise. Assessing process can be challenging in itself, but reflection can be a very valuable tool. If the reflection is also reflexive, then students can think about and incorporate their wider (academic, professional and personal) experiences.

The second theme that has emerged is that of identity. Academics believe that students have a very strong sense of identity as a student, and ultimately, a graduate of their discipline. There is a strong sense of what a graduate of [subject] will be like, in terms of their attributes and capabilities, but also their behaviors and their mind set. Research has demonstrated that students and professionals from different disciplines have different approaches to work¹¹. This identity seems to develop particularly strongly through the peer-to-peer interactions, especially in very interactive courses where group work and practical work are integral. This is an interesting concept that is worthy of further investigation.

Program Redesign Toolkit

Now that the graduate attributes for each of the disciplines have been identified, the assessment across the whole program can more readily be developed. This top-down approach to constructing a degree program should, theoretically, make the program more coherent, as it is designed with the end goal in mind. This in contrast to the more typical bottom-up approach, where the degree is constructed from a series of building blocks, whose learning outcomes combine to form the program outcomes and, therefore, graduate attributes. By reverse engineering the degree, by starting with the graduate attributes and degree learning outcomes, the assessment for the whole degree can be more meaningfully designed.

A program redesign toolkit has been designed by taking inspiration from, and building on, the approaches used by TESTA,¹² RADAR,¹³ Brunel University's Integrated Program Assessment¹⁴ and the University of Sheffield's Program Level Approach¹⁵. The process has been designed following research using semi-structured interviews both with academics from five Schools within the University of Leeds, and with a number of secondary schools, A-level teachers, as part of the Reimagining University Assessment by Learning from Secondary Education (RUALSE)

¹¹ Tony Becher (2006) The significance of disciplinary differences, *Studies in Higher Education*, 19:2, 151-161, DOI: [10.1080/03075079412331382007](https://doi.org/10.1080/03075079412331382007)

¹² <http://testa.ac.uk/index.php/resources/best-practice-guides/category/7-best-practice-guides>

¹³ <https://www.exeter.ac.uk/staff/development/academic/resources/assessment/radar/>

¹⁴ <http://testa.ac.uk/index.php/resources/best-practice-guides/category/7-best-practice-guides>

¹⁵ <https://www.sheffield.ac.uk/staff/learning-teaching/our-approach/program-level>

In order for a group of people to embark on a process of transformational change¹⁶, they have to recognize that the current situation is in some way insufficient. This dissatisfaction with the current scenario will drive the motivation to bring about a change¹⁷. Additionally, there needs to be a strong belief among the individuals and the school as a whole that the change will be beneficial. It is important to 'unfreeze' the current status quo to enable the change to occur.¹⁸

This process of program redesign focuses on the intended learning outcomes for the program as a whole. This will manifest itself in the desired graduate attributes for the discipline. These attributes will have discipline specific and generic aspects.

In order to develop the graduate attributes, it is useful to address a series of questions. There are two options for doing this, but the questions will remain the same. This can either be through individual questionnaires, then collation of results to arrive at a description of the graduate attributes, or through a meeting of interested parties to develop the graduate attributes.

Where professional body descriptors exist, you are recommended to look at these *after* the process of defining the graduate attributes. The important stage is gathering the views of professional educators, as these will be the people ultimately responsible for developing and delivering the program, and so therefore need ownership of the program. This will help with staff buy in. The professional body criteria are a useful checklist and for gap analysis after initial input by academics.

Once the Program Learning Outcomes are established and agreed, the assessment should be designed before the program content^{19, 20} (Henderson, 2009)

RUALSE Program Redesign Process

Within this process, it is important to regard the program as being designed 'from scratch' and not constrained by current systems, processes and behaviors. The approach should be to consider an individual program, rather than a suite of programs in the first instance, as the graduate attributes are linked to the learning outcomes for a given program. It is important to also consider the team that are redesigning the program. Do they represent a diverse range of views, and incorporate different aspects of the program?

1. Which program are you redesigning?
2. Why have you decided to redesign the program? What are the current issues or shortcomings that you would like to address?
3. How do you know there are shortcomings?

¹⁶ Kotter (1999), On what Leaders Really Do, in 'The Theory and Practice of Change Management,' John Hayes, 3rd Edition, (2010), p.25, ISBN 978-0-230-21069-1

¹⁷ Schein (1996) in 'The Theory and Practice of Change Management,' John Hayes, 3rd Edition, (2010), p.44, ISBN 978-0-230-21069-1

¹⁸ Lewin (1947) in 'The Theory and Practice of Change Management,' John Hayes, 3rd Edition, (2010), p.29, ISBN 978-0-230-21069-1

¹⁹ Henderson (2009), in 'A Handbook for Teaching and Learning in Higher Education,' 3rd Edition, p.51, Edited by Fry, Ketteridge and Marshall, ISBN 10: 0-415-43464-5

²⁰ Norton (2009), in 'A Handbook for Teaching and Learning in Higher Education,' 3rd Edition, p.136, Edited by Fry, Ketteridge and Marshall, ISBN 10: 0-415-43464-5

4. How have you satisfied yourselves that a transformational change is needed?
5. What defines someone as an honours graduate of discipline [X]?
 - a) What is the subject specific knowledge (recall knowledge and working knowledge), skills and capabilities?
 - b) What generic capabilities should a graduate from your discipline possess?
6. Therefore, following on from 5, what are the program learning outcomes for this program?
7. Where applicable, compare your list of graduate attributes and learning outcomes to those specified by your professional body.
 - a) Are any attributes missing?
 - b) Are they currently in your program?
 - c) Will you need to include them in your program redesign?
 - d) Could you usefully re-word any of your graduate attributes to better align to the professional body requirements?
 - e) On reflection, do you have any graduate attributes that need adding, merging, rewording or removing?
8. What are the important features of study in your discipline (e.g. laboratory work, fieldwork, extensive reading, creating a portfolio, group work, external collaboration, etc.)?
9. How do the identified features of study relate to the graduate attributes and therefore the program learning outcomes?
10. What current assessment methods are you using across the program?
List them, and in each case:
 - a) What is your justification for using this assessment method?
 - b) Is it inclusive by design?
 - c) What are the pros and cons from both staff and student perspectives?
11. How do each of these assessment methods relate to the identified graduate attributes and program learning outcomes?

The redesign of assessment for a program should be compatible with the Leeds Expectations for Assessment and Feedback (LEAF)

12. What alternative assessment methods are possible to assess the stated program learning outcomes?

13. What are the current constraints in terms of variety in assessment? (e.g. people resource, technical capabilities, timetabling, disciplinary norms, student expectations, etc.).
14. Putting aside the current modular structure, how might you effectively assess the program learning outcomes, ensuring the assessment is inclusive by design?

Synoptic assessment²¹ means bringing together either parts of a program or the program as a whole to assess a student's capabilities. This could either be cross-sectional within a year, vertically with a theme or sub-discipline across more than one year, or the program as a whole.

15. Thinking creatively, what are the possibilities for using synoptic assessment in your program?

It can be argued that a PhD program and thesis (final output) is a continuous process of co-creation and improvement, resulting in a competency-based assessment in the form of a synoptic thesis and a viva to confirm that the candidate meets the expected standard. There are several stage-gates during the process, such as the transfer viva and end of year reports, all of which are formative.

16. How might 'the PhD approach' to learning and development be applied to an undergraduate degree program in your discipline?

Assessment within a degree program should be used as a learning opportunity as well as a way of classifying achievement of students. If Assessment for Learning is to be effective, it needs to be timely and feed forward into future work. Students also need to be able to see the connections to future work, and therefore the value in completing the assessment. When the connection and benefit is clear, the task can be formative, allowing the student to learn and benefit from the experience in future tasks. The benefit therefore drives the learning and small percentage mark incentives are not necessary. You should be able to map where a student is introduced to, practices and receives feedback, and is then assessed on a particular competency, which are defined by the program learning outcomes. There should also be structured opportunities for reflection on feedback.²²

17. What are the opportunities for student development through formative assessment and feedback during the program to support the summative assessments?

It is not necessary to have summative assessments for each individual module. However, you should be able to map where the learning from each individual module contributes to the summative assessments, and therefore the program learning outcomes.

²¹ <http://teachingandlearning.westminster.ac.uk/2014/10/synoptic-assessment/>

²² Sambell (2011), Rethinking Feedback in Higher Education, <https://www.plymouth.ac.uk/uploads/production/document/path/2/2729/RethinkingFeedbackInHigherEducation.pdf>

18. What is the minimum amount of assessment that would be required to determine whether a student is a competent graduate of the discipline (reflect on your answers to question 4 – the graduate needs to be able to demonstrate that they possess the graduate attributes)?
19. What is the minimum amount of assessment that would be needed to classify a graduating student of the discipline? How have you come to this conclusion (You need to be able to establish that they have met the Program Learning Outcomes)?
20. Map out what the summative assessments might look like through the degree.
 - a) When completed, ask yourselves if all the assessments are all necessary.
 - b) How are you going to incorporate formative assessments that include timely feed-forward, to support these summative assessment points in the program?
21. Will your new curriculum meet the requirements of your professional body and/or employer expectations? If not, what adjustments are needed?
22. What changes, if any, are needed to student education systems and processes to deliver your ideal curriculum?
23. What, if any, new resources are needed to transition to your ideal curriculum?

Template for what your new program specification should look like

Intended Program Learning Outcomes for [XXXX]:

- A
- B
- C
- D
- E

There is an expectation that summative assessments that address program learning outcomes will be weighted towards the final year of study. However, a stage-gate approach to earlier years will mean that some assessments in early years will relate to the development of PLOs, rather than full achievement of PLOs.

Program summative assessments:

- 1
- 2
- 3
- 4
- 5

- 6
- 7
- 8

Map of program learning outcomes to summative assessments (it may be useful to map this for each year of the program):

Summative Assessment	PLOs	A	B	C	D	E
1		X				
2			X			
3			X			
4						X
5				X		
6					X	
7						X
8		X				

Formative Assessments (expected to decrease throughout the years).

Level 1 a b c d e f g h i

Level 2 j k l m n o p q r

Level 3 s t u v w

(Level 4) x y z

Formative assessments mapped to summative assessments:

Formative Assessment	Summative Assessment	1	2	3	4	5	6	7	8
A		X							
B		X							
C			X						
D						X			
E					X				
F			X						
G				X					
H							X		
I								X	
J									X
K		X							
L						X			
M							X		
N					X				
O			X						

P							X	
Q			X					
R	X							
S							X	
T			X					
U				X				
V					X			
W						X		
X							X	
Y								X
Z	X							

Once the program assessment points have been mapped, the syllabus and delivery of content can be considered.

Reflections on the Presentation at AALHE 2018

The first thing to note regarding the session is that the presenter had to rethink some of the terminology used in the UK, and translate this into the US context. Besides the differences highlighted in the introduction, the main difference that impacted on this paper was the meaning of the word “Assessment.” In the UK, assessment refers to the setting, marking and grading of student work. We are concerned with individual student performance and so assessment in the UK is always intrinsically linked to feedback to students. I quickly learned that the US meaning for Assessment refers to assessment of a program, and would be more closely correlated to the UK Program Reviews. Similarly, US Program Reviews are more closely related to UK Periodic Reviews.

Putting linguistic nuances aside, it soon became clear that we are ultimately trying to achieve the same thing – designing our degree programs so that our students can make good progress in learning that will lead to excellent post-graduation outcomes and success for the students. Within the session, participants from a range of disciplines reflected on what made someone a graduate of their discipline; this was used to elucidate what the programme learning outcomes should be. Once these outcomes were established, we could imagine how we could creatively use student assessment at a program level to allow students to demonstrate their capabilities. I particularly liked the ‘Introduce, Practice, Assess, Mastery’ model. I had not seen the Mastery level included before. The VALUE rubrics were also introduced to me – these will prove very useful in my future work. As with UK degree programs, the disciplinary norms had a big impact on the current nature of assessment within the degree program; disciplinary norms are more influential than institutional strategy in Learning and Teaching.

Overall, once the initial challenges of translating meaning between two nations were overcome, there was a huge benefit of working together to improve student learning and program assessment.

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Meta-Assessment: A Blueprint for Evaluating Programmatic Effectiveness

By Allison J. Ames, Tom Waterbury and Beth Perkins, James Madison University

Abstract: Assessment is becoming increasingly ubiquitous across higher education. As institutions commit more time and resources into developing and implementing assessment processes, it is vital to determine whether these processes are of high quality. The evaluation of assessment processes, known as meta-assessment, can be a challenging and overwhelming task. However, assessment quality is a vital component in the use of assessment results for improved student learning and growth. The purpose of the Association for the Assessment of Learning in Higher Education (AALHE) 2018 skill-building workshop was to provide participants with a blueprint for engaging in program-level meta-assessment to gauge the quality of their academic degree program assessment processes.

The session started with a brief overview of the meta-assessment process, as practiced at James Madison University (JMU). Participants brought considerable knowledge of program-level assessment to the session and engaged in the session through hands-on meta-assessment practice and discussion. Session participants evaluated the effectiveness of a JMU academic program's assessment process by reading and rating a truncated version of the program's assessment report. With support and guidance from the presenters, participants used James Madison University's meta-assessment rubric to provide numeric ratings for several aspects of the program's assessment process. The session concluded with a discussion on the impact of the meta-assessment process and assessment quality in the learning improvement process.

Keywords: Meta-Assessment, Assessment Cycle, Rubrics, Faculty Development, Program Assessment, Rating

Introduction

Shavelson (2010) has called for greater responsibility in a new era of accountability. Quality assessment implies the direct measurement of learning that can withstand scrutiny of outside stakeholders. Most institutions of higher education engage in some form of assessment. However, best practices associated with assessment, especially as it pertains to academic degree granting programs' assessment, are often nebulous to faculty. As an example, accreditation review teams cite non-compliance with core requirements and comprehensive standards associated with assessment at higher rates than almost all other areas. Institutions are engaging in assessment, but the process often does not align with the standards expected.

Assessment reports, officially titled the Assessment Progress Templates (APTs), are submitted for evaluation on an annual basis at James Madison University (JMU). In an effort to improve programmatic assessment, and, in turn, student learning, JMU has been engaging in meta-assessment, which is the evaluation of assessment processes. We believe, in general, that a program's assessment process should be evaluated based on the quality of information it provides (Erwin, 1991), the ability of this information to address questions about the program (Pieper, Fulcher, Sundre, & Erwin, 2008), and the program's response to the information. We agree with Ewell (2002), that one of assessment's primary roles is to inform program improvement. Yet, if a program is expected to improve its assessment process, then that process needs to be evaluated and critiqued by experienced assessment practitioners.

At JMU, the meta-assessment process is divided into three components: writing and submitting an assessment report, rating of the report, and feedback/support. The skill-building session at the Association for the Assessment of Learning in Higher Education (AALHE) 2018 Conference allowed participants to engage with each of these components, with an emphasis on report rating. Three JMU assessment consultants led the skill building session by guiding participants through an actual assessment report. The truncated APT used in this session was submitted a few years ago by the Computer Information Systems (CIS) program at JMU.

Meta-Assessment Rubric

Each session participant was provided with a copy of JMU's meta-assessment rubric and were led through each of its elements. The rubric has six sections that map onto the six stages of the assessment cycle as envisioned at JMU. These sections are 1) student learning objectives, 2) course/experiences that are mapped to the objectives, 3) assessment methodology, 4) results, 5) dissemination of results, and 6) use of results, with subsections for many of the main six stages of the assessment cycle. Overall, the rubric contains 14 elements, each of which is evaluated using a 4-point scale (4 = Exemplary, 3 = Good, 2 = Developing, and 1 = Beginning). The 14 elements contain detailed behavioral anchors for every point on the scale. Figure 1 illustrates the organization of the rubric, while Figure 2 provides an example of the behavioral anchors. The full rubric is available here: http://www.jmu.edu/assessment/_files/APT_Rubric_sp2015.pdf and a version of the CIS assessment report can be found here: <http://www.jmu.edu/assessment/Visitor/AssessmentResources.shtml#APT>.

To provide orientation to the rubric, refer to Figure 2. There are two elements in Section 1 (*Student centered learning objectives*), the first being 1A: *Clarity and specificity*. Programs in the *Beginning* stage have no student learning objectives present and would earn a numeric score of "1" on Element 1A. The behavioral anchors for *Developing* (numeric score of "2") indicate that student objectives are present, but with imprecise verbs (e.g., know, understand), vague description of content/skill/or attitudinal domain, and non-specificity of whom should be assessed (e.g., "students"). To earn a numeric score of "3," or qualitative description of *Good*, student learning objectives must generally contain precise verbs, a rich description of the content/skill/or attitudinal domain, and specification of whom should be assessed. The final qualitative rating category, *Exemplary* (numeric score of "4"), is defined by: all objectives stated with clarity and specificity including precise verbs, rich description of the content/skill/or attitudinal domain, and specification of whom should be assessed. Ratings using half points (i.e., numeric scores of 1.5, 2.5, and 3.5) are also permissible. For example, if a program's objectives generally contained precise and were richly described but contained no specification of which students were to be assessed, then a 2.5 could be the most appropriate rating.

Element	Sub-Element	Sub-Element	Sub-Element	Sub-Element	Sub-Element
1. Student-centered learning objectives	A. Clarity and specificity	B. Orientation			
2. Course/learning experiences that are mapped to objectives					
3. Systematic method for evaluating progress on objectives	A. Relationship between measures and objectives	B. Types of measures	C. Specification of desired results for objectives	D. Data collection & Research design integrity	E. Additional validity evidence
4. Results of program assessment	A. Presentation of results	B. History of results	C. Interpretation of results		
5. Documents how results are shared with faculty/stakeholders					
6. Documents the use of results for improvement	A. Program modification and improvement regarding student learning and development	B. Improvement of assessment process			

Figure 1. Organization of the Rubric with Sub-Elements

1 – Beginning	2 – Developing	3 – Good	4 – Exemplary
1. Student-centered learning objectives			
A. Clarity and Specificity			
No objectives stated.	Objectives present, but with imprecise verbs (e.g., know, understand), vague description of content/skill/or attitudinal domain, and non-specificity of whom should be assessed (e.g., “students”)	Objectives generally contain precise verbs, rich description of the content/skill/or attitudinal domain, and specification of whom should be assessed (e.g., “graduating seniors in the Biology B.A. program”)	All objectives stated with clarity and specificity including precise verbs, rich description of the content/skill/or attitudinal domain, and specification of whom should be assessed (e.g., “graduating seniors in the Biology B.A. program”)
B. Orientation			
No objectives stated in student-centered terms.	Some objectives stated in student-centered terms.	Most objectives stated in student-centered terms.	All objectives stated in student-centered terms (i.e., what a student should know, think, or do).

Figure 2. Element 1: Meta-Assessment Rubric

Rating

Participants had the opportunity to engage directly with the meta-assessment process. With the guidance of the presenters, participants used the meta-assessment rubric to rate several sections of a JMU program’s assessment report. Because of the session length (90 minutes), participants rated a shortened Computer Information Systems APT. Example content from the CIS APT, specifically the program’s student learning objectives, can be found in Figure 3.

Raters were first asked to read through the CIS APT and then rate Element 1A (*Clarity and Specificity of SLOs*). As shown in Figure 3, some of the program SLOs are written using a rich description of the content/skill/attitudinal domain. For example, the *Programming* objective defines programming proficiency as including “conceptual design, elegant and efficient coding, complete testing/debugging, and meaningful documentation.” Using these rich descriptions can help guide decisions further in the assessment process. Many of the objectives could be improved by using a more precise verb. For example, it is difficult to assess “demonstrate understanding.” An alternative phrasing might be: “Students will describe database concepts and develop effective data models...” The verb “describe” can be more easily assessed, and clearly articulates the skill that CIS faculty hope students can demonstrate. The CIS APT clearly states what level of student is being assessed, which is a component of Element 1A. A numeric score of 2.5 on the rubric is appropriate for this element because the objectives are present with imprecise verbs, but the level of student is clearly articulated and many SLOs contain a rich description of the content, skill, and/or attitudinal domain.

Session participants asked about the use of verbs at multiple levels of skills, such as those found across Bloom’s Taxonomy. For example, is it a problem if a program uses only lower-order verbs in its learning objectives? This is an important consideration. However, we leave the level of skill in the objective up to the program, and only provide feedback in the meta-assessment process on whether assessment of the skill is appropriate.

