**Association for the Assessment
of Learning in Higher Education**

AALHE

PROMOTING ASSESSMENT FOR LEARNING

2017 CONFERENCE PROCEEDINGS

David Kirk Dirlam and Fashaad Crawford, Editors

Introduction to the AALHE Proceedings for 2017

David Kirk Dirlam

This year's Proceedings included a record number of submissions, which we hope will continue to grow for future conferences. A text analysis of the abstracts revealed that they loosely fit into the following four categories:

1. assessment across the institution,
2. assessment of critical thinking,
3. processes for using learning outcomes, and
4. engaging faculty through assessment report evaluation, protocols, and inter-institutional communities of practice.

In the first group of papers, Kathleen Gorski and Margaret Stemler helped to address the need for broad institutional emphasis on learning using program review. Catherine Wehlburg, Susan Perry and I applied it to our proposal to create an AALHE Database of Learning Indicators. Elizabeth Olowabi surveyed a wide variety of methods in her call to use multiple approaches. Catherine Wehlburg provided the broad view of how to incorporate the mission, vision, and values of an institution into the assessment planning process.

The second group of papers focused on the important topic for general education of the development of critical thinking. All three papers showed methods measuring the development of this complex skill. Donald Jones applied the philosophical roots of critical thinking to generate some fascinating measurements. Starting with the philosophical emphasis on understanding people's claims by detecting and classifying them, he identified some countable characteristics of student writing that indicate the development of critical thinking. The papers by Sebrina Palmer-Nevins and Moreen Carvan and by Janet Theil continued the theme of finding characteristics to count that indicated development. Both modified the VALUE rubrics using Elder and Paul's theory of critical thinking development. Palmer-Nevins and Carvan used such counts to provide important data to their institution about needed changes.

The third group of papers addressed processes for using learning outcomes to improve higher education in general. Penny Bamford and Valerie Landau used data visualization to help move their faculty to make more effective use of assessment data to improve teaching and learning. Erin Crisp also used visualization with an "Outcomes Assessment Template" to stimulate change. I described how to identify knowledge development with modes of practice and using this to create real-time developmental education. Erin Hugus and Mary Tkatchov presented an interesting course-design approach that helped to change the traditional coverage emphasis into outcomes-based designs. Kelly McMichael added further to this higher-education design thread by showing how assessment committees could streamline the work of assessment offices.

The fourth group of papers focused on faculty. Fiona Chrystall developed rubrics for evaluating student learning outcomes assessment reports. Nancy Shane created an evaluation by identifying seven purposes of assessment and then creating methods to score progress on each purpose. Her results showed how such scoring was useful to faculty. Bridget Lepore showed how to use protocols to manage faculty assessment meetings. Yao Zhang Hill added methods for identifying and supporting grass roots leaders among faculty members. Errin Heyman, Bert C. Christensen, and Carole Huston brings closure to the four themes of this year's Proceedings by showing how multi-institution communities of practice can help faculty make the learning of their students more visible to all stakeholders.

On a procedural level, this year's Proceedings marked the first time that the editors shared editing responsibility with the authors. Fashaad Crawford and I focused primarily on ensuring that the submissions conformed with APA style. This supported the readability of the entire document, which authors may attend to more in the future as the expectation becomes better established. Thanks is also due to Jamie Wigand for formatting assistance.

Program Review: A Systematic Model of Outcomes Assessment and Program Improvement

Kathleen Gorski[1] and Margaret Stemler[2]

Abstract

This paper focuses on the implementation of a systematic process using research based best practices for academic program review (APR) created to align strategic planning, budgeting and assessment processes. The process replaced a paper report completed and used for compliance purposes and turned it into an efficient annual data driven practice of faculty reflection and continuous improvement. The inclusion of assessment provided a focus on outcomes for student learning. The review process became a practice of reflection, goal setting and achievement in accordance with the mission and vision of the university. Faculty engagement improved when APR was utilized to serve program and institutional needs and ultimately improve program health.

Keywords: program review, academic assessment, faculty engagement, systematic improvement process

Academic Program Review

Academic program review should be an essential element for continuous improvement at an institution of higher education (Bresciani, 2006). Unfortunately, many institutions complete the process for compliance purposes only and do not use the process as a means of reflection, a measure of academic program quality, or continuous improvement.

As administrators at an urban open access institution serving at risk students, we found ourselves in an urgent position to revamp the academic program review process. In 2011, based on external factors, our institution faced financial exigency. We were forced to critically examine the viability and sustainability of our academic programs and quickly realized that we did not have the information needed to make important decisions.

Program review at our institution was previously conducted on a five-year cycle where the faculty would work months on producing self-evaluation reports. The reports were typically thirty-pages or longer and focused on required topics of quality, teaching and scholarship, community engagement, service of operational excellence, and financial viability. How then could an institution with such a comprehensive review process find themselves in financial exigency? What we discovered was the process looked good on paper but was inefficient, limited

---

[1] Waubonsee Community College
[2] National Louis University

on evidence and data, and not market relevant therefore, it could not be effectively used for making decisions about program viability or sustainability. It became clear a new program evaluation system was needed.

Creating a New Process: Using Best Practices of Program Review

During the 2012 academic year, the work began on developing an academic program review process. The development team grounded their work in research from books, peer reviewed journal articles and conference presentations to identify external best practices of academic program review. The goal was to include as many practices into our process as possible. Based on the research conducted, the following practices were identified as effective for continuous improvement in an academic program review (National Louis University, 2014):

- Data points regarding student success
- Student learning outcomes
- Occupational outlooks
- Analysis of the program's curriculum
- A review of faculty teaching quality
- An alignment with the budgeting process
- A review of the alignment between program mission and institution mission
- A review of the program's alignment with accreditation standards
- Input from employers in the satisfaction of hiring graduates
- A review by external experts

A faculty council and administrators reviewed and selected practices that aligned with the desired direction of the institution. All identified best practices were included for the pilot year with the exception of the program alignment with regional and specialized accreditation standards and the review by external experts. These were not included because an effective process for external accreditation already existed and we wanted to test a new process prior to conducting an external review.

As a result of this work, a high-level academic vision was created to guide the institution towards a vibrant economic future. Key aspects of the vision included becoming a data-informed institution and assuring all programs were market relevant and driven. The new academic review process included components of the original review process: a focus on a culture of quality, innovation in teaching and scholarship, community engagement but were updated to reflect the vision and best practices.

Following our vision and strategic plan, the data became integral for academic program reviews. Providing access to data along with benchmarks was a new concept for the institution. Previously, faculty requested data without any understanding of where their program fit into the college's and intuition's portfolio of programs. It was decided that the following data would be

included in the first academic program review cycle: enrollment trends, average class size, retention rates, length of program, percentage of program enrolled online, graduation rates, graduate employment outcomes, teaching and learning quality via IDEA course survey results, student satisfaction via Noel-Levitz results, and program revenue and margins. Comparison groups and benchmarks were identified.

The review was divided into four parts:

- Section I. Program Effectiveness: Program metric data and comparison data
- Section II. Learning Outcomes: Assessment results and planning
- Section III. Program Impact, Rationale and Differentiation:
  - Academic research
  - Service to the community
- Section IV. Opportunity Analysis and Planning:
  - Programs strengths and opportunities for improvement
  - Actions to leverage opportunities
  - Actions alignment to the strategic plan
  - Resources needed to implement actions-budget alignment

During the pilot year, we quickly learned that some of the ways we were tracking data was not as efficient as it could be. We also learned that our tracking of graduate employment outcomes was not effective. These identified areas were topics of future action projects for improvement.

Program Health Approach

As an outcome of the financial challenges that occurred in 2011, several programs that had very low enrollment or did not align with the university mission were eliminated. This resulted in a reduction in workforce of staff and faculty. Faculty were worried about future eliminations and how the new system would be used to make these decisions. For the new process to be successful regarding faculty buy-in, it was important for it to be equitable, meaningful, and support continuous improvement rather than program elimination. Also, it had to have value for the faculty, otherwise the review would be perceived as more work for compliance. The following approach was used to achieve this outcome.

Finding a way to define program reviews as it relates to our purposes was not easy. Definitions were difficult to articulate because of the underlying fear of losing programs and faculty. Ongoing conversations in the University Curriculum Council (UCC), the committee responsible for revising the program review process, revolved around words such as quality, distinctive and effective. All UCC members wanted their programs to be of quality and deemed distinctive and effective. Two entire meetings were spent discussing these three words. It was difficult to find consensus among committee members on a definition due to the various nature

of each program. That all changed when a faculty member suggested that none of the words mattered unless our programs were deemed healthy. The concept of program health was the grand slam that got everyone into the game.

Program health changed the focus of the review from a series of complementary verbs used to evaluate each program to a single focus on overall health. This changed the perception of ranking programs for the purpose of elimination to identifying unhealthy programs with the goal of providing resources for improvement. This refocused the way program health was applied in the rubrics used for the review process.

The original rubric had four categories: Distinctive, Effective, Acceptable and Needs Improvement. Although these categories are acceptable for use in a rubric, we could not easily distinguish one from the other. As noted above, several meetings were spent analyzing the meaning of the words. The concept of program health redefined our rubric category descriptors to only three areas: Excellence, Competence and Concern. There was no difficulty differentiating the criteria and performance for each area.

Development and Implementation of the New Model for Academic Program Review

Once the four components of the review and quality indicators were identified in the rubric, the process including the timing, due dates, form, and feedback mechanism needed to be developed. We recognized the necessity for the process to be relatively easy, efficient, not too time consuming for faculty, and implemented in such a way that it became part of the campus culture and connected to our institutional planning and budgeting cycle.

Timing and Completion Dates

The institution decided academic program reviews would be completed on an annual basis and build cumulatively to complete the five-year review report. The annual review model was created in agreement that to be systematic and part of a consistent workflow, the process could not wait every five years as in the past. A one and done five-year review was deemed a disruption in annual work and did not produce timely information. In addition, a tuition-driven and student-centered institution could not afford to wait five years to assure programs expected results were produced. The annual process provided the space to articulate assessment and program goals to work on for the year. Each review required a description of the results of assessment and program goals from the previous year. This was an important step to close the loop on goals for continuous improvement. The process also added much needed accountability for faculty and the college administrators.

Each year, program faculty would be expected to complete an annual update report or a five-year review report depending on the established five-year review schedule. The reports were identical. The difference was that during the fifth year of review, an analysis of trend data and a presentation to a shared governance council comprised of administration and elected faculty

members was required. The presentation needed to include strengths, challenges and progress on goals and student learning assessment from the previous five years. The council reviewed all submissions prior to the in-person presentation and provided valuable peer feedback. Annual report updates were submitted to the dean for review and comment.

A high-level analysis of all institutional due dates was conducted to determine the timing of the academic program review cycle and information gathering without adding more work on top of existing deadlines. We also needed to align the new process to existing outcomes assessment, planning, and budgeting cycles. This review cycle is captured in Figure 1

Sepember
Metric and university assessment data provided to programs via the Share Point site

October-November
Review data and set goals to prepare for the annual update report /5-year review due December 1

December
Review and update reports due
5-year programs prepare for spring review presentation

January -June
Report feedback provided by administration and /or peers.
Program continue working on annual goals and assessment

Figure 1. Program Review/Annual Update Process Map.

We found the end of the fiscal and academic year, June, was overloaded as many reports were due at this time. The College of Education had an existing assessment cycle ending in October and the institutional planning and budgeting began in March. Therefore, it was decided that an end of fall term due date best fit the cycle. The date agreed upon was December 1st for the annual Academic Program Review reports to be submitted by the program faculty. This would give faculty an entire term, fall, to complete the report. The timing would enable the College of Education to use the existing assessment reports as evidence and all programs could identify resources needed to implement action steps in time for the planning and budgeting cycle for the following year. The December 1st deadline also gave deans two months to review reports and provide feedback by the beginning of February. Starting in February, faculty reviewed the feedback with academic leadership in each college to work on program and individual goals, action steps and workload for the following year.

Data Provided

In the previous review process, faculty were required to request data from Institutional Research (IR). This was time-consuming for faculty and created inconsistency in the data reviewed and evaluated. In the new system, we changed the formula from requesting to providing a set of program data for faculty use. Also, a change was made to the way data were shared with program faculty. In the past, the information was emailed to the deans which then was forwarded to the program chairs. From there, the program chairs needed to email the information to the faculty in the program. This chain was inefficient and in many instances not successful in getting the information to the faculty involved in the review process.

In the new process, the solution was to create a shared web site for the program review process accessible to everyone involved. Each program had an individual folder where metric, marketing and university assessment data were provided. Faculty were encouraged to use the folders for program assessment and other related review activities. Reports were created by IR and the Office of Assessment in the summer to prepare for the fall term. When faculty returned, the data were uploaded and ready for their review in one reliable place from anywhere with an internet connection.

Web Form

Another area that required improvement in efficiency was the collection, storage, and accessibility of the program review reports. The institution contained a collection of shelves dedicated to storing binders from previous five-year reviews. The shelves were graveyards as paper documents were not easily available and the reports were rarely viewed again except for use in the following five-year review cycle. The new process needed to address access issues. It was evident that a paper process would not work.

The solution was a web form created internally to meet the identified needs. The web form changed how programs were reviewed. The institution wanted the process to be manageable and collaborative. Creating a web form along with pre-populating the data in the form, freed up administrative time so that the review could focus on collaborative completion. The intent was for faculty to review and reflect upon the data and key measurement indicators together in order to share faculty perspectives. It was more important to discuss the data with colleagues and provide a succinct group reflection than create a lengthy scholarly reply. The form also allowed the flexibility to upload other documents. This eliminated redundancy as other support documents could easily be attached to the web form and data did not need to be re-entered. For example, programs in the College of Education report assessment results to external accreditors in October. Instead of requiring another form to be completed, faculty could simply attach the accreditation report to the web form.

The efficiencies of the web site and web form allowed faculty to complete the review of the data, reflection and collaboration to complete the annual program review in approximately two-four hours.

Feedback to Program Faculty

Consistent with most institutions, faculty and administration time resources are scarce and many times feedback is not provided after reports are submitted. There seems to be very little time devoted to closing feedback loops. A key component of the new academic review process is to provide faculty feedback on their report and identify where action should take place.

In the new process, the program faculty submit their finalized annual reports using the web form and the reports are received by the dean of the college. After the reports are sent, the deans and academic leadership teams review them with a focus on the key performance indicators, identified strengths and weaknesses, and plans for the following year. The deans present their feedback via the web form and in meetings with program faculty. The five-year program review forms once submitted are copied to the dean, provost and UCC members in preparation of a comprehensive program faculty presentation. Although we assumed the feedback would be meaningful to faculty, we did not realize just how meaningful. Program faculty wanted to share their ideas and know that they were being heard by administration. This is one of the most valuable features of the new process for faculty.

Feedback Loop and Action Steps

The annual reports provide an opportunity for the deans and academic leadership to take an in-depth look at each program's health as well as examine the academic portfolio from a higher level across programs, departments, levels, and colleges. This higher-level analysis has resulted in identification of trends, themes and resource allocation issues. In some cases, this has prompted actions where issues could be immediately addressed. For example, many programs

identified students were underprepared in writing to complete graduate level coursework. An individual program was spending time and resources to create a course specifically to address the writing issue using program level funds. Academic leadership recognized this was a need across many programs and used institutional funds to create a writing course for all programs affected instead of just one program.

Planning and Budgeting Cycle

The annual program review process was designed to inform college and institutional planning and budgeting. The college leadership teams use the information and action items from the annual reports and embed these, as appropriate, into the college's plans for the following year. The deans evaluate each program's action plans and resource requests especially as they align or support the institution's strategic plan and priorities. These requests result in budget allocations for expenses such as adding faculty positions, professional development, curriculum, and marketing materials. After the college planning process is completed, the initiatives, actions and salaries are incorporated into a college budget that is submitted for review to the institutional leadership. At the institutional level, the colleges' plans and budgets are evaluated based on institutional priorities and available funds for the following year. Figure 2 illustrates the system planning and budgeting cycle.

Assessment is a signature component of the annual program review process as this is a way to ensure the focus of continuous improvement at the institution is centered on teaching and learning. The institution embedded the newly formalized assessment systems into the annual review process so they would be positioned as an integral part for review and continuous improvement. This was a way to elevate the importance of student learning outcomes, make the data transparent, and provide space for faculty to collaborate on teaching and learning. As faculty have direct impact on student learning outcomes, this was also a way to assign accountability to faculty for recommending improvement actions.

Background

As background, assessment of student learning was not occurring consistently across all programs and in many cases, not at all. Programs with external accreditation conducted assessment cycles, as required, and were making improvement. Most programs without external accreditation did not assess program level outcomes. In addition, a system to measure university-level outcomes assessment was loosely documented but never implemented. The next section describes the development of the university-level assessment system and how it was integrated into the program review process.

Figure 2. System Planning and Budgeting Cycle

Incorporating Assessment into the Annual Program Review Process

Assessment is an integrated part of classroom teaching where summative and formative assessment occurs naturally. Although not aggregated across courses, a faculty member can assess/gauge the extent a student in their course meets learning outcomes, and change to alternative or additional methods if necessary. Assessment at a college or university level requires dedicated time outside of the classroom and appears to take away from faculty course and research responsibilities. Inherently assessment is of value to faculty because of their investment in student success. The problem is that time is difficult to find with workloads requiring multiple course sections in addition to research responsibilities. How do you bridge the

gap between faculty interest in learning outcomes to improve curriculum for student success and the time it takes to create the aggregated data for evidence?

University Assessment System

The goal for the institution was to find a way to provide faculty valuable college level assessment data to encourage meaningful conversations for curriculum improvement. University level assignments designed for written communication and critical thinking were embedded into program curriculum across the university. The Office of Assessment retrieved assignments from the learning management system, removed all student and faculty identifiers and prepared the documents for assessment. The University Assessment Committee (UAC) comprised of faculty, selected the Association of American Colleges and Universities Value Rubrics to assess assignments. Each assessment cycle began with a norming session. All assignments were assessed twice. If assessment scores for one artifact varied by more than one point on the 5-point scale, it was reentered into the next assessment cycle for a third read and final score. The Office of Assessment managed the data to provide to faculty for the annual update and five-year review process.

The university assessment cycle was consistent with the goal of creating a manageable and efficient process. It also aligned with the values of the Office of Assessment to create the least amount of work for faculty and a seamless embedded assessment process for students.

University Assessment Review Process Map

University outcomes are assessed according to the established assessment plan. The plan alternates the assessment of each outcome to provide programs are at least one full academic year to review results and implement changes prior to the next scheduled assessment of the reviewed outcome. Figure 3 shows the annual assessment cycle.

Program-Level Assessment

Program assessment was competed independently from the university process. Due to the differences in external accreditation a program assessment template was provided but not required. Program outcomes assessment completed in accordance with external accreditation standards followed the accreditor's timelines. The latest assessment results, reflection and action steps for accreditation could be attached to the annual update or 5-year review web form. Programs that did not have external accreditation were encouraged to follow an assessment cycle in line with program review.

Conclusion: Positive Outcomes

The new academic program review process resulted in many positive outcomes. At the institutional level, it produced an annual system committed to continuous improvement and provided alignment with existing planning and budgeting cycles. Additionally, the annual review process created transparency for data and key program performance metrics across the institution. This process has prompted meaningful conversations between administration and faculty in evaluating the institution's academic portfolio of programs.

September
University assessment reports are released to programs on the Share Point site

October - November
Programs review assessment result to prepare for the annual update report /5-year review

December
Programs reflect on assessment results and committ to an improvement plan to in the annual update report/5-year review

January -June
Programs prepare for articulate changes (new/refined assignments) in preparation for the next assessment cycle

Figure 3. Assessment Cycle

At the programmatic level, the focus on program health changed the emphasis from program elimination to a positive approach of continuous improvement where faculty input is valued. This allows for the prioritization of academic-related initiatives and program-level actions at the college level and a faculty feedback mechanism to request resources. Faculty involvement has made the process more collaborative and less top down.

Also, at the faculty level, program-level actions and goals can be incorporated into individual faculty workload plans and goals for the following year. This has encouraged faculty buy-in and accountability. Most importantly, students are the ultimate beneficiaries as the annual program review process is concentrated on improving academic programs and the quality of teaching and learning.

References

Barak, R. J., & Mets, L. A. (1995). Using academic program review. San Francisco, Calif: Jossey-Bass.

Barak, R. J., & Sweeney, J. D. (1995). Academic program review in planning, budgeting, and assessment. In R. J. Barak & L. A. Mets (Eds.), Using academic program review (pp. 3-18). San Francisco, CA: Jossey-Bass Publishers.