I&II. Objective, course/learning experience	
Students graduating with a BBA in Computer Information Systems will achieve the following objectives:	
Programming	Students will demonstrate proficiency in the programming of object-oriented, GUI, event-driven, database-enabled applications in at least two modern programming languages. Programming proficiency will include conceptual design, elegant and efficient coding, complete testing/debugging, and meaningful documentation.
Database Management Systems	Students will demonstrate understanding of database concepts, and proficiency in developing effective data models, designing and implementing relational databases, and manipulating data using SQL.
Systems Analysis and	Students will demonstrate the ability to use appropriate systems analysis

Design	and design tools and techniques. Students will understand the concept of systems life cycle and the importance of involving users in systems design.
System Architectures and Technology Tools	Students will demonstrate an understanding of the integration of information systems within the enterprise. Proficiency will be demonstrated by analyzing, diagramming, and evaluating the information systems processes of integrated business units. Emphasis will be placed on functional models, physical architectures, and security controls of an organization.
Telecommunications	Students will demonstrate proficiency in understanding technical fundamentals of telecommunications and computing networks. Students will reinforce their knowledge of the layered network communications model through hands-on laboratory experiences.
Business and Interpersonal Skills	Students will demonstrate the communication, interpersonal relationship, management, problem solving, and professional skills needed to complete assignments effectively both independently and in groups.

Figure 3. CIS Program Student Learning Objectives

In the practice rating session at AALHE 2018, there was some disagreement among session participants for all the elements. Occasionally, raters differed by as many as two or three points on the rubric. In our APT rating sessions at JMU, we use multiple rounds of rater calibration so that each rater is clear in his or her interpretation of the rating criteria. Equally as important, raters are trained on how to apply the rubric consistently. Raters rate in pairs and meet to adjudicate ratings after each APT is rated independently. If, after adjudication, assigned numeric scores are still more than one point apart, a third rater is brought in to break the tie. These third raters are assessment consultants from JMU's Center for Assessment and Research Studies (CARS).

Diagnostic Feedback

In addition to numeric scores, APT raters at JMU provide written feedback for each element on the rubric. Programs should be able to use these written comments to improve their assessment process, as well as affirm the parts of the process in which the program is excelling. The feedback also helps explain and justify the numeric scores. JMU views the meta-assessment process as a critical professional development opportunity, such that assessment novices can be transformed into quality practitioners after engaging in the process. Providing formative feedback encourages thinking critically about the assessment process by requiring raters to engage with the program's practices. In addition, writing feedback allows raters to practice articulating their assessment knowledge. This type of reflection also encourages thinking critically about the raters' own assessment process.

To assist raters in the feedback process, a comment-writing handout is provided to raters engaging in meta-assessment. For each element of the rubric, two pieces of information are provided: why the element is important, and examples of how programs can improve that part of the assessment process. For example, for elements 1A and 1B (found in Figure 2), the text in Figure 4 is provided to raters. An example comment related to these elements is: *Students are the heart of the assessment process at JMU. Student-learning assessment is focused on students' skills and knowledge. Great work keeping the objectives student-centered (1B) and specifying the level of student to be assessed (1A). Without clearly specified objectives, programs may struggle to implement a cohesive assessment process that provides them with useful, informative results. Precise verbs and a rich description of the content will aid in ensuring the objective can be assessed, and leads directly into identifying the appropriate measure. Some objectives used terms like "demonstrate understanding" (e.g., the Database Management Systems objective), which is difficult to assess. To improve, ask the faculty questions like, "What does it look like for students to "understand" the material? In what way will students "describe" the information?"*

Element 1: Student-centered Learning Objectives

1A: Clarity and specificity:

Why is this element important?

Objectives are the engine of the assessment process – they indicate the type of assessment to be used, who will be assessed, and the type of inferences to be made from results (e.g. growth or competency). Without clearly specified objectives, programs may struggle to implement a cohesive assessment process that provides them with useful, informative results.

How can programs improve their objectives?

Specify who will be assessed (i.e. graduating seniors, students completing core coursework).

Specify what the students are expected to do. What does it look like for students to “understand” the material? In what way will students “describe” the information?

Precise verbs and a rich description of the content will aid in ensuring the objective can be assessed and leads directly into identifying the appropriate measure.

1B: Orientation

What is this element important?

Students are the heart of the assessment process at JMU. Student-learning assessment is focused on students’ skills and knowledge. Thus, objectives should state what students must know, think, or do.

How can programs improve the orientation of the objectives?

Write objectives so they are oriented toward the student.

Figure 4. Comment Writing Guide

Building on the AALHE 2018 Session: Addressing Audience Questions

The following aspects of meta-assessment were not covered in detail during the AALHE 2018 conference: 1) mechanics of how all 120+ APTs are rated and given diagnostic feedback each year, 2) the impact it has made on assessment processes at the University, and 3) the positive effect it has had on faculty. There were multiple questions on *who* raters are, and *how* we get them to volunteer. Most often, raters are the assessment coordinators for an individual academic program or graduate students pursuing a degree in assessment and measurement. We rate all programs on an annual basis over the summer, using a total of approximately 14-18 raters. For graduate students, this is considered part of their assistantship contract. For faculty, rating APTs can count as service to the university in an academic review and is a valuable source of professional development. A small honorarium is also provided. Faculty raters are typically nominated by their academic unit heads. Figure 5 demonstrates the improvement of the average assessment report from the first year the rubric was implemented (i.e., 2009). There is a clear trend showing that ratings have improved. Faculty raters were first included in the rating process in the 2011-2012 academic year, which partly explains the large increase in average scores from 2011-2012 to the 2012-2013 academic year. We partly attribute this increase in scores to the training and development provided to raters during the week-long APT rating session.

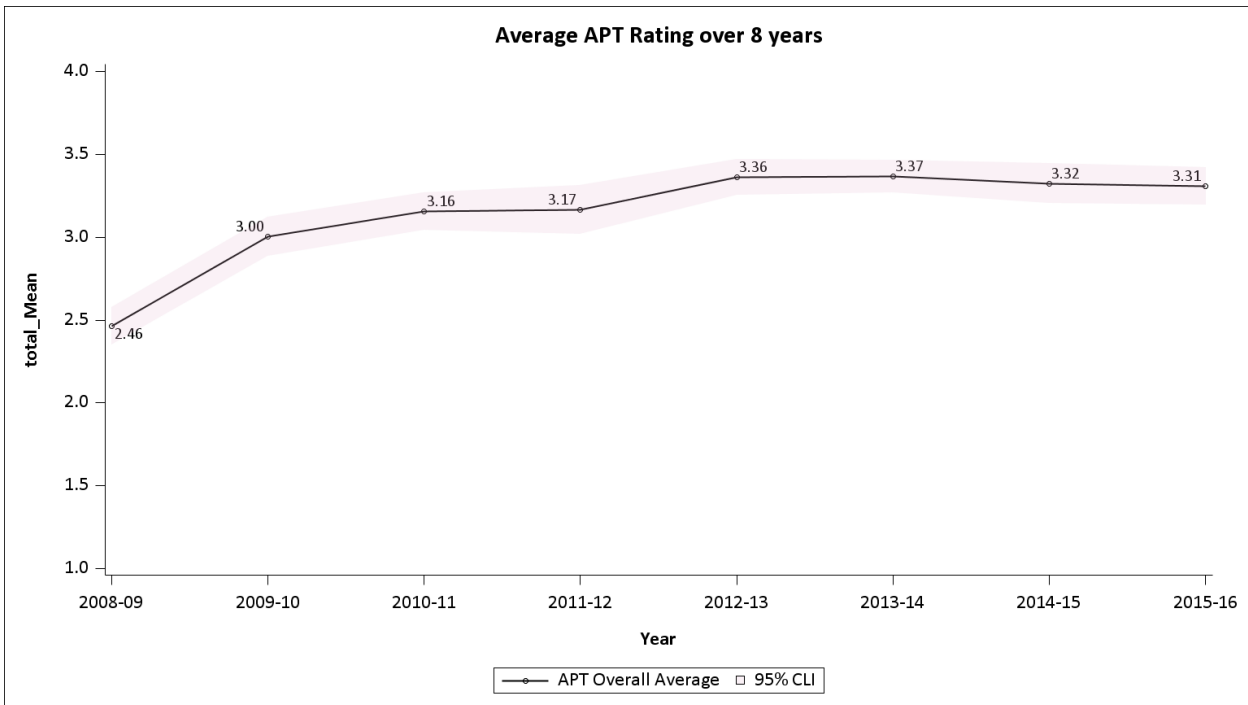


Figure 5. Improvement of Assessment Report Since the Inception of the Meta-Assessment Rubric

APTs are due June 1, after classes have ended. Rating takes place over one week in the summer, generally in late July. The general format for the week of training is found in Figure 6. Trained assessment specialists are available throughout the week to provide guidance/support. The reporting cycle is not determined by the accrediting body or administration, but rather was selected because raters are more available over the summer.

Day 1: Monday	Day 2: Tuesday	Day 3: Wednesday	Day 4: Thursday	Day 5: Friday
APT Rater Training Full-Day Workshop	APT Rater Training Half-Day Workshop	3 APTs Rated and adjudicated by each rater	3 APTs Rated and adjudicated by each rater	3 APTs Rated and adjudicated by each rater
	1 APT Rated by each rater			Debrief

Figure 6. Rater Training and APT Rating Schedule

Conclusions

Calls for accountability within higher education are not going to dissipate. In turn, an effective means of answering calls for accountability is for institutions to engage in programmatic and institution-wide assessment. While most institutions are aware of this need, often there is a lack of knowledge on how to engage in and evaluate high quality assessment. It is our hope that participants will cultivate their meta-assessment skills by actively engaging in a meta-assessment process similar to the one conducted at James Madison University. Ideally, this session

provided a blueprint for meta-assessment that participants can begin applying at their own institutions and ensure the path has been laid for improved student learning.

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Teaching Assessment to Graduate Students: Challenges, Successes, and Lessons Learned

By Cynthia Howell and Alison Ivey, Capella University

Abstract: Graduate courses in higher education assessment attract early- to mid-career professionals, many of whom arrive with preconceived ideas about assessment. These adult learners typically experience challenges as they undergo a paradigm shift in their thinking and ultimately design realistic and effective assessment plans for their own programs or departments at their institutions. A professor who designs and teaches assessment courses and a teaching assistant share their experiences as they help graduate students to unravel misunderstandings of assessment and design proposals to implement new or revised assessment efforts for their institutions. Excerpts from the written perceptions of the students themselves illuminate the challenges, successes, and lessons learned in a graduate course in higher education assessment.

Keywords: Graduate Students, Assessment Course.

Introduction

Who takes a graduate course to study assessment in higher education? And why do they want to study assessment formally, when assessment is purported to be already well established on college and university campuses? Those are questions that are answered quite quickly in the first week of a Capella University graduate course for those studying higher education leadership. One learner shared a common response when she wrote that she had worked in administration “for so many years without a clear understanding of what we were expecting and looking for/at with regard to assessment,” a situation that led to “frustration with the processes and lack of results.” Others with similar experiences—administrators, student services staff, faculty—as well as those who aim to transition from K-12 to higher education express their interest in assessment, even as they share their dread of it. By the end of the course ten weeks later, however, most have undergone the “paradigm shift” that results in new-found confidence in their ability to conduct assessment on their campuses.

The Course

The course itself is challenging. It is offered as a completely online course. It requires authentic assessment, a shift for those expecting to write typical course papers. It adheres to the competency-based model of education that requires students’ demonstration of specific, measurable, achievable outcomes. Students push to complete a professional proposal to assess learning outcomes in ten weeks. They study assessment in multiple areas of higher education: academic departments, financial aid, student affairs, and career services, for example. Then they craft their assessment plan based on their current or future aspirations in higher education. They are invited to add their assessment plans to their e-portfolios and to claim their achievement on their CVs or resumé. Some students go on to incorporate their assessment plans into the capstone projects that conclude their academic program in higher education leadership. The shining achievement, however, is when students actually propose their assessment plans for implementation on their campuses (and let us know that they have!) or convert their work to proposals for conference presentations.

The Challenges

Students face many challenges in this course, mainly stemming from the shift away from their preconceived beliefs about assessment. They come to the course with conceptions based on their own personal and professional experiences and gradually make the transition to a more realistic view of assessment and student learning outcomes, informed by excellent and very carefully selected resources, such as Linda Suskie’s *Assessing Student Learning: A Common Sense Approach*, now in its third edition.

One of the primary challenges is helping our students grasp what assessment actually is, for the term has sometimes been used in such a general sense—and often in a manner that confuses assessment with evaluation—

that students have to find a way to shed their previous misconceptions. Their ideas for constructing a realistic assessment plan depend upon their recognition of the difference between assessment and evaluation. While there is an abundance of definitions of assessment, students seem to benefit most by focusing on the simple, direct definitions, such as, “Assessment is simply deciding what we want students to learn and making sure they learn it” (Suskie, 2018, p. 7). Many take quite a liking to Marilee Bresciani’s observation: “Assessment begins with simply wondering whether what you do all day is contributing to what you hope your efforts can accomplish” (2011, p. 1). Those students who keep thinking that assessment must be more than that eventually tell us that they have been “overthinking it.”

A second challenge that requires the students to make a paradigm shift is getting to the realization that assessment can occur anywhere on a campus, not just in a classroom. Particularly for those currently in or aspiring to work in student services positions, assessment initially seems to be for faculty and academic departments only. One student expressed her shift from thinking that assessment was a means of judging the teaching ability of a faculty member: “Coming from the Student Affairs side of the house, it took a while for me to grasp the concept of assessing the learning of the student and not assessing how the material is be taught/presented.” When our graduate students realize that assessment can take place in any situation where students are expected to be learning, they get creative! We have seen worthwhile assessment plans designed to measure learning outcomes in a variety of experiences: student orientations, financial aid counseling, first year or student success courses, internships and field experiences, and even residence life staff training.

A third obstacle that students often encounter is the initial lack of perception of how crucial assessment is to improving the student experience in a course, program, or activity, or even to enhancing their involvement on campus. Students tend to focus on what *they* do, rather than on what their students are to demonstrate that they know and can do with their knowledge as a result of an educational experience. James, a student in the graduate assessment course, oversaw a program for at-risk African American men at his community college. In the discussion forums, he enjoyed describing the special activities that he helped provide for his students and often sent announcements of upcoming events that he had planned for his “guys.” But when we asked him what his students were to be learning as a result of these experiences—what they were expected to know and be able to do as a result of the experiences—James was at a loss. Eventually, he made the shift from what *he* was providing for the “guys” to what *they* were to learn as a result of engaging in the experiences. Near the end of the course, he wrote to all of us in our course that he had just been assigned to serve on the assessment committee at his college, adding that his career seemed to be taking a turn in a promising direction!

The Successes

As educators, the best result we can hope for is when students “get it.” We watch their progression from week to week as they realize how their individual and departmental contributions can impact student learning outcomes; we see how far their learning has progressed as we review their assessment plans at the end of the course; we observe their comprehension of how assessment can improve processes and functionality within their current or future departments. The ultimate validation occurs during the final week of the term, once the assessment plan has been submitted, when students write a reflective final discussion post that describes their knowledge and impressions of assessment, past and present. It is during this activity that they are able to appreciate the depth of the work they have completed during the term.

Graduate students shared these reflections with one another and with us in the final discussion of the course. In their own words:

“My work in this course has totally opened my eyes and mind to the value of assessment of student learning outcomes. I really had no idea what was involved and what significant changes could be brought to improve learning and teaching. As I move forward in my professional work, I have a greater understanding of how I personally can begin to assess student learning outcomes.”

“HLC is coming next month to check on our progress so there is a lot of scrambling going on again. When the assessment process started in 2014 there was a lot of resentment, and bad taste in people’s mouths, but I can honestly say that taste will start to go away. . . . this course is a big help in understanding what is going on; I wish I had taken it three years ago.”

“I took [this] assessment class and it has dramatically improved the way I look at my work at [university] and I’ve integrated more assessment opportunities.”

“With most accreditation agencies, doing [assessment] isn’t enough anymore; we have to document the how and the why behind the madness. . . . This course came at the most interesting time for me professionally because guess what we are in the middle of doing on campus? You guessed it—assessment.”

“Assessment forces us to reflect on what is working and what is not in an effort to help students achieve optimal results. It’s easy to grow complacent over the years and to ignore the changing needs of students. Assessment does not allow complacency or apathy when done properly.”

Lessons Learned

Our graduate students are not the only ones who learn in this assessment course; we, too, have learned many lessons about this course, and from those whom we are teaching. Early career professionals have a harder time grasping the concept of assessment. They have heard the term—and have likely heard colleagues complain about it—but have not yet had sufficient experience to have a context for the course. Mid-career professionals who have more experience in higher education settings can shift their thought processes to assessment more readily. However, some mid-career professionals come to realize that those at their institutions have been working “without a clear understanding of what [they] were expecting and looking for with regard to assessment.” This course helps our graduate students become more knowledgeable and more comfortable discussing, participating, and leading assessment efforts at their institutions.

Graduate students shared their “lessons learned” with one another and with us as the course came to an end. In their own words:

“I am still convinced that assessment is a time-staking, even daunting task. Nevertheless . . . I am convinced that it is a task that I am capable of completing successfully.”

“As a result of this course, my perspective on assessment has changed as I now have a new appreciation for, and can recognize elements of, the realm of assessment and how it is a motivator for the way things are done in the higher education workplace.”

And one student serving in a student services position at her institution concluded, “Even if I am not teaching in higher education, I can still be a part of the assessment process to be sure students are receiving the quality of education they are promised.”

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What to do When They Just Don't Get it: Using Explanatory Speaking to Assess Student Learning of Difficult Concepts

By Ashley Thomas, Wallace Community College

Abstract: What if there were a formative assessment that helped you to foresee and master explaining those areas that likely cause your students the most confusion? This session guided instructors and presenters on how to use explanatory speaking to assess their listeners' comprehension. While explanatory speaking traditionally involves teachers explaining concepts to students, new approaches to using this method assess student learning by putting ourselves in the students' position. In turn, instructors use student explanations of terms that involve difficult language or concepts that are hard to picture or believe, in order to identify gaps in their understanding. According to Rowan (1988, 1995, 1999), terms that include difficult language require elucidating explanations, concepts that are difficult to picture require quasi-scientific explanations, and concepts that are difficult to believe require transformative explanations. In recent years, communication programs have begun applying this method, based on Rowan's (1995) pedagogy for explanatory public speaking, to their textbooks and curriculum; however, this approach is not limited to the communication discipline or relevant areas. Readers can apply this knowledge to various course subjects, formats, and contexts, including webinars, traditional, online, or hybrid courses, presentations, meetings, undergraduate or graduate courses, synchronous or asynchronous discussions, written or spoken assignments, course readings, and more.

Keywords: Formative Assessment, Summative Assessment, Communication, Strategy, Pedagogy, Explanatory

Introduction

From political science and religion, to biology and math, the conflation, connotation, and potential controversy surrounding terms can lead to bypassing, in which students and instructors think they are on the same page but are actually talking past each other. This skill-building workshop served college instructors and presenters who desired tips for explaining complex, counterintuitive, or frequently misunderstood content. There are three types of explanations that instructors and presenters can use to not only teach content but to also assess students' learning of difficult concepts. These methods are useful for terms the expert (instructor or presenter) may easily understand and/or having trouble determining why their audience does not fully understand. According to Rowan (1988, 1995, 1999), terms that include difficult language require elucidating explanations, concepts that are difficult to picture require quasi-scientific explanations, and concepts that are difficult to believe require transformative explanations. In this skill-building workshop, participants reviewed the three methods with practice exercises after each and then designed their own pre-tests and post-tests for a difficult concept in their respective course or academic unit. The following provides details on the three types of explanations, how to apply the explanations, participant feedback and challenges, facilitator reflections, and further recommendations.

Types of Explanations

Elucidating Explanations

According to Rowan (1995), elucidating explanations contain four steps to help "illuminate" the real meaning of a word:

1. The expert gives an ideal example of the term. For example, not hiring a qualified person because she is a woman would be an example of discrimination.
2. The expert provides the definition (making sure to fully include only the essential aspects of the term). An accurate definition of discrimination would be "behavior or actions, against an individual or group of people, based on perceived social identity." The essential aspects of this concept include prejudice and unfair treatment of others. In essence, discrimination requires some form of power to enact.

3. The expert shares examples and non-examples of the term or concept. An example would be a taxi driver refusing to pick up someone she thinks is homosexual. Non-examples are inaccurate examples that are commonly mistaken for accurate examples. They may have the associated parts of the definition but not all of the essential parts of the definition. A non-example would be disliking someone who looks different from you (e.g., another race, gender, etc.). This is a non-example because it only shows prejudice but not unfair treatment. Using a non-example should make things clearer, so if there is greater confusion when using a non-example, then experts should choose another one.
4. The expert gives the audience a chance to practice distinguishing examples and non-examples (Rowan, 1995).

Sometimes students know how to define a term or apply it to a context, but not how to do both, and this method guides students in doing both. It is important to understand that a word can mean different things to students of different backgrounds, and they may have the correct meaning but not in the specific scope of your subject matter. For example, the word value in intercultural communication can mean "principles, standards, and attitudes you believe are important to your life." However, for a math major, value could mean numerical value, and a business major might think value deals with the inherent worth of something.

It is advantageous to anticipate non-examples and determine why students would think those non-examples are actual examples. For example, in an intercultural communication course, students were asked to give an example of a cultural value or identify a cultural value. Answers students provided included jewelry, instructions, and students. When discussing with AALHE participants the reasons for these possible answer choices, we came to the conclusion that students think these answers are valuable or have value and therefore are values. For example, jewelry is worth a monetary value, students value instruction from their professors in order to do well in the course, and students are valuable; however, one may value or find these things as important, but that does not mean those are values, since jewelry, instructions, and students are not principles, standards, and attitudes. This approach allows instructors to keep the definition at the forefront and helps students to separate the essential core meaning from its associated, related terms. On exams it helps students to eliminate answer choices that are similar to the correct one. Elucidating explanations appeared to the audience to be the "easiest" approach of the three because it focused primarily on definitions, instead of graphs, verbal cues, and lay theories like the other two.

Quasi-Scientific Explanations

Rowan (1995) states that quasi-scientific explanations use two parts to clarify terms that are difficult to picture:

1. visual representations
2. verbal organizational cues.

Visual representations (e.g., charts, graphs, infographics, Venn diagrams) help audiences better picture a concept as a whole, based on its unique parts, or a combination of both (Rowan, 1995). For example, a teacher can have students complete a Venn diagram of the three monotheistic religions (Christianity, Judaism, and Islam) in order to assess whether a student can distinguish differences and similarities. This is helpful for student self-assessment and assessment preparation activities, especially in large audiences. The expert can provide a blank template and have each student complete the document and then show the correct responses on a screen.

If you have ever experienced confusion when looking at a graph, you know that visual images alone are not always sufficient for understanding. Verbal organizational cues help clarify what the visual image shows. These cues include structure-suggesting titles (e.g., "The Three Monotheistic Religions"), analogies (e.g., "A camera works like your eye."), and model-suggesting topics such as "Islam, Judaism, and Christianity are similar in some ways and different in others (Rowan, 1995). In addition, transitions such as "For example," "Because," and "Next," keep the audience following along and exhibit knowledge of the correct sequence or cause and effect in a process (Rowan, 1995). It can be tempting to dismiss organizational cues as extra words, but they are the pieces of a quasi-scientific explanation that clarify the difficult concept by helping the audience to see the interconnections of the image and

process. Biology (DNA molecules, parts of a cell), economics (supply and demand), and speech (models of communication) are possible areas to use for a quasi-scientific explanation. This helps with assessment because you can see what part in the process or visual representation students have difficulty understanding by observing gaps or misplacements in their image or organizational cues (e.g., leaving a space blank, saying something comes third when it comes first or second). Lastly, this method connects information the audience already knows with new information.

Transformative Explanations

A transformative explanation includes four parts and seeks to transform the audience's inaccurate lay theories into a correct understanding of a phenomenon, using the following steps (Rowan, 1995):

1. Acknowledge the audience's every day or "lay" theory.
2. Acknowledge why that lay theory may seem plausible.
3. Use examples to explain why the lay theory is inaccurate.
4. Uses the correct theory to explain what is going on and why that is effective.

Safety (why tornadoes can still hit larger cities) and science (evolution) are areas that lend themselves to transformative explanations due to their counterintuitive nature.

How to Apply Explanations

First, determine which terms or concepts your audience finds difficult to understand. This requires reflection on prior discussions or lessons. Secondly, determine which aspects of the term cause confusion. This can pose a challenge to the expert because it requires us to put ourselves in our non-expert audience's position and see things as they do that, we might take for granted. It requires us to move beyond a "they just don't get it" mindset. For example, audience responses might reveal that the term is confusing because it is closely related to another term, they are familiar with, or they do not understand the real cause for the concept. Next, determine whether the concept deals with difficult language, is difficult to picture, or is difficult to believe. Depending upon the area of difficulty, there is a respective explanation required. Language or concepts ("what does this mean") require elucidating explanations, structures or processes that are hard to visualize ("how") require quasi-scientific explanations, and ideas that are difficult to believe ("why") require transformative explanations (Rowan, 1995). (See Figure 1).

Difficult Terms/Concepts	What aspects of this term cause confusion?	Difficult Language, Difficult to Picture, or Difficult to Believe?	Explanation Needed: Elucidating, Quasi-Scientific, or Transformative?

Figure 1. Applying Explanations Template

Experts must determine the cause of difficulty in understanding first and then match that with the correct explanatory speaking strategy (Valenzano, Braden, Broeckelman-Post, & Schmeidler, 2016). It is necessary to set the groundwork for mastering difficult concepts before moving on to new content. Figure 2 is an example of the completed template.

Difficult Terms/Concepts	What aspects of this term cause confusion?	Difficult Language, Difficult to Picture, or Difficult to Believe?	Explanation Needed: Elucidating, Quasi-Scientific, or Transformative?
"Value"	Students list items that are valuable instead of listing principles. They have trouble distinguishing the adjective ("valuable") from the noun ("value").	Difficult Language	Elucidating Explanation
Transactional Model of Communication	Because students often see a speaker communicating first and then a receiver providing verbal feedback afterward, students may have a hard time picturing how nonverbal communication makes communicating simultaneous instead of one way or one after the other.	Difficult to Picture	Quasi-Scientific Explanation
Tornadoes can strike in large cities.	Counterintuitive—Students do not hear many stories about tornadoes striking major cities, but they see tornadoes striking barns and rural areas in movies.	Difficult to Believe	Transformative Explanation

Figure 2. Completed Applying Explanations Template

There are different activities experts can use based on their setting in order to get audience involvement. For example, skits, writing assignments, pre-tests/post-tests, class discussions, games, etc. can build on adaptation, critical thinking skills, collaboration, and dialogue. Experts can also use previous semester's issues with difficult concepts to proactively decide which explanations, examples, and non-examples to use. For larger audiences (e.g., faculty institutes, campus-wide safety presentations, large lecture classes), experts can have people work in groups to save time. The following are the types of questions non-experts can attempt for each method:

- Elucidating Explanation: What is the definition of _____? (Use the four steps of elucidating explanation.)
- Quasi-Scientific Explanation: How would you describe/draw the process of/steps to _____? (Draw a diagram and then provide organizational cues.)
- Transformative Explanation: Why is _____ *not* the cause of _____? (Use the four steps of a transformative explanation).

Discussion and Participant Feedback

Participants in the skill-building workshop came from various backgrounds such as math, assessment, institutional effectiveness, English, statistics, and communication. After going through each method and coming up with terms they felt cause their audience the most difficulty, participants brainstormed how to apply the information to their respective areas whether in the classroom or amongst another type of audience. They used the questions above to design a simple pre-test/post-test and used their fellow participants as non-expert audience members to complete the assignment. The following were some points participants made during the workshop:

1. Participants in one group discovered that a quasi-scientific explanation can be helpful during the hiring or onboarding process to assess a candidate's knowledge and awareness of processes and expectations. For

example, a potential employer and supervising unit can ask someone to draw out and explain the process for institutional effectiveness or the integration of key organizational units using a flow chart or Venn diagram that captures their perception of how certain processes work. One benefit for a quasi-scientific approach is that it is visual based and many people prefer visual learning.

2. Sometimes terms can use more than one type of explanation. For example, a quasi-scientific explanation might require defining a term in the diagram by using an elucidating explanation.
3. You have to really know your content and possess critical thinking skills and engage in the discussion in order to determine which explanations your students give that are close but not quite accurate. We cannot always predict what our audience may think and the answers they give using this method. Therefore, if we do not know the answer, it is all right to say we will get back with our audience after conducting more research. This experience would simply add to our knowledge base.
4. Participants can use as much or little of an explanation as they feel necessary due to efficiency, effectiveness, and time availability.
5. The evidence was anecdotal and participants shared that they could see in real-time how it was effective; however, quantitative data can provide more detailed evidence of explanatory speaking's effectiveness as an assessment measure.

Facilitator Reflections

Explanatory speaking minimizes the time experts spend repeating the same information over and over again and instead allows them to save time by pinpointing the specific areas where individuals have trouble, since now the audience provides the explanations. This strategy also points out the assumptions we have about what people should already know or should not have trouble understanding and reminds us to have patience since we are the experts and our audience is not. In addition, explanatory speaking provides common ground because even audience members who already have an accurate definition can strengthen their understanding and help others to understand.

It takes practice to adjust to assessing and creating questions for assessment using explanatory speaking. Presenters must not only know their content but must also know how to teach the explanatory speaking method. It helps to start off with considering what students are doing that frustrates and makes you ask the question "Why don't they get it?" For example, think about that process faculty members do not seem to understand, those two terms students always seem to use interchangeably even though they are not really synonymous, and that concept audience members say they cannot seem to "wrap my mind around" or "picture." It is hard to have a meaningful debate when people talk past each other and are not on the same page regarding what something means, so once experts notice a difficult term, it might be necessary to use this strategy as soon as possible before moving forward to new information. If a student provides an incorrect explanation, that makes room for new non-examples and new ways to clarify the concept. If a student provides a correct explanation, that enhances our explanatory toolkit for future references and makes way for new content. Requiring these explanations helps us know what students understand and whether they can articulate their understanding, all while they teach their fellow audience members in the process.

Recommendations

Readers can practice assessment using explanatory speaking by practicing with family, friends, colleagues, or old students. Explanatory speaking is an iterative process that works for teaching (explaining the term to the audience) and assessment (checking for understanding by requiring the audience to explain to the expert). Experts must be comfortable with the approach in order to teach it, and familiarizing oneself with the three methods in general is beneficial in case there is a need to use a method unexpectedly.

A pre-test and post-test experiment regarding the accuracy of students' understandings of terms and their ability to articulate their understanding would provide a quantitative component for future research. Experts can use explanatory speaking as a formative or summative assessment, allowing them to determine what students already know and/or what they have learned. Experts can use this approach at the beginning, middle or end of the semester to observe improvements in understanding and retention. In addition, experts can use parts of an explanation or work through explanations in stages (e.g., Day 1 focuses on Steps 1-2 of a transformative explanation and homework is Steps 3-4 for the next class) based on the audience's pace of understanding. The knowledge audience members gain from using explanatory speaking can also transfer to new contexts (e.g., future meetings, other courses, personal lives).

Some subject areas might need more of one type of explanations than others (e.g., scientific terms may need more quasi-scientific or transformative explanations), and there is nothing wrong with that. Focus on allowing the area of confusion and difficulty to determine the best explanatory method. For instance, whether because of preference or some other reason, do not try to force an elucidating explanation on a concept that really needs a visual representation (quasi-scientific) or emphasizes a lay theory (transformative explanation) and does not deal with difficult language. Experts can also apply the explanatory speaking strategy to assess their own understanding and clarification of concepts. Because this strategy takes practice and can sometimes appear complex, it is best not to attempt in front of your actual audience without adequate preparation.

Conclusion

Explanatory speaking for assessment purposes is not an easy feat; however, it is worth applying because it strengthens skills in both the speaker and the audience. This strategy requires speakers to have a solid grasp of concept knowledge themselves. They must think critically and sometimes quickly, considering that there is a greater amount of answer options audience members might come up with, unlike multiple choice questions. This approach holds presenters accountable for doing their best to anticipate, understand, and address their audience's struggles with the concept, as it is not enough to assess whether students are struggling with a concept and in what area, but experts must know which explanation closes that gap and how to use that explanation correctly. For the audience, this approach strengthens their critical thinking skills as they are not able to simply state an answer but must explain it in a way that shows in-depth understanding and can foster their fellow audience members' understanding. It also creates a sense of vulnerability as non-experts must prepare to use higher levels of Bloom's taxonomy to judge and justify what does and does not belong in the concept under discussion. Overall, the confidence this explanatory speaking method can provide through self-assessment and the confirmation that one actually knows the information and how to articulate that information thoroughly rather than playing a guessing game is invaluable for both the expert and the audience, as well as for teaching and assessment.

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A Model and Tool for Assessing Study Abroad Programs

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Abstract: The number of students attending study abroad programs are increasing dramatically from year to year. Students attending these programs seek to expand their international experience and understanding while improving their educational portfolio. However, the assessment of the value and impact of such programs on student learning and for the overall program improvement lacks a model that examines the efficacy of study abroad learning at multiple levels (e.g., university, college, department, and program). This article proposes such a model and presents associated tools for data collection. It briefly discusses the implementation pilots in the study abroad programs of a major university.

Keywords: Study Abroad, International Education, Travel Study, Assessment, Study Abroad Assessment

Introduction

Conducting an assessment of educational opportunities outside of the students' country of origin requires unique and flexible assessment efforts that help to identify what students should know or do at the end of the opportunity. Additionally, an effective study abroad (SA) assessment should help to indicate the value of the SA opportunity and the ways a specific program may improve. The assessment should include an evaluation of student learning and of the learning opportunity itself. On-campus instruction provides a fairly controlled environment for such assessments, but SA programs are more open-ended since they occur in a foreign land and typically include critical learning experiences that occur as part of the travel and not the course instruction.

Program objectives are also evaluated on several levels of competency. The instruction offered within a course must meet university, college, department, and unique program objectives. At the university level, all SA students, regardless of major or SA program, should gain learning in universal objectives, such as increased understanding of other people, worldviews, and cultures. Each college has objectives unique to its program of studies, which may include similarities and differences of discipline practice adapted to different cultures. Each department and program have increasingly specific, unique objectives. Each competency level is bound by the previous level but continues to become more refined and unique in what it asks students to demonstrate to indicate achievement of a specific objective.

For SA programs, collecting evidence of successful student acquisition of each objective in each layer is an important factor in justifying the expense, in terms of time and money, of conducting SA programs. Each SA program needs to provide evidence that the student learning and rigor of each SA program meets or exceeds the academic standards of for-credit courses taught on the home campus. As both of these activities are done, the SA programs become an integral part of accreditation efforts and the student's overall degree.

The students' SA experience evaluation also provides critical feedback for improving and strengthening each program. SA experiences may include different levels of language development, interaction with local people, and visits to multiple destinations. The diversity of SA opportunities and experiences increases the difficulty of providing an assessment model and tools that may be used by SA programs to determine the programs' value and efficacy to a student's overall learning.

This article describes a model and associated tools that allow for the precision needed to assess student learning of specific competencies and program efficacy and also provides the flexibility needed for each institution at each level of assessment.

Scope of Study Abroad Programs

The opportunity for students travelling to locations outside of the United States for SA experiences continues to grow. In 2013–2014, over 300,000 college or university students traveled abroad to study for credit. Just over 75% of these SA college students came from five discipline areas: Business; Social Science; Foreign Language and International Studies; Fine or Applied Arts; and Science, Technology, Engineering, and Mathematics (STEM). Host countries spanned all continents including Antarctica and Oceania, and about 8% of SA students traveled to multiple destinations (Open Doors, 2015; USNEI, 2016). This diversity of SA programs across universities also exists within the SA programs offered at individual universities. At Brigham Young University (BYU), SA programs involve over 1,600 students representing nine of the 13 colleges and schools on the BYU campus. At BYU, the number of students attending SA programs is projected to increase by about one-third over the next two years.

Background

Several international and national entities provide standards indicating the objectives students should learn from participation in SA programs. These entities also tout the value of SA participation to students' overall education and highlight the benefits of SA participation in attracting the interest of future employers. However, to my knowledge, none of these entities promote an overarching assessment model to determine the success of SA participation in students' learning and competency acquisition (Mangiero & Kraten, 2011).

With multiple study abroad programs at the university level, a campus entity may be responsible for coordinating all SA efforts; however, universities generally leave any assessment efforts to each specific program. When college- and department-level assessments are conducted, they tend to be one-off endeavors focused solely on the specific college, department, or program with little connection to SA programs from other disciplines. Furthermore, these efforts are typically limited in purpose, either to indicate the value of student learning or to evaluate program efficacy.

SA objectives tend to focus on gaining new knowledge and understanding of world cultures and history through active participation (Mangiero & Kraten, 2011; Marine, 2013; Rubin & Matthews, 2013), improving collaboration skills (Solís, Price, & Adames de Newbill, 2015), and communicating new learning to others (Brandauer & Hovmand, 2013; Solís et al., 2015). Specific competencies at the college level relate to the specific discipline, such as chemistry skills (Marine, 2013), language development (Marine, 2013; Watson, Siska, & Wolfel, 2013), or business aptitude (Brandauer & Hovmand, 2013; Mangiero & Kraten, 2011; Womble, De'Arnold, & Babb, 2014). In these assessments, the SA experience focuses on the strengths of travelling to another country and interacting with a different culture within a specified time frame to facilitate the acquisition of a program's specific objectives.

Mangiero and Kraten (2011) described two endpoints of SA opportunities. The first type, referred to as *island experiences*, involves SA students traveling as a group from the home university to host countries where home university professors provide instruction in the home country language during the group's travels. The second type, known as *immersion experiences*, places home students in host country universities, encouraging them to study with local students in the host university using the language of the host country. While these two types of experiences represent the endpoints of SA, most programs are located somewhere in between, with students participating in a wide range of experiences from simple classroom instruction to capstone field projects involving multiple interactions with local people. However, despite identifying these types of experiences, Mangiero and Kraten (2011) struggled to find an assessment instrument or model that would facilitate the evaluation of student learning and program success.

Other evaluation models may be strongly focused on a specific project or research effort. For example, Solís et al. (2015) presented guiding principles to assess the efficacy of a two-week field course collaboration in Panama. Among objectives learned, they sought to promote collaboration among all SA and local participants while working on research of local interest and benefit. The program emphasized collaboration among cultures and people. The

final product was not only something of value and assistance to the host culture but also included practical use of discipline specific skills.

Brandauer and Hovmand (2013) used a conceptual assessment framework that focused on processes rather than outcomes. This framework views all learning as relearning but within the contexts of resolving conflicts resulting from interactions between other people and the environment. It is a holistic approach where, through the resolution of these new conflicts, new knowledge is created. This proactive approach encourages interactions that challenge students to gain learning and does not assume that learning will occur simply by placing students in a foreign environment. However, such an approach requires that students learn how to conduct self-assessments to determine their own learning and gains. While such efforts may be assisted through the use of several other assessment tools, the self-evaluation provides students with the opportunity to reflect on their experiences and identify key learning that was gained.

The use of self-reflection as part of program assessment is supported by other programs that require students to write reflective papers (Marine, 2013; Rubin & Mathews, 2013) or journals (Watson, et al., 2013) or to participate in interviews about their SA experiences (Schwald, 2012). Surveys and commercial inventories are also used to help students quantify their learning and gains (Brandauer & Hovmand, 2013; Schwald, 2012); however, the cost of using commercial inventories often make their use prohibitive and their benefits are limited because they have a broad approach rather than being able to focus on specific objectives at a given level.