Boothe, B. (2002). Linking assessment, strategic planning, and budget planning. (Doctoral dissertation). Lynchburg, VA: Liberty University.

Bresciani, M. J. (2006). Outcome-based academic and co-curricular program review: A compilation of institutional good practices. Sterling: Stylus Publishing.

Germaine, R., Barton, G., & Bustillos, T. (2013). Program review: Opportunity for innovation and change. Journal of Research in Innovative Teaching, 6(1), 27-33.

Hoey, J. J. (1995). Organizational factors in program review. In R. J. Barak & L. A. Mets, (Eds.), Using academic program review (pp. 37-48). San Francisco, CA: Jossey-Bass Publishers.

National Louis University. (2014). Faculty Resources-Academic Planning Handbook. Retrieved from National Louis University: www.nl.edu/media/nlu/downloadable/provost/academic-planning-handbook-revised-09-01-14.pdf

Proposal to Create an AALHE Database of Learning Indicators (ADLI): A Showcase Presentation

David Kirk Dirlam[3], Catherine Wehlburg[4], and Susan R. Perry[5]

Abstract

All regional accreditors require institutions and program to define learning identifiers, such as outcomes, competencies, goals and objectives. Nevertheless. there is currently no way to discover or research the learning identifiers used across the nation. This showcase presentation proposed to remedy this data deficiency by creating a national AALHE Database of Learning Indicators (ADLI).

Keywords: Outcomes, competencies, goals, objectives, learning indicators, institutions, programs, national database

This proposed project is to create, classify, summarize, and index a database of higher education learning identifiers. To reach this goal answers to three research questions are needed:

- How can the identifiers of learning of higher education institutions and programs be organized for universal access?
- How do they compare across time, regions, institutional types, and specific programs?
- How does their current use in higher education practice, research, and policy compare to their use when summarized and indexed for public access?
- What methods can be developed to classify Learning Identifiers based on quality of the description of learning?

In its 2002 statement of the Fundamentals of Accreditation, the Council for Higher Education Accreditation (CHEA) wrote

> Accreditors are keenly aware of the heightened emphasis that is being placed on student learning outcomes. Governments, students, and the public all want evidence of student learning outcomes in quality reviews of institutions. With that said, the measures and the lexicon we use with respect to student learning outcomes are as diverse as the topic. (p. 9, para. 19).

All regional accreditation agencies and most of the specialized accreditation agencies require their members to create learning identifiers (such as outcomes, competencies, goals, and objectives). Yet the diversity of the lexicon has greatly increased since the 2002 CHEA

---

[3] Fuquay-Varina, NC
[4] Texas Christian University
[5] Kent State University

statement. Although this has allowed for a greater variety of learning, it also has brought debilitating confusion to learners, teachers, institutions, accreditors, and policy makers. While some attempts have been made to identify conventional, disciplinary categories of learning indicators, they have often started by looking at what "should be" rather than looking at what is already being used.

Importance of Pursuing the Project Now

This confusion of learning identifiers comes at the especially difficult transformation in education, work, and society that is resulting from the remarkable and continuing surge in Artificial Intelligence. The impact of this surge generally on society and specifically on education has been thoroughly documented by the National Academies Press in its recent (Committee on Information Technology, Automation, and the U.S. Workforce. 2017) release of the book-length report called *Information Technology and the Workforce*.

One remarkable highlight of the confusion about learning identifiers emerged at the highest public level, the U.S. Department of Education. The Department produced a 10,000 word document called *Amendatory Language for Proposed Regulations as Negotiated,* which mentioned "learning" on only one of its 54 pages, "objective" only once and never used the terms "outcome", "competency", "goal", or their plurals. The entire 432 page Higher Education Opportunity Act never mentions "learning outcome(s)" and only mentions "competency(ies)" once each for foreign language education and early childhood educators.

A database of learning identifiers at the post-secondary level would generate the improved transparency of higher education that federal and state governments seek. Even though government and institutions justify their requirements to publicize learning identifiers in terms of accountability, they measure accountability by substituting weak proxies such as job placement and student satisfaction surveys. Such proxy measures fail to direct learning with any specificity or immediacy. Learning identifiers, in marked contrast, directly motivate and focus learning. As Wehlburg (2008) observed "Assessment across the institution provides opportunities for the identification of goals and outcomes and has a powerful potential to transform student learning, academic programs, and institutional practice." (p. 132). Consequently, they are the cornerstones of effective higher education assessment and learning.

Learning identifiers describe for students and the public what is expected of learners. More than a million peer-reviewed articles have been written just in this century about the value of learning identifiers for learning. Thus, differences of such expectations between institution type, level, and location affect the value added of educational experiences and direct learning research. Yet no effort has been made either to collect or organize the massive variety of written statements of them. The statements used to identify learning remain hidden inside isolated institutional program descriptions, disciplinary accreditation sites, and course syllabi. A national database of post-secondary learning identifiers would provide a clearer focus for individual learners, higher education research, and policy makers.

The purpose of this proposed project is to facilitate AALHE in developing a new learning research tool that involves maintaining, analyzing, and reporting on a national database of learning identifiers for use by educational stakeholders, including policy makers, institutional administrators, program designers, instructors, the public, and above all, faculty and students. The database would be analyzed for the distribution of learning identifier clusters by Carnegie type, geographic location, and program type as well as changes in such clusters over time. Two layers of reports would be generated: one for researchers, educators, and mid-level policy managers, who seek to apply the results to their work, and another for members of the general public, who focus on personal applications.

We also propose to determine a way to identify "good" and "well-written" learning identifiers and provide those. There are many learning identifiers for any given category of learning. And, some of these are written in clear, meaningful, and understandable language, while others are not.

Special Qualifications that AALHE Brings to the Project

AALHE is a nonprofit, 501(c)(3) corporation devoted to the assessment for learning in higher education. One of its primary strategic goals is to "lead and advocate for good and ethical assessment practices to external stakeholders including become a stronger voice at the local, regional, and national levels for assessment in higher education." (retrieved from http://www.aalhe.org/page/Mission_Statement, August, 2017). The mission and prominence of AALHE places it in a unique position to collect descriptions of identifiers of learning from all levels of higher education and all types of programs into a single database.

AALHE has several tools to facilitate this project. It manages the ASSESS listserv, which at over 1,100 subscribers reaches the broadest community of assessment professionals in North America. It also has a sophisticated website with extensive survey capabilities. Using it will enable the project managers to collect not only the identifiers, but also, important additional data from respondents for supporting applications, such as the institution, email address of the respondent, program name, identifier degree level, date of submission, last change date, and reason for change. In addition, it allows reports to be made available based on a log-in survey that collects knowledge mobilization data from report users such as their email, organization, a check of intended use for research, policy, or personal, and an optional question for description of use. Such data enables study of the changing impact of the database over time. Finally, the AALHE board and active membership include nationally recognized data and text analysts with extensive database analysis experience.

Relation of the project to the AALHE mission

The AALHE mission is provided below:

AALHE is a professional association for assessment practitioners at colleges, universities, and higher education support organizations. It provides resources and a forum to support assessment practitioners' professional development and the research, documentation, open discussion of issues, strategies, policies, and processes associated with the use of assessment to improve student learning and institutional effectiveness in fostering student success.

Our association supports the generation of theory and information about effective assessment.

(retrieved from http://www.aalhe.org/page/Mission_Statement August, 2017).

At the June, 2017 meeting of the AALHE Board of Directors, the last sentence was added to the mission and a corresponding Knowledge Development Task Force was created. The database of learning identifiers would be the first major action of this Task Force.

Other organizations to be involved and their contribution

To be most effective, the project would not only need to collect learning identifiers from diverse programs and institutions, it would also need to develop summary reports based on at least annual analysis. Institutions that contribute data would be on a priority list for receiving the reports. These reports would highlight changes in the database and its use as well as discriminate those due to multiple factors such as (1) the growth and sustainment of the database itself, (2) the breadth of both contributors and users from diverse institution types, regions, and cultures, and most important (3) changes in the disciplines and methodologies of the contributions. Effectiveness would also depend on being able to report on and discuss the results at both professional and public settings ranging from social science and accreditation conventions to public forums on higher education.

The Survey Tool

This survey is for learning identifiers such as outcomes, competencies, and objectives of programs at all levels of higher education. Those who submit identifiers will be included on the mailing list of those who receive the annual reports. See the Appendix for details.

Data Analysis

Data analysis will begin with a single level of a discipline. Default valued of disciplines are selected from the Wikipedia entry under "List of academic fields" (retrieved August, 2017). Default values of degree levels are selected from those specified by the U.S. Department of Education page on higher education structure (retrieved August, 2017).

Primary analysis organizes the learning indicators for each level of each program across institutions. The trigger to begin primary analysis once the ADLI survey has opened is when the database reaches 30 institutions for a level of a discipline. Analysis should be done annually at least for the next three years.

The first step in primary analysis using the N-CRIX method described by Dirlam (2017) is to make a list of common root words. A root word is a content word that occurs within any outcome for the level of the discipline but is limited to occurring within 5% to 50% of those outcomes. They exclude function or grammatical words like prepositions, conjunctions, interjections, and helping verbs and have suffixes removed before counting.

Outcomes are next placed in 20 or fewer groups according to the number of root words they have in common weighted inversely to the total number of outcomes containing the root. An analyst makes the final decision when an indicator has similar counts for two groups.

An alternative analysis method would be to group the outcomes according to Latent Direchlet Allocation as described in the open source software page from the Stanford Natural Language Processing Group. The analysts would resolve discrepancies between the two software approaches through consensus.

Once the allocation to groups has been accomplished, the analysts then give a single one or two word title to the group and writes an abstract of less than 40 words to describe it. Primary analysis is completed by adding the outcomes to an ADLI website with a page listing the disciplines and levels analyzed. That page links to each of the <=20 group identifiers for the chosen level of the chosen discipline. Each group identifier then links to all the outcomes assigned to that group. Secondary analysis involves determining if the groups of indicators differ by degree level, regional accreditor, or indicator type.

Analysis would involve three converging techniques for clustering textual data: (1) Latent Dirichlet Allocation (LDA), and two techniques from Dirlam (2017), (2) network clustering through ranked and interpreted connection strengths (N-CRIX) and (3) keyword network deconstruction (KND). After the clusters have been determined and summarized, then counts of each cluster using each of the three text analysis methods for each of the institutional characteristics would be made. Raw data would also include the changing counts of each cluster from year to year for each institutional/program characteristic and counts of read-only access to each part of the database. Primary reports would include the clusters and counts. Other reports would provide models of the changes over time and interpretations of the data.

Funding

Funding for the project could either be through volunteer efforts or obtaining a three-year startup grant. A grant would accelerate the build-up of the database by enabling travel to

conferences to solicit participation. It would also help to fund additional analysis and report writing capabilities beyond those of the volunteer Knowledge Development Task Force.

References

Committee on Information Technology, Automation, and the U.S. Workforce. (2017). *Information technology and the U.S. workforce: Where are we and where do we go from here?* Washington, DC: National Academies Press. Retrieved from https://www.nap.edu/catalog/24649/information-technology-and-the-us-workforce-where-are-we-and

Council of Higher Education Accreditation (2002). *The fundamentals of accreditation: What do you need to know?* Washington, DC: Council of Higher Education Accreditation. Retrieved from http://www.chea.org/userfiles/uploads/fund_accred_20ques_02.pdf

Dirlam, D. K. (2017). *Teachers, learners, modes of practice: Theory and methodology for identifying knowledge development.* New York: Routledge.

United States Department of Education. (2009). *Amendatory Language for Proposed Regulations as Negotiated.* Retrieved from https://www2.ed.gov/policy/highered/reg/hearulemaking/2009/accred-regsnegotiated.pdf

Appendix

Survey Fields for AALHE Database of Learning Identifiers

1. Date (entered automatically by system)
2. Identifier ID (entered automatically by system)

Participant Information:
3. First name
4. Last name
5. Phone number
6. email address (annual report to be sent to this address)

Institution:
7. website
8. State or province (drop down)
9. 5-digit postal code
10. Nation
11. Regional accreditation agency (drop down)

Program
12. Discipline (drop down from Wikipedia)
13. Degree level (drop down from USDE)
14. Program name

15.   Program accrediting agency (drop from USDE)
16.   Type of identifier (drop down with outcome, competency, goal, objective, other)

Identifiers

17.   Identifiers (text must be in English with U.S. spelling):
    Enter the full text of all the learning identifiers for the program separated by a paragraph marker.

Designing Multiple Assessment Methods to Capture the Complexity of Student Learning

Elizabeth Owolabi[6]

Abstract

Learning assessment is a context and culture based process. A sustainable assessment process requires that institutions deliberately establish a clear vision for learning, plan, execute, and be intentional in using assessment results to improve teaching and learning. Assessment of student learning is a two prong approach; one that focuses on meeting the criteria for accreditation and the other has an emphasis on the principles of continuous improvement. The two are not mutually exclusive. The presenter discussed multiple methods of learning assessment to effectively capture the complexity of learning and provide guidelines for a sustainable culture of assessment. Some of these include: direct and indirect evidence of student learning; qualitative, quantitative and mixed methods; formative and summative assessment. Multiple methods of assessing learning are advantageous because the limitation of one method will be compensated for with the use of another method.

Keywords: academic assessment, assessment methods, continuous improvement, accreditation, formative and summative assessment

We live in a complex world and higher education is tasked with the important work of effectively educating the next generation of students to become contributing members of the local, national and global community. As assessment practitioners we are entrusted with the task of quality assurance, which may include reviewing and examining evidence that students are indeed learning and that education is serving the public good. Student's ability to learn and retain information is a crucial part of such quality assurance. Institutions are held accountable by regional accreditors and specialized accreditors on their ability to sustain a commitment to assessment of student learning at the department, program, and institutional levels (Maki, 2010). Institutional commitment to improvement of student learning is an indicator of quality and excellence in education (Maki, 2010).

Learning assessment involves systematic collection of evidence about student learning and analysis of that data to make informed decisions about teaching and learning. Evidence is collected on students' demonstration of their knowledge, skills, attitudes, values and dispositions. Data are analyzed and used to inform decisions on how to improve pedagogy, curriculum and instructional strategies.

---

[6] Concordia University Chicago

Learning assessment is a context and culture based process. A sustainable learning assessment process requires that institutions deliberately establish a clear vision for learning assessment, plan, execute, and be intentional in using results to improve teaching and learning. Institutions are usually at different maturity levels on their assessment journey based on their experiences, challenges they face, and purposes for conducting assessment.

Purposes of Learning Assessment

Assessment of student learning is a two prong approach one that focuses on meeting the criteria for accreditation and the other with emphasis on the principles of continuous improvement. The two are not mutually exclusive. According to the Higher Learning Commission (HLC, 2017) "The Criteria have been designed to seek evidence of continuous improvement on the part of member institutions rather than to define minimum qualifications." Institutions are encouraged to aspire to greater heights to improve student learning. Focusing on quality improvement projects that are useful and meaningful will inadvertently ensure compliance with accreditation criteria. The onus is on institutions to provide evidence of quality assurance that documents excellence in its approach to continuous improvement. This is sometimes referred to as "assessment of learning." In which case, the institution provides credible evidence on how well it is meeting the accreditation criteria and specialized accreditation standards.

Many regional accrediting bodies have continuous improvement pathways for their member institutions. For example, through the HLC Academic Quality Improvement Program (AQIP) member institutions demonstrate that they are meeting the criteria for accreditation they remain true to their missions and are achieving their institutional goals. There is also an ongoing sustainable quality improvement aspect to this pathway.

In order to advance and promote culture of learning assessment, it is imperative that institutions effectively capture the complexity of learning by identifying and designing multiple methods of assessment that will provide credible data for institutional and programmatic decisions. Higher education institutions have generally turned to standardized tests to measure learning, placement tests, achievement tests, etc. Maki (2010) called for the use of multiple measures:

> The limitations of one method stimulate the design or selection of other methods that altogether capture the dimensions of learning. Relying on one method to assess the learning described in outcome statements restricts interpretations of student achievement within the universe of that method. Using multiple methods to assess the learning expressed in an outcome statement is advantageous in several ways (p. 156).

For example, most standardized tests are timed tests and students with a history of test anxiety may not fare well in such test environment. However, by using a different method for assessment such students will be able to demonstrate their learning in other context without the added pressure of timed test. Maki (2010) also called for multiple methods that value the

dimensionality of learning and the diverse ways in which humans learn and represent their learning.

Assessment is an iterative process. Assessment practitioners do not see it as a once-and-done process. For example, Angelo, 1995 (as cited in Suskie, 2009, p. 4) described assessment as a continuous four-step cycle. It includes these four processes:

- Establishing clear, measurable expected outcomes of student learning
- Ensuring that students have sufficient opportunities to achieve those outcomes
- Systematically gathering, analyzing, and interpreting evidence to determine how well student learning matches our expectations
- Using the resulting information to understand and improve student learning

(Suskie, 2009, p. 4)

Gathering and Evaluating Evidence

Following the aforementioned continuous four-step cycle, numerous methodologies are available to assessment practitioners for gathering and documenting evidence of student learning. Some of these include: direct and indirect evidence of student learning; qualitative, quantitative, and mixed methods; formative and summative assessment. These are briefly discussed in the following sections.

Direct and Indirect Evidence of Student Learning

Direct Evidence

"Direct evidence of student learning is tangible, visible, self-explanatory, and compelling evidence of exactly what students have and have not learned" (Suskie, 2009, p. 20). Suskie (2015) further explained that direct evidence is so convincing that critics cannot argue about its credibility. Examples of direct evidence of student learning include the following:

- National Council Licensure Examination (NCLEX) for nurses
- Ed Teacher Performance Assessment (EdTPA)
- Subject specific tests and examinations (Major Field Tests, MFTs) embedded in programs
- Tests that assess general education intellectual skills and competencies (ETS Proficiency Profile, www.ets.org/proficiencyprofile) and the Collegiate Learning Assessment (CLA, www.collegiate learning.assessment.org)
- Student artifacts scored using rubrics (writing)
- Capstone projects or assignments
- Portfolios
- Licensure and certification exams

- Skill standards and competency measures by faculty
- Evaluations of performance in internship and fieldwork

Indirect Evidence

"Indirect evidence consists of proxy signs that students are probably learning. Indirect evidence is less clear and less convincing than direct evidence" (Suskie, 2009, p. 20). For example, graduating seniors' ratings of their own writing as proficient after successful completion of their program. However, a timed standardized test may show a different performance level for the same set of students. The standardized test will be more convincing than the survey. Examples of indirect evidence of student learning include the following:

- Gap analysis (intended outcome and actual learning)
- Assessment of candidate's disposition (professionalism, attitude, timeliness)
- Alumni Survey
- End of course evaluation forms

Qualitative, Quantitative and Mixed Methods

Social Science research methods (qualitative, quantitative and mixed methods) may be used by assessment practitioners for collection, analysis, and interpretation of data on student learning. How does one decide on the most appropriate method for measuring learning, collecting and analyzing data, to make programmatic improvements? The selection of the approach could be influenced by a number of factors; the skills and expertise of the assessment practitioners, resources available at the institution, and the nature of the assessment question(s) or topic. It is imperative that assessment questions align with the methods and provide the most credible answers. Selecting the appropriate method is contingent on the learning assessment questions under investigation. As Maki (2010) discussed "combinations of quantitative and qualitative assessment methods add depth and breadth to interpretation of student learning" (p. 157).

Qualitative Method

Qualitative methods involves the collection, analysis, and interpretation of non-numerical data (mostly narrative data) such as observational notes, interview transcripts, focus group notes or videos, transcripts of video and audio recordings, review of existing documents and records. "The focus of qualitative research tends to be on the quality of a particular activity, rather than on how often it occurs or how it might be evaluated, which is typically the focus of quantitative research" Fraenkel, Wallen, & Hyun, 2012 (as cited in Mertler, 2016, p. 89).

Quantitative methods

Quantitative methods represent data in numerical ways. Creswell (2014) defined quantitative research as "an approach for testing objective theories by examining relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures" (p. 4). For example, student performance on general education skills could be measured using a standardized test. However, statistical procedures may be used to examine variations in student performance by demographic variables like gender, race, and first generation status. Students' performance data may also be measured through rubrics which are aggregated and summarized across course sections with credible evidence of student performance on each standard or criteria. At the programmatic level these course embedded rubrics may be rolled-up as evidence of student performance on specific program outcomes.

Mixed methods

Mixed methods "…involves collecting both qualitative and quantitative data, integrating the two forms of data approaches and data within a single study (Creswell, 2014, p. 4). "…The underlying assumption is that this type of approach to research provides a more complete understanding of research problem than either approach alone." Maki (2010) also affirmed that the "combinations of quantitative and qualitative assessment methods add depth and breadth to interpretation of student learning" results (p. 157).