Many programs seek to combine a variety of assessment tools to provide a stronger, more triangulated picture of student learning and program efficacy. The assessment tools chosen are often influenced by the type of program, number of students, instructor preference, time available, and cost of using the tool. A survey of SA programs using two or more assessment tools indicated that surveys are used almost twice as often as any other tool (see Table 1). The next most frequently used tools are essays, interviews, inventories/scales, and normal grading practices. While each of these tools can indicate whether students are achieving program objectives, the tools are not equally informative. Surveys provide a quick and easy way to reach all students, but may only provide scales or ratings that do not indicate the depth of the students' learning experience. Inventories or scales, unless catered to the desired objectives, do not provide full information on student learning and are best used to quantify. Normal grading emphasizes specific learning taught on the program and emphasizes student knowledge acquisition, but it does not necessarily capture the value of student participation in the culture where the program occurs. Interviews and essays are effective at understanding student learning and program efficacy, but using interviews is prohibitive in terms of time and money in programs with large numbers of participants. However, combining methods in a single tool may help to provide a stronger picture of student learning and program efficacy.

A framework for combining tools should ensure that each tool is used where it is best suited and compliments the findings of other tools. For example, an interview would not be suitable for assessing the experience of all 1,600 students in all SA programs, but it would be well suited to assessing a single SA program of 10 to 15 students. The results of each tool can be combined to triangulate the learning experience and program efficacy. Where time and cost prohibit using multiple tools, several different tools may be combined into a single instrument. For example, a single survey may include scales and inventories to determine a quantitative measure for comparison over time. These inventories may be coupled with short-answer responses where students provide a specific example related to the rating given in the survey. A survey could also include a broad short-essay question that asks students to view their SA experience in a holistic way, especially as it relates to their overall program of studies.

Table 1. Summary of assessment tools used in SA programs

Authors	Tools Used to Assess the SA Program										
	Discussion	Essay	Interview	Inventory or Scale	Journal / Reflection Log	Normal Grading	Observation	Portfolio	Presentation	Rubric or Matrix	Survey
Acharya et al.					X				X		
Bielefeldt et al.		X		X		X			X	X	X
Brandaur & Hovmand						X			X		X
Coers et al.				X	X	X					
Deahl et al.	X		X		X		X				
Echempati & Butsch		X				X		X		X	X
Evans et al.		X			X	X					
Greenfield et al.											X
Herbst						X					X
Intolubbe-Chmil et al.			X				X				X
Jesiek et al.		X	X	X	X				X		X
Lalley et al.		X							X		X
Lee et al				X							
Liu			X			X		X			
Long et al.			X		X						X
Mangiero & Kraten		X				X					X
Marine		X				X					
McArthur et al.				X							X
Morkos et al.		X	X								
Muench et al.			X								X
Neeley		X			X	X	X				
Olsen & Lalley											X
Pederson				X							X
Schwald			X								X
Solís et al.		X			X						
Tarrant & Lyons				X							X
Tarrant et al.				X							X
Todd et al.				X							X
Tront & Tront							X				X
Wang & Kulich		X	X	X							
Yamayee et al.		X	X			X			X	X	
Total	1	12	10	10	8	11	4	2	6	3	19

Proposed Model

Our proposed model uses a four-tier approach to assessing students' educational experience in a SA program and their acquisition of program objectives (see Figure 1). Each tier corresponds to a level within the university structure. The first tier assesses learning at the university level, that is, learning each SA student should acquire as the result of participation in a SA program. While goals will vary among universities, they typically will include intercultural experiences and understandings; relationship building that facilitates and compliments cooperation; language acquisition; and an expanded understanding of global opportunities. For example, at BYU, the university-level goals include:

1. Demonstrate an understanding of the people, worldview, culture (and language, where applicable) of the foreign setting in which students' study.
2. Recognize their own cultural presuppositions and biases (presumably through exposure to, and study of, foreign perspectives on their own culture).
3. Articulate a deep awareness of students' academic disciplines by comparing and contrasting how it is understood and practiced in a foreign setting.
4. Express a broad understanding of the Church in a global context and a more refined insight into its core beliefs by exposure to cultural variation in religious expression and practices (BYU Kennedy Center for International Study, 2015). [It should be noted that "the Church" in goal 4 refers to the Church of Jesus Christ of Latter-Day Saints, the governing body of BYU.]

The second, third, and fourth tiers represent the objectives of each college, department, and program, respectively. In cases where only one SA program is offered at a particular level, the levels above would be subsumed into that level; for example, if the Mechanical Engineering Department only had a single SA program, the assessment of the department and program objectives would be combined. However, if the Mechanical Engineering Department offered three study abroad programs, students would be assessed at each tier level. Assessment tasks would be commensurate to the number of objectives at each tier level.

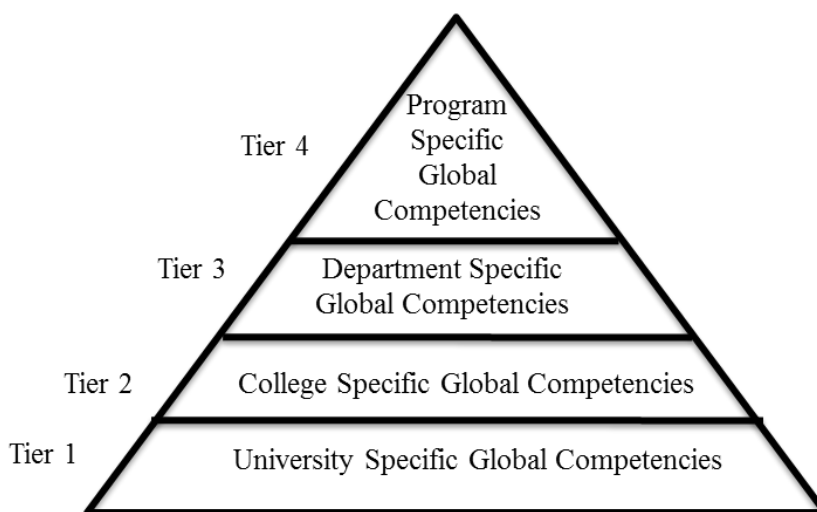


Figure 1. Framework for Study Abroad Student Learning and Program Evaluation

Assessment Tool

The assessment tool must be effective and flexible since it needs to assess the efficacy of learning for all SA students within each program. Our assessment tool (a survey) used three types of questions: scale-rating questions, open-ended short-answer questions, and a short-essay question. The online survey allowed for specific questions to be displayed or deleted depending on student responses.

Types of questions. The scale-rating questions were paired with questions used to determine the degree to which each objective was achieved using a scale of 1 (*lower or unsuccessful achievement*) to 7 (*high or successfully achieved*). These questions provide a rating by which successful accomplishment of the overall SA experience down to each individual program may be tracked over time. This rating serves as an initial indicator of program success. Paired with each rating question is an open-ended short-answer question that asked the student to explain why they provided the rating they did or to provide an example illustrating the reason for their rating. These responses help to provide a context for the rating and examples, specific to the program, of how the objective was or was not achieved. These combined survey and short-answer tools are used within each tier of the model (university-, college-, department-, and program-specific competencies).

The final question asked students to write a short essay explaining how the specific SA program impacted or complemented their overall educational experience. This experience allowed students to reflect on the difference the SA program made in their lives and how it contributed to their overall learning. The short-essay question appeared only at the end of each SA student's survey. Each survey section is briefly described below.

Demographic questions. Demographic questions used at the start of the survey sort students into specific programs. They are also used to disaggregate responses in analysis. At the very minimum, students need to indicate which SA program they attended so that subsequent questions at each tier may be added to or excluded from the survey. Using our previous example, SA mechanical engineering students received the university-level questions, the College of Engineering-specific questions, and the Mechanical Engineering Department questions. They would not receive questions from other departments within the College of Engineering nor from other colleges. However, where interests are common (i.e., international teambuilding), two or more colleges or other assessment tiers may share questions. The demographic indicator would be used to direct which survey questions would go to which students.

In our pilot, in addition to identifying students' SA program, we added demographic indicators for gender (male, female), the college with which the student was affiliated (including undeclared students), and how students discovered the SA program they attended. Additional demographic questions could be added (e.g., year of study at the university) to meet the needs of each specific institution. Care should be taken in determining which and how many demographic questions are asked, since combined demographic answers may remove student anonymity, especially in smaller SA programs. Additional demographic questions also add to the overall question total, which may negatively affect completion rates.

Tier 1: University objectives. The university objectives section follows the demographic questions. A sufficient but minimal number of questions should be asked to ascertain the efficacy of SA programs in helping students achieve university-wide objectives. The paired rating and short-answer questions are used to determine the degree to which students achieved each objective.

In our pilot, the first two university-objective questions (see Appendix A, Q6 and Q8) sought to assess student competence and learning of objectives 1 and 2 from the university SA objectives. Each survey question was followed by an open-ended short-answer question asking for the student to explain their response or to provide an example illustrating it. The addition of this open-ended question provided more specific context for the rating and greater insight on what was happening in the program. The demographic questions enabled us to determine the similarities and differences in the SA learning experience among colleges and between males and females. This analysis allowed us to identify what was working for each program.

Tier 2: College objectives. In this tier, each college with SA programs supplies questions to assess the effects of their respective SA objectives. The number of questions depends on the number of college objectives. These objectives may apply to all students in a college or be specific to SA students. The question format may follow that used with the university-level tier or may use a question format that's better suited to measuring each specific

college objective. The college should consider the total length of the survey when setting the total number of questions and should consider the number of students from the college attending a SA program in determining which assessment tools to use. For example, a college, department, or program with few SA participants could conduct an interview, have students keep a SA journal, or have students write a lengthier essay regarding their experience as part of the college's assessment. However, while each of these tools may be used in substitution for the survey tool, at the program- and department-specific tiers, they should be used in conjunction with the survey tool.

In our pilot of the model, we partnered with the College of Engineering and Technology to assess the students in their SA programs. All engineering college-objective questions followed the pattern of paired rating and open-ended questions. As a result, engineering SA students had an additional eight survey questions (rating and short response) to answer when compared to students in all other SA programs. It should be noted that not all students provided an answer to the open-ended questions. As this was a pilot of the model and assessment tool, assessments did not extend beyond the college level.

Analyzing responses from each section by using the demographic questions to disaggregate responses provides strong indicators of student learning of specific objectives. Student responses also provide feedback to specific SA program directors on what is and is not working well in the program.

Tool Considerations

The model and associated tools may be adapted to the specific objectives of any university and adjusted, as needed, for each university. As the institution develops its tools for use within the model, several items should be considered.

Rigor. While the tool does not have the rigor of commercial inventories, the intent of the model and tool is to provide specific feedback on objectives specific to a university and subsequent tiers in the model; it should not be mistaken for commercially produced tools that assess a broader scope of learning. The intent of this assessment model and its associated tools is to provide insights on the learning experiences of students, not to develop a "one-size-fits-all" survey.

Length and frequency. The tool also allows for adjustments from one year to the next. For example, if it is deemed that the total number of survey questions is too numerous, an assessment could occur every other year on specific objectives. The university could ask half of their questions to all SA students one year and the other half the following year. This would provide an assessment of the full SA program on a two-year cycle instead of a one-year cycle, which would lower the overall number of questions; however, some universities may not find this useful since the SA experience may be quite different from one year to the next. A similar process could be followed at each subsequent tier.

Participation. The longer the survey, the less likely participants are to complete it. However, there are several options colleges can use to increase participation. In our pilot study, the dean of the College of Engineering sent an email to each engineering SA student requesting their participation in the survey. This email substantially raised the number of engineering students who completed the survey (even though they had more questions than other SA students). A similar letter from each college dean or university leadership in charge of SA program (president or a vice-president) would have a similar effect on participation.

Encouragement to participate by SA faculty is a key element of a strong participation rate. Faculty conducting the SA program could further incentivize participation by making completion of the tool mandatory, with an effect on the overall grade (e.g., 1% to 2% of the grade affected by completion of the survey). Completing the survey could also be used in place of another assignment. A final effort would be to send reminder emails to SA participants who have not completed the assessment tool.

Timing. It is important that the assessment tool be administered as close to the end of the SA experience as possible. This may happen just before students leave the SA program's location, while they are returning to the home university, or shortly after they have returned. In our pilot, some SA programs met on campus as a final class of the SA program. In some cases, faculty used this time to have students complete the assessment survey. However, these cases were rare, and most students quickly dispersed at the end of a SA program. Our suggestion is that the assessment tool be administered sometime in the final week of the program. Doing so allows students the opportunity to recall experiences while still in the program.

Conclusion

The framework for SA student learning and program evaluation provides insights that sharpen the focus of program evaluation by allowing for the flexibility of program diversity. It enables university, college, and department leadership to show the direct value of SA programs on students' overall degrees. It has the potential to help faculty in colleges, departments, and programs to learn from each other and to collaborate with each other to improve program delivery and student success.

Additionally, the assessment tool provides the opportunity for student self-reflection. More often than not, students will be able to identify specific ways in which they have changed as a result of the SA experience. The self-reflection allows them to integrate their SA learning into their total educational experience.

The model and tools provide flexibility so that each university, college, department, and SA program can provide specific indicators of students' achievement of their respective objectives. The format of the model enables each university to adapt and adopt the assessment tools to fit their specific circumstances. This model has the potential to assess multiple objectives at various levels with the overall goal of demonstrating student learning.

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Appendix A: Study Abroad End of Program Survey

Q1 Study Abroad programs at BYU are resource intensive. Please help us continue to provide the best programs possible by completing this short survey. Your thoughtful responses are greatly appreciated.

Q2 What is your gender?

Male

Female

Q3 With which college/school are you affiliated?

Business (Marriott School of Management)

Education, David O. McKay School of

Engineering and Technology, Ira A. Fulton College of

Family, Home and Social Sciences

Fine Arts and Communications

Humanities

International Studies, David M. Kennedy Center for

Law School, J. Reuben Clark

Life Sciences

Nursing

Physical and Mathematical Sciences

Religious Education

Undeclared major

Q4 What program are you attending?

Berlin Internship - Sponsored by College of Humanities

Brazil Business SEP - Sponsored by Marriott School of Management

China Business SEP - Sponsored by Marriott School of Management

China Nanjing Study Abroad - Sponsored by College of Humanities

EU IR Internship - Sponsored by David M. Kennedy Center for International Studies

France Internship - Sponsored by College of Humanities

Individual Experience - Sponsored by David M. Kennedy Center for International Studies

Italy Business SEP - Sponsored by Marriott School of Management

Japan Learning by Teaching Language Internship - Sponsored by College of Humanities

Jordan Intensive Arabic - Sponsored by College of Humanities

Korea Direct Enrollment - Sponsored by College of Humanities

LDS Public Affairs Internship - Sponsored by College of Fine Arts and Communications

London Fall Study Abroad - Sponsored by College of Humanities

Moscow Internship - Sponsored by College of Humanities

Paris Internship - Sponsored by College of Humanities

Paris Fall Study Abroad - Sponsored by College of Humanities

Portugal Business SEP - Sponsored by Marriott School of Management

Scottish Parliament Internship - Sponsored by College of Humanities

Spain Business SEP - Sponsored by Marriott School of Management

Spain Fall Study Abroad - Sponsored by College of Humanities

Spain Winter Study Abroad - Sponsored by College of Humanities

Weidman Center Global Internship - Sponsored by Ira R. Fulton College of Engineering and Technology

Wordsworth Trust Internship - Sponsored by College of Humanities

Q5 How did you find out about the international program? (Check all that apply.)

- Class Presentation
- Digital Signs
- Email
- Information Booth
- Information Session
- ISP International Fair
- Kennedy enter Website
- Past Participant (friend)
- Posters/Flyers
- Professor
- Required for my Major
- Social Media (e.g., Facebook, Instagram, Twitter, etc.)
- Other (Please Specify) _____

Q6 As a result of participating in this international program: My confidence and ability to live abroad or interact with people from other cultures has been strengthened.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q7 Please explain how:

Q8 As a result of participating in this international program: I have a greater appreciation for other nations or cultures.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q9 Please provide an example.

Q10 As a result of participating in this international program: I have a deeper understanding of my own culture.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q11 Please provide an example.

Q12 As a result of participating in this international program: I have a deeper understanding of my own major

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q13 Please provide an example.

Q14 As a result of participating in this international program: My respect and love for people different from me has grown.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q15 Please provide an example.

[*ONLY NON-ENGINEERING STUDENTS WOULD BE DIRECTED TO Q24, THE LAST QUESTION.]

*Q24 Please write a paragraph explaining the impact that your study abroad program has had on your overall educational experience at BYU.

[**ALL ENGINEERING STUDENTS WOULD BE DIRECTED TO THE FOLLOWING QUESTIONS PRIOR TO BEING DIRECTED TO Q24.]

**Q16 As a result of participating in this international program: My view of what I might do in my career has expanded.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q17 Please provide an example.

Q18 As a result of participating in this international program: I have a better understanding of globalization.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q19 Please provide an example.

Q20 As a result of participating in this international program: I know better how to communicate across culture.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q21 Please provide an example.

Q22 As a result of participating in this international program: My leadership abilities have been increased.

1	2	3	4	5	6	7
Strongly Disagree			Neither Disagree or Agree			Strongly Agree

Q23 Please provide an example.

Please take my survey! Strategies for Raising Response Rates

By Ryan Chung and Kelva Hunger, Oklahoma State University

Abstract: During the data collection process, many challenges arise when it comes to obtaining high survey response rates, particularly when using online surveys. The purpose of this session was to introduce 20 best practice strategies for data collection when considering factors such as population of interest, dealing with limitations, and delivery methods, in order to result in the highest achievable response rate. Strategies include considering how much and what kind of content to include in a survey, when to send out invitations to participate, how to maximize the impact of incentive items, and more. The aim of this session was to instill meaningful dialogue among the presenters and audience members in order to promote active discussion about these strategies, as well as to share both successful and not-so-successful experiences in data collection. This session provided audience members with a foundation of knowledge and helpful tips that can be applied to their own assessment and data collection processes. The intended audience included anyone who use surveys as a method for data collection. Participants actively learned through lively discussion guided by the presenters.

Keywords: Online Survey Administration, Survey Response Rate, Data Collection, Survey Improvement, Survey Design

In this interactive presentation, the speakers addressed challenges in administering online surveys and offered 20 best practice strategies that could help conference attendees improve online survey response rates. There were 26 attendees who joined in the discussion, and everyone participated by asking questions or sharing experiences on related strategies. The 20 strategies can be categorized into three parts: (1) the planning phase, (2) the data collection phase, and (3) the follow-up phase. At the end of the session, attendees were able to identify several effective strategies to utilize in their own survey data collection. The audience was especially interested in hearing more about the presenters' personal experiences with a recent Student Satisfaction Survey administered at Oklahoma State University (OSU) in which a 36% response rate was obtained. As the presenters went through the list of strategies, the audience focused on several items including the ideal date and time to send out a survey, how "less is more," the use of incentive items, and how to customize and mix-up an email subject line.

Obtaining high survey response rates when collecting data is not always easy, and online surveys present additional challenges. Surveyors may have heard success stories about great response rates in online survey data collection and wonder how researchers achieved those rates. Did their methods differ? What can one learn by sharing successful (and not-so-successful) experiences? The presenters believe that the session attendees enjoyed the discussion and, most importantly, learned from each other; the presenters even received some useful, out-of-the-box ideas from the audience as well. For new AALHE members and professionals new to the assessment field, this session provided foundational information on data collection challenges. For those who have been involved in assessment and data collection for many years, common struggles still exist due to over-surveyed populations and limited resources.

Factors that influence the choice of survey delivery method include whether a sample is a convenience sample or a specific population of interest, cost or time limitations for staff or for incentive items, and which delivery methods are accessible. If cost or time is not a concern, in-person survey collection often is preferred due to the ability to achieve response rates of 80% or higher as general practice. However, access to online survey collection tools can save time and money while achieving response rates typically between 20-30% or higher. Sample size and statistical power also need to be considered in relation to the target audience. When considering what to do for a particular survey, questions should be addressed such as: "Can you increase the number of participants invited in order to increase the sample size?" or, "Is there a specific, size-constrained group of interest?"

By discussing and sharing experiences with these best practice strategies for increasing online survey response

rates, it is clear that most of these strategies can also apply to most paper versions of data collection. As mentioned earlier, these strategies are based on current assessment practices at University of Assessment and Testing at Oklahoma State University.

In the beginning of the session, the presenters asked attendees to briefly share why they were interested in the topic as it applies to their unique situations. Most were new to the assessment field or had recently acquired new responsibilities and wanted to learn more about the best data collection practices. Although many were already familiar with the basics of data collection, their current methods may not be the most effective or are not working to their advantage. As a result, they wanted to learn more about the process and ways to implement the best strategies acquired from the session and further address and improve the issues they have with low responses rates. Lessons learned thus was a main purpose for sharing our experiences, as they are often more valuable to others as they do not just come from a theoretical perspective but also from the assurance that the strategies have actually worked.

20 Best Practice Strategies

Before entering into a discussion of online data collection, one must first think about the best data collection plans for the time and money. The main point here is to identify the best data collection tools or methods to connect to target participants. For example, if you plan to survey college students, generally the best data collection tool to reach this audience is an online survey platform. Oklahoma State University uses Qualtrics software to conduct surveys to reach its student population. Oklahoma State University has an institutional license for this software, so it is easily accessible and low in cost. Most session attendees indicated that they also used Qualtrics at their school, while a few use SurveyMonkey. Although this method of survey distribution is most commonly used in the academic setting, if potential survey participants are seniors, young children, or the disabled, other survey distribution methods such as face-to-face, paper and pencil, or a call center may be the best way to reach out to them. However, we specifically mentioned that we would only focus on online survey data collection aspects for this presentation.

An important part of the planning phase is to personalize as much as possible, including the email invitation message, email subject line, email 'From' name, email reminders, survey greeting, content, and closing statement. In data collection, this is an important step because people, especially college students, typically receive a high volume of emails on a daily basis. If a message seems suspicious or mass-distributed, it will most likely be ignored or immediately deleted. The presenters shared some personal tips in order to "stand out in the crowd." One tip was to come up with a captivating subject line for every survey invitation and reminder email, as it often is the first thing a person sees in their inbox. Changing the subject line every time can be bold sometimes, while being strictly informative other times. The audience asked for some examples, and the presenters suggested starting out with stating the name of the survey as the subject line, then "REMINDER:" followed by the name of the survey, then to mix it up by including the name of the institution and phrases such as "valuable feedback," "be heard," and if there is an incentive being offered, either "win!" or mentioning the incentive itself. In the last few reminders to participate, we used the subject line, "We only need 400 more responses to reach our goal," then the next week we used, "Only 200 more responses needed!" The subject line of the final reminder we used said, "Last chance to give OSU your feedback."

Another strategy is to use piped text. Piped text is a function in Qualtrics and other survey distribution software that allows the distributor to input personalized text into the survey invitation email by means of code. We suggest using this tool to personalize the message salutation: Dear [First Name]. It immediately draws the attention of the recipient and gives a sense of assurance that this email is specifically meant for them. However, using more customization than the first name can draw suspicion. In the body of the message, be personal, sincere, and concise. Tell respondents the purpose of the research and how their feedback will be used. With the many promotional emails, potential identity scams, and survey invitations they receive, participants want to know that you are well intentioned and that their feedback is meaningful.

Confidentiality and anonymity are concerns that prevent people from responding to a survey freely. This concern should be addressed clearly and specifically in the invitation message to help ease the participant's concerns. People are reluctant to release personal information, especially if they do not know how it will be used. Surveys should ensure confidentiality of participants' responses and highlight this fact as a main point. However, the issue of anonymity typically is a challenge. Often it is impossible to distribute a survey without obtaining some identifying contact information about the target population. As such, the participants' responses will not be anonymous, but you can ensure them that it will remain confidential. Be transparent and state what will happen with their responses. Most people find comfort in knowing that their responses will be reported in the aggregate and cannot be traced back to them.

An essential aspect to avoid in survey design is to NOT ask questions to which you already have answers, as it saves time for survey participants and keeps them on track to complete a survey without feeling frustrated. Most universities have an institutional research office where student demographic information is kept. If you are able to acquire such standard information from them, then valuable time is saved for the participant taking the survey.

Two additional best practice strategies are "need versus want" and "less is more." When creating or planning a survey, think about the number of questions in the survey and approximately how long it would take for someone who is unfamiliar with the survey to complete it. Do not overload your survey with questions you may WANT to ask, but do not necessarily NEED. A main principle of designing a survey is that "less is more." The presenters recommended not asking more than 30 questions in total (assuming that you do not have to ask demographic questions if you can obtain that information elsewhere). If your survey is too long, participants will get fatigued and may not complete the survey. They also may never open your future emails again. Burning bridges is the enemy for survey data collection. Be considerate of the respondents' time, and let them know in the survey message how long the survey will take to complete.

The flow of a survey as a whole, the type of survey questions, and the structure of the survey are also key components to consider during the planning phase. When thinking about survey flow ask yourself, does the sequence of questions make sense? It helps to use design logic for questions that further drill down based on a particular survey response. The structure of the survey should follow the format of: survey message first, then content questions, then demographic questions (if applicable), then the thank you message. Also consider what type of question format fits best for the survey items (e.g., yes/no, Likert scale, rating, open-ended). The presenters suggested using a question matrix if items collect responses on the same scale. Showing a progress bar as the respondents are taking the survey can help motivate participants to keep moving forward to completion. It also helps to alleviate anxiety and uncertainty. During the session, the audience asked about how many questions there should be per page. The presenters recommend that if 20 to 30 items are in the survey, the number of items should be split between two pages (approximately 10 to 15 items per page).

Avoid using jargon or slang as some participants may not understand it. Be creative and captivating, especially when it comes to the email subject line, and make sure everyone understands what you are saying. For example, at OSU we often use the phrase, "Go Pokes!" as it is common language used at OSU to portray spirit and pride for the university and OSU athletics. When integrated into an email message it draws the attention of our target population; such targeted language goes a long way in reaching a population. However, if this phrase was included in an email message to be sent to anyone outside of OSU, it would be rather confusing.

There are many opinions as to how many open-ended questions should be included in a survey. Qualitative data can provide valuable insight into a topic possibly not covered in the quantitative data and can provide additional support to quantitative results. However, when collecting such data, be sure to consider two factors: (1) the increase in the time it takes participants to complete the survey and (2) the increase in the time it takes for researchers to complete the data analysis. The presenters recommended one open-ended question at the end of a quantitative survey, as it allows participants the chance to elaborate on a particular concern, and it gives them the

ability to speak freely. It also limits the amount of qualitative analysis that must be performed on responses to this item.

Before data collection begins, a pilot study should be conducted, especially if the survey is newly created. A trial should be performed with a small group from the target audience to help researchers determine approximately how long it will take to complete the survey and identify any issues with the survey, particularly when it comes to wording of survey items. Survey items should be easy to understand, the main point of each question should be easily identifiable, and it should mean the same thing across all audience members. Researchers should seek feedback from pilot members about the usability of the survey and solicit other comments. This process often is essential in improving the online survey.

Offering incentives for responding to a survey has become a trend and is a highly recommended step for increasing survey response rates. If the cost and budget allow, even the chance to win a gift card could be used to entice the population to respond. The presenters offered a \$100 gift card to the OSU bookstore as incentive to complete their Student Satisfaction Survey. Audience members were surprised that the researchers were able to obtain a total of 7,946 student responses with the chance to win one gift card. This specific strategy was one of the most discussed items during the presentation. After the survey closed and one winner was randomly selected, the presenters offered to take a photo with the winner and the incentive item to share with OSU students as a form of publicity to entice future survey respondents.

Another survey data collection practice that session participants were interested in is the timing of the data collection. The presenters have found that the most effective time and day of the week to send a survey email to students is on Sunday evening around 8pm, as it seems to be a time when most students are accessing their computers. It is at the close of the weekend, when they possibly are completing homework and preparing for the upcoming week. The researchers also have had good experiences sending surveys during the week before finals week, a time when many students use their computers to prepare for exams and check emails. The strategy used by the presenters is to not have a set number of reminders but instead to have a goal number of responses. How many *reasonable* reminders it takes to achieve a goal is how many one should send (typically about 6-8 emails total) Another consideration when it comes to timing of data collection is to be aware of other institutional surveys being distributed and to work with and around the time-frame of the other survey in order to keep students from being overwhelmed.

Surveys also should be user-friendly on various devices, especially for younger target audiences. Online surveys should display correctly on all types, from desktop computers to mobile devices. College students use their smartphones to respond to emails, messages, texts, and even online surveys, constantly. If using Qualtrics, researchers are able to actually view how the survey will look on a mobile phone. Also, it is very important to inform the Information Technology (IT) departments at your school of the upcoming survey so that potential spam blocking can be deactivated. Lastly, before sending out the survey, double-check that the links are working properly in the generated email message.

When it comes to raising response rates to online surveys, it is crucial to build your brand and brand your survey. Recognition of where the survey is coming from is important, and building a trustworthy relationship with the audience is a key factor that will make participants more likely to respond to this and future surveys. Branding a survey can be as simple as providing clear contact information to assist those who may have questions. Be sure to give your name, email address, and a phone number. *Always* provide a phone number as it allows the participants to know that the survey is tied to an actual person and office on the other end.

Lastly, be grateful to your participants by sharing your survey findings with them and thanking them for their time and their meaningful feedback. At the very least, provide thanks upon submission of the survey. Simply displaying a "Thank you" message can boost participation in future surveys. Sharing aggregate results with participants

confirms to them that their voices were heard and that they made valuable contributions to the investigation. Not only does it validate their own participation, but it also gives them a chance to see what their peers had to say as well. The audience of the presentation wanted to know how the presenters planned to disseminate the findings of their survey. The researchers informed the group that they are working closely with the OSU Communications office in an effort to disseminate the main concerns of students who responded to the Student Satisfaction Survey, recognize the lucky winner, build their brand by further putting their name out there, and illustrating any changes OSU decides to make as a result of the student concerns.

Overall, the main takeaway from these strategies should be to take the time to plan a survey thoroughly from beginning to end. Specifically, carefully plan the data collection process, come up with a plan for the data analysis, and develop a plan to share findings. By setting forth and executing a detailed and well-thought out plan, many potential issues can be avoided while maximizing potential response rates.

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Assessing Diversity Learning: What We Assess and Know About Students

By Frederick Burrack and Chris Urban, Kansas State University

Abstract: Learning associated with diversity assessments should exhibit multiple representations of content, skills, and processes of thinking. Any singular definition for an assessment process hinders a thorough understanding of learning. This article tells one university's story of using multiple assessments to understand student learning in the area of diversity and ways to make the assessment data useful for a variety of stakeholders.

Keywords: Diversity, General Education, Institutional Assessment, Course-based Assessment, Cultural Competence, Outcomes

Introduction

Many universities have institutional learning expectations intended to be demonstrated by all students regardless of degree program. Whether garnered through general education or across students' entire educational experience, these learning outcomes define some of the educational goals of an institution. While institutional goals are often defined as single statements of expected learning, these goals are often required to be assessed in multiple ways. Diversity, in particular, requires multiple representations of content, skills, and processes of thinking to expose the many ways students are expected to understand diverse individuals, populations, and societies. Diversity cannot be singularly defined or demonstrated. This article tells one university's story of using multiple assessments to understand student learning in the area of diversity and ways to make the assessment data useful for a variety of stakeholders.

Although the topic of diversity is very broad, a context for focusing learning expectations can be found in AAC&U's definition from the Value Rubric for Intercultural Knowledge and Competence (see Figure 1). What we can gain from this definition is that there are at least three different types of learning—knowledge, skills, and awareness—across three different domains—cognitive, affective, and behavioral—that must be considered when defining expected learning outcomes and designing an assessment process (AAC&U, 2009).

Figure 1. AAC&U's Definition for Intercultural Knowledge and Competence (AAC&U, 2009)

Cultural Competency

AAC&U: "a set of **cognitive, affective, and behavioral** skills and characteristics that **support effective and appropriate interaction in a variety of cultural contexts.**"

KNOWLEDGE. cultural values and beliefs about equality, knowledge of cultural worldview frameworks and their impact on behaviors.

SKILLS. empathy and verbal/non-verbal communication that tend to vary from culture to culture.

AWARENESS.: consciousness of one's personal reactions to people who are different: sensitivity to and respecting differences of others.

Knowledge is defined as *cognition of cultural values and beliefs* associated with the criteria offered in the definition. A second type of learning associated with both cognitive and affective domains is awareness, defined as

being conscious of one's personal actions and reactions, as well as the actions and reactions of others. This deals with internalized beliefs that influence interactions with other people. A third type of learning is demonstrated through skills, defined as applied demonstrations of knowledge and affective learning. An important descriptor of students' demonstration of learning included in the definition is *interaction in a variety of contexts*. This definition makes clear that diversity learning cannot be singularly defined, and neither can the associated assessments used to allow students to demonstrate proficiencies. Multiple assessments must be used for diversity because diversity outcomes must be addressed in multiple ways across multiple contexts. It is what students know, what they feel, and what they do (AAC&U, 2009).

At our university, the institutional outcome titled 'Diversity' is defined as: *Students will demonstrate awareness and understanding of the skills necessary to live and work in a diverse world*. This brief definition, which is reflective of the AAC&U VALUE rubric discussed earlier, focuses on what students do in respect to how they make sense of knowledge and skills that apply to their world in which they will work and live. This outcome envelops the multi-dimensional learning expectations inherent in the meaning of diversity (Kansas State University, 2004).

For this large research university with a desire for institutional outcomes to have representation of student learning beyond singular general education courses, the assessment paradigm that emerged was for diversity to be embraced through demonstrations of learning across all educational experiences and degree programs. In degree programs, student learning data was most effectively found in aligned course-based assessments that fed directly into programmatic learning outcomes. Each program identifies specific expectations of their graduates for each institutional learning outcome. This process is designed to value and embrace the ways each discipline exemplifies institutional learning. In this way, the process respects autonomy and program ownership. Faculty within programs control the ways students are expected to demonstrate awareness and understanding of skills necessary to live and work in the diverse world of their future.

When the concept of identifying the issues of diversity that relevantly align within the discipline was initially presented to faculty, they demonstrated little or no understanding as to how to define such expectations. The usual responses ranged from "tell us what we are supposed to teach" to "we don't teach issues of diversity in our program". Instead of providing direct answers, faculty were guided to consider the context of learning students need beyond the university, including attitudes, the necessity for consideration a variety of options in problem-solving, and inter-communication skills necessary for success. Program-specific outcomes began to emerge from these conversations. When faculty recognized that diversity learning was relevant for their students' future success, ownership and value of assessments became evident.

Success for the institutional assessment process was judged when a majority of programs had created outcomes focused on assessable program completion expectations of diversity. But it was not long until it became evident that further development was necessary because the program outcomes remained too broad to provide meaningful data. For example, one program's outcome for diversity learning stated: *Students will demonstrate an understanding of how individuals learn and develop intellectually, socially, and personally by providing opportunities that support this development*. It was important to help the program recognize the multiple learning expectations in the outcome statement requiring multiple and sometimes independent assessment tasks and measures through which students could demonstrate applied understanding. Another program that implemented this diversity outcome: *Students demonstrate ability to develop, analyze, and/or facilitate programs that foster diversity and inclusion*. This program had to be guided to assure that the measures were assessing the skills pertaining to diversity and inclusion, and not simply assessing the capacity to develop and analyze (Kansas State University, 2004).

As in all assessment processes, program leaders must assist faculty to map instruction across their curriculum and identify appropriate assessments through which students demonstrate program completion expectations of

diversity outcomes. Once appropriate assignments are identified, faculty must also be reminded to discuss levels of expected achievement for the designated assessment tasks to calibrate the scoring device.

After programs collect student achievement data using their designed and often tested scoring devices, programs analyze data for areas of instructional improvement. What may be unique is that the data from programs is combined across the university to identify institutional student learning indicators. This can be accomplished through the use of a common scale (see Figure 2).



Figure 2. Common Scale across Programs

The data provided is the number of students meeting the designated levels of achievement for each institutional learning outcome as measured by faculty within programs. From the accumulation of assessment findings, achievement results on diversity related outcomes are made available to stakeholders through an interactive dashboard filterable by college and program (see Figure 3).

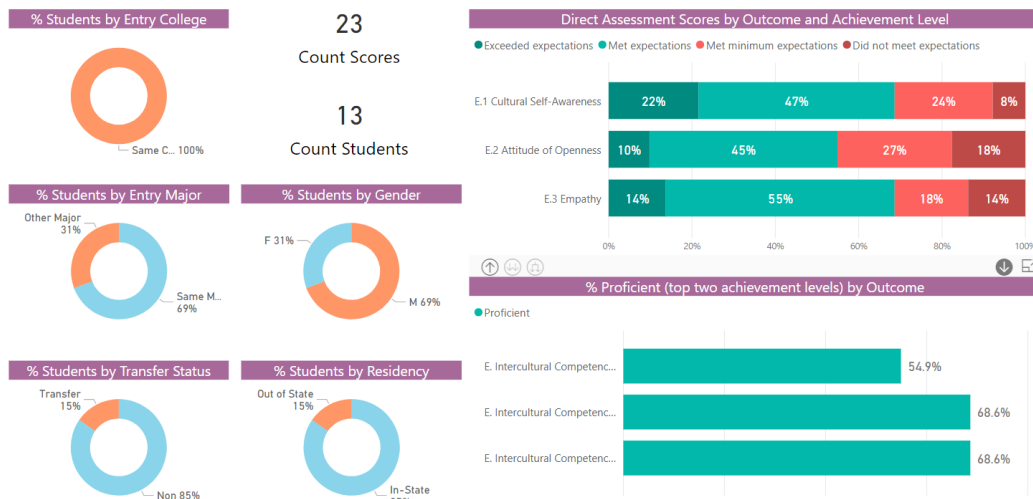


Figure 3. Interactive Dashboards for Assessment Data

Since the data comes from assessed coursework, internships, or other demonstrations of learning specifically aligned to diversity outcomes, stakeholders also have the capacity to filter the data by other demographic variables such as gender, ethnicity, race, first generation, etc. to search for additional meaning in the results.

In addition to program-based direct assessments, indirect measures include questions specifically associated with diversity learning outcomes. These data provide alternate views of student learning beyond what can be attained through direct assessment measures. Two such data sources come from students who have taken courses in our general education program. This university has a menu of courses aligned with *Human Diversity within the United States*:

Learning Outcomes for courses aligned with Human Diversity within the U.S.

- 1) Becoming aware of how group affiliation affects people's perceptions and experiences
- 2) Recognizing the characteristics of human groupings in the U.S. -- (such as gender, ethnicity, sexual orientation, religion, political affiliation, (dis)ability and/or socioeconomic class)
- 3) Critically examining issues of identity, gender, race, ethnicity, and nationality
- 4) Communicating my views on interrelationships among cultures in the U.S
- 5) Understanding prejudice and discrimination within U.S. social and cultural contexts

and *Global Issue and Perspectives*:

Learning Outcomes for courses aligned with Global Issues and Perspectives

- 1) Examining my own cultural values and perspectives
- 2) Becoming aware of global culture's values, perspectives, and beliefs
- 3) Understanding how global issues affect all individuals, political systems, and nations
- 4) Considering global issues such as sustainability, privilege, multiculturalism, governments, etc.
- 5) Developing knowledge and skills that will help me live and work more effectively within the global community

As in many general education programs, a focus is on breadth of learning in particular areas as a foundation for further development, without an intention to result in graduation or competency for the diploma credential.

As an indirect source of student perception of learning, students were asked how much they feel was learned about each outcome responding with: (a) not covered; (b) a little bit; (c) some; (d) quit a bit. These data provide information to the General Education Committee directly from students that have recently completed aligned courses (see Figure 4).

How much was learned about:	Not Covered	A Little Bit	Some	Quite A Bit	A Lot	Total
Becoming aware of how group affiliation affects people's perceptions and experiences.	3.9%	8.7%	17.6%	35.3%	34.5%	516
Recognizing the characteristics of human groupings in the U.S. -- (such as gender, ethnicity, sexual orientation, religion, political affiliation, (dis)ability and/or socioeconomic class).	5.2%	8.3%	17.5%	31.5%	37.5%	515
Critically examining issues of identity, gender, race, ethnicity, and nationality.	8.4%	10.7%	18.9%	26.3%	35.7%	513
Communicating my views on interrelationships among cultures in the U.S.	10.9%	13.6%	21.9%	28.0%	25.6%	515
Understanding prejudice and discrimination within U.S. social and cultural contexts.	8.7%	10.7%	19.8%	27.0%	33.8%	515

Figure 4. Report to General Education Committee

Comparative information is also retrieved from similar questions asked on a senior survey administered the semester of graduation, as well as an alumni survey in the second year beyond graduation. To gain additional insight into senior and alumni perspectives, the surveys ask additional questions, such as: *How much emphasis should have been placed in Human Diversity in the U.S.* (see figure 5). These data identify a student's consideration of the own learning as compared to responses gained through other sources. Data sources that align with diversity issues and learning outcomes are also compared to the direct evidence gained from coursework that intentionally provide evidence of learning in diversity. These data comparisons expose issues for analysis and discussion relating to general education course content in respect to student awareness or recognition of learning.