Higher education institutions are expected to establish retention and completion targets. This is due to President Barack Obama's college completion agenda (c.f., Russell, 2011). United States was lagging behind most industrialized nations on the attainment of college degrees. At the national level, we are asked to significantly increase the number of adults in the United States who have earned a postsecondary credential. Major foundations have provided funds for these initiatives. There is a national movement to increase student success and educational attainment.

Regional accrediting organizations have also embraced the college completion agenda by asking institutions to demonstrate commitment to educational improvement through ongoing attention to retention, persistence, and completion rates. If improving student overall retention and completion rate is a top priority for an institution, how can one measure the attainment of that goal? A mixed method approach might be an appropriate method to use. An institution could collect fall-to-fall retention data for all students and disaggregate data by gender, race, first generation status etc. Disaggregation of retention data using demographic variables and special population status will document demographic variations in retention which may lead to development and implementation of programs targeted at improving retention and completion rates for special population. Such methods, however, are only indirectly related to learning.

Formative and Summative Assessment

Formative Assessment

Formative assessment is administered by faculty in the classroom during instruction to gauge students understanding of knowledge and skills. The goal is to obtain direct feedback from student which can be used immediately to revise instruction. As Mertler (2016) discussed, formative assessment are generally informal and include: observations, questions, and reflections which are useful sources of assessment data.

Summative Assessment

Summative Assessment is administered after a substantial period of instruction. It could be administered following the completion of an instructional unit, at the end of a course or semester, or at the end of the study (Mertler, 2016; Maki, 2010). Maki (2010) described formative and summative assessment as a method along the continuum of learning. Along that continuum, summative assessment records students' progress toward and achievement of institution and program-level learning. According to (Mertler, 2016) summative assessments are formal types of assessment that are scheduled in advance and cover numerous instructional objectives and/or skills.

Regardless of the assessment methodology or approach used to collect, analyze and interpret data, evidence has to be of good quality in order to have credibility and for it to inform the institutional plans, decisions and actions. Suskie (2015) articulated these criteria for evaluating the credibility of evidence of student learning:

Useful Evidence

Relevance and Usefulness

Evidence needs to be relevant and useful to the stakeholders. When asked what measure to use, Suskie (2015) indicated that the best measure should be determined by "Who needs to see the evidence for this unit and why?" (p. 161-162). She further explained that measures should be determined by the decisions that the measures will inform. She urged assessment practitioners not to adopt measures because they were used by others without any relevance to their context or stakeholders. She encouraged practitioners to choose only measures that will be useful to their stakeholders.

Alignment with Key Institutional Goals

What are the strategic goals of that institution? How does this evidence contribute to the attainment of key strategic goals? What is the institution's commitment to student success? Is the institution committed to serving public good? Are resources sufficient to fulfil the mission of the

institution? Is the university deploying the resources appropriately? Is the university effective in meeting its responsibilities including meeting various stakeholder's needs? How do you differentiate the needs of the undergraduate students from the graduate students? What are the needs of your international students?

Reasonable Accuracy and Truthfulness

Evidence needs to be reasonably accurate and truthful. Social researchers accomplish this by addressing the reliability and validity of their instruments.

Reliability is the consistency or the dependability of a measure. If we measure the learning of a group of students repeatedly, the test scores should be consistent from one semester to the next. Having good sample size will also enhance the level of confidence decision makers will have in the data.

Validity is the quality and usefulness of the results. As Suskie (2015) defined it, "validity means that your test, survey, or other measure gives you good-quality information on whatever you are trying to assess" (p. 163). She identified two types of validity as relevant to higher education: *content validity* and *consequential validity*. Content validity refers to whether your evidence gives you meaningful information on your goals. Consequential validity refers to whether the evidence can be used to make meaningful, substantive decisions and solve problems see Pike, 2012, (as cited in Suskie, 2015). These characteristics are the essence of continuous improvement. Suskie (2015) urged practitioners to maintain a delicate balance between quality, dependability, and usefulness of the measures.

Focus on Outcomes, not Just Efforts

Another criteria for evaluating the credibility of evidence is its emphasis on outcomes that is the attainment of goals or progress made towards goals instead of measuring the process of getting to the goals. For example, if a student affairs assessment plan articulates that students will

- Build a personal campus support network by developing productive working relationships with instructors, campus staff, and fellow students
- Develop a reflective approach to learning by practicing the skills of planning, questioning, monitoring progress and refining approaches

These are laudable goals: although we can count the number of relationships students have built with faculty and staff (efforts) what matters the most is the impact of that relationship on student learning and retention. The results of students practicing the new skills of planning, questioning, monitoring progress of their studies and refining their approaches as they advance in their academic career is higher GPA at the end of the semester.

Currency

Currency of the evidence is another criteria used for determining the usefulness of the evidence. Evidence needs to be current to be relevant. Some may ask how frequently does one collect, analyze and interpret assessment data? In some institutions, general education assessment measures are collected annually using standardized tests. These provide internal benchmarks and longitudinal data for trends. At the program level, one should not make a rash decision on curricular changes based on one data point. It is important to use three or four data points before making any comprehensive programmatic changes. Such decisions will be made based on reliable data not just an outlier. If the students are not performing according to the established target, then more frequent collection of evidence might help to show if the initiatives one has implemented are making a significant impact.

Conclusions

Accrediting bodies expect higher education institutions to assure the quality of their academic offerings and student services by demonstrating ongoing commitment to assessment of student learning. Assessment is often seen from two lenses. Assessment of learning with a focus on meeting accreditation criteria and assessment for learning with an emphasis on continuous improvement. The dual assessment purposes intersect and are therefore not mutually exclusive. Meeting the criteria for accreditation will inevitably lead to continuous improvement of teaching and learning, programs, services, planning and decision making.

Learning, however, is very complex and capturing and documenting the complexity of learning require identifying and designing multiple methods of assessment that will provide credible data for institutional and programmatic decisions. Higher education institutions often use standardized tests to measure student learning. The published tests provide national comparative data. Institution can see how their students perform in comparison to their peers. On the other hand, it is challenging for faculty to buy in and use the results of these tests to make changes to the curriculum because they believe the data are not relevant to their context. Many institutions are moving towards authentic assessment in which faculty design real life assignments that are embedded in courses and scored using rubrics. The results of these authentic assessments are more relevant to the institutional context because the assignments are developed and scored locally by faculty members.

A sustainable assessment process thus requires practitioners to use multiple methods including direct and indirect evidence of student learning; qualitative, quantitative and mixed methods; formative and summative assessment for data collection and as sources of evidence for decision makers to have confidence in the results obtained from their assessment methods.

References

Angelo, T.A. (1995). Reassessing (and redefining) assessment *AAHE Bulletin,* 48(3), 7-9.

Creswell, J.W. (2014). R*esearch Design Qualitative, Quantitative, and Mixed Methods Approaches.* Thousand Oaks, CA: Sage.

Fraenkel, J.R., Wallen, N.E., & Hyun, H. (2012). *How to design and evaluate research in education* (8th ed.). Boston, MA: McGraw-Hill.

The Higher Learning Commission (2017). *Resource Guide*, Chicago, IL: The Higher Learning Commission. Retrieved from file:///C:/Users/David/Documents/Articles/HLC%20ResourceGuide_2017.pdf

Maki, P.L. (2010). *Assessing for Learning.* Sterling, VA: Stylus Publishing, LLC.

Mertler, C.A. (2016). *Introduction to educational research.* Thousand Oaks, CA: Sage.

Pike, G. (2012, January/February). Assessment measures: Criteria for evaluating campus surveys. *Assessment Update,* 24(1), 10-12.

Russell, A. (2011) A Guide to Major U.S. College Completion Initiatives. American Association of State Colleges and Universities. A Higher Education Policy Brief. Retrieved July 21, 2017 from http://www.aascu.org/policy/publications/policymatters/2011/collegecompletion.pdf

Suskie, L. (2009). *Assessing Student Learning: A Common Sense Guide*. San Francisco, CA: Jossey-Bass.

Suskie, L. (2015). *Five Dimensions of Quality: A Common Sense Guide to Accreditation and Accountability*. San Francisco, CA: Jossey-Bass.

Designing Meaningful Institutional Assessment Plans: Putting It All Together

Catherine M. Wehlburg[7]

Abstract

Institutions with regional accreditation now have access to a great deal of information about developing assessment plans and many fine examples of general education assessments, academic department assessment plans, and a plethora of student affairs and student support assessment plans. But many institutions are lacking in the overall institutional level assessment planning that goes beyond general education. This session will describe ways to think about what the institution says it will do and ways to incorporate the mission, vision, and values of an institution into the assessment planning process

*Keywords***:** institutional assessment, integration of assessment, inter-institutional collaboration

Given that most institutions of higher education are accredited by regional accreditors and that the regional accreditors have been requiring some form of assessment for over two decades, it is safe to say that most institutions have assessment plans, data, and results for the majority of their academic and co-curricular programs. But many institutions do not look at the overall integration of assessment plans across campus. While most institutions have some type of a Mission Statement, there is often not a corresponding assessment of that Mission. Do students actually do the types of things that the Mission Statement suggests? Do students learn to think critically, solve-problems, and are they life-long learners? Many of those in the field of assessment or institutional effectiveness do not know the answers to these questions because they aren't always a focus of the institution. Part of these may be due to the fact that most of the regional accreditors do not require assessment at the institutional level – only at the program level.

However, there are many benefits to having an institutional assessment plan. The first is that by looking at program level data and rolling that up into an institutional context, institutions can make better use of currently existing assessment data. In addition, this practice leads to collaboration across campus. This collaboration may be focused on a particular institutional outcome (enhanced critical thinking, for example) that may be part of every academic and co-curricular program. This provides the potential for assessment practices that can transform a campus. If faculty from across campus are working with student affairs professionals, for example, imagine what types of improvements could be made on an institutional level.

---

[7] Texas Christian University

But, as many in the assessment field know well, assessment practices are often not viewed as a rich opportunity to grow. For example, Erik Gilbert (2015) stated that "we should no longer accept on faith or intuition that learning outcomes assessment has positive and consequential effects on our institutions – or students" (http://www.chronicle.com/article/Does-Assessment-Make-Colleges/232371). And, Robert Shireman (2016) declared that assessment is "…worthless bean-counting and cataloging exercises" (https://tcf.org/content/report/the-real-value-of-what-students-do-in-college/). And even though many in assessment have worked diligently to focus on high quality data that is fair, reliable, and valid, Douglas Roscoe (2017) actually said that "the dysfunctionality of assessment today starts with the primacy of evidence and data" (https://www.aacu.org/liberaleducation/2017/winter/roscoe). Roscoe went on to suggest that what is really needed for improvement is more dialogue about learning and improvement with the faculty. It is an excellent point that standardized testing doesn't provide a silver bullet in assessment, but it can still be an important tool. Kevin Gannon (2017) suggested that "because we've centered so much of our actual assessment practice around the fetish of outcomes, we've forgotten that the really important part of learning is the process that leads to those outcomes" (https://chroniclevitae.com/news/1785-stuck-in-the-assessment-swamp). So, if assessment focuses on the "assessment" part rather than on the "learning" or the "improvement" part, higher education may be spending a lot of time focused on things that just don't lead to improvement.

The assessment field has a history of authors and leaders who have warned against too tight of a focus on "data" rather than on improvement. Peter Ewell is known for having said "why do we insist on measuring it with a micrometer when we mark it with chalk and cut it with an axe?" If the focus is on the "measures" and not on the improvement, it could be that assessment misses the point. At the 2016 IUPUI Assessment conference, Tom Angelo famously said that "graduating students is not the same as educating students."

And yet, without good quality learning outcomes, appropriate, meaningful, valid, and reliable measures, and resulting data that are important, the field of assessing student learning falls short. We need the measurement theory and we need the pedagogical discussions. Both should inform the other.

Intuitional Mission and Outcomes

There is a great need for an institution's mission, vision, and values statements to align with the institutional goals and learning outcomes. This also means that any strategic planning that is done by the institution should include the mission, vision, and values statements in the initial discussions. These should all align so that it is clear what the intent of the institution is to do. Is the focus on citizenship? Global learning? Problem solving? Leadership? Much of this can be gleaned from within the mission, vision, and values statements. However, no mission statement is "perfect" and measuring these imperfect and usually short statements can leave out important virtues and goals of an institution. Therefore, there is a strong need for a broad-based

understanding of what the institution mission statement actually means and what it would look like if students were to meet the goals addressed.

In 2005, Ross Miller and Andrea Leskes postulated the idea of "levels of assessment." The first level was assessing an individual student within a course. Questions to be asked could include:

- Is the student learning as expected?
- Has the student work improved over the semester?
- How well has the student achieved the learning outcomes?
- What are the student's strengths and weaknesses?

Much of what faculty do is focused on this level. However, Miller and Leskes also suggested that the second level might be looking at a particular student across courses. This is especially significant when determining whether or not a particular student is meeting the goals as outlined by a program. Academic advisors look at this type of assessment on a regular basis. And, questions might include:

- Has the student's work improved or met standards during the program?
- How well has the student achieved the disciplinary outcomes of the major program?
- How well has the student achieved the general learning outcomes of the institution?

Miller and Leskes also suggested that there was an assessment level that focused only on courses. With this level, faculty and department chairs might ask:

- How well is the class achieving outcomes?
- Are the assignments helping student achieve the expected level?
- Are students prepared for subsequent courses?
- Is the course level appropriate?
- Is the course fulfilling its purpose in a larger curriculum?

The level of assessing programs is the next level identified and this is what is most commonly focused on in higher education assessment. Questions to be addressed at this level could include:

- Do the program's courses contribute to outcomes?
- How well does the program fulfill its purposes in the curriculum?
- Does the program's design resonate with outcomes?
- Are the courses organized in a coherent manner?
- Does the program advance institution-wide goals?

And, finally, Miller and Leskes identified a level of assessment that focuses on the institution. They say "institutional level assessment can be undertaken for internal improvement or to meet

external accountability demands. Results of the former can often also serve the latter purpose." Assessment questions at the level included:

- What do the institution's programs add up to in terms of learning?
- How well are the institution's goals and outcomes for student learning being achieved?
- How much have student learned over their college years?
- Does the institution educate students for the workforce? Future?

Therefore, there are many ways to think about assessment that use data in order to make improvements, decisions, and overall enhancements. These are all important – data that aren't valid or standardized tests that are badly administered cannot make for good and meaningful decisions for improvement.

Conclusion

In order to gather good assessment data, there must be faculty, administration, and staff collaboration. If this "culture of assessment" can be built to do that, the next step is to make sure that these data are actually used. George Kuh mentioned at the 2016 IUPUI conference that "change moves at the speed of trust," and this is most certainly true. Change can be difficult but it is essential to at least consider the possibility of change if an institution is going to be guided by assessment results. Knowing that data are not completely free of bias, it is important to recognize the importance of trend data.

Change and improvement are not easy to do, but it is essential that programs and institutions always look for ways to continue to spiral upwards in increasing learning, teaching, and overall institutional effectiveness. Once data from course and program assessment can be linked to overall institutional goals, the entire institution can have the dialogue that is necessary for a learning and improvement paradigm.

Reference

Miller, R. and Leskes, A. (2005). *Levels of Assessment: From the Student to the Institution.* Association of American Colleges and Universities: Washington, D.C.

Assessing Improvement in Critical Thinking in Philosophy

Donald E. Jones[8]

Abstract

The study of philosophy is widely touted as leading to improvements in critical thinking. What is the evidence for this? What would should philosophy students and students of similar disciplines get better at? What can be measured?

Keywords. critical thinking, philosophy, conditionals, reasoning with incomplete information, anaphora, context

I present three novel criteria that can be measured even for large (300-size) classes and that seem correlated with improvements in critical thinking in philosophy and related disciplines. Using our own informal research along with recent research in psychology, philosophy, and the cognitive sciences, I show novel, specific ways that one can measure improvements in critical thinking.

Origin of Ideas

The study of philosophy is widely touted as leading to improvements in critical thinking. What is the evidence for this? What should philosophy students and students of similar disciplines to get better at? What can be measured?

I have been teaching a variety of philosophy courses for years. Because of concern about assessment during the last four years, we collected research on novel ways to measure improvement in critical thinking in students in philosophy courses. We focused especially on large enrollment (300-size) sections of Introduction to Philosophy and a for-majors-only course called Research Methods, a course on how to do research in philosophy and how to write a philosophy research paper. I think we have found a few specific ways to measure some things that we value in which students studying philosophy might show improvement.

The ideas for our research arose by accident, really. Over a Winter break, in December I opened one month early a web course in Ethics in Science and Technology that was to start in January. I posted a note to the then enrolled students that they were welcome to watch while I loaded and configured the materials for the online course. I posted a few discussion topics in case they wanted to have some fun but made clear these were not required nor would online discussion be required in the course.

---

[8] University of Central Florida

To my amazement, by the time the course started in January in an online class of about 75 people, we had over 200 voluntary posts in the Discussion forum. I had been following them and was intrigued by how people seemed to be getting better at how they discussed topics in philosophy. They seemed especially to be making improvement in what we would call the critical thinking aspects of philosophy. To me this was doubly amazing since I had often wondered whether in philosophy we could justifiably claim that the study of philosophy can help improve one's critical thinking skills.

At the end of the course, I and some colleagues from computer science examined the online writings of the students, looking for patterns that we could investigate further. We thought we might have found a few things that were indicators to us that people were getting better at their critical thinking skills. We wrote these up into what we called a Critical Thinking Composite, a list of 11 items that seemed like they were associated with improvements in critical thinking.

I also thought that part of what was significant in the students' seeming improvement was both that they were writing and that it was voluntary. I decided to institute voluntary in-class writings at the end of each class period in my in-person philosophy classes. We would study those samples for evidence of improvement in critical thinking skills. Two classes in particular were important to me: my large (300-size) Introduction to Philosophy and Research Methods in Philosophy. The large Introduction classes were important since we were hoping to justify our belief that you can improve your critical thinking skills from studying philosophy even at the introductory level. The Research Methods class because that was where we taught philosophy majors to do philosophy research and to write a philosophy research paper.

What do we do in philosophy?

To make clear to a more general audience what we study in philosophy, I will use examples from the interactions between philosophy and the sciences. In philosophy, we often look at how a person should understand some claims coming from the sciences.

1. Detect

First, we practice how to recognize philosophy. After learning to recognize philosophy, we work on what to do with it once you've got it. What does philosophy look like? Please consider four examples:

a. Beauty is in the eye of the beholder. (Galileo: Beauty is in the mind of the observer)
b. Color is in the brain.
c. We cannot see stars that no longer exist, only the light from those stars.
d. Mirror neurons explain human empathy.

2. Classify

Each is a statement that seems to suggest some modification in how we might standardly think about something before hearing the latest research from the sciences.

a. The first, was a kind of inference by Galileo from his being impressed with what could be quantified in the world (motion, rest, and so on) and concluding that what could not be so quantified was not in the world, hence, for him, in the mind of the observer. The point for careful thinking is not that he was wrong to conclude what he did, but to notice the inference.

b. Similarly with the second. Many informed people think that it has been established from the facts of vision science that color is in the brain.

c. The third is a kind of inference from an oddity that one can experience at an observatory. Related to what is called the "time-lag argument", it is the puzzle of what you should say if you find out that the star that you are looking at in the telescope blew up 100 million years ago. We are taught to say in such circumstances, "Well, we cannot see what does not exist, so what we see is only the light from the star—we cannot see stars".

d. The fourth is especially interesting because of its connection with neuroscience. The neuroscientist Ramachandran, for example, was exuberant over what he thought was one of the most astonishing discoveries in history. It seemed that the discovery of mirror neurons gave an answer to the puzzling question of how we know about other people, especially what they are feeling and experiencing. To see the grip of these ideas imagine how easy it is to talk yourself into the idea that you cannot know what someone else is thinking or feeling since you cannot, as one says, "be them". A few decades ago, the song "The Diary" took advantage of that seeming fact, when a young man misunderstood what his lover was thinking and feeling even though he had read her diary.

How can the study of philosophy contribute toward improvements in critical thinking?

We noticed 11 patterns that showed up in people's writings about these and other statements in philosophy. Some critical thinking patterns showed considerable improvement, some showed little improvement. I will key on three that showed considerable improvement. They involve several features about philosophical contexts and some straight out grammatical patterns.

1. Grammatical Patterns

The grammatical patterns are easiest to spot. One main one is that, simply put, people used more conditionals as the course went along. We saw more "if, then's", "only if's", "unless's: and so on.