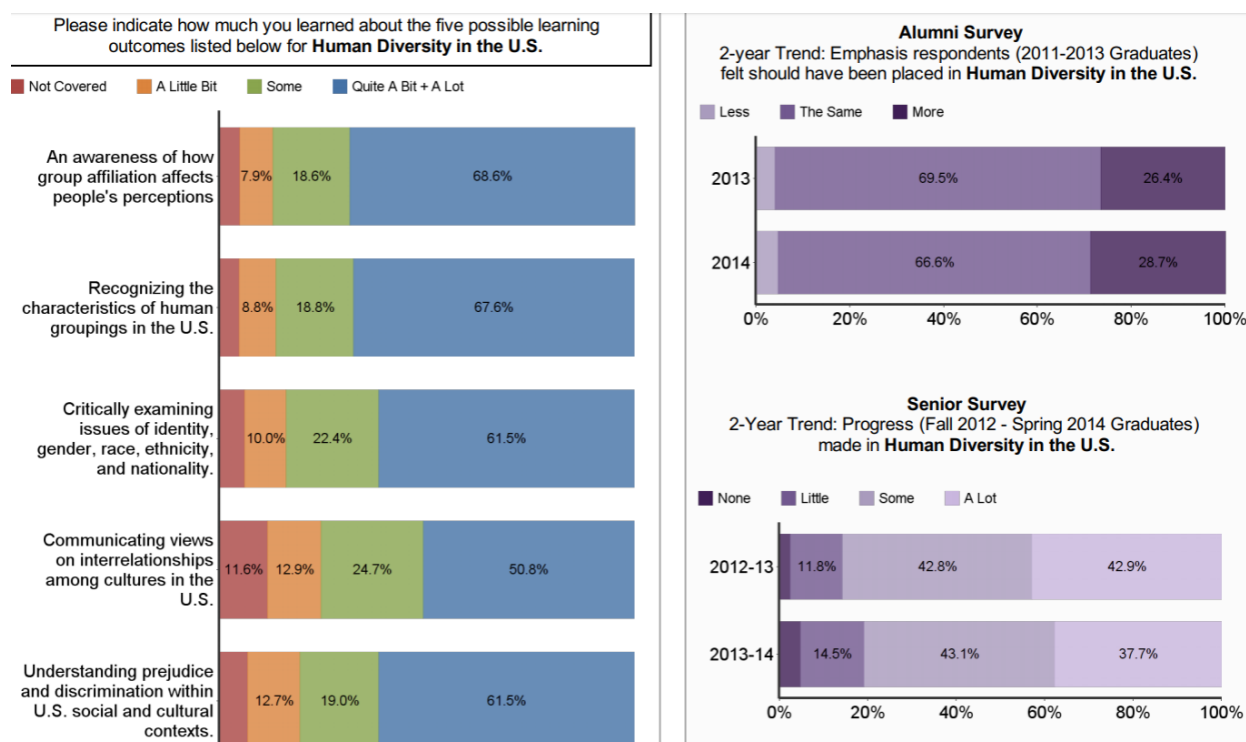


Figure 5. Example of a Comparative Data Report

To gain further direct evidence of learning, focus group discussions are used to explore how a sample of student's experiences learning from courses aligned with the diversity outcomes. Focus groups allowed for greater depth as to the quality of learning recognized by the students, as well as suggestions and concerns to be addressed. Particular dimensions of learning that were uncovered include: understanding forces the drive societal issues, confronting their own views, recognizing a variety of diversity issues, critical examination of issues and values, and expanding consideration of alternative points of view. The depth of response from students greatly enhanced the understanding of the quality of learning that was occurring in and beyond the general education courses aligned with diversity outcomes.

It is essential that all stakeholders of student learning data have easy access to reports. Although all data has consistently been presented in an annual Undergraduate Assessment Report, which is summarized institutionally and disaggregated for each college, an important development that enables stakeholders to review and analyze is online interactive dashboards. All direct and indirect data are made available in graphic and table formats filterable by institution, college, and program, as well as by demographic categories such as gender, race, ethnicity, first-generation, transfer status, and many other variables maintained in the student information system. This new capacity to interact with data has cultivated stakeholder interest that has not been observed in the past.

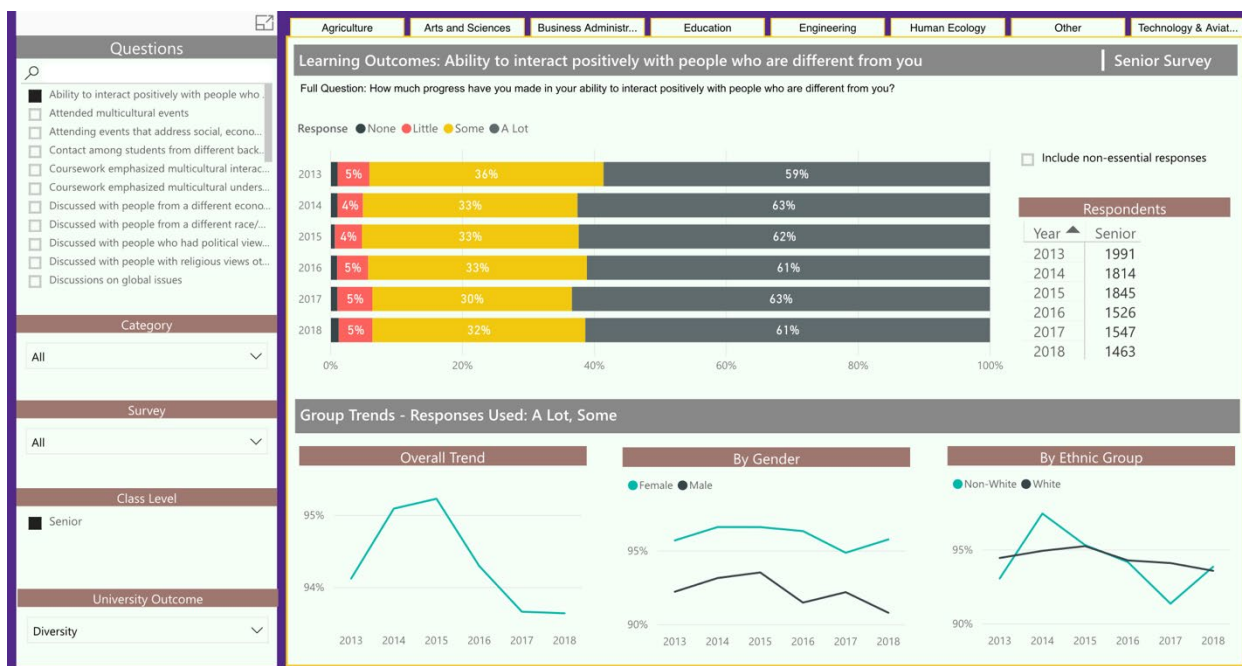


Figure 6. Sample of Reporting Dashboards

Once data from multiple sources became observable in a single place, it was discovered that findings would be more meaningful if the scales and wording were comparable between data sources. In some cases, similar questions across surveys were adjusted to be comparable across the multiple data sources. For specific sources, such as the Alumni Survey, some questions maintain comparability with minor alterations to reflect that alumni have been away from the university for more than a year. In the process of adjusting the wording of questions, issues were discovered that precipitated the development of additional questions such as the extent that current positions require working with diverse groups of people, or if alumni feel additional emphasis on particular diversity issues should be enhanced in the undergraduate curriculum. Other improvements included adding specific questions for students from programs and/or colleges. These questions furthered the usefulness and relevance of the surveys for programs and allowed them to better understand their graduates' learning experience.

Additional interest in diversity learning data emerged from website and social media posts. Periodic and focused exposure to assessment findings guided stakeholders to the full data sets in the annual reports and interactive dashboards. Because of increased interest, focused reports and dashboards have been made available by request to stakeholders in specific ways for the data to be useful or to guide improvements in content, instruction, or curriculum.

In assessing diversity learning, maintaining the focus on students' authentic demonstrations of learning within the context of the program is an essential foundation that provides relevance for stakeholders to find usefulness in the resulting data. Intentional alignment of assessments to relevant outcomes and design of processes reflective of students' current and future diversity experiences is essential in assessing diversity.

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Knowledge Development Task Force I: Progress in Assessing the Literature

By: George Smeaton, Keene State College; Frederick Burrack, Kansas State University; David Dirlam, Changing Wisdoms; Yuerong Sweetland, Franklin University and Teresa Flateby

The Knowledge Development Task Force (KDTF) was established by the AALHE Board at its 2017 Conference Meeting at the same meeting where it expanded the mission statement to include “Our association supports the generation of theory and information about effective assessment” and added a sixth strategic goal to “Contribute to the research and literature on assessing student learning in higher education.” The KDTF is contributing to these changes in two ways. First, there is its initiative to create, test, and use developmental rubrics for expertise in the assessment of learning in higher education. The second initiative is to conduct case studies of institutions who have demonstrated impacts on learning of their assessment activities.

This session included presentations by five of the most active KDTF members. First, George Smeaton introduced the KDTF Charter, a useful idea which he introduced the group to in our first meetings. Next Fred Burrack described how we conducted our developmental interviews. KDTF Chair, David Dirlam then outlined the analysis that turned 107 developmental dimensions from the interviews into developmental rubrics. Next, Yuerong Sweetland described how we used the rubrics to rate articles and refine the definitions to improve reliability. Finally, KDTF Co-Chair, Terri Flateby described progress of the case-studies sub-group.

KDTF Charter

From the outset of this project, the potential breadth of its scope became a matter of concern for the project team. Studying the development of knowledge even in the past 40 years could lead to limitless potential directions for research. Coordinating the efforts of the project team required establishing a shared vision for the project’s goals, objectives, and timeline. In the field of project management, the document that delineates this vision is known as a project charter (Shlomo & Yotam, 2018). There are numerous project charter templates available on the internet, but most contain sections outlining the scope, goals, and deliverables. The charter developed for the Knowledge Development Task Force (KDTF) contained a section that provided detailed information on the project and a section that contained information relating to project planning.

Project Information

Content included in this portion of the charter established the shared vision for the project, delineated its scope, and specified the deliverables that the project proposes to achieve.

Organizational Mission Case

This section opened by making the case for the need for research on knowledge development as it relates to the field of assessment. Specifically, it noted the following two research questions.

1. Are current assessment practices really contributing to student learning in higher education?
2. What can be done to identify these and facilitate advancement in knowledge of how to use assessment to improve student learning.

As a means of addressing these questions, this portion of the charter provided the following overall mission for the KDTF, “To identify and facilitate ways to advance the development of a body of knowledge devoted to assessing and improving student learning in higher education.”

Proposed Solution.

Although the research questions and mission specified in the case made for the project’s need greatly narrowed the scope of the study of knowledge development, numerous approaches for achieving the project mission are possible. As a means of providing additional clarity for the direction envisioned for the project, a Proposed Solution section provided a) the overall concept of knowledge development that serves as the project’s foundation, b) the

project's goals, and c) the project's deliverables. Using Dirlam's (2017b) framework, the foundational concept distinguishes the incremental knowledge development resulting from numerous small contributions from transformational knowledge development, which involves dramatic change from a single or a few contributions. Goals for the project are as follows:

1. Identify advances recorded in journals within library databases in the last four decades.
2. Conduct content analyses. Include disciplinary journals and other sources with information on the assessment of learning in higher education (ALHE).
3. Identify problems that could be solved in the next decade
4. Facilitate implementation of the selected solutions

As a final component of the charter's Proposed Solution sub-section, Deliverables to be completed by June of 2019 include:

1. A selected reference list of high centrality KD sources (see note 2 on this page) relevant to AALHE indexed by key strategies identified from them (see concept of knowledge development above).
2. An AALHE Database of Learning Identifiers (ADLI; see Dirlam, Wehlburg, and Perry, 2017). Learning identifiers describe for students and the public what is expected of learners and include statements of outcomes, competencies, goals, and objectives of programs at all levels of higher education.
3. A bibliography of articles that have been among the top hundred centrality values in any decade from 1970 on. Include centrality changes over time.
4. A set of developmental rubrics for rating randomly selected articles on the ALHE.
5. Analysis of rubrics ratings by committee members of the articles (see the section called "Concept of knowledge development" above).
6. A description of procedures for supporting "the generation of theory and information about effective assessment" that a successive standing committee could follow if the AALHE Board chooses to create a standing committee on knowledge development.
7. Three analyses of the gap between what is and needs to be known about the following questions:
 - a. What could show impact on student learning?
 - b. What assessment leadership does with the process in relation to student learning and faculty development?
 - c. What institutional leadership does with the results, including reporting to the institutional board and public, as well as inclusion in strategic planning and budgeting?

Additional Project Information

Other information pertaining to the project specified in the charter include its consistency with the strategic goals of the sponsoring organization, the Association for the Assessment of Learning in Higher Education (AALHE), alternative courses of action and the basis of their rejection, and known project limitations. The project advances AALHE strategic goal #2, "Provide professional development for advanced assessment practitioners," by identifying assessment research publications high in centrality indexed by key strategies identified from them. Alternative approaches identified include a) doing nothing, and b) providing only an ADLI. Doing nothing was rejected because inaction would extend current uncertainty regarding progress in assessment and could foster the use of weak and indirect measures of learning such as rates of retention and graduation. Providing only an ADLI without grounding it in the findings from research on learning would result in a largely speculative approach to the analysis of learning indicators. In the final component of this section, the charter identifies potential budgetary, schedule, and resource constraints to achievement of the project's deliverables. The potential impact of each constraint was evaluated and found to be minimal.

Information for Project Planning

In addition to clarifying the vision and scope of a project, a charter can serve as an important planning tool by noting key milestones and deadlines for their achievement. Content of this nature included in the Information for Project Planning section of the KDTF charter includes a communication plan that specifies the task force's meeting schedule, a high-level schedule of the tasks required for achieving the project's deliverables, and a set of specific project milestones that include target dates for completion.

Iterative Nature of Charters

As Ruecker and Radzikowska (2008) concluded based on a review of the use of charters in interdisciplinary research projects, charter development is an iterative process. Assumptions made regarding project procedures or deliverables may prove to be unrealistic. Further, factors external to the project may result in changes to the project's scope and its shared vision. Thus, rather than being viewed as a finished product, a charter should be understood as a work in progress that is subject to amendment when necessary.

With regard to the KDTF charter, a major revision was made to the sampling frame used to obtain articles pertaining to knowledge development. As illustrated in Figure 1, the number of articles identified using Academic Search Complete that related to knowledge development increased exponentially from 329 in 1977 to nearly 100,000 in 2017. As a result, selecting 100 articles per decade for rubric scoring as specified in the charter would result in markedly different percentages of each decade's total. At the same time, AALHE announced that it plans to publish a compilation of the most noteworthy articles published in each of its five *AALHE Proceedings*. Therefore, in addition to providing a consistent and manageable set of articles for analysis, rubric ratings of each of the articles included in each of the five *Proceedings* could serve as a means for selecting articles to be included in the five-year compilation.

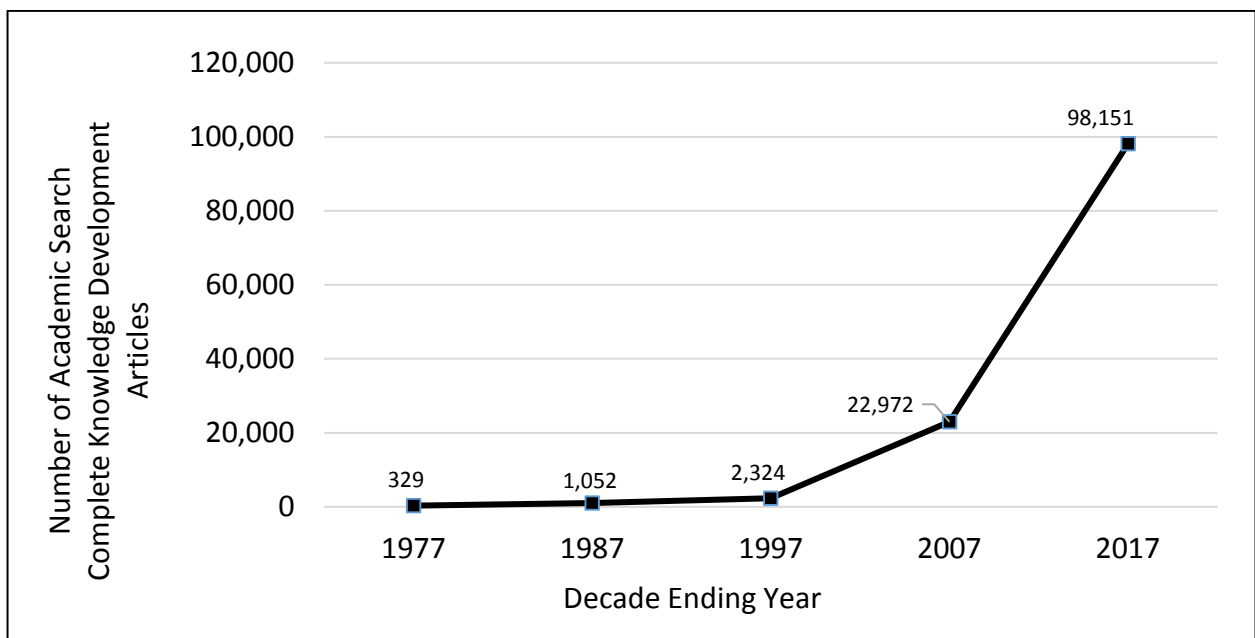


Figure 5. Number of Articles on the Assessment of Learning in Higher Education Over 40 Years

Conducting Developmental Interviews

In preparation for identifying qualities in published scholarship that can signify former to current considerations of student learning assessment in higher education, the first step we took was to “reliably discriminate learning indicators, such as outcomes, competencies, and objectives” (Dirlam, 2017a, p. 70), as well as dimensions and qualities of assessment practice to enrich discrimination. The process implemented to expose current constructs, categories, and considerations of assessment practice in higher education was developmental interviews (Dirlam, et al., 2011). Conducting developmental interviews is a collaborative process between an interviewer and an expert in a particular activity. The goal is to help the expert organize her or his experiences with what learners do into a concise multi-dimensional developmental theory. Interviewers work to expose current beliefs, considerations, and language pertaining to the intentional and emergent issues of assessment in higher education. The purpose is to progressively uncover, through interactive discovery, levels of practice within a variety of dimensions.

For the purpose of this project the team of assessment scholars interviewed each other and extended the interviews to other assessment professionals with results combined into a multidimensional developmental rubric (see the following section on “Analysis”). The interviews begin with a short description of the project and the developmental model used. Then the interviewee was encouraged to brainstorm across the assessment of learning in higher education to expose important ideas as possible dimensions. Dimensions of practice initially were pursued in four levels of discrimination using the captions of (a) Beginning, (b) Exploring, (c) Sustaining, and (d) Inspiring. The levels were intended to be categorical reflecting complexity and not quality. Less complex dimensions are often considered as a sub-component of increasing complexity, without diminishing the capacity for uniqueness.²³

Responses from all interviews were accumulated and aggregated through moderated consensus into a developmental rubric. This rubric was tested on a variety of articles to expose inconsistencies in language, inadequacy in clarity, and considerations not addressed. Resulting discoveries are revisited and improved through processes of refinement. Dimensions were organized into clusters to promote ease of use and clarity of intent. Increased reliability was determined through cascading convergence of responses. Examples from the interviews were separated from descriptions to further enhance reliability. In addition to the unique dimensions, we added two final rows on the rubric referring to “usefulness,” which act as a holistic rating of quality (for details see the next section on Analysis).

A charter use of the rubric will be to assess the levels that scholarly articles used for each dimension. Our rating form includes a “not identifiable” option, since most published articles contain the intent of the article or journal, which may not have addressed all dimensions. However, items listed under “Specifying What Was Done” and “Methods Used” refer specifically to what was addressed in the article. When used, the reviewer of an article should compare levels above and below to confirm best fit. This rubric, we propose, will be an effective tool for exposing the developmental nature of assessment within scholarship and longitudinally across time to uncover an evolution of student learning and program assessment processes.

Analysis: Making Useful Developmental Rubrics from Developmental Interview Records

As indicated in the preceding section, developmental interviewing is a deeply collaborative process between an expert in a specific field and a developmental interviewer. To turn a large group of developmental interviews into a collective understanding resembles writing an article from an internet search. Both processes begin with keywords; both sort results with complex ranking algorithms (often hidden from the user); both require a writer to summarize the algorithm’s results; and finally, both need a collaborative community to interpret, communicate, and use the results. This section details the process of arriving at a collective set of developmental rubrics for assessing learning in higher education. We describe the process in general here as it appears in several prior studies (Dirlam, 2017,

²³ See Dirlam, 2017a and 2017b, for rubrics for improving interviews and a tool for describing levels to be used in them.

included a dozen fields of expertise). We add particulars about this current study of experts in learning assessment in footnotes.²⁴

Four Analytical Phases

The setup places each dimension with title and four complexity levels in a row and groups together all dimensions from each interview. Since different interviews on the same topic have much overlap and are open ended, reorganization is necessary. Four phases transform the complex data into developmental rubrics: (1) finding common keywords, (2) using them to create meaningful clusters of dimensions, (3) condensing definitions without losing important meanings into one for each level in the cluster, and (4) refining the definitions through discussion.

1. Discovering Keywords

The first phase discovers keywords in the text. The setup involves copying the text into MS Word to remove punctuation, get individual words by replacing spaces with paragraph markers (^p), and sort the list. We copy the list to Excel, use a formula to count the words and find the most meaningful words by removing duplicates, function words, and diverse word forms (e.g., the root “analy” replaces analyses, analysis, analytical, and analyze).²⁵ *Word clouds* are popular ways to present keyword frequencies. They display disciplinary language, but with no further analysis have little connection to formative assessment.

2. Finding Clusters of Dimensions Using N-CRIX

The second phase finds clusters of dimensions by using an algorithm called *Network Clustering through Ranked and Interpreted Connection Strengths* (N-CRIX). This algorithm first concatenates the four levels for each dimension into one larger definition and then assigns it to one of 25 *arbitrary* clusters (about twice as many as needed for rubrics). Next, it searches the definition for each keyword (returning 1 if found and 0 if not) and uses the results to calculate a *connection strength* of each dimension to each cluster using a chi-square like formula. For each pair of dimensions in each cluster, the formula compares the observed number of common keywords (o) to the expected number (e) using $(o-e)^2/e$.²⁶ Then, another formula averages the results over all dimensions in each cluster. A pivotal step is to use the ranks of these *average cluster connection strengths* to re-sort all the dimensions to their best ranking clusters. Of course, moving all dimensions to new clusters at once changes all the chi-square factors as well their ranks. Another formula calculates the *average system rank* for the whole new system of clustered dimensions. A macro then iterates the sorting process until the average system rank does not improve. This process frequently moves all dimensions from a cluster, which excludes it from further analysis.²⁷ We can still improve an average system rank by manually reassigning a few dimensions with relatively poor rankings, one at a time. Reviewing the original texts helps to reassign it to a meaningful cluster that reduces the average system rank. This leaves *interpreted* clusters, which we named, often with keywords. This phase clusters a whole network by ranking, reassigning, and then interpreting connection strengths. Still, the clusters retain all the individual interview text, leaving way too many details to be useful for assessment.

3. Writing Collective Definitions of Levels within Clusters

Once N-CRIX clusters the dimensions, a writer uses them to create collective definitions of the levels within each cluster. The setup involves sorting all of the original dimensions, complete with levels, into their new clusters and then for each cluster concatenating definitions in each level into an *all-inclusive definitions* (concatenation, this

²⁴ Our 14 interviews generated approximately 10,000 words divided into more than 100 dimensions with four levels each. The average response had 8 dimensions with about 25 words for each level. These figures give us an idea of the order of magnitude for useful sets of rubrics.

²⁵ This process left about 800 root words. Since more than half of these appeared only once or twice and we need only the top 100 or so for the remainder of the analysis, we chose key words, that appeared 10 or more times.

²⁶ e =keywords found in the one dimension in the cluster times the keywords found in the another divided by the total number of keywords found in Phase 1.

²⁷ In our case N-CRIX removed 11 arbitrary dimensions, leaving 14 coherent dimensions.

time, is not across levels as before, but down dimensions for each level).²⁸ Of course, since clustering is based on common word patterns, there is much duplication. The writer addresses this with abstracts of about 35 words (40 at most). These emphasize verbs and keep common details using the least number of words possible. Sometimes, N-CRIX misplaces a dimension with unusual wording. Since these are unique within the sample of interviews, the writer eliminates them from the collective understanding (this implies nothing about their importance, only that the removed dimensions were not corroborated). This phase creates a draft of developmental rubrics with condensed definitions, but their lack of consensual meanings still limits their use for assessment.

4. Collaborative Refining of the Definitions

The fourth and final phase improves collective understanding through a collaborative, rate-discuss-revise process. The setup includes a few articles chosen at random from the literature and a multiple-choice survey with dimension names as prompts and definitions as choices.²⁹ Trained raters complete the survey for each article and discuss the differences between their ratings, one article at a time. Some expert raters focus on general parts of the abstracts and others on detailed examples. Since general statements take priority, the refined definitions separate examples from the general definitions. This leaves short and long forms of the rubrics for community use. Even with only half the words remaining in the short, general form, there are still too many to remember and discuss easily, so the group creates one or two word names for each level of each dimension.³⁰ A last step further facilitates memory of the dimensions by grouping them into 6 sections of 1 to 4 dimensions each. The grouping was borrowed from a similar analysis of dimensions of design expertise that was based on 60 interviews in 20 design disciplines (Dirlam, 2017). The sections are often sequential, except that first section, *Query*, is ongoing throughout the design process.

The complete, four-phase process creates developmental rubrics that are powerful tools which educators can use formatively for assessing learning at all levels of individual students, classes, programs, and entire institutions.

Overview of Analysis

Our analysis transformed personal understandings of the development of expertise in assessing learning in higher education into a rich and collective understanding. This transformation occurred in four phases:

1. Finding keywords.
2. Using the N-CRIX algorithm to cluster personal dimensions of development.
3. Writing abstracts of each level of each cluster.
4. Improving shared understandings of the abstracted definitions by collaboratively applying them to common experiences (e.g., randomly selected articles, reports, or other assessment texts) and organizing them to facilitate memory.

The next section addresses how people have interpreted, communicated, and used the results.

The Rating Process

We streamlined the rating process by putting the rubrics into a multiple-choice rating form provided by Google Docs. As indicated in the section on the interview process, the modes of practice for all multiple-choice items were Beginning, Exploring, Sustaining, and Inspiring. For the rating form, the dimension name was the item description and modes of practice were the choices. We added two "usefulness" items at the end act as a holistic rating of quality. Since each description for each mode within each cluster has several procedures, we separated the less general procedures as EXAMPLES (see the Appendix for details). Raters focused on the more general procedures to

²⁸ Since there were approximately 8 dimensions per cluster, this left an average of around 200 words for each all-inclusive definition.

²⁹ We chose articles from Academic Search Complete using the keywords: *assessment, learning, and higher education*. We used a Google Docs Sheets Form to collect ratings. Each cluster name was the header and each of the four levels was a multiple-choice option.

³⁰ The Appendix contains the long form of the rubrics. A copy of the MS Excel sheets used for the analysis can be obtained from ddirlam@changingwisdoms.com.

assign a level to the article. Most items refer to what readers were advised to do with the articles, However, items listed under “Specifying What Was Done” and “Methods Used” refer to what was done. Raters compared levels above and below to make sure that the one they chose has the best fit. These rubrics have been tested on randomly selected articles from the last 20 years. We*³¹ propose them also as tools for guiding the development of and evaluation of program assessment processes.

Since the initial creation of the developmental rubric in late 2017, the KDTF members have conducted two rounds of ratings and, throughout the process, continued to refine the rubric. During the first round, six articles were selected by one of the KDTF Co-Chairs from assessment scholarship published during the last four decades from 1978-2017. Meanwhile, thirteen KDTF members formed into six groups, each of which was responsible for reviewing one article. Each group consisted of two to three members, who were all experienced assessment professionals and/or academics from different higher education institutions. Among the review group members, some had been on the taskforce and participated in prior discussions about the rubric development, while others who joined the taskforce later were provided with the rubric and background information and had the opportunity to review and become familiar prior to applying it.

Insights that resulted from this round of small group ratings were shared among the entire KDTF group to provide an opportunity to further familiarize all KDTF raters with the developmental rubric and inform the next round of ratings. In particular, the discussions resulted in the clarification of dimensions and levels across the groups.

In Round Two, seven KDTF members (out of the initial thirteen), applied the rubric to two common articles published after 2000 selected by the same KDTF Co-Chair. During this round, members discussed in detail rating results and processes related to all dimensions of the developmental rubric (See Appendix), until consensus could be reached. In some cases, it was quite challenging and required extensive negotiations and changes to the rubric. This was not surprising, given the varying foci and purposes of the assessment articles, the wide range of assessment practices, as well as different backgrounds and experiences of the KDTF members. Ultimately, the extended calibration process resulted in improvements to the initial rubric. At the same time, the negotiation and discussion processes also provided an opportunity for the KDTF members to reflect on assessment practices in higher education and how they could be more impactful and inspiring.

The Case Study

Attempting to advance the body of assessment literature, a subset of the KDTF began a case study of selected institutions. The investigation focused on identifying characteristics or qualities of higher education institutions that have at the core of the institution an understanding of and value assessment as an integral part of the curriculum planning and instructional practices. Part of the fabric of these institutions, assessment is essential to the teaching-learning process by assisting programs. Such institutions deliberately design curricula and instruction to effectively foster student learning. This investigation is under development but will incorporate a mixed-methods design and include both qualitative and quantitative components. In addition to adding to the assessment knowledge base, the study should yield relevant information for educating future assessment practitioners and further enhancing current practitioners’ effectiveness in supporting the curriculum planning and the teaching-learning processes at their institutions.

Toward a Handbook for the Assessment of Learning in Higher Education

The section on the charter showed how the KDTF project has evolved from discovering progress in assessment to discovering progress in the AALHE Conference Proceedings over the five years of their publication. This is not disruptively far from our original goal, since half the articles on the assessment of learning in higher education that

³¹ David Dirlam and Teresa Flateby, AALHE KDTF co-chairs. Interviewees and rubrics refiners included the co-chairs plus Frederick Burrack George Smeaton, Yuerong Sweetland, Arthur Hernandez, and Joe Sullivan. Interviewees also included Moreen Carvan, Catherine Wehlburg, Susan Perry, Jennifer Sweet, and Keston Fulcher.

have been indexed by Academic Search Complete were written in the last 5 years. But it opens up a great opportunity for both AALHE members and the association itself. We will not only be selecting articles that illustrate inspiring practices, but we will be able to aggregate a picture of the evolution of those presentations that authors cared enough about to make a written record for the Proceedings. Introductions to the sections and dimensions will provide a broader view of their topics than even inspiring articles can provide. Together, the Handbook will enable all who are interested in the assessment of learning to higher education to understand better both its evolution and their own developmental opportunities within that evolution.

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Table 1. KDTF Rubrics for the development of expertise in the assessment of learning in higher education.

	Beginning	Exploring	Sustaining	Inspiring
QUERY				
Process Leadership	<p>LEADER FOCUSED Design the assessment frame by themselves- using their own mental model of assessment. <i>EXAMPLES: Validity and personal biases are not considered.</i></p>	<p>CONVENTIONAL Research and advocate for using published frameworks. <i>EXAMPLES: Collect data using validated rubrics. Conduct collaborative workshops starting with published rubrics to create localized versions.</i></p>	<p>COLLECTIVE Create ownership of the whole curriculum. <i>EXAMPLES: Build around the curriculum map to enhance validity, with a regular review cycle. Perfect it over time. Design program review so that departments refer to their curriculum maps. Seek to</i></p>	<p>PROCESS LED Use processes systematically that give faculty something they feel intrinsically tied to. <i>EXAMPLES: Use data in different ways. Design curricula that build development as well as transfer knowledge and practice across the curriculum and often to life, through creative and effective teaching strategies.</i></p>
Institutional Involvement	<p>UNSTRUCTURED Use unstructured processes, guided by threats and external requirements <i>EXAMPLES: Use the accreditation threat. Describe the process in general terms but apply it to only one expertise. Promote the benefits of assessment. Limit planning to putting learning outcomes in courses.</i></p>	<p>RECOGNIZING Identify institutional inhibitions to the culture of assessment <i>EXAMPLES: Point to lack of commitment and rewards. Seek recognition for assessment as research for tenure. Deliberately set aside resources. Define expectations for quality assessment and consequences for not meeting them.</i></p>	<p>ADMINISTERING Help institutions recognize they need a clear sense of learning. <i>EXAMPLES: Seek everybody being involved so that assessment permeates the educational experience and student commitment. Use assessment to manage resources. Get on administration and Faculty Senate meeting agendas.</i></p>	<p>PLANNING Foster understanding that assessment helps to plan, implement review findings, discern what's missing, and document progress. <i>EXAMPLES: Integrate university level learning outcomes into all disciplines. Faculty members do course reflections. Use results formatively throughout the term and for annual reviews.</i></p>
FRAME THE PROBLEM				
Functions of Assessment	<p>PRECONCEIVED Irrelevant or weeding out students who aren't learning. <i>EXAMPLES: Rigid preconceived ideas like valid and reliable, multiple choice testing, that misses what students find interesting. Have no data, just a plan.</i></p>	<p>EVALUATING: Ways to uncover if teaching is working. Look for and read assessment literature about needs and effects rather than outcomes. <i>EXAMPLES: Engage in convenience sampling using open-ended responding or performance checklists as outcomes.</i></p>	<p>CLARIFYING: Identify student learning, both intended and unintended effects of programs. <i>EXAMPLES: Support good citizenship. Help students meet expectations and fulfill future career needs, even by using flawed (but reasonable) samples. Identify threats without always finding solutions.</i></p>	<p>ADAPTING: Create learning organizations by identifying how to change institutional environments to meet current demands. <i>EXAMPLES: Identify unexpected kinds of learning (how to thrive) and their future contributions by collecting samples (authentic or virtual) that represent student behavior enough for the inferences made.</i></p>

	Beginning	Exploring	Sustaining	Inspiring
ENVISION SOLUTIONS				
Conceive Knowledge and Learning	<p>RECALL Memorized answers regarding discipline specific content and regenerated on tests. <i>EXAMPLES: Focus on what instructors are teaching or hope students will understand better. Understand assessment as testing resulting in grades.</i></p>	<p>ACTION Clarified expectations of students' knowledge, values, and skills using measurable, observable, performance-based assessments. <i>EXAMPLES: Use writing, speaking, and doing scored with defined expectations like rubrics. Create processes to discover student learning using actions, behaviors, or applications resulting from knowledge retention.</i></p>	<p>PRACTICE Practices that are foundational for student futures, demonstrated in authentic situations in ways that students want to show. <i>EXAMPLES: Use qualitative methodologies like interviews or conversations. Confront problems with conflicting direct vs. long-term applications (healthiness vs. profit).</i></p>	<p>PROCESSES Lifelong improved thinking and learning processes. <i>EXAMPLES: Select, respond to experience, analyze, interpret, create, imagine, plan, make, rehearse-evaluate-refine, perform, present. Develop theories for assignments that "scaffold" understanding.</i></p>
Conceive Teaching	<p>DISSEMINATING Knowledge dissemination and assessment steps. <i>EXAMPLES: Lecture on facts. Collaboration means asking for interest in projects or giving lectures. Attend a required presentation from the center.</i></p>	<p>INTERACTING Interaction, feedback, adapting to student needs, interests, and ability to repeat back. <i>EXAMPLES: Collaboration means coming together to talk about what instructors do with students. Bring a problem to the teaching-learning center.</i></p>	<p>DEVELOPING Create learning environments where students discover and expand their capabilities. <i>EXAMPLES: Link pedagogy to development. Use rubrics in instruction. Collaboration means discovering together how to help students, being analytic, open, respectful, unafraid to explore.</i></p>	<p>LIFE ENRICHING Include projects, life preparation, correcting misunderstandings, developing social knowledge to challenge traditional interpretations. <i>EXAMPLES: Take risks to ensure students grasp foundational concepts. Work on goals nonjudgmentally from different perspectives. Provide solutions that build on one another. Adjust instruction using student data, cues, behaviors, or curiosity.</i></p>
SPECIFY WHAT WAS DONE				
Help People Organize	<p>CONVERSATIONAL Have conversations that champion assessment and talk about strategies. <i>EXAMPLES: Focus on how well textbook content was disseminated. See policy as a way of getting people started and program reviews as needing a basis in assessment.</i></p>	<p>PURPOSEFUL See policy as helping develop a realization of assessment's usefulness and forcing faculty to consider their purpose. <i>EXAMPLES: Create resources that people can access. Connect theory from their field or their own experience. Realize there may be differences.</i></p>	<p>SYSTEMATIC Develop a system for guiding people in assessment. <i>EXAMPLES Facilitate everyone's assessment, create projects they find useful, and identify components or criteria for fuzzy things. Build relationships. Develop culture. Teach people to self-assess and improve.</i></p>	<p>MODEL-BASED Build structured models that help people attach theory within their field or knowledge of their own development to the model, seek new ways to apply it, and distinguish important concepts. <i>EXAMPLE Help institutions become learning organizations.</i></p>

	Beginning	Exploring	Sustaining	Inspiring
Develop Learning Measures	<p>AMBIGUOUS Produce ambiguous outcomes from multiple loose definitions. <i>EXAMPLES: Use grades. Assign numbers to outcomes and sum weights. Find percent of students achieving SLOs. Write narrative descriptions. Select tools that nominally sound like what programs want to measure.</i></p>	<p>GENERIC Provide generic measures only loosely connected to PSLOs and identical for multiple criteria. <i>EXAMPLES: Measure inter-rater and test-retest reliability. Add options to use multiple measures to define the quality of learning happening.</i></p>	<p>ARTEFACTUAL Use classroom artifacts from representative students assessed by faculty using tools with measurable reliability that discriminate levels of student experience defined by outcomes. <i>EXAMPLES: Help faculty or students identify parts of tests or rubrics that relate to their objectives.</i></p>	<p>MULTIPLE Compare multiple measures of student performance. <i>EXAMPLES: Articulate student outcomes. Align them with measures. Co-create measures with faculty. Create high quality instruments close to what faculty envision for the program.</i></p>
Quality of Learning Measures	<p>OPINIONS Measures indicate assessors' own satisfaction or ease of use. Rely on face validity. Overlapping categories only generally relate to learning. Measure learning assuming that their own categorizations are fixed. <i>EXAMPLES: One dimensional, product rating scales and subjective grades.</i></p>	<p>PARAMETERS Argue for statistical validity without considering other demonstrations of learning. Consider intra-rater reliability. <i>EXAMPLES: Standardized tests, which combine distinct information into a single score, and multiple-dimension, Likert scales.</i></p>	<p>SUCCESSIONS Measures indicate relative strengths or frequencies over time of competing practices, strategies, or institutions Consider cultural, gender, behavioral, and economic, contexts. Defend content validity by descriptive completeness. Consider inter-rater and test-retest reliability <i>EXAMPLES: Developmental and historical recording and coding.</i></p>	<p>NETWORKS Measures indicate links between categories that identify insights and innovations affecting diverse, independent adopters. Ecological validity emerges from consensus-building with common experiences. Consider cross-context reliability. <i>EXAMPLES: Collaborative communities, action research, and diffusion of innovation.</i></p>
APPLY METHODS				
Collect Data	<p>SUMMATIVE Assess programs by rating work from only one course (usually at the capstone level). <i>EXAMPLES: Throw information into cells. Use averages and say students are above average. Look at the minima needed for accreditation.</i></p>	<p>FORMATIVE Collect data for outcomes at entry, midpoint, and capstone courses. Map outcomes to courses. <i>EXAMPLES: Include in syllabi kept on file. Refresh curriculum map biennially. Interrelate SLOs, curriculum maps, instruments (validated rubrics, tests), and data collection design.</i></p>	<p>PROGRAMMATIC Collect data at least once per course. Map learning and development across the curriculum. <i>EXAMPLES: Align assessment vertically (scaffolding levels) and horizontally (across sections). Check on improvement longitudinally. Tweak methodology (multiple raters). Define schedules that cycle through outcomes.</i></p>	<p>INTERACTIVE Collect data from spontaneous faculty-student interactions in all courses. <i>EXAMPLES: Seek data complex enough to inform curriculum improvements and build common understandings of developmental levels of learning. Faculty complete course design surveys with multidimensional checklists stored in common database.</i></p>