2. Context

Context is obviously more complicated to spell out. What did we want students to note about context?

a. One is that to understand a philosophic statement it can often be helpful to know what it is <u>against</u>. For example, Galileo was against the idea that beauty and color are, as one says, "in the world". He apparently thought that the only alternative was to be "in the mind".
b. A second is to identify and make explicit the reason that motivates the inference. What is the statement in favor of?
c. A third is to place the philosophical statement in that context.

How can these improvements in critical thinking be measured?

I think we have some evidence that what we do in philosophy can contribute toward improvements in critical thinking.

1. Conditionals

The first thing we did with the writings was simply to count the uses of conditionals. They increased dramatically over the term and continued to show that pattern in other courses, especially in the large Introduction to Philosophy and Research Methods courses.

There were subtle results that showed up that I will mostly ignore for now, though an example is that the use of the word 'unless' looks like a single indicator of improved critical thinking skills.

I counted them by hand, but it turns out there is software that can do this for you, so if the writing is done online then it can be measured. This is good for my colleagues, since if they want to assess improvements in critical thinking in their 300-size Introduction courses, they need software.

2. Context

It turns out that there is quite a bit of research in measuring items that are part of context. People in computer science and linguistics have worked on this for some time. For example, there is even an "AI and Context" computing site.

Anaphora

Some context related research that we found tantalizing for studying improvements in critical thinking in philosophy is some work pinpointed by the philosopher Saul Kripke in his article on "Presupposition and Anaphora". Furthermore, techniques for measuring

presuppositions and what is called anaphora can be applied to measuring aspects of context in philosophical settings. Taking anaphora to be the referring back to something said previously in an utterance, one can measure the awareness of context of an utterance by tracking the uses of anaphora. Using the sense of 'anaphora' as a term or phrase referring back to something earlier, we can see some examples. I have italicized the cases of anaphora.

a. Galileo could not find beauty as a property of the world, so *he* attributed *it* to the mind of the observer.
b. When we looked at the star, *we* did not know that *it* no longer existed. If we could not really see the star, then what did we see?

The use of the word 'what' here is especially intriguing for philosophers, linguists, and computer scientists, since it is sometimes said to play a double and perhaps equivocal role, first, as an interrogative pronoun (the answer to the question "What did you see?") and, second, as a relative pronoun (the "item that was the object of your site"). Since there is no star, the answer to the question "What did you see?" cannot be the star--the star cannot be that item that was the object of your site—something else must have been. As one is taught to say, science tells us we saw the light from the star. This change in use of the term 'what' from interrogative to relative pronoun is well-understood and can be pinpointed using the software that identifies and analyzes simple occurrences of anaphora. Obviously, it is to the advantage of the student and the teacher of philosophy to identify these occurrences.

As a bonus, there is even research to show that it can be productive to ask students to replace all uses of anaphora by what it refers to. More importantly, one can go the other way and ask people to design ways to use anaphora. It helps them become aware of context. This is a rich, productive vein.

b. Uses of Dependent Expressions

Students start to indicate their awareness of conditions, assumptions, or presuppositions of their philosophical utterances by increased use of phrases such as "in spite of", "even though", "nevertheless", and many others. These expressions can be counted.

We found in the first study of students in Ethics in Science that these phrases increased dramatically as the term went along. In large Introduction courses they also increased dramatically. In Research Methods there was a modest increase.

Summary

One can literally count improvements in critical thinking skills by counting conditionals, special uses of anaphora, and of dependent expressions.

Reflections After Discussion At The Conference

Vigorous discussion implied strong interest in this research, especially given the widespread interest in critical thinking research.

1. Some suggested following up with the work on anaphora as that seemed novel and in need of publishing.
2. Others suggested more research on how to identify what a philosophic or other statement is against. This was thought to be widely significant and of interest to many disciplines.
3. In the oral presentation, I used examples from conversational implication as presented by H. P. Grice. Those examples seemed most interesting to people since implied notions seemed to be most in need of being realized.
4. In short, it was widely agreed by discussants that we might have identified some key ways to give meaning to what one understands intuitively by improvements in critical thinking but also to provide ways to measure them.

Researching Critical Thinking Assessment in a Multinational Higher Education System

Sebrina Palmer Nevins[9] and Moreen Travis Carvan,[10]

Abstract

This quantitative study investigates the degree to which students in a multinational institution in Jamaica, registered in the Faculty of Science and Technology program, are applying critical thinking in responding to general education examination questions written by the Faculty of Social Sciences. The study poses questions regarding the universality of critical thinking, the development of an international assessment of critical thinking application, and how unique higher education models, such as the multinational regional University of the West Indies (UWI) system, can provide insight into assessment of learning for highly diverse populations. Ninety examination scripts were selected from three separate academic years. One examination question which best solicited critical thinking response was selected from each of the three question sheets. The AAC&U VALUE rubric for critical thinking, adapted using Paul and Elder's (2007) definition of critical thinking, Tsui's (2002) criteria of critical thinking and Elder and Paul's (2010) stages of critical thinking, was used to determine the degree to which students were applying critical thinking skills. The findings showed that students demonstrated a propensity for applying the criteria, *use of evidence* and *explanation of issue* but mishandled higher thinking criteria. More than 50% of the scripts scored at Elder and Paul's *challenged thinker stage* while only 2% were categorized as *accomplished thinkers*. The findings suggest that although students display various levels of critical thinking, there is much room for improvement in higher order criteria and that additional investigation needs to be conducted to ascertain the degree to which faculty require students to utilize critical thinking skills.

Key words: critical thinking, higher education, AAC&U VALUE rubric

The expression by Albert Einstein (1921, as cited in Frank, 2002), that "the value of a college education…is not the learning of many facts, but the training of the mind to think something that cannot be learned from textbooks," is a truism, evident in the myriad of studies emphasizing critical thinking as a fundamental skill, highly valued by employers in the 21st century. The recommendations by authors of studies on critical thinking often award higher education institutions with the responsibility of molding graduates who are prepared for their roles as leaders, decision-makers and problem-solvers of some of the world's most challenging evils. The cerebral exercise involving critical thinking is a well-researched subject, having been

---

[9] The University of the West Indies, Mona Campus
[10] Marian University, WI

examined for its definition, elements or criteria, and pedagogies that can be employed in encouraging students' attainment of this skill.

Critical thinking is a recurrent employability trait cited by employers globally. As part of its internal quality assurance process and having claimed "intellectual leadership" in the Caribbean region, the university where the investigation was conducted has sought to provide opportunities to its graduates for them to acquire this skill. This is because the institution acknowledges as a core responsibility to all its stakeholders the certification of students who are meeting the evolving needs of modern societies. The institution further acknowledges that critical thinking is a "requirement for informed participation in a democratic society, it is the core objective of a liberal education, a goal motivating the restructuring of a college curricula and the development of new learning-centred pedagogies" (Fliegel & Holland, 2007 p. 4). As part of its strategic plan to produce leaders who are optimised for intellectual leadership in job creation and the development of the Caribbean community and beyond, as well as, as part of its mandate to provide leadership within the region, UWI has undertaken the examination of graduates at one of its campuses to determine the degree to which they have developed and honed critical thinking.

The investigation is a significant step towards (1) measuring students' attainment of critical thinking skills and (2) acquiring an appreciative understanding of the institution's approaches to teaching and measuring students' achievement of critical thinking skills. Assessing students' attainment of this and other attributes described in the current strategic plan informs the institution's policy-makers of the primary areas in which students are successful or deficient, and in making recommendations on how to address the deficiencies.

The study also provides the ideal opportunity for the University to collect feedback on students' achievement of specific employability skills such as critical thinking which is indicative of their level of preparedness to participate in the economic, political and social fields. It makes it possible to gather data for the institution to provide feedback to its stakeholders on students' level of development. quantify the success of the institution's approach to teaching and learning and if necessary, the opportunity for the University to revise its approaches, devise methods for intervention as well as know the specific areas in which to direct its focus and resources; and validate the institution's position as the intellectual hub of the region.

Methods

Paul and Elder's (2007) definition of critical thinking and Tsui's (2002) criteria of critical thinking were the primary sources used in the adaptation of the AAC&U's Critical Thinking VALUE Rubric, the instrument used to investigate whether the students are applying critical thinking skills and the specific criteria they have mastered. Consultation on the subject was also done with Dr. Moreen Carvan, Director of Assurance for Learning at Marian University, to improve content and instrument validity. Elder and Paul's (2010) stage theory of critical thinking development was subsequently used to categorize the degree to which students are applying

critical thinking in the course. The work of other critical thinking scholars, namely: Anderson, Krathwohl, and Bloom (2001); Elander, Harrington, Norton, Robinson and Reddy (2006); Paul and Elder (2002; 2007); Wade, (1995); and Wingate (2011) were also incorporated.

The critical thinking skills assessment was done on ninety (90) end of semester examination scripts for a general education course obtained from the Faculty of Science and Technology. The Faculty of Science and Technology was selected because of the sheer size of student population, from which the markers felt a more randomized sample could be selected. Further, scholars (Aretz, Bolen & Devereux, 1997; Facione, Facione & Giancarlo, 2000; Facione & Giancarlo, 2000) agree that subject-independent assessments are best suited for the evaluation of students' critical thinking capacity. Therefore, it was felt that selecting a sample from a population with a science background would provide a truer indication of the degree to which these students are applying critical thinking to a non-science course. Additionally, a deliberate attempt was made to select scripts which represented three different year cohorts to allow for a more meaningful analysis and generalization of the findings. Hence, scripts from 2013, 2014, and 2015 were included in the assessment.

Three markers scored the scripts, first independently and later, in a group setting. First, they identified the item-question which most required students to demonstrate all the elements of critical thinking based on the definition and criteria adopted for the research. Second, the appropriate responses that satisfied each critical thinking criterion were established by the markers. These responses included acceptable definitions, explanation of issue, examples and key sources, among other key elements.

The process of simple random sampling was used to select a sample size of thirty (30) scripts from each of the three sets of examination scripts, with a total of ninety (90) scripts assessed. That is, after identifying the examination scripts with the completed item-question, the student identification number was written on a piece of paper and pulled from an opaque bag.

The scripts were scored out of a maximum of twenty-five (25) marks, with each critical thinking criterion assigned a maximum of five (5) points and a minimum of one (1) point. The scale was adjusted from a maximum of four (4) points and a minimum of zero (0) on the original rubric because (i) it was assumed that all students are critical thinkers, thus it was the degree to which students possess this skill that was being tested and (ii) for ease of calculation. Based on the definitions adopted for this exercise, the principal investigator believes all students are critical thinkers and therefore, it is the degree to which students are demonstrating this skill that is being assessed. That is, the criteria of critical thinking in which students are showing more aptitude; lower order skills (explanation of issue/use of evidence) or higher order skills (taking a position/drawing conclusion).

The overall minimum score a student could achieve was five (5) marks. A raw score of 12.5 was used as the benchmark for the demonstration of critical thinking. This score was selected because it corresponded with the minimum pass grade a student can achieve under the University's revised GPA scheme. Based on this new scheme a score of 12.5 is equivalent to a C

or 50%. For the purpose of this study, 12.5 is equivalent to student demonstrating acceptable standards of critical thinking which is reflective of students' efficacy.

The overall mean was calculated by finding the mean of all five critical thinking criteria across the three assessments using the scores from the three scorers. The tally for each of the three set of scripts showed statistical discrepancies in the scores with the following standard deviations for each assessment:

- Assessment 1/**Semester 1, 2013-2014**: 3
- Assessment 2/**Semester 1, 2014-2015**: 4.46
- Assessment 3/**Semester 2, 2014-2015**: 4.49

Based on the instruction for using the rubric, three sessions were convened to remark the scripts with the aforementioned statistical difference. Each marker took turns reading aloud students' scripts, assigned scores independent of the other markers and a subsequent discussion of the final scores. Scorers adjusted their scores where the final score discrepancy was greater than the standard deviation.

This data was used to answer the question of the degree to which students are applying critical thinking skills. Also note that calculations were approximated to two significant figures. Additionally, the means for all three scorers were added, the sum of which was divided by three (the total number of scorers) to get the final score which is then used as the mean for each of the cited criterion.

Results

Tsui (2002) outlined five (5) criteria of critical thinking, namely: the identification of issues and assumptions, the recognition of important relationships, making correct inferences, evaluating evidence or authority, deducing conclusions. Based on Tsui's list and the findings from the pilot test, students at the university where the investigation was conducted possess critical thinking abilities, albeit demonstrated at varying degrees. Students ably validated this skill by identifying the problem/issue presented in the item-question, integrating evidence into their responses, presenting a position on the subject and drawing conclusions. Most of the scripts were assigned high scores in the areas which required students to outline the problems and use evidence to support their position. Figure 1 provides the overall results from the investigation, which revealed that students demonstrated strongest performance in the areas explanation of

issue, use of evidence and *organization of thoughts.* Student performance was least strong in the areas of *student position* and *conclusion.* Student expected performance was 3.00.

Explanation of issue is defined as the demonstration of knowledge of the problem/issue discussed and entails a description of the issue and or definition of key terms where necessary. According to Garside (1996), "critical thinking is dependent on a sufficient base of knowledge" (p. 215). Therefore, while it is the most elementary of the five criteria of critical thinking, it is nonetheless a very important element. This criterion received the second highest score with most of the scripts receiving a score of between 3 and 4 points for the demonstration of this skill, and few scripts being awarded the ultimate score of 5 and even fewer being awarded a score of 1. Scholars (Paul & Elder (1999); Wingate (2011)) have validated the importance of explanation of

Figure 1. Student Performance in Relation to Criteria of Critical Thinking

issue or knowledge in their discourse noting that "content is thinking, thinking is content" thereby underscoring the point that knowledge of content is fundamental to the critical thinking process (Paul & Elder). Wingate also included analysis and evaluation of content knowledge – which communicates the importance of carefully selecting and presenting information relevant to a discourse – in his summary of argumentation. Knowledge is therefore an important feature of critical thinking as students use knowledge as the basis for establishing a viewpoint, validating their own perspective as well as evaluating others' perspective on the subject.

Alternately, albeit students demonstrated their ability to recall relevant examples, there was obvious oversight by students in successfully incorporating the evidence to support their argument, owed in part to a reliance on personal experiences, beliefs or emotions rather than on

empirical evidence. In identifying the characteristics of a critical thinker, Tsui (2002) articulated that, among other skills, critical thinking is evident in students' ability to cite relevant evidence and evaluate such evidence or authority. On the adapted rubric, critical thinking was divided into three (3) components: use of related examples to support position, citing experts/relevant source(s) and the interpretation or evaluation of the evidence/example to support the development of their argument. Most of the students received scores for citing evidence, including the use of appropriate examples. However, the sources included were often not properly cited as students repeatedly neglected to credit the author or state the year the work was produced. The scorers acknowledged that such omissions may have been because of the constraints of an examination setting. However, students were graded for such oversight. Further, points were also deducted where students listed examples with little or no analysis or interpretation. It is not enough for students to merely present evidence without proper and thorough interrogation of these sources. Students must develop an appreciation for evaluating and interpreting the evidence with the view to enhance their argument and ultimately, reconstruct knowledge to form a position. Conversely, it is praiseworthy that most students did not overly depend on examples and evidence to the detriment of neglecting their own position on the matter being discussed. But rather, as was observed in several of the scripts, students struck a balance between the inclusion of experts and their own voice.

Conversely, students scored highest in organization of thoughts across all three assessments. During the scoring of the scripts, it was observed that students understood and applied some conventions of essay writing by presenting, to a great extent, coherent argument using prose style. According to Wingate (2011) the presentation of the writer's position in a coherent manner is an equally important aspect of students' response. Elander, Harrington, Norton, Robinson and Reddy (2006) also suggested that in successfully transforming knowledge, students are expected to develop their points in a logical, coherent and organized manner thereby showing progression in the thought process. This includes linking the various points as they progress from one paragraph to another.

Nevertheless, though organization of thoughts received the highest overall score among all five criteria on the critical thinking skills rubric, several of the scripts were not coherent in how students structured their argument. Students often ended their thoughts abruptly or started a new thought without linking it to the previous point. Likewise, some students, in an effort to include an important point for a thought started three paragraphs earlier, incorporated the point in an ad hoc and unstructured manner often in paragraphs with an unrelated thought. This unstructured writing may be as a result of poor planning prior to starting the examination or students rushing to include points they perceive will increase their score. Were students to plan their essays before starting the examination, they would have a clear road map of how they want their argument to develop and the examples they will include.

A second observation concerning the organization of thoughts is students' approach to structured argument. According to Andrews (2000), the essay-writing format is the acceptable academic writing style when presenting a structured argument. Several scripts presented some of

the information in a list format, using either bullet points or numbers. This form of writing does not provide much opportunity for students to evaluate, analyse or develop a convincing argument.

The two higher order criteria, taking a position and conclusion, received the lowest scores. Described by Andrews (1995) as "implying response to another position", *taking a position* is argued as essential to the demonstration of individuals' attainment of higher order critical thinking (p. 3). Elander, Harrington, Norton, Robinson and Reddy (2006) agreed, describing taking a position as the essence of essay writing. According to Elder and Paul (2010) taking a position is the hallmark of the *advanced* and *accomplished* thinkers. The authors cautioned that this particular critical thinking skill is difficult to master, suggesting that developing points of views begin to emerge at the fifth stage or the advance stage of critical thinking and even at this stage, thinkers, albeit striving for fair-mindedness, often revert to egocentricism.

During the scoring of students' scripts, it was noted that very few students articulated a specific position albeit a clear requirement in answering the item-question. Most of the students ably identified relevant examples but failed to interpret or properly incorporate the examples cited in developing their argument. On the other hand, the scripts that received high scores belonged to students who took a clear position on the issue and used relevant examples to effectively substantiate their position. Based on the observation of the investigator, had students taken a position on the subject, they would have found it easier to integrate examples or incorporate the work of the experts into their own argument.

The literature (Groom, 2000; Hyland, 2002; Ivanic, 1998; Lillis, 2001) is replete with evidence to suggest that establishing a position is a common challenge experienced by students at the tertiary level. Groom (2000) identified three (3) primary reasons taking a position may be challenging for students, namely *solipsistic voice, unaverred voice* and *unattributed voice*. The solipsistic voice describes instances in which the writer may not be cognizant of the importance of including sources in developing their argument. Therefore, students will present their own perspectives at the exclusion of sources. The solipsistic voice was evident in some of the scripts where students replaced the voice of the experts with arguments based on their personal experiences. Elander et al. (2006) noted that this may be attributed to a misconception of what is required in argumentation.

The unaverred voice describes cases in which students lack confidence in one's own views on the subject. Groom described the unavvered voice as the rephrasing of experts' position without stating one's own view on the subject. The unavvered voice was also evident in some scripts and became noticeable when multiple students repeated the same information almost verbatim with little or no interpretation of the evidence cited.

The unattributed voice describes instances in which students present the thoughts of others under the guise that such thoughts are original. Albeit not very common within the scripts

scored, the unattributed voice was evident. However, this may have been as a result of poor citation rather than a deliberate attempt to plagiarize.

Some students who took a position did not commit fully to exploring all the relevant points needed to develop a complete and convincing argument. Still, other students did not argue both sides of the issue. Students who did not demonstrate awareness of alternate views had a tendency to focus on one side of the argument rather than evaluate opposing opinions from which they would then take a position and or draw conclusions. This style makes for good argument and when properly done, either validate or refute a position. Students who were scored were generally those students who included alternate voices and used evidence to support or refute them. Though this is the ideal format for developing ones argument, Andrews (2000) opined that "to be critical is to take a powerful position" and thus, unifying multiple perspectives from several sources can be challenging (p. 11). Therefore, though some students tried to include various sources in their argument, the result was mere description of others' work rather than a critical analysis which would contribute to or support their perspective on the subject. During the presentation, the participants agreed that very few college students emerge as accomplished critical thinkers, but rather, it is the investigative nature of post graduate work and or the experiences and responsibilities associated with the real world which creates the stimuli for the shaping of thinkers who emerge in this sixth stage of thinking.

The fifth element of the adapted rubric was drawing conclusion or the demonstration of deductive reasoning. Very few students took a position and therefore these students had very few points from which to make inferences.

In the analysis of the findings in this report, it was assumed that all students at the institution are critical thinkers, having aptly demonstrated aptitude in the three most basic skills on the rubric. Therefore, the Elder and Paul's *unreflective thinker* was omitted from the scale. It was found that 53% of the scripts as demonstrating the *challenged critical thinker*, a surprising but not unusual finding. Elder and Paul (2010) described challenged thinkers as those who are aware, albeit to a limited degree, that critical thinking involves standards in thinking, including identifying key concepts, making inferences, having a point of view, logicalness, relevance and clarity. As was noted earlier, students performed well in areas requiring them to define or describe concepts thereby demonstrating awareness of this standard of thinking. However, they did not ably apply themselves to higher order criteria such as taking a position or making inferences (See Figure 2).
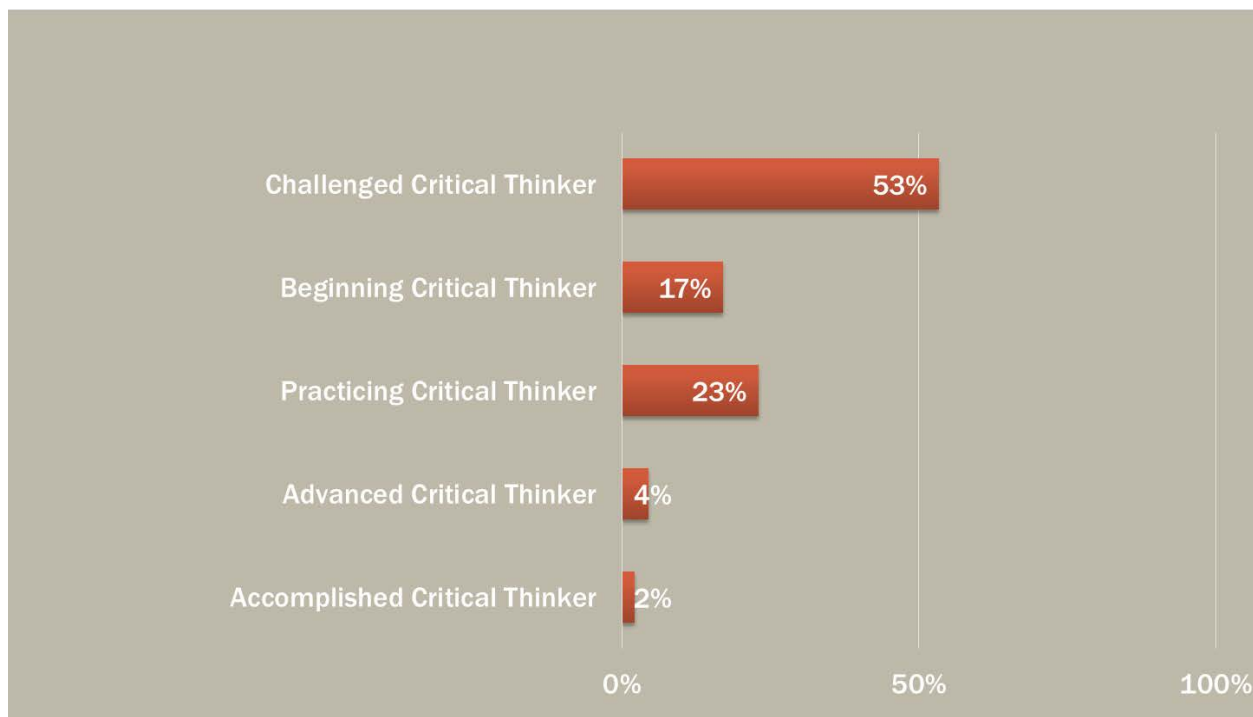
Figure 2. Percentage of Students Demonstrating Each Category of Skilled Performance in Critical Thinking

The second and third categories, *beginning thinker* and *practicing thinker*, accounted for 17% and 23% of the scripts, respectively. Elder and Paul described thinkers in these two categories as those who internalize and deliberately apply the standards of thinking, thereby demonstrating progression in critical thinking capacity.

Scripts that scored as advanced thinkers accounted for 4% of the total scripts while 2% of the scripts were scored as accomplished thinkers. These scripts represented the higher order criteria on the rubric. Scripts in these categories were those that represented students who had demonstrated an appreciable comprehension of the issue being discussed and ably applied the standards of thinking to the discussion. Further, according to Elder and Paul (2010), these thinkers often take a position, critique their own position and use relevant examples to substantiate their position. Additionally, the scripts belonged to students who showed awareness of alternative points of view. According to the cited authors, advance thinkers have deep insight into the problem; even at this stage thinkers often revert to one-sided reasoning. This last point was evident in some of the scripts. That is, although it was noted that several of the students' skilfully argued their position, some students presented one side of the argument. According to Elder and Paul, individuals who ascend to stage 6 – accomplished thinker – are those that acknowledge and articulate multiple perspectives albeit having a point of view.

Conclusion

In conclusion, the findings from the assessment of samples of students' work at a three year higher education institution in Jamaica should be viewed with optimism. Albeit there is much room for students to improve in the application of critical thinking skills, especially in higher order thinking skills, the findings demonstrated that students possess the ability to be critical thinkers. Though this paper have not examined students' disposition towards thinking, Figure 2 showed that 23% of students are practicing thinkers while figure 1 revealed that students scored average marks across all five criteria. The highest overall means were for the criteria, explanation of issue and use of evidence. In contrast, the lowest overall means were taking a position and *conclusion as demonstrated in Figure 1.*

Correspondingly, the findings revealed that 53% of the scripts fell within the category challenged critical thinkers, while 17% were categorized as beginning thinkers as demonstrated in Figure 2. Scripts that fell into either of the above-mentioned categories were those that scored low in the areas of *taking a position* and drawing conclusion. Conversely, scripts with high scores, especially those which were categorized as advanced and accomplished thinkers usually scored relatively high across all the criteria on the adapted critical thinking rubric. Additionally, these scripts were usually, though not exclusively, those that also scored 3 and above on the criteria *taking a position* and or conclusion.

Elder and Paul's (2010) progressive stages of critical thinking articulated that students at stages 2 and 3 of their critical thinking skills model are usually cognizant of the importance of the role of critical thinking. However, based on the authors' work, evidence suggests that not all of the students possess the maturity or skillsets required to monitor their thinking and therefore, the ability to elevate it. This finding is indicative of the deliberate interventions that are needed to aid students to understand the role critical thinking plays in their lives, academia and otherwise, and in helping them to build on the initial step of being aware of their thinking, to monitoring and enhancing their thinking skills.

It must be noted at this point that variations in the definition for and criteria of critical thinking among faculty, administrators and students often result in misconceptions about the requirements of critical thinking and inadvertently, about whether students are meeting the requirements of critical thinking. This may have also contributed to the reason for students' low performance in the higher order thinking skills as students may, on one hand, have a different interpretation of the standards of critical thinking than that which was used by the assessor in evaluating the scripts.

Similarly, each discipline is guided by different sets of criteria for critical thinking and therefore, members of faculty may be inclined to teach discipline specific ways of reasoning, the result of which is that lecturers also design assessment tools that are based on these standards. Consequently, where students do not meet specific requirements for courses in other departments for instance, students may be considered to have not adequately developed as critical thinkers. Hence, this disconnect between the definitions and criteria being applied by each stakeholder

may result in different outcomes. Accordingly, a deliberate and perhaps more centralized approach to the measurement of critical thinking may help to (a) standardize the approach to the assessment of critical thinking, (b) give a more realistic overview of the degree to which the entire student population is thinking critically, and (c) provide data-based evidence on students' attainment of the skill.

A fourth advantage of ongoing assessment is to engage students so that they begin to think about their own learning and become party to the monitoring of their own progress as they advance in their educational pursuit at the institution. Data from the assessments are evidence of students' learning which can be used to help them identify their strengths and areas of vulnerabilities as well as outline whether they have acquired the various employability traits employers require that new recruits possess. Likewise, when students are included into the process and have a clear idea of the institution's expectations of them, they are more likely to take ownership of their own success. Therefore, it is expected that rather than study to pass a course, students will begin applying themselves so that critical thinking becomes a part of their everyday life.

A fifth advantage of continuous assessment of the degree to which students are critical thinkers, is that the process helps administrators ascertain whether the goals and missions of the institution are being met. That is, data from the assessment can be interpreted as evidence of whether students are developing at the intended level and expected pace and the degree to which students have acquired critical thinking skills. The data will also help to inform the revision of pedagogies as findings from the assessments reveal the changing characteristics and specific needs of the students. Ongoing assessment will therefore provide the added advantage of foresight as the data will aid in the early detection of the specific critical thinking criterion that is most challenging for students to master as well as insight into the most suitable methods of intervention.

References

Anderson, L. W., Krathwohl, D. R & Bloom, B.S. (2001). *A Taxonomy for Learning Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman.

Andrews, R. (1995). Teaching and learning argument. London, NY: Cassell.

Andrews, R. (2000). 'Introduction: learning to argue in higher education' in Andrews, R and Mitchell, S (eds.). (2001). *Learning to Argue in Higher Education*. Portsmouth: Boynton/Cook Publishers, pp. 1-14.

Aretz, A.J. Bolen, M.T., Devereux, K.E. (1997). Critical thinking assessment of college students. *Journal of college reading and learning* 28: 12-23.

Astin, A. (1993). What matters in college? Four critical years revisited. San Francisco: Jossey-Bass.

Association of American Colleges and Universities (n.d.) Critical Thinking VALUE Rubric. Taken form http://www.aacu.org/value/rubrics/critical-thinking

Association of American Colleges and Universities. (2011). *The LEAP vision for learning: Outcomes, practices, impact, and employers view.* Washington, DC: Author.

Cress, C. M., Astin, H. S., Zimmerman-Oster, K., & Burkhardt, J. C. (2001). Developmental outcomes of college students' involvement in leadership activities. *Journal of College Student Development, 42*(1), 15-27. Retrieved from http://abigraphics.com/sites/default/files/port/abi_Journal.PDF

Elder, L. & Paul, R. (2010). *Critical Thinking Development: A Stage Theory*. Retrieved from www.criticalthinking.org on August 10, 2015.

Elander, J., Harrington, K., Norton, L., Robinson, H. and Reddy, P. (2006). 'Complex skills and academic writing: a review of evidence about the types of learning required to meet core assessment criteria'. *Assessment and Evaluation in Higher Education*, 31 (1): 71-90.

Facione P.A. (1990a). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction.* In Facione P. A. *The Delphi Report.* Millbrae (CA): California Academic Press, p. 1-19.

Facione, P. A. (1990b). Critical thinking: A statement of expert consensus for purposes of educational assessment and instructions. Research findings and recommendations. Millbrae, CA: California Academic Press.

Facione, P. & Facione, N. (1992). *The California Critical Thinking Disposition Inventory (CCTDI); and the CCTDI Test Manual.* Millbrae, CA: California Academic Press.

Facione, P.A. Facione, N.C., & Giancarlo, C.A. (2000). The disposition toward critical thinking: Its characteristics, measurement, and relationship to critical thinking skill. *Informal Logic* 20: 61-84.

Fliegel, R. & Holland, J. (July, 2007). *Assessing critical thinking through student writing: An academic model of accountability.* USC College.

Garside, C. (1996). 'Look who's talking: a comparison of lecture and group discussion teaching strategies in developing critical thinking skills'. *Communication Education*, 45: 212–227.

Groom, N. (2000). 'A workable balance: self and source in argumentative writing' In Mitchell, S. and Andrews, R. (Eds.), *Learning to Argue in Higher Education*. Portsmouth: Boynton/Cook Heinemann, pp. 65–145.

Hyland, K. (2002). 'Authority and invisibility: authorial identity in academic writing'. *Journal of Pragmatics*, 34: 1091–1112

Ivanic, R. (1998). *Writing and Identity: the discoursal construction of identity in academic writing*. Amsterdam: Benjamins.

Lillis, T.M. (2001). Student Writing: access, regulation, desire. Routledge: London.

Paul, R.W, Elder, L. & Bartell, T. (1997). *California teacher preparation for instruction in critical thinking: Research findings and policy recommendations.* Santa Rosa (CA): Foundation for critical thinking.

Paul, R. & Elder, L. (2002). *Critical Thinking: Tools for Talking Charge of Your Professional and Personal Life*. New York: Prentice Hall.

The University of the West Indies, Mona. (2011). *2011 Employer Survey of UWI Graduates.* Office of Planning and Institutional Research. Retrieved from

http://www.mona.uwi.edu/opair/managementreports/studiesandsurveys/Summary-2011%20EmployerSurveyofUWIGraduatesMonaCampus.pdf on September 2, 2015.

Tsui, L. (2002). 'Fostering critical thinking through effective pedagogy'. *The Journal of Higher Education*, 73(6): 740-763.

Wade, C. (1995). Using writing to develop and assess critical thinking. *Teaching of psychology,* 22(1), 24-28.

Wingate, U. (2011). 'Argument! Helping students understand what essay writing is about.' *Journal of English for Academic Purposes* 10: 1-10.

Critical Thinking: It's More Than You Think!

Janet Thiel[11]

Abstract

This paper examines the academic quality of various intellectual skills currently classified as critical thinking. An examination of the various nuances of critical thinking and assessment on the college level is presented through several research paradigms, including the Paul-Elder Model of Critical Thinking, the various definitions of thinking presented in the AAC&U VALUE Rubrics, problem-based learning (PBL), and the co-curricular high impact practices (CHIPs). Critical thinking is examined as problem solving, reflective practice, self-awareness and meta-cognition, creative and critique thinking. Appropriate teaching methods and ways to assess the above intellectual skills are discussed and further developed using the Problem Based Learning approach developed by the McMaster University Medical School and the Co-curricular High Impact Practices of the College at Brockport. Most especially, critical thinking is defined beyond the testing parameters of inferential reading skills.

Keywords: critical thinking, high-impact practices, co-curricular learning, intellectual skills, thinking processes

As an Assessment Leader in a mid-sized university, critical thinking assessment was based on student growth as examined within standardized testing, namely student scores on inferential reading skills within the test. Students were tested at the end of the first semester, within the middle years of undergraduate study, and again in their final semester as seniors. While the area of critical thinking was noted to be the lowest testing score within national norms, the placement of the majority of students within the lowest quartile did not seem to tell the whole story. And because these scores were so low, a true value-added score could not be obtained.

True, these students evidenced weakness in college-level reading skills, as evidenced by the high initial placement in a College Reading course, but these same students were also trained in reflective thinking, underwent extensive leadership training, and took several courses that emphasized quantitative reasoning and philosophical thought. Hence, my interest in how to teach "critical thinking", how to properly assess this skill, and how to expand the definition beyond inferential reading skill. This paper examines the academic quality of various intellectual skills currently classified as critical thinking. An examination of the various nuances of critical thinking and assessment on the college level is presented through several research paradigms, including the Paul-Elder Model of Critical Thinking, the various definitions of thinking presented in the AAC&U VALUE Rubrics, problem-based learning (PBL), and the co-curricular high impact practices (CHIPs).

---

[11] Georgian Court University

Definition of Critical Thinking and Neuroscience Connection

The competencies of communication, critical chinking, collaborative problem solving, and creativity are the foundations of a world-class and world-ready education in the 21st Century (McCarthy, 2012). However, critical thinking can embrace all of the above competencies, and more! According to the Institute for Critical Thinking (2017),

> "Critical thinking is the art of analyzing and evaluating thinking with a view to improving it. Critical thinking is, self-directed, self-disciplined, self-monitored, and self-corrective thinking. It requires rigorous standards of excellence and mindful command of their use. It entails effective communication and problem solving abilities and a commitment to overcoming our native egocentrism and sociocentrism." (Critical Thinking Section, para 2).

Neuroscience is showing how the process of thinking about thinking (metacognition) aids in the process of learning and recall (Bailey, 2017). The Association of American Colleges and Universities, in its VALUE rubrics offers seven rubrics to assess thinking within college-level assignments, namely integrative learning, creative thinking, quantitative literacy, inquiry and analysis, ethical reasoning, problem solving, and critical thinking. So, why does the assessment of critical thinking often consist of student performance of the skill of inferential reading in a standardized test? As the concept and application of critical thinking is expanded across curricular and co-curricular post-secondary learning, the tools to assess critical thinking will likewise be developed.

Paul-Elder Framework for Critical Thinking

According to Scriven and Paul (1987 as cited by The Critical Thinking Community, 2017),

> "Critical thinking can be seen as having two components: 1) a set of information and belief generating and processing skills, and 2) the habit, based on intellectual commitment, of using those skills to guide behavior. It is thus to be contrasted with: 1) the mere acquisition and retention of information alone, because it involves a particular way in which information is sought and treated; 2) the mere possession of a set of skills, because it involves the continual use of them; and 3) the mere use of those skills ("as an exercise") without acceptance of their results." (Defining Critical Thinking, para. 6).

Critical thinking is a process that applies intellectual standards to the elements of critical thinking, and with practice, intellectual traits such as intellectual humility and fair-mindedness are developed. As a process, critical thinking can be applied and adapted to various circumstances. Thinking about the ethics of a situation, thinking about learning, thinking to solve a problem, thinking to express creativity or individuality, thinking through scientific research are all processes that require systematic application of inquiry and clear communication of results. Critical thinkers, according to Elder (2008), routinely apply intellectual standards to elements of

reasoning. They identify these standards as: clarity, accuracy, relevance, logicalness, breadth, precision, significance, completeness, fairness, and depth. Thus, critical thinking is thinking about one's thinking while thinking in order to make one's thinking better. Critical thinking has two purposes, first to improve one's own thinking ability through the use of standards and second, it is based upon standards against which one can judge the quality of thinking.

Intellectual standards and elements of thought can be assessed with a "checklist for reasoning" (Elder, 2008, pp. 29-30). This checklist has eight criteria: purpose, problem-basis, assumptions, point of view or bias, data basis, validity of underlying concepts, inference, and implication. This checklist forms not only the process for critical thinking, but a way to assess critical thinking evidence or products.

Place of Critical Thinking in College Learning

If critical thinking is a process applied according to a set of standards, then thinking can be improved in a structured environment that involves coaching and evaluation. Within a liberal arts college setting, the various disciplines have a defined way of teaching according to the profession of practice. Articulating the intellectual standards most suited to these disciplines is essential to teaching critical reasoning based on the theories and concepts of the discipline. For instance, logicalness and precision seem to be appropriate standards for the accounting profession, while relevance and fairness might be well applied to the legal profession. Intellectual perseverance is a trait befitting a research scientist and confidence in reason appropriate for a mathematician. Intellectual courage seems necessary for the Arts, nurtured by process of creative thinking that has been evaluated according to breadth, clarity, risk-taking, and relevance.

The types of critical thinking in college learning are as varied as the opportunities to discover oneself, the liberal arts, and the cultivation of the in-depth knowledge of a particular discipline. Students should have the opportunity to practice and be guided with learning opportunities that include thinking that is reflective and metacognitive, creative and ethical, analytical and informed, transformational and integrative. The opportunities to think and reason effectively occur both within and outside the classroom. The opportunities to connect, synthesize, and transform, to become self-aware and principled, to solve problems and use data appropriately, develop life-long skills and habits of mind. As college students enter their stage of "adulting" (Merriam-Webster, 2017), the phrase "What were you thinking?" should have more positive results than the occasional lapse of reason and judgement. All who comprise the learning community of our colleges and universities should be teachers, coaches, and mentors to this process.

Assessing Critical Thinking: AAC&U VALUE Rubrics

As part of the Liberal Education and America's Promise (LEAP) initiative, the American Association of Colleges and Universities (AAC&U) embarked upon a study to find alternate ways to effectively measure student learning outside of the parameters of course grades or student GPA. The Valid Assessment of Learning in Undergraduate Education (VALUE) project was a result of this study, and generated an initial set of fifteen rubrics aligned with AAC&U's essential learning outcomes (American Association of Colleges and Universities, 2010). Of these, seven rubrics to evaluate student learning are directly aligned with the types of critical thinking mentioned above. These are: Inquiry & Analysis, Integrative Learning, Critical Thinking, Creative Thinking, Quantitative Literacy, Ethical Reasoning, and Problem Solving.

Each of the VALUE rubrics was developed as "Assessment of the Academy, for the Academy, by the Academy" (American Association of Colleges and Universities, 2010, p. 5). Each of the rubrics follows a certain template which names the criteria aligned with the content of the rubric, as well as description of expected evidence of the criteria as found among first year or beginning students (benchmark 1), students at midway through college study (milestones 2 & 3), and students at the senior level of undergraduate study (capstone 4). Closer examination of these rubrics shows alignment with the Paul-Elder process of critical thinking. For instance, ethical reasoning's criteria (American Association of Colleges and Universities, 2010, pp. 46-47) include ethical self-awareness, understanding different ethical perspectives, ethical issue recognition, application of ethical concepts, and evaluation of different ethical perspectives. These follow Paul-Elder's elements of thought: purpose, information and interpretation, question at issue and assumptions, concepts, point of view and implications or consequences (Elder, 2008, p. 28).

The VALUE rubrics are not intended to be taken "as is". Instead, each entity using the rubric to assess student learning should review the rubric, discuss its content, and adjust the norms according to their purpose, their discipline, and their study demographic. Moreover, the rubric is to be linked to a significant learning experience aligned with appropriate student learning outcomes. Again, these learning experiences can be within and outside the classroom, individual or team experience, virtual or in real time. Using the above "checklist for reasoning" would be a good model for this review and adaptation process.

Problem-Based Learning

Problem based learning is a pedagogy that is student-centered and learning occurs through discovery by solving an open-ended problem. Problem based learning as a theory began to be defined in the late 1960's at McMaster University Medical School in Canada (J L, 2014). This practice was adopted by other medical schools internationally, and is known as the McMaster model of problem-based learning. Various adaptations were made and the model soon found its way to various other disciplines, including undergraduate education. Currently the University of Delaware serves as a US repository for problem based learning material (Institute for

Transforming Undergraduate Education, 2017). McMaster University in Canada also continues to provide resources, including reference materials, action research, and training (2017).

While the problem to be solved may be open-ended, the process to come to a solution is guided. The problem-solving loop includes problem identification, information and exploration, selection of the best ideas, developing and testing the solution, evaluation of results, and solving of subsequent problems that arise, continuing the "loop". Problem based learning can take on the form of a case study, a question about how an "object" works, or a macro solution to a pressing societal issue. What is important is that the problem is addressed according to a process and standards, and is based on credible information and testing of hypotheses. Again, it follows the pattern of Paul-Elder's critical thinking model.

Co-Curricular High Impact Practices (CHIPs): Student Leadership and Reflection

The College of Brockport has defined Co-Curricular High Impact Practices as Volunteering & Community Service, Student Leadership Development, Living Learning Communities, Healthy Campus, Residential Curriculum, Student Employment, Peer Mentoring, Athletics/Club Sports, Student Organization Leadership, Celebrations & Traditions (Barrett, 2017). These align with the High-Impact Educational Practices (HIP) as developed by AAC&U (Kuh, 2008) and assessed through the National Survey of Student Engagement (NSSE) (Center for Postsecondary Research, Indiana University, 2017). Texas A & M University has implemented a process of assessing critical thinking as part of its Student Leader Learning Outcomes (SLLO) Project (Division of Student Affairs, Texas A & M University, 2017). A current program expansion for Texas A & M is in the form of reflection in learning. Student leaders participate in Aggies Commit: Reflections on Student Leadership. Both of these examples show the engagement outside of the classroom in developing the thinking skills of students and the assessment of student learning in this area.

Reflective practice is critical for self-directed learning. Metacognition is the process of reflecting on one's actions and results and using that reflection to re-direct one's actions. The cycle of self-directed learning follows the pattern of critical thinking. This cycle requires the learner to assess the task at hand, evaluate their own competency, plan an approach, apply strategies to enact the plan, and reflect on whether or not the strategy is working (Ambrose, 2010, p. 193). The use of standards comes in the form of checklists and explicit criteria for successful task completion, provided by the ones who are guiding this learning. Reflective practice can be as simple as a coach's end of practice review, or can be as broad and deep as a capstone portfolio.

Service learning experiences are excellent opportunities to engage in reflective practices, especially in faith-based institutions. Asking students to complete a theological reflection on experiences of service assists in the integration of the experience with the student's moral beliefs. This reflection can heighten the student's awareness of social justice and can prompt further advocacy actions. This form of experiential learning, if guided with principles and reflection, can yield impactful education and transformational learning. Neumann University has

a well-developed service learning inclusion in its Core Learning that encompasses both curricular and co-curricular experiences (Neumann University Mission & Ministry, 2017). Neumann's Core Experience site offers examples of theological reflection rubrics and service learning rubrics to assess reflective thinking across the Core experiences (Neumann University Core Experience Committee, 2017).

Conclusion

Critical thinking has been examined as problem solving, reflective practice, self-awareness and meta-cognition, creative and critique thinking. Appropriate curricular and co-curricular ways to teach and assess the above intellectual skills were discussed and further developed. The Intellectual Standards and critical thinking process developed by Paul-Elder for the Institute for Critical Thinking (Elder, 2008) was aligned with other practices of teaching thinking processes. The AAC&U VALUE rubrics provided at least seven rubrics that align with the process of thinking critically (American Association of Colleges and Universities, 2010). Problem based learning, the McMaster Theorem (J L, 2014) , was noted as a model for both inside and outside of the classroom. Most especially, critical thinking was defined beyond the testing parameters of inferential reading skills.

References

Ambrose, S. A. (2010). *How learning works: Seven research-based principles for smart teaching.* San Francisco, CA: Jossey-Bass.

American Association of Colleges and Universities. Critical thinking VALUE rubric. Retrieved from https://www.aacu.org/value/rubrics/critical-thinking.

American Association of Colleges and Universities. (2010). *Assessing outcomes and improving achievement: Tips and tools for using rubrics.* Washington, DC: American Association of Colleges and Universities.

Bailey, P. (2017, May 17). Metacognition — I Know (or Don't Know) that I Know. Retrieved from BrainFacts.org: http://www.brainfacts.org/sensing-thinking-behaving/awareness-and-attention/articles/2012/metacognition/

Barrett, L. A. (2017, May 19). ABCs of High-Impact Practices: How to Set Your Student Up for Success. Retrieved from The College at Brockport: The State University of New York: https://www.brockport.edu/academics/first_year/docs/ABCs%20of%20High-Impact%20Practices.pdf

Center for Postsecondary Research, Indiana University. (2017, May 19). High Impact Practices. Retrieved from National Survey of Student Engagement (NSSE): http://nsse.indiana.edu/html/high_impact_practices.cfm

Division of Student Affairs, Texas A & M University. (2017, May 19). Rubrics. Retrieved from Texas A & M University Student Leader Learning Outcomes: http://sllo.tamu.edu/rubrics#CriticalThinking

Elder, L. a. (2008). The thinker's guide to intellectual standards: The words that name them and the criteria that define them. Dillon Beach, CA: Foundation for Critical Thinking.

Institute for Transforming Undergraduate Education. (2017, May 18). PBL @ UD. Retrieved from University of Delaware: http://www1.udel.edu/inst/

Kuh, G. D. (2008). High-Impact educational practices. Washington, DC: Association of American Colleges and Universities.

L, J. (2014, July 23). Problem-Based Learning (PBL). Learning Theories. Retrieved May 18, 2017, from Problem Based Learning: https://www.learning-theories.com/problem-based-learning-pbl.html

McCarthy, B. (2000). *About Learning.* Wauconda, IL: About Learning, Incorporated.

McCarthy, B. (2012). *The learning cycle, the 21st century and millennial learners: Who they are and how to teach them.* Wauconda, IL: About Learning, Incorporated.

McMaster University. (2017, May 18). Problem based learning. Retrieved from McMaster University: http://cll.mcmaster.ca/resources/pbl.html

Merriam-Webster. (2017, May 18). Adulting. Retrieved from Merriam-Webster: https://www.merriam-webster.com/words-at-play/adulting

Neumann University Core Experience Committee. (2017, May 19). Contemplation: Assessment Plan, Rubrics, and Resources. Retrieved from Neumann University: https://www.neumann.edu/CoreExperience/contemplation/default.asp

Neumann University Mission & Ministry. (2017, May 19). Service Learning. Retrieved from Neumann University: https://www.neumann.edu/academics/service-learning/

Scriven, M. &. (2017, May 18). Defining Critical Thinking. Retrieved from The Critical Thinking Community: http://www.criticalthinking.org/pages/defining-critical-thinking/766

The Institute for Critical Thinking. (2017, May 17). Products. Retrieved from The Critical Thinking Community: https://www.criticalthinking.org/store/products/the-miniature-guide-to-critical-thinking-concepts-amp-tools-7th-edition/156

How to Grow Assessment and Lead Change from the Ground Up

Penny Bamford and Valerie Landau[12]

Abstract

Creating change in higher education is challenging because of our deep roots in tradition, regulation and entropy. Samuel Merritt University, in Oakland CA, is a 108-year-old Health Sciences University. Each of our degree programs goes through specialty accreditation. Through development of a software tool and a process to improve teaching and learning we have made significant changes in shifting conversation, processes and policy toward improvement in teaching and learning. Since instituting this approach we have had no recommendations for improvement of educational effectiveness in our seven site visits from grant funders and specialty accreditors. In addition, we received honors, commendations and awards. Equally important yet not discussed openly enough is the growth in human capacity that is required in creating this change; resilience is key.

Keywords: data visualization, automating processes, digital repository

Samuel Merritt University (SMU) hit a tipping point six years ago. Western Association of Schools and Colleges (WASC) was coming to SMU to conduct an educational effectiveness review. At this time, SMUhad a lot of data but no story to tell about student learning and how those data were to inform decisions about teaching and learning. Faculty were not engaged, and were enraged in having to complete compliance checklists under the guise of improvement.

Development of an assessment methodology and online platform crafted to facilitate a continuous cycle of improvement of teaching and learning was accomplished at "mach speed". The assessment software provides data visualization of the entire curriculum (click to see the award winning poster). At a glance, users can determine curricular strengths, weaknesses, and gaps. Further, with a click, users can view exemplars demonstrating student achievement of a particular learning outcome. We believed this would result in transformation and an emerging culture of assessment. We did not know the extent to which change would occur.

Initially, colorful interactive data visualization and sonification of outcomes dazzled "enough" faculty and puzzled some administrators. Quickly, faculty saw the value and started asking questions. Some of the questions were:

- Why are the two programs that we say are alike are not alike at all?"
- Here is the evidence, is this ok or not?
- Is it ok that our curriculum has only one program outcome aligned to compassion?

---

[12] Samuel Merritt University

Confident and enthusiastic program chairs and faculty presented their assessments, evidence and improvement plans to our accreditors.

Presently, over fifty percent of our faculty voluntarily experiment with new forms of pedagogy, gather evidence about the impact on students, and write brief reports to share with colleagues. The 119 reports serve as evidence of an emerging culture of assessment. The reports also provide a roadmap for improving institutional support, shinning a light on barriers, and making recommendations for improvement. Attention to assignments and methods of evaluation led the university to areas in need of improvement.

Designing sustainable models for continuous improvement in teaching and learning at the university improved pedagogy. Five years ago, the majority of our pedagogy and assessment at SMU was lecture and test, now the majority of the pedagogy includes engaged student learning, flipped classrooms, project-based learning, response systems, mobile learning, and student-designed simulations. A robust Scholarship of Teaching and Learning (SoTL, click on link) program was developed and embedded in academic culture. Faculty revised the definition of Scholarship and changed rank and promotion criteria to include SoTL. We continue to see an upward trend in faculty promotion with this improvement. Much of our curriculum has been revised and updated and our multiple specialty accreditations consistently provide commendation not citation in educational effectiveness reviews.

Automating key academic processes related to improving the syllabi has resulted in saving faculty time and increasing accuracy and organization for students. We are creating a digital repository of Scholarship that will serve administrators, faculty, staff and students. Agile academic support teams are rebuilding infrastructure by breaking down silos and getting the right people at the tables to make decisions.

In addition to these successes, we have built a team, regardless of title or position who willingly bring their skills, expertise and passion to improving teaching and learning.

Some lessons we learned are the following:

- Earn faculty trust.
- Assessment tools and methodology matter.
- Take risks and make assessment fun and relevant.
- Prove to faculty "this is not compliance-based if it is not relevant for improvement don't do it."
- Create pilot projects, learn, and scale up. End projects that aren't embraced by faculty (let them go and try something else).

Eat our OATs: Using the Outcomes Alignment Template

Erin Crisp[13]

Abstract

Kurt Lewin's theory of change model describes three simple phases: unfreezing, changing and refreezing (Lewin, 2008). The process of unfreezing related to managing change in assessment practices in higher education has been challenging for many institutions. Primary criticisms involve the feasibility of scaling learning outcomes assessment and evaluation practices. Instructional technology can be operationalized to both scale learning outcomes assessment and to assist in the unfreezing process when implementing learning outcomes assessment data collection. An assessment design that is "tight but loose" accomplishes programmatic goals while maintaining some level of individual freedoms.

Keywords: theory of change, assessment design, instructional design, curriculum mapping, learning outcomes, evaluation

Before cooking something that is frozen, the chef has to unfreeze it. Lewin's three stage theory of change model involves unfreezing, changing, and refreezing (Hartzell, 2016). Unfreezing involves illustrating that the change is needed. Arguably, many an initiative has dried up when the frozen idea was thrown into a hot oven of resistance. Technology used for the purpose of assessment, began the unfreezing process at our institution.

The implementation of a new Learning Management System (LMS) brought with it a new learning outcomes data management tool. After word spread among units that are required to produce learning outcomes data for specialized accreditors (Council on Social Work Education, Council for the Accreditation of Educator Preparation, etc.) even units without the same requirements started seeing the advantages of collecting learning outcomes data. A forward thinking Vice President for Academic Affairs capitalized on this momentum by establishing a full time Director of Assessment position, and this action was the primary contributor to what is becoming a successful implementation of a learning outcomes assessment data collection process and reporting instructional technology. In other words, to follow Lewin's change model, we had moved from unfreezing to changing (Lewin, 2008).

Efforts have been made in the past to standardize some assessment practices across disciplinary units. Before implementing the new technology, these efforts fell flat. They were not enough to unfreeze cross-disciplinarily because each discipline had their own way of thinking about assessment, and no one was tasked with taking the time to understand the extent to which there were unique needs across units. For a successful assessment system to be implemented

---

[13] Indiana Wesleyan University

across various academic areas such as business, education, social work, psychology, ministry, leadership studies, and general education, we would need a design that was "tight but loose" (Wiliam, 2009).

The design of our assessment system unfolded over three years as we tried processes and decided on what was actually needed. One attempt was overly complicated while the next attempt produced data that didn't inform improvement adequately. These trial and error pilot attempts produced what our cross-disciplinary team agreed upon to be the "tight" aspects of the assessment design. Anything programs need that does not interfere with the following list is considered to be the "loose" aspect of assessment design.

- Every academic program will have program learning outcomes (generally 5-10) that follow the SMART model (specific, measurable, achievable, relevant and time-bound) for outcomes development.
- Every course will have course learning outcomes (CLOs) that align to one or more program learning outcomes (generally 4-8 CLOs per 3 credit hour course) again following the SMART model.
- Every program learning outcome (PLO) will be taught and assessed at least three times throughout a student's program, via the course learning outcomes, representing three levels of understanding or skill: Introductory (I), Developmental (D), and Mastery (M). Mastery is defined as the minimal acceptable standard for graduation (not professional mastery of a domain/skill).
- Learning outcomes data collection points will be established at each of the three levels for each PLO, called key assessments. In most programs, this means each course has no more than one key assessment and several courses have no key assessments.
- Program learning outcomes are assessed, in many cases, via course learning outcomes data, sometimes called "secondary" assessment. If our course and program outcomes are aligned as they should be, an assignment that teaches/assesses a course learning outcome should also provide evidence of program learning outcome progress or mastery.
- Outcomes rubrics used for all key assessments and dimensions will be defined at four levels- Introductory (1), Developmental (2), Mastery (3) and Exceptional (4).
- Grading rubrics can and should be used in addition to learning outcomes rubrics as in the examples below:
  o A grading rubric assesses the following five dimensions for a philosophy paper: (1) timeliness, (2) APA style, (3) grammar, (4) topic fully addressed, (5) use of supporting evidence. The grading rubric is shared with the student and results in a grade. Typically these rubrics are "norm referenced" in the mind of the faculty meaning that the best papers in the class often receive A's and the others are sorted accordingly with the bulk of our students (adult, online learners) receiving A's or B's.
  o An outcomes rubric assesses features of the assignment that relate directly to the program learning outcome to which the course learning outcome is aligned: (1) use of evidence to support a premise and (2) comprehensively articulating a well-organized

premise. Including timeliness or APA in the scoring does not give a clear indication of the student's ability to accomplish the outcome being assessed, it causes validity issues.

o The scores on the outcome rubric are not revealed to students as these are meant to be "criterion referenced." Faculty raters are trained to compare student work with pre-established standards for mastery and rate the student's work accordingly. One would not expect to see a lot of 3s and 4s on an outcome rubric if this key assessment had been designated as an Introductory (I) key assessment even though the student may receive an A for the assignment via the grading rubric.

This list may seem like a long list of "tight" aspects of design, but because of the technology implementation, faculty and administration could see the value and thawed to these ideas without much struggle. To properly implement the technology tools, the office of assessment would need a consistent four point rubric scale to be followed. To properly build parent/child connections between program and course learning outcomes in the system, tight outcome alignments would need to occur, and so on.

The loose aspects of assessment design are still being discovered as program directors and faculty members continue to gain comfort with the system and push the boundaries of creativity in assessment. Some examples include:

- The number of assessed student products per program/course has varied. Some programs have done rater training with every faculty member and assessed every student product while others following a sampling approach.
- The type of outcome rubric structure differs across programs. Some outcome rubrics are holistic rubrics (assessing all aspects of the outcome with one general dimension defined at four levels) while others are analytic rubrics (assessing several identifiable dimensions of the outcome defined at four levels).
- Timeline for implementation also varies. Some programs are starting only with mastery assessment and adding one level per year; whereas, others are starting with introductory level assessment or starting with a handful of courses and adding a few more courses to their plan each year.
- The process for arriving at approved learning outcomes is a final "loose" aspect. Many resources and personnel are available to assist in writing, aligning and developing assessments, but each school or program approaches the task differently. Curriculum committees, academic affairs council, and a graduate council are the governing bodies who approve learning outcomes and curriculum maps including assessment.

Several documents have become instrumental in our journey toward an assessment strategy that makes effective use of learning outcomes measurement tools. The first is the Outcomes Alignment Template, affectionately referred to as the OAT (and yes, we've made many OAT jokes and references). The OAT is an Excel spreadsheet developed for each

academic program containing multiple tabs (Appendix A). This spreadsheet is the primary vehicle of communication between the academic leaders and the office of assessment.

When all information is complete in the OAT, the office of assessment can input the learning outcomes into the appropriate courses, attach the appropriate outcomes rubrics, and code outcomes in a way that ensures reliable and valid data collection for the purpose of annual or comprehensive program review. Templates are sometimes frowned upon, but part of the unfreezing process was for program leaders to discover that by completing the OAT template and sending it to the office of assessment, they were freed from the somewhat tedious tasks of data entry and later, retrieval. Now, as the Director of Assessment, I frequently hear, "We love the OAT. It has made life so much easier because we know exactly what you need and where we're headed next."

Another essential document is the Curriculum Development and Assessment Handbook. This handbook details the assessment strategy as it has developed over the years. It provides the foundation of policy, both explicit policy and implicitly followed policy, which details the tight but loose structure that has evolved over time. The Director of Assessment is tasked with reading through the handbook cover to cover in detail every six months, making updates and releasing a revised edition. This aspect of the process is crucial because once a user finds one outdated piece of information, he/she is unlikely to look to the resource for any other information.

The handbook contains a detailed walkthrough of the curriculum development process, options for deviations from the process, appendices of helpful resources, assessment strategy explanation, instructional design explanation, and the process for annual and comprehensive program review. It has become an onboarding document for new program directors and instructional designers as well as a point of reference among colleagues when discrepancies or disagreements arise. Most importantly, it continues to grow and change to stay relevant to the needs of the users.

To answer the question, how has technology made your life as an assessment professional better or worse, our response would be that the learning outcomes assessment technology currently under implementation has finally thawed our community of practice (Lewin, 2008). The vast majority of our faculty and administrators can now envision a scalable method for increasingly valid and reliable learning outcomes data collection and more importantly, use of said data for the continued improvement of curriculum and instruction.

References

Hartzell, S. (n.d.). Lewin's 3-Stage Model of Change: Unfreezing, Changing & Refreezing - Video & Lesson Transcript. Retrieved June 27, 2017, from http://study.com/academy/lesson/lewins-3-stage-model-of-change-unfreezing-changing-refreezing.html

Indiana Wesleyan University (2017). CAPS curriculum and assessment handbook. Retrieved August 30, 2017 from https://drive.google.com/file/d/0B5mT6yaGTVyaaEN5UmRFOUszbDQ/view

Lewin, K. (2008) [1946]. *Resolving social conflicts & Field theory in social science*. Washington, D.C.: American Psychological Association.

Neumann, J. (n.d.). Kurt Lewin - "Field Theory Rule" [Organization]. Retrieved June 27, 2017, from http://www.tavinstitute.org/projects/field-theory-rule/

Wiliam, D. (2009, November). *From ten classrooms to ten thousand*. Presentation presented at the Association for Educational Assessment-Europe, Malta. Retrieved from https://www.udir.no/globalassets/filer/vurdering/vfl/andre-dokumenter/felles/scaling-up-formative-assessment.pdf

Appendix A

The first tab in the spreadsheet is the PLO matrix tab pictured below:

Program Learning Outcome Map: Accounting (BSA)

Associated ILO	Learning Statement ID	Learning Statement	Management and Leadershi MGT-302	Manageri al Finance FIN-210	Applied Microecono mics for ECO-330	Business Law ADM-447	Accounti ng Ethics ACC-430	Strategic Planning ADM-448	Intermedi ate Financial ACC-311	Intermedi ate Financial ACC-312	Managerial Costing Accounting ACC-341	Auditing ACC-423	Advanced Accounti ng ACC-451	Federal Income Tax I ACC-371	Federal Income Tax II ACC-372	Accounti ng Informati ACC-491
CAPS.UG.ILO.07	BSA.PLO.01	Demonstrate an understanding of decision making from a Christian worldview.	I				D						M			
CAPS.UG.ILO.05	BSA.PLO.02	Demonstrate knowledge of current accounting principles, tax law, current auditing standards,							I			D	M			
CAPS.UG.ILO.01	BSA.PLO.03	Develop critical thinking, problem solving, and communication skills.	I				D						M			
CAPS.UG.ILO.02	BSA.PLO.04	Apply accounting theory in a practical manner.							I			D	M			
CAPS.UG.ILO.05	BSA.PLO.05	Demonstrate technology skills necessary to solve accounting problems.							I					D		M

I= Introduce	D= Develop	M= Master	
1	2	3	4
1st day of your program	Midway through your program	End of your program	5 yrs into profession

Coding taxonomy for reporting

Program Learning Outcomes

Key assessment locations & Levels

Course Titles & Course IDs

Next, each course in the program has its own tab in the spreadsheet.

	Program		Management and Leadership MGT-302		Course		Assessment Criteria				LMS Assignment	
Learning Statement ID	Program Learning Outcome Statement			Course LO ID	Course Learning Outcome Statements	1- Needs improvement	2- Emerging competence	3- Competent	4- Outstanding	#.#	Type
BSA.PLO.01	Demonstrate an understanding of decision making from a Christian worldview.		D	MGT.302.04	Create an ethical strategy and standard for leadership during decision-making and problem solving from a biblical perspective.	Does not demonstrate an understanding of decision making from a Christian worldview.	Minimally demonstrates an understanding of decision making from a Christian worldview.	Demonstrates a competent degree of understanding of decision making from a Christian worldview.	Is exemplary in demonstrating an understanding of decision making from a Christian worldview.	6.4	Dropbox
BSA.PLO.03	Develop critical thinking, problem solving, and communication skills.		D	MGT.302.04	Compare and contrast leadership and management using critical thinking skills to address situations arising within a changing global business environment.	Does not demonstrate critical thinking, problem solving, and communication skills.	Minimally demonstrates critical thinking, problem solving, and communication skills.	Demonstrates a competent degree of critical thinking, problem solving, and communication skills.	Is exemplary in demonstrating critical thinking, problem solving, and communication skills.	5.4	Dropbox

Green info is repeated from the PLO tab

Course learning outcomes aligned to PLOs with codes

4 level rubric descriptions by dimension, aligned to course outcome.

Key assessment location and type in the course

How Modes of Practice Revolutionize Learning and its Assessment

David Kirk Dirlam[14]

Abstract

Current concepts of learning fail to reliably discriminate learning indicators, such as outcomes, competencies, and objectives. Higher education research has also not established a methodology to enrich that discrimination. In contrast biology reliably discriminates cells, species and ecosystems and has highly developed methods for researching them. The conceptual failure creates problems with communicating to faculty what to do with outcomes, objectives, and competencies. Faculty roles would dramatically change if their terminology, theory, and research methods resembled biology's clarity. A rigorous definition of modes of practice that distinguishes practices from commitments addresses the conceptual problem. It is also engenders research methods like developmental interviews and other methods for using the new concept. Future uses of the mode of practice concept include collaboration, course design, cultures of learning and teaching, research on the nested hierarchy of practice, and the organization of knowledge into praxomes of science, design, and interpretation.

Keywords: mode of practice, learning indicator, developmental interview, transformative learning commitment, collaboration, course design, real-time developmental education

Introduction

A few weeks ago I visited Colonial Williamsburg in preparation for writing a new book on *Taming intelligence: Tools for managing knowledge explosion and technological unemployment.* As I stopped in each trade shop, I asked the artisan what happened to their trade during the industrial revolution that followed 1776. The apprentice weaver told me about the Englishman, John Kay and his flying shuttle. The shuttle is a device for passing thread through the alternating long strands of the warp. On a large, industrial loom, it took two weavers to pass the shuttle. They used it like a relay baton with a handoff spanning on each side of the loom. After John Kay added wheels, one weaver could throw it through the alternating strands of the warp. Soon, manufacturers created much wider looms. Even with these, a single weaver would both pass it across and catch it on the opposite end. And the pass was many times faster than the handoff. The decreased labor costs and larger products proved very lucrative for manufacturers. Despite their landslide profits, they ganged up on Kay. They created "the Shuttle Club" to resist paying him for his patented device. To make matters worse, the weavers, half of whom lost their jobs, burned his house down. He died mostly destitute in France.

---

[14] David Kirk Dirlam is an educational consultant and can be reached at ddirlam@changingwisdoms.com

If job gain is all that higher education offers, bootcamps[15] or online courses[16] could become the flying shuttles for higher education. The explosion of knowledge will not go away and artificial intelligence will accelerate technological unemployment. If job gain is all we accomplish, we can expect higher education institutions to become as empty as European cathedrals, their ivy towers relics of a past way of life.

Most higher education institutions insist that their missions are not just employment. Nearly all promote some version of lifelong adaptation, collaboration, and service. The public as well as accreditation and government institutions are becoming increasingly aware that our current approaches are vague and haphazard. To accomplish our missions, faculty need to document learner practices, enable transformative learning, and teach students how to manage complexity. This will require a revolution in higher education that integrates learning and assessment in a much more planned, tested, and systematic way than now. The revolutionary approach that accomplishes this is Real Time Developmental Education (RTDE).

Goals of this Presentation

Few of us are aware of how sadly inadequate our current terminology is for describing learning. So, the first goal of explaining RTDE must be to make clear the failure of our current terminology.

Only hit-and-run approaches make failures clear without offering alternatives. So, the second goal is to introduce a dozen new terms for describing learning. These include terms for five modes of practice, four types of transformative teaching, and three levels of complexity.

We need *modes of practice* because people no longer trust teachers simply to grade learning with a five-point rating of their students' accomplishments. Parents, employers, and co-workers must be able to distinguish what has been learned. Descriptions of how the five modes of practice differ from one dimension of learning to another accomplish this.

We need *transformative teaching* because "needs improvement" is no longer adequate for describing what a student must do to acquire the next mode of practice in any dimension of learning. Transformative teaching involves supporting students in making four successive commitments needed to establish any new mode of practice.

We need *levels of complexity* because it takes much more time and effort to acquire some dimensions of learning than others. We cannot adequately compare the impact of educational approaches until we have a clear basis for comparing the complexity of what has been learned. Three levels of complexity begin to make such comparisons possible.

For anyone who has experienced them, learning the vocabulary in introductory courses in languages, sciences, or the arts barely enables students to explore the field further. So the third

---

[15] Ranging from computer coding to higher education assessment.

[16] E.g. Khan Academy, Udacity, or Coursera.

goal of this Presentation is to show how to use the twelve concepts during the real work of education.

No revolution endures without continual development. So the fourth goal of this Presentation introduces three seminal projects designed to inspire advances in RTDE.

Beginning the Change

Goal 1: How Bad are our Descriptions of Learning?

When there are no contexts for comparisons, it is easy to lapse into using terminology without reflection. To help us reflect on our current concepts, we can put them into a context from the history of science. For at least a century and a half, chemists have not bothered with the classifications of elements that ancient civilizations produced. Those included air, earth, fire, and water. Even people with little education could reliably tell one from the other. It would seem ridiculous for an expert to call earth "water" or air "fire." So what happens when we use our current elements of learning? Competencies, outcomes, goals, and objectives are popular terms. Even experts sometimes call outcomes "objectives" or competencies "goals."

Greek elements led to little improvement, but a new terminology changed chemistry. There was so much progress in identifying chemical elements in the first century after the discovery of oxygen that Mendeleev was able to create most of the modern periodic table nearly 150 years ago. Like the Greek elements, many reviewers[17] claim that little or no progress has been made in basing education on outcomes, competencies, goals, or objectives since Tyler first proposed the idea in 1949. The problem is that we began with no terminology that adequately distinguishes types of learning.

It is not just the concepts, but also the methods and equipment. Chemists do not confuse particles, elements, and molecules. Likewise, biologists do not confuse cells, species, and ecosystems. In both cases they also study them in radically different ways. To study cells biologists use microscopes, cell culture, staining, centrifuges, protein extraction and many other methods. To study species they use description, reproduction, hybridization, evolution, and paleontology. They study ecosystems through production, energy flow, nutrient cycling, and biodiversity. But if we try to tell the different ways we study competencies, outcomes, goals, and objectives, we come up empty. Our descriptions of learning are bad.

Goal 2: The Twelve Key Concepts of RTDE

Five modes of practice. We can tell what people have learned by observing what they usually do. Learning is either gradual or transformative. Gradual learning results in incremental improvements in the speed and accuracy of performance of a mode of practice. Transformative learning produces a discontinuous change to a more sophisticated mode. Experts readily identify how sophisticated each learner's modes of practice are. Dirlam (2017) reported on 300 interviews of experts in several scores of disciplines. These showed that learners progress

---

[17] E.g., see Morcke, A., Dornan T, and Eika, B. (2013). Outcome (competency) based education: an exploration of its origins, theoretical basis, and empirical evidence. *Advances in Health Science Education, 18*, 851–863.

through five fundamentally different modes of practice. A fascinating finding was that such progress holds for highly complex, historical processes occurring over many decades as well as for individual learning occurring over a few years.

At the higher education scale of development, *beginning* takes a few minutes to try something. Next, *exploring* takes a few months to learn the basics of a field. It takes a few years to become proficient enough to *sustain* learning. Reading any daily newspaper provides evidence that some learners follow *exploring* or *sustaining* practices with *destructive* practices. Finally, to perform *inspiring* modes of practice requires many years of work on discovery, innovation, or reinterpretation.

Four modes of commitment. The late Jack Mezirow identified 10 phases of transformative learning. As reported in last year's proceedings, Dirlam (2016) analyzed 500 ratings of one-on-one student learning sessions. The 10 phases occurred at only four different times. The descriptive terms given these four time periods were *disorientation, examination, enabling*, and *performing*. Together they became the DEEP modes of commitment. Examination included Mezirow's phases of reflection on a disorienting dilemma, assessing one's role in it, sharing it with others, and discerning a new course of action. Enabling involved planning, rehearsal, and empowerment. Performance can be either initiating or establishing.

Three praxomic levels. Praxomics is a new discipline proposed in Dirlam (2017) that is concerned with the description and analysis of practices. It distinguishes 11 levels of complexity for practices that are analogous to biology's 11 levels of units ranging from genes and cells to ecosystems and the biosphere. For practices, the 11 levels fall into three major categories. Learning vocabulary is different from having a conversation, which is different from writing a published paper. Following a recipe is different from planning a menu, which is different from managing a restaurant. Playing notes on a musical instrument is different from playing an entire piece for an audience, which is different from staging a performance by an ensemble. In each case, the first activities are merely *repetitive*. But since the next require changes with the settings, they are *adaptive*. For the third types, *collective* activity of an entire group is necessary.

Goal 3. Exploring How to Use the New Terminology in Education

How would assessment change if the terms, theory, and methods were as clear as biology's? The first answer is that we would use a straightforward, easily learned theory of development. We would replace global stage theories with multidimensional successions of practices. There would be no global concept of dimension, since we would understand that no one advances to the later levels of the thousands of dimensions involved in human expertise. We would recognize that each dimension would not change in lock step with other dimensions. Rather it would develop based on the unique patterns of the initial prevalence, growth rate, and competitive strength of each practice in the dimension. Furthermore, we would recognize that each mode of practice does not change instantaneously into its successor. Rather a complex process produces the change through first examining the old practice and then enabling the new. During this process, vacillation between the old and new practices is common. In short, we would replace oversimplified concepts of development with concepts that match our experience.

Figures 1 and 2 capture the general theory of development outlined above. Figure 1 gives a single dimension of development. Figure 2 puts multiple dimensions together. On the left of Figure 2, there is a developmental survey for dimensions of drawing development. On the right are data from ratings of over 1,200 drawings made by pupils aged 5 to 19. The dotted lines show the curves for the values of initial prevalence, growth rate, and competitive strength that fit the raw data best.

The next answers to how assessment would change have to do with methods. One outcome of interviews with 80 designers in 20 fields of design was a powerful concept of the development of collaborative skills. From designing a building or creating an interactive game, collaboration begins when students discover what a peer knows that they do not. There is a division of labor in higher education that interferes with such discovery. Instructors define objectives, program faculty define outcomes, and national organizations create tests and rubrics. The first change in methods would be to enable collaboration by aligning these functions. All instructors in a program would agree on the developmental dimensions through a process of cascading developmental interviews, where each participant interviews another and is interviewed by another. The group then combines the interview results into multidimensional developmental rubrics. As these become established and improved over years, the colleagues then define course offerings and levels in relation to their collaborative dimensions. Since all courses use the same developmental survey to record each student's developmental progress, student's get instruction and feedback related to a common conceptual framework.

Figure 3. One Dimension of Successive Modes of Practice
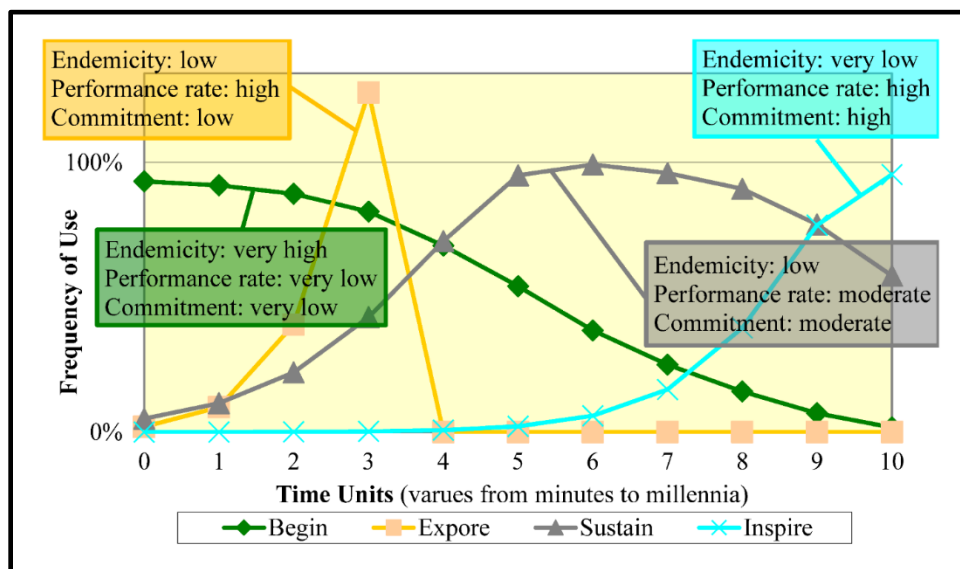
Decades ago, colleagues used developmental surveys for student writing and even for the historical development of developmental researcher's strategies. In the last decade we have added over 60 different programs with our results detailed in Dirlam (2017). One of the more striking findings from this work is a new conception of general education. It started with ninety

developmental interviews of liberal arts faculty in 30 disciplines spread across the three divisions of sciences, humanities, and social sciences. Nearly 600 dimensions came from these interviews and data analysis resulted in 25 clusters. Since eight of those clusters were common to all three divisions, a logical result might be to frame general education according to those clusters. Table 1 shows the eight clusters. Notice that neither bootcamps nor online education offer much in service or research. Appendix A gives the corresponding definitions for developmental rubrics.
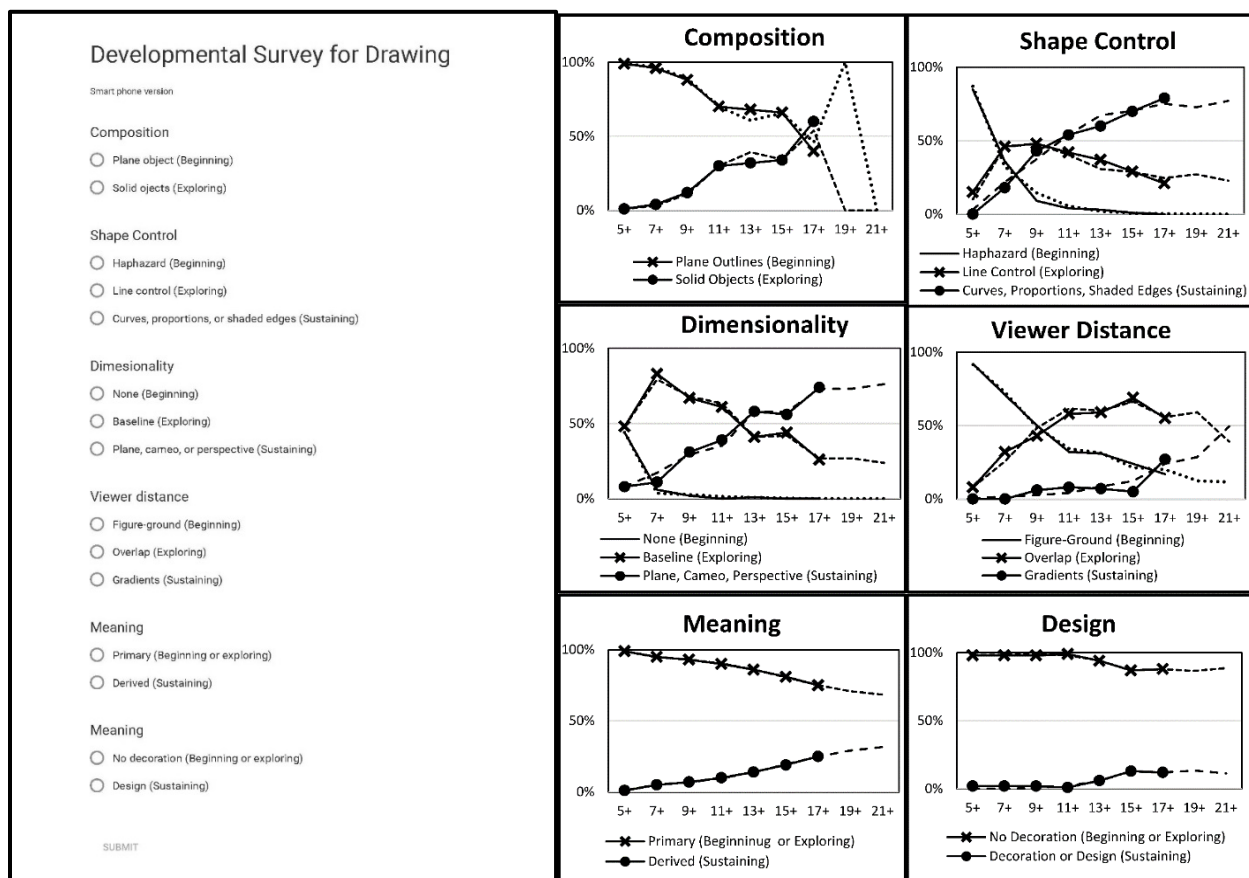
Figure 4. A six dimensional developmental survey for drawing beside data from over 1,200 drawings.

Figure 3 shows the developmental interview tool. Some interviewees like to see it ahead of time. We usually begin the interviews with a five-minute description. It helps faculty to think about beginning as the first day of an introductory course in the program. Exploring includes the lower (associates) level courses that depend on the introduction. Sustaining is what the program expects for the baccalaureate level. Inspiring occurs for a few dimensions at the masters level and for all dimensions at the doctoral level. During the next five or ten minutes, most interviewees brainstorm. That is a good time to write down ideas they have mentioned as possible dimensions.

Table 1. Clusters of Dimensions for General Education[18]

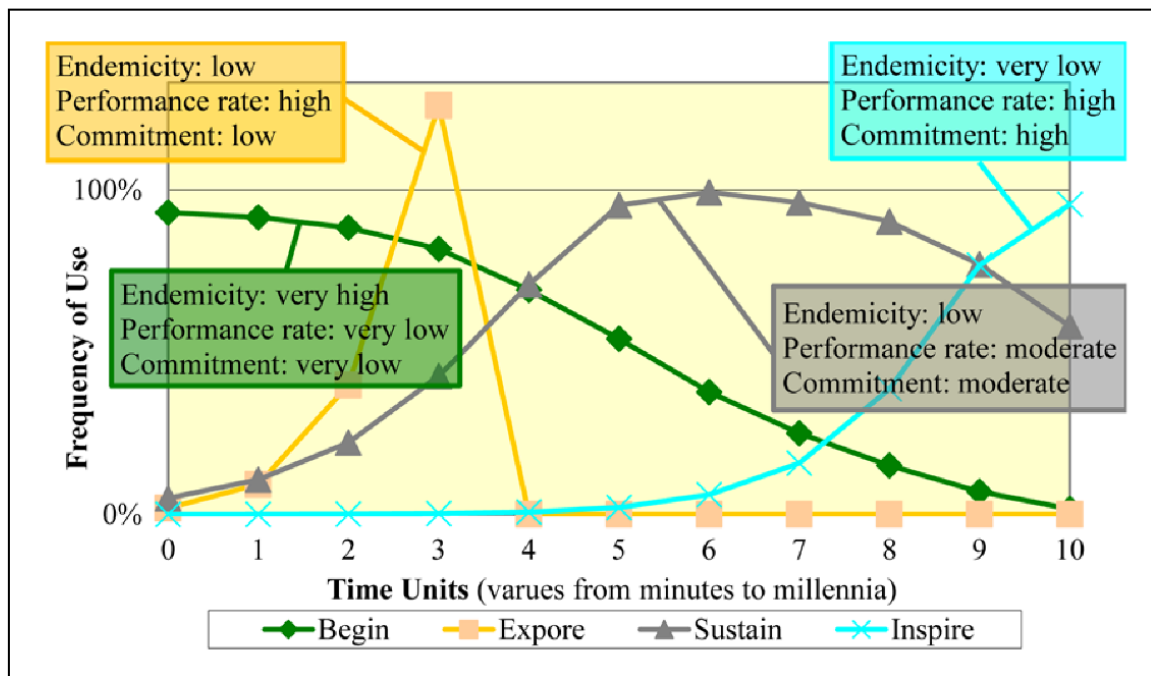|	Beginning	Exploring	Sustaining	Inspiring
SERVICE CLUSTER				
COMMUNICATE Use language appropriate to an audience	Colloquial or reticent	Disciplinary or familiar group	Specialized and non-specialized	Contextualized and engaging
COLLABORATE Work together on projects	Superficial	Compartmentalizing	Exchanging	Generating
APPLY KNOWLEDGE Use understanding	Egocentric	Interactive	Comparative	Panoramic
SERVE Self, others, and choices	Impulsive	Responsive	Principled	Foresightful
RESEARCH CLUSTER				
IDENTIFY PROBLEMS	Disconnected	Borrowed	Paradigmatic	Transforming
FIND SOURCES	Haphazard	Perfunctory	Disciplinary	Comprehensive
DESCRIBE FINDINGS	Superficial	Differentiate examples	Differentiate systems	Transmute systems
INTERPRET FINDINGS	Unitary	Multiple	Embedded	Systematic

The key interviews for a program make it possible to create a developmental survey. Faculty should meet to discuss the first draft of such a survey and eliminate errors. At that point, however, changes should be kept to minimum until they have used the survey for a term or two. After that, they will have had enough experience to know what they need to change. Faculty often want to add a new level for "in between" performances. Such suggestions should be diverted to how to change the definitions to eliminate such results. Increasing the number of distinctions actually reduces inter-rater reliability.

---

[18] See   Appendix A for detailed definitions of the practices for each level of each cluster

Developmental Interview Tool

This tool will help you and a developmentalist create a development theory of your field. When combined with interviews of other experts, the result will be developmental rubrics for the whole program. We seek to identify several dimensions of four modes of practice that learners use: (1) *beginning*, (2) *exploring*, (3) *sustaining* and (4) *inspiring*. Fast growing, exploring strategies may overshoot cultural support and cause the activity to be abandoned. Each dimension focuses on a different aspect of what learners do and how the four practices differ. You will have a chance to edit the notes taken during the interview.

Mode of Practice Examples: Drawings Research Analysis	**Beginning** Scribbles Descriptions	**Exploring** Stick people Descriptive stats	**Sustaining** Sketches Difference stats	**Inspiring** Fine art Math Models & Networks
Learning Time	Minutes	Months	Years	Decade+
Dispersion	Personal (1-3 relationships)	Collaborative team (5-12 people)	Work or friendship groups (100s)	Marketplace (1,000s-millions)
Effects	Peripheral Participation	Take little practice; get some reward	Enable living wages but no excitement	Enable Discoveries
Helpful Prompts	What do people do in first class?	Overuse by graduates would be discouraging.	Save this for last.	Use by learners would be exciting.

Sustaining RTDE

Once a few programs have started to use developmental surveys based on developmental interviews, the approach expands more reliably through cascading developmental interviews. Assessment offices create these by interviewing a few faculty in front of a group. Then, if they discuss the developmental interviewing rubrics (Appendix B), it provides a chance to review effective interviewing strategies. Next, one of the group interviews another and the group discusses the rubrics for that interview as well. Participants then schedule the remaining interviews.

When program faculty collaboratively edit developmental ratings while adhering to the modes of practice model, they use them more effectively. Those who created the definitions in the first place are more likely to revise and retain them. Cascading interviews effectively help all faculty involved understand both the theory and method.

Once the interview notes are collected in one place, faculty can either combine the interviews themselves or ask the assessment office to do it for them. Since most interviews result in 6-12 dimensions resulting in up to a quarter billion patterns, that is a useful level of complexity for programs. Providing a unique label for each mode of practice in each dimension greatly facilitates collaborative discussion with both colleagues and students. The definitions of the modes become unwieldy over 40 words.

Developmental rubrics distinguish modes of practice, not the gradual learning within a mode. To capture transformative learning, each level must define a different mode of practice, not just a different proficiency within a mode. Clues for the latter are adjectives used to make SWELL rubrics (Sequences Which Expand Little by Little). The assessment office can next create digital surveys from the final rubrics that faculty can fill out in a minute or two per student.

Education becomes "real time" when such developmental rubrics are used often per student per course. Notice that this approach completely by-passes the acclaimed "closing of the loop." Such "autopsy assessments" do nothing for the students who participated in them. RTDE in some settings, on the other hand, has been found to double the speed of learning.

The way that RTDE speeds up learning is by changing student commitments. If you look back at the curves for modes of practice, you do not find a single progression that swells learning from start to fulfillment. Rather, there are three or four curves for each dimension. That means two or three dramatic changes. Those are new commitments. According to Jack Mezirow (1991), those new commitments have their roots in disorienting dilemmas. In the words of Abraham Joshua Heschel (1996), new commitments arise from unique events. But new commitments do not create modes of practice instantaneously. Rather they first engender examination in the form of reflection, assessing one's role in creating the dilemma, sharing with others, and then discerning what to do next. Even that is not enough. For once the new mode of practice has been chosen, planning, rehearsing, and empowering are needed even before one tries to perform it. The first public performance is a milestone. But look at any point of time in Figure 1 and you will find considerable oscillation between the old and new practices.

So what are the roles of instructors in helping students to establish new commitments? Some obvious trigger points are in creating dilemmas, discussing them, helping to discern new approaches, and empowering efforts to try. Great teachers intuitively understand these trigger points. Thanks to the research on transformative learning, we now have the opportunity to expand the population of great teachers.

Inspiring Advances in RTDE

It may seem premature to talk about advancing RTDE when so few people are already using it. But the process has all the characteristics that define disruptive innovation. Robert Zemsky's (2013) *Checklist for Change* has been out for four years now. In it, he passionately urged the creation of a 90-credit-hour baccalaureate (90-CHB). In talks around the nation, he experienced two objections. First, institutions could not define their degree outcomes in a defensible way. Second, financial officers were frightened because it was hard enough to fill seats with a four-year curriculum. A 90 CHB would increase the difficulty by one third.

According to Christensen (2016), this is exactly the sort of circumstance that enables disruptive innovation. Tight profit margins and an apparent reduction in offerings are attractive only to marginal players. But what if such a marginal player in higher education risked it and could prove that the result was every bit as good as the current higher-priced model? Placed between boot camps and the traditional 120-credit hour baccalaureate, such an approach could quickly up-end the higher education marketplace. At that point, institutions with the best 90-CHB programs would have a considerable advantage. So the next section proposes three projects designed to help AALHE members gain such an advantage.

Goal 4. Three Seminal Projects Designed to Inspire Advances in RTDE

Creating an AALHE database of learning identifiers

The first proposal is to help create an AALHE Database of Learning Identifiers (ADLI). Catherine Wehlburg, Susan Perry and I did a showcase presentation on the project at this year's AALHE conference. It is detailed elsewhere in these Proceedings. Basically, we proposed to collect systematic evidence of the distribution of learning identifiers by Carnegie type and geographic location and of the changes in them over time. Such a database would identify exploring modes of practice from the lower level courses and 2-year programs, sustaining modes of practice from upper level courses in 4-year programs, and inspiring modes of practice from graduate programs.

ADLI would generate the improved transparency that the federal government seeks. It would include learning identifiers from all levels and types of higher education institutions and programs. Such a database would also provide powerful support for any institution trying the 90-CHB.

Creating an accelerated development curriculum

The second potential innovation is to use RTDE to help programs create the accelerated development curriculum, a 90-CHB program founded on the principles of RTDE. It is possible that Christensen's model might actually work differently in higher education than it does in business. In business, it is the marginal institutions that are in the best position to innovate. But many institutions in higher education are driven as much by donations as purchases. An institution with a highly selective student body and high endowment might be in a position to greatly expand its reach through an accelerated development curriculum.

Using praxomics for course and program design

The third innovation is to apply praxomics to course and program design. Recall from above that praxomics is concerned with the description and analysis of practices and distinguishes repetitive, from adaptive, from collective activities.[19] Each of these broad types contain several levels of units. Repetitive activities range from conditioned responses to memory-guided responses and from there to procedures, like recipe following. Adaptive activities range from the phases and modes of transformative learning to the modes and dimensions of practices. Collective activities are those that require collaboration, including specialties and disciplines up to the entire methodologies and the human knowledge they engender. Appendix C provides the 11 praxomics terms along with their nearest common terms and definitions.

Surely a course that improves repetitive activities does not have the same stature as one that improves adaptiveness. Moreover, repetitive activities are those that programmers are most likely to computerize, apparently making their acquisition less useful. But adaptiveness may well depend on how repetitive activities are combined. Furthermore, as any Google or Amazon user knows, artificial intelligence programs are becoming better and better at adapting. The praxomics levels that are most resistant to computerization are the collective ones. It is difficult to imagine robots creating professional societies and innovative designs, scientific discoveries, or new interpretative precedents. RTDE that focuses on such high level practices will help humanity prosper.

Conclusions

From a new vision of higher education assessment emerges a new vision of higher education itself. This new vision is one in which more attention is paid to the development of expertise in each individual student. Faculty also collaborate in much greater detail with deeper understandings of how to distinguish transformative from gradual learning and how to support both. The resulting clarity about development speeds up the necessary acquisitions. The need for such speed is ever growing due to the social changes being produced by the explosion of

---

[19] Appendix C provides definitions and common-language analogs for the 11 levels embedded in these three categories of praxomics units.

knowledge and ubiquitous technological re-employment. Accelerating development through Real Time Development Education is a disruptive technology whose time has come.

References

Christensen, C. M. (2016). *The innovator's dilemma: When new technologies cause great firms to fail (management of innovation and change).* Cambridge, MA: Harvard University Press.

Dirlam, D. K. (2017). *Teachers, learners, modes of practice: theory and methodology for identifying knowledge development*. New York: Routledge/Taylor & Francis.

Dirlam, D. K, Roszell, N., Ng, L. Covitz, R., and Wilkinson, M. (2010) Using Developmental Interviews to Create Learning Outcomes Networks, Presentation at the 1st Annual AALHE Conference, Lexington, KY.

Dirlam, D. K., Wehlburg, C. W. and Perry, S. R. (2017). Toward an AALHE International Database of Learning Indicators. 8th Annual Conference of the Association for the Assessment of Learning in Higher Education. Louisville, KY.

Heschel, A. J. (1996). *Moral grandeur and spiritual audacity: Essays edited by Susannah Heschel.* New York, NY: Farrar, Straus, and Giroux.

Mezirow, J. (1991). *Transformative dimensions of adult learning.* San Francisco: Jossey-Bass.

Tyler, R. W. (1949). Basic principles of curriculum and instruction. Chicago: The University of Chicago Press.

Zemsky, R. (2013). *Checklist for change. Making American Higher Education a Sustainable Enterprise.* Rutgers, NJ: Rutgers University Press.

APPENDIX A. Development Rubrics for General Education

	Beginning	Exploring	Sustaining	Inspiring
		SERVICE CLUSTER		
Communicate (use language appropriate to audience)	Colloquial or reticent	Disciplinary or familiar group	Specialized and non-specialized	Contextualized and engaging
	Use colloquial, at-home language, dress, and posture. Feel unworthy to participate.	Use vocabulary from their disciplinary reading. Explain to a familiar group what they did and what they found out, but read notes or PowerPoint directly.	Practice enough so that they can converse with their audience. Make interesting presentations to both specialized and nonspecialized groups.	Identify audience interests, engage deeply and quickly, and use multiple media with appropriate pacing. Generate insights and choose contexts to make their conclusions easier to understand and remember than previous work.

	Beginning	Exploring	Sustaining	Inspiring
Collaborate	Superficial	Compartmentalized	Exchanging	Generating
(work together on projects)	Work with other students on a project, paper, or presentation. Get a poor outcome because it was not coordinated. Work with their friends or make new friends. Talk with one another without progressing beyond talk. Defend themselves instead of adapting.	Complete projects and present to groups they know. Split into separate roles and end up with separate parts and some social loafing. Learn that talking with someone facilitates future conversations and grows social capital. Win moments by making others lose. Acknowledge problems and change based on feedback.	Manage social relationships to balance contributions of each group member. Identify their expertise and resources. Ask questions and spontaneously solicit feedback. Exchange information, ideas, and values. Seek agreement on problem definitions. Make sure they understand what the others said. Recognize that making anybody lose makes everybody loses.	Work on multiyear deadlines for implementable and documented solutions. Maximize group member contributions to achieve better results than any individual could produce. Recognize opportunities to engage with others that contribute to solving organizational problems. Develop enough shared information to provide new agreements or policies, understanding some things will be excluded.
Apply Knowledge	Egocentric	Interactive	Comparative	Panoramic
(use understanding)	Think their own values are the best. Interpret or create a work largely in subjective ways. Freeze or talk too much with clients about matters extraneous to a meeting. Avoid the tough stuff, engage in an argument, or become authoritarian.	Use interactive communication to help others. Discuss social and human components to understanding disciplines. Use simple typographies to classify peoples' problems. Feel pressure to get client agreement. Realize without knowing a remedy how situations can hook them into Beginning strategies.	Organize and see subtleties among frameworks by using logical causality, historical sequences, transitions of same, different, opposite, and impacts of situational history and politics. Separate their own from client frameworks through interacting in client settings. Manage situations in preventive, not corrective ways.	Use conversation and model actions to help solve moral problems collaboratively. Understand how singular frames of reference limit understandings and solutions. Explain other people's views from their vantage, helping them see alternatives while understanding and respecting their autonomy.

	Beginning	Exploring	Sustaining	Inspiring
Serve others	Impulsive	Responsive	Principled	Foresightful
(provide support for self, others, and choices)	Do what they do at home. Envision something social that they don't know how to get based on meeting someone different from themselves or an urge for independence. Keep the vast majority of the profits for themselves. Determine what evidence is available in full text related to broad topic.	Seek to provide both extrinsic and intrinsic rewards, believing people will not support them unless they are rewarded in turn. Pose questions about and provide answers to what their audience needs. Review search results for currency, reliability, authority, purpose/point of view. Argue a point of view with supporting evidence.	Articulate a personal creed. Seek opportunities consistent with it. Support their art with another kind of job. Commit to a new level of productivity. Support local economies. Provide oral or written demonstrations of their views with confidence and comfort. Consider how sources support or refute their argument; developing counterarguments if necessary.	Support the development in others of more diverse relationships within their own cultures. Make decisions based on long-term implications for all stakeholders including themselves. Advocate for change as active community members. Identify what is important, not just to the topic but to their audience's lives. Identify all resources necessary for comprehensive reviews.

RESEARCH CLUSTER

	Disconnected	Borrowed	Paradigmatic	Transforming
Identify problems	Be way too general to come up with an answer. Consider research as something other people do. Offer explanations of phenomenon or refer to studies without defending their choices or offering supporting evidence. Think theory is useless. Have no methodology. Mention some individual and societal costs. Confuse risk factors and consequences. Describe marketing as selling, advertising, commercials, pricing.	Undertake real-world problems identified by others Compare the efficiency of methods for solving them. recognize when they fit findings. Identify theories. Distinguish independent from dependent variables, correlation from causation. Recognize research design logic: question, literature review, concept identification, measurement, application, dissemination. Pinpoint individual and societal costs and risk factors.	Pick a problem area. Replicate studies. Identify flaws, follow-up studies, and solutions to real-world problems. Apply any theory to any sub-discipline. Identify confounds, alternative explanations, and ways research might help themselves or others. Distinguish individual, local, and societal risk factors. Identify innovative programs. Articulate the "prediction problem" (theories are poor predictors).	Work on novel problems requiring a sequence of studies to narrow down answers. Consider where studies might have gone wrong. Apply findings or conclusions to expand current knowledge and advance the field. Figure out new problems, methodologies, or theoretical approaches. Evaluate by building up, like grounded theory, through collecting evidence, coding it, identifying categories, and suggesting applications.

	Beginning	Exploring	Sustaining	Inspiring
Find sources	Haphazard	Perfunctory	Disciplinary	Comprehensive
	Use a search engine, such as Google, with no thought to vocabulary or popular disciplinary books, magazines, and their textbook. Find and report secondary sources such as Wikipedia, WebMD, and public pages. Affirm a point of view without being able to add reasons for it. Respond to haphazard pictures with personal judgments and stories of experiences.	Select key terms haphazardly for building search strategies in library catalogs, databases, or web. Browse relevant stack areas. Use sources provided in courses. Distinguish primary from secondary sources and peer reviewed from unreviewed sources. Cite others or perfunctory reasons for arguments. Collect isolated bits of information.	Select databases appropriate to the topic or research question. Do comprehensive and efficient searches related to particular topics, using citations in sources, or review articles, and multiple modifiers to refine searches in databases. Look at mass media from multiple disciplines and theories. Discuss articles with others. Write critiques as well as summaries. Integrate across disciplines.	Search beyond local resources using WorldCat and ILL. Assemble publishable bibliographies including foreign-language articles. Know how much a comprehensive overview requires. Keep up with advances. Critique books, journals, and articles to advance the discipline. Collaborate with groups, knowing others' work well enough to send relevant articles. Invent new conceptual tools to study innovations.
Describe findings	Superficial	Differentiate examples	Differentiate systems	Transmute systems
	Describe easily observable characteristics without identifying relevant processes. Search Google, copy verbatim, and judge quality by whether they liked it. Include irrelevant information about projects and omit an important section (e.g., question, strategy, result, or conclusion). Assume readers know the background. Try to solve a major social problem in a page.	Identify how one concept or institution affects another. Identify some similarities and differences from their own of a few other perspectives on diversity, economic development, health, war and peace, and globalization. Communicate a research question within a context. Describe factually their method, results, and conclusions.	Discuss how institutions, people, processes, groups, and social movements interact to produce outcomes. Differentiate how diverse systems of thought or institutions produce conflicting actions or environmental outcomes. Anticipate counterarguments from other perspectives in culturally sensitive ways. Describe their own projects, identifying anomalies, unusual results, implications, limitations, and future research directions.	Create unconventional, complex, specific, and interdisciplinary comparisons that reveal new insights. Challenge assumed relations between institutions, people, processes, and groups. Describe how systems work, why and who they fail, and with what political influences. Identify improvements in ways to test conclusions. Observe patterns of features and factors related to them. Maximize information with minimal words.

	Beginning	Exploring	Sustaining	Inspiring
Interpret findings (create understanding)	Unitary Accept authority and everyday understanding, unreflectively