	Beginning	Exploring	Sustaining	Inspiring
Analyze	<p>SUMMARIZING Apply any approach that summarizes the data. <i>EXAMPLES: Rely on mean scores to generalize to individuals in the population. Focus on one or two comments. Take descriptions at face value. Miss essential aspects (what, how, when, where). Expect people to ignore methods.</i></p>	<p>DIFFERENTIATING Differentiate approaches for different purposes and populations. <i>EXAMPLES: Do thematic analysis. Turn rubrics and category scores into numbers and average them. Consider multivariate, mixed, and reliability methods. Make conclusions from invalid methods.</i></p>	<p>CATEGORIZING Drive the sustaining of practice through utility, intelligibility (understanding), familiarity, acceptability, meaningfulness, and accessibility of approaches. <i>EXAMPLES: Create categories and count frequencies. Look at frequency distributions. Use qualitative data.</i></p>	<p>SYNTHESIZING Demonstrate Impact by applying advanced analytical research tools that are not normally used by instructors. <i>EXAMPLES: Use big data analytics, Bayesian analysis, grounded theory, or network theory.</i></p>
IMPACT OF IMPLEMENTATION				
Create Meaning	<p>CONVENTIONAL Focus on form of learning outcomes over function as descriptors. <i>EXAMPLES: Copy their imagined assessments like institution's grade, compliance, policies like ensuring everybody does it. Generate questionnaires with too few/many questions (often Likert scale). Run amateur focus groups.</i></p>	<p>ACCESSIBLE Make assessment accessible to all including those uncomfortable with directed learning. <i>EXAMPLES: Promote data appropriateness for questions asked. Shift assessment to faculty. Examine learning environments and things standardized tests miss. Develop institutional capacity and cultural awareness to assess learning meaningfully.</i></p>	<p>INFORMATIVE Design sustainable assessment processes to produce information. Seek outcomes and measures that enable observations of complex learning and transcend each participant's knowledge. <i>EXAMPLES: Promote discerning how disciplinary learning transcends content. Differentiate learning qualities. Deliberate higher education's purpose.</i></p>	<p>ENGAGING Reframe assessment, curriculum, and instruction as designed, guided and integrative processes of creative engagement with learning experiences, past, present, and future. <i>EXAMPLES: Use transformative moments to both measure learning and assess experiences. Enable student contributions to the design.</i></p>
Apply Results	<p>CONFIRM Seek test scores, assignments, surveys, dropout rates, and grades relating to factual knowledge that confirm their approach. <i>EXAMPLES: Seek external benchmarks to show how student achievement measures up with others on a test.</i></p>	<p>QUESTION Ask questions leading to deeper dives into other data sources and meaning. <i>EXAMPLES: Consider historical records. Ask why some students are unhappy with grades or feedback, how to improve performance, if student numbers and quality are optimal.</i></p>	<p>COMPARE Examine qualitative information that integrates meaning-making beyond knowledge and skills. <i>EXAMPLE Use student comments and focus groups to improve beyond evaluation-point scores. Consider relevance, purpose, transfer, and usefulness. Include enrollment, faculty reinforcement of standards, and course durations.</i></p>	<p>INTEGRATE Obtain regular assessment integration into the instructional process. <i>EXAMPLES: Present assessment questions during instruction through technology, interactive media, or adaptive testing (questions vary based on student responses). Ask about assignment content validity and common understandings of outcomes (inter-rater reliability).</i></p>

	Beginning	Exploring	Sustaining	Inspiring
Identify Innovations	<p>PROCEDURES Help faculty identify program outcomes and assessment plans (methods, data collection schedule). <i>EXAMPLES: Comply with college, federal financial aid, or accreditation requirements. Use story format to describe what was done, found, and value gained by students from the program.</i></p>	<p>CRITIQUES Critique areas for potential curricular innovation or assessment improvement. <i>EXAMPLES: Discover consistent findings and work with stakeholders to create new approaches. Demonstrate program accomplishments. Describe trends using outcomes, means of assessment, results, and use of results.</i></p>	<p>ENHANCEMENTS Identify questions about programs and curriculum that assessment could elucidate, especially what instructional approaches are most effective. <i>EXAMPLES: Compare new with prior results. Relate program recommendations to them. Find common themes across problems. Integrate academic, co-curricular, and program review.</i></p>	<p>COMMUNITY Show how assessment relates to institutional and public priorities. <i>EXAMPLES: Find and test new ways to have impact on students that endure for decades and generate emergent effects. Use societal trends and research literature to identify program needs.</i></p>
Report	<p>COMPLYING Write an annual report with statement, methods, evaluate, results (unrelated to SLOs), which only the writer sees. <i>EXAMPLES: Check off completion for accreditation or institutional board without considering implications or seeing the benefits.</i></p>	<p>DISCONNECTED Report diffuse results at program meetings with somewhat disconnected suggestions <i>EXAMPLES: Propose hiring more faculty or increasing time on topics of deficiency. Copy SLOs from similar programs or identify hoped-for students gains. Program reviews build assessment commitment.</i></p>	<p>PREDETERMINED Faculty consider results to guide curricular/ instructional interventions to increase only student behaviors they intended. <i>EXAMPLES: Results may reflect cohort snapshots of student learning but untied to student experience. Develop SLOs post-hoc, but represent program. Report results and propose improvements to non-programs stakeholders.</i></p>	<p>ENVISIONING Help faculty clarify vision articulated in SLOs of program impacts on learner knowledge, thought, or action. <i>EXAMPLES: Develop deeper, "aha" understandings of faculty-learner connections across multiple categories (social relationships, jobs, courses). Propose interventions linked to SLOs and results.</i></p>

Developing an Assessment Certificate: Report of the AALHE Assessment Certification Subcommittee

By: Joan Littlefield Cook, University of Wisconsin-Whitewater; Patricia Gregg, Georgia State University; Timothy Melvin, Marshall University; Shannon Milligan, University of California-San Diego; Jen Sweet, DePaul University

Abstract: The Assessment Certification Sub-Committee of the Association for the Assessment of Learning in Higher Education (AALHE) Events Committee surveyed the landscape of available training opportunities for AALHE members. We explored existing options provided by regional and specialized accrediting bodies, other professional associations, and graduate degree programs. Additionally, we investigated models for professional certifications in fields comparable to ours. In this interactive session, committee members shared what we learned to date, identified the gaps that might be filled by an AALHE assessment certificate, and (most importantly) sought feedback from participants about the form and structure such a certificate might take. While training opportunities do exist, many are expensive, require teams and/or synchronous participation, or are limited to specific organization members. Thus, an AALHE certificate appears to be a useful and viable option for furthering the assessment knowledge and skills of interested individuals. Conference attendees provided useful feedback on the types of training that would be most useful as well as preferred formats, levels of training desired, and acceptable cost. Over the coming year, the Sub-Committee will continue to work towards developing an AALHE assessment certification.

Keywords: Assessment Certification, Learning Improvement, Assessment Professional, Assessment Training, Professional Certification

Introduction

Assessment of student learning has been increasingly recognized as a profession, based on a core set of knowledge and principles and guided by research-based best practices. As the profession has developed, membership in and attendance at the annual conference of the Association for the Assessment of Learning in Higher Education (AALHE) has grown steadily, with members consistently seeking opportunities to develop assessment knowledge and skills both at entry and at more expert levels. AALHE and other conferences offer presentations on a variety of assessment topics, with workshops intended to provide more detailed information. Many sessions, however, are just that—individual and time-limited sessions that provide a broad-strokes introduction to assessment or that focus on one specific aspect of student learning assessment or assessment technique or tool. To what extent is training available that offers an intentional, integrated, and systematic curriculum leading to a level of knowledge and skills that warrants a professional credential?

The AALHE Assessment Certification Subcommittee was formed to identify and review current training or certification opportunities provided by regional and external accrediting bodies, professional organizations, and institutions devoted to the assessment of student learning. We were charged by the AALHE Board of Directors to investigate the need for and feasibility of developing an AALHE Assessment Certification program to provide effective training to assessment professionals at varying levels, from entry to advanced. Participants at the session learned about existing professional training opportunities as well as certification models used in comparable professions, described their own training needs, and provided information about the form and structure of a possible AALHE assessment certificate.

Survey of the Landscape of Existing Training/Professional Development Opportunities

Our first step as a subcommittee was to conduct a landscape analysis to determine the opportunities for professional development that currently exist for assessment professionals. As we conducted our landscape analysis, we focused on the following elements:

1. Organization – what organization(s) is providing the professional development opportunities?
2. Professional development opportunities offered – web resources, conference, publications, etc.
3. Whether the opportunity resulted in some sort of certification.
4. Whether assessment was the primary focus of the professional development.
5. Access:
 - a. Is the opportunity open to any assessment professional?
 - b. Does the opportunity require sending an institutional team?
 - c. Does the opportunity require the synchronous participation of all members?
6. Cost
 - a. Direct cost of the opportunity
 - b. Indirect costs (specifically travel)

Based on this landscape analysis, we identified several areas that might offer professional development: accrediting bodies (both regional accreditation agencies and specialized accreditation agencies), professional organizations [e.g. National Institute for Learning Outcomes Assessment (NILOA) and Association for Institutional Research (AIR)], and offerings provided by individual colleges and universities. Ultimately, we explored in depth professional development options provided by all regional accreditors; five specialized accreditation agencies; four professional organizations; twelve colleges and universities; and two regional communities of practice. Because we did not have the time or resources available to conduct an exhaustive landscape analysis, we do acknowledge we likely missed available professional development opportunities in our analysis.

We broke the results of our landscape analysis down by several broad groups: regional accreditors, specialized accreditors, and a collection of other resources, such as conferences, online resources, and certificate programs. For the regional accreditors, we found that their professional development opportunities were generally integrated into their annual meetings or conferences. For example, the Higher Learning Commission (HLC) offers an assessment academy, but it is a long-term commitment (four years), is expensive (\$29,500), and requires an institutional team of participants. In addition, the Middle States Commission on Higher Education (MSCHE) offered two different professional development workshops this year on assessment topics for \$420, but each required additional travel costs to participate.

Overall, specialized accreditation professional development opportunities tend to be limited to members of their accredited programs, and sometimes further to only members of their accredited programs who are currently undergoing review. The results of our review of specialized accreditors are summarized in Table 1.

Table 1. Findings of Landscape Analysis for Specialized Accreditors

Organization	Type of Professional Development	Cost	Travel Required?	Requires Team?
AACSB	Conference	\$975-\$1175	Yes	No
AACSB	Seminars	\$745-\$1095	Yes	No
ABA	Conference	not available	Yes	Yes
ABET	Workshops	\$595	Yes	No
CAEP	Conference	\$650	Yes	No

In terms of conferences we looked at AIR (\$495, assessment is not the primary focus), Association for American Colleges & Universities (AAC&U) (\$7,200-\$8,200 and requires a team), Drexel University (\$360-\$370), and the Indiana University-Purdue University Indianapolis (IUPUI) Assessment Institute (\$340-\$350). Disadvantages of conferences are that they all require travel (and associated costs); are only available at one time and in one place (requires synchronous participation); and do not result in any sort of formal certification.

A number of organizations provide online resources for professional development. The two we explored were NILOA and EDUCAUSE (<http://www.learningoutcomesassessment.org/>; <https://www.educause.edu/>). We also found one assessment certificate program being offered jointly by Loyola University Chicago and DePaul University; however, this program is only available to members of those institutions (<http://www.learningoutcomesassessment.org/>). We also found one assessment certificate program being offered jointly by Loyola University Chicago and DePaul University; however, this program is only available to members of those institutions.

Finally, we found a number of institutions that provide academic certificates and degrees in assessment or areas closely related to assessment (e.g. institutional research). The results of our review of degree programs are summarized in Table 2.

Table 2. Certificates and Degrees in Assessment (or closely related areas)

Type of Credential	Institution	Name of Certificate or Degree
Certificate	Agnes Scott College	Evaluation & Assessment
Certificate	Florida State University	Institutional Research
Certificate	James Madison University	Higher Education Assessment
Certificate	Kent State University	Institutional Research & Assessment
Certificate	Penn State University	Institutional Research
Certificate	Sam Houston University	Higher Education Assessment & Institutional Research
Certificate	University of Illinois at Chicago	Educational Research Methodology
Master's	George Washington University	Assessment, Testing & Measurement in Education
Master's	Penn State University	Higher Education
Master's	University of Illinois at Chicago	Measurement, Evaluation, Statistics & Assessment
PhD	University of California – Berkeley	Assessment, Testing & Measurement
PhD	University of Illinois at Chicago	Measurement, Evaluation, Statistics & Assessment

We identified a few general trends from the landscape analysis. First, we found that there are numerous professional development and training opportunities available to assessment professionals. Second, however, except for university certificates and degree programs, none of these opportunities result in any sort of formal certification. Third, the cost of these opportunities varies greatly. Some are free but many are quite expensive, especially once the cost of travel is included. Fourth, most of these opportunities lack flexibility for assessment professionals because they require in-person, synchronous participation. And finally, again with the exception of university certifications and degree programs, it is not clear from the program descriptions whether different levels of assessment training are offered (e.g., training for those new to assessment vs. administrators who oversee assessment offices within their larger units vs. assessment professionals responsible for implementation, analysis, and reporting of institutional level assessment).

Certification Models in Other Higher Education Professions

To determine what approach might be best for AALHE, we examined certification models for other functional roles commonly found in colleges and universities. These included professionals in Institutional Research, Institutional Review Boards, Research Administration (Grants), and Student Affairs. Importantly, we discovered the Institute for Credentialing Excellence (ICE), a professional membership association that provides education, networking, and other resources for organizations and individuals who work in and serve the credentialing industry. According to its website, ICE is a leading developer of standards for both certification and certificate programs and it is both a provider of and a clearing house for information on trends in certification, test development and delivery, assessment-based certificate programs, and other information relevant to the credentialing community

(<http://www.credentialingexcellence.org/>). The ICE website offers a free 10-page report entitled “Defining Features of Quality Certification and Assessment-Based Certificate Programs.” The website provides a summary table of key distinctions between certification and certificate models, which are summarized here:

Professional or Personnel Certification	Assessment-Based Certificate
Intended to recognize professionals who meet established knowledge, skills or competencies	Intended to build capacity and recognition of a specialty area of practice or a set of skills.
Assesses/validates knowledge, skills and/or competencies previously acquired	Provides (non-degree) instruction and training for participants to acquire specific knowledge, skills and/or competencies
Assessment is best used to assure baseline competencies and to differentiate professionals, independent of a specific learning event	Assessment is linked to mastery of the intended learning outcomes, linked to a specific learning event
Generally broad in scope	Generally, narrow in scope

Additionally, for a cost of \$250, the ICE Academy is a three-part on-demand webcast series on assessment-based certificate programs, including instructional design principles.

Public Responsibility in Medicine and Research (PRIM&R) and the Research Administrators Certification Council (RACC) offer credentials following the assessment-based certificate model. PRIM&R awards the Certified IRB Professional (CIP[®]) designation. The exam is offered twice per year at testing sites around the world. The PRIM&R website offers a Body of Knowledge/Content Outline, Exam Resources and References, and CIP Handbook. There are study groups on Facebook and Linked-in, along with a 75-question practice exam available for purchase (<https://www.primr.org/certification/cip/>). The RACC offers three examinations: Certified Research Administrator, Certified Pre-Award Research Administrator, and Certified Financial Research Administrator. Each exam is offered twice annually. The website offers a Candidate Handbook, Body of Knowledge, Exam Application and Online Practice Test for each exam. (<http://cra-cert.org/>)

The International Coach Federation (ICF) offers Associate, Professional and Master Certified Coach designations for academic life coaching, each of which require training, mentor hours, logged coaching hours, and a knowledge assessment (<https://www.academiclifecoaching.com/certification/icf-international-coach-federation/>). The National Tutoring Association (NTA) employs a professional certification process, requiring transcripts, proof of practical tutorial hours, completion of NTA certified training, and two letters of recommendation from students, colleagues, peers and/or supervisors (<http://www.ntatutor.com/certify.html>).

Several professional associations in the Student Affairs arena have explored certification, but ultimately opted for self-assessment. The American College Personnel Association (ACPA) appointed a “Credentialing Implementation Team” in 2012, but we did not find evidence that they moved forward with a professional certification. In collaboration with NASPA (Student Affairs Administrators in Higher Education), the association jointly published a set of rubrics for professional competency areas in 2016 (<http://www.myacpa.org/professional-development-opportunities>). Similarly, the National Academic Advising Association (NACADA) explored certification in in 2011 (<http://www.nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Steps-to-Advisor-Certification.aspx>) but currently promotes a set of Core Competencies for institutional and individual self-evaluation (<https://www.nacada.ksu.edu/Resources/Pillars/CoreCompetencies.aspx>). (<http://www.myacpa.org/professional-development-opportunities>). Similarly, the National Academic Advising Association (NACADA) explored certification in in 2011 but currently promotes a set of Core Competencies for institutional and individual self-evaluation. The professional association most closely related to AALHE is the Association for Institutional Research (AIR). AIR does not explicitly credential IR professionals, but the organization has published a “Statement of Aspirational

Practice” that highlights professional development, advocates for chief-level leadership of data strategy and resources, and includes an action plan for institutions to create their own internal conversations about building IR capacity available at:

(<https://www.airweb.org/Resources/ImprovingAndTransformingPostsecondaryEducation/Pages/Statements-of-Aspirational-Practice-for-Institutional-Research.aspx>).

What model is right for AALHE? As assessment professionals, the assessment-based certificate model is intuitively appealing. However, large-scale testing would require a significant infrastructure and likely a commercial partner. Stackable credentials, such as digital badging, would likely be more easily administered. Moreover, the professional certification model would accommodate the many training opportunities we have identified in the existing landscape. Over the coming year, the Assessment Certification Sub-Committee will explore the model that best fits the association’s needs and resources.

Conclusions and Next Steps

To better inform our next steps as a subcommittee, we utilized Poll Everywhere to ask our conference session attendees the following questions:

1. What conferences, workshops, or other events do you know of that provide training in assessment knowledge, skills, best practices?
2. What are your current needs for assessment training?
3. What knowledge and skills would be useful to you in the future as you develop assessment plans and activities in your setting?
4. What type of certification model is right for AALHE?
5. For which of the following levels should we provide separate certification [entry-level/assessment specialist; non-assessment professionals (e.g. deans and department chairs); assessment leadership]?
6. What amount would you be willing to pay for certification?
7. Which option would you prefer for duration of the certification?

For the most part, the training opportunities noted by attendees aligned with the categories identified by the subcommittee (e.g. regional accreditors, professional organizations, and conferences). The responses to both current needs and future knowledge and skills centered on data analysis, best practices in assessment, and awareness of the field of assessment as a whole. In terms of the specifics of a possible certification program, 63% of respondents (n = 13) favored something akin to badging that would be completed in a more institution-style setting (57%). Respondents felt that certification should particularly be provided for entry-level personnel (41%) and assessment leadership (29%) (n = 17). Finally, the general consensus was that attendees would be willing to pay around \$500 for the certification.

As we move forward with exploring a certification program, we remain cognizant of two additional and important points raised during the conference session: articulation of who we are as assessment professionals and ensuring access to the certification. Attendees stressed the need to identify the knowledge and skills needed by assessment professionals, and to use these as the backbone for the program curricula. Attendees also stressed the importance of mitigating cost as a factor that would prohibit participation, noting that the schools that would benefit most from these resources are often the ones least able to financially support professional development for employees.

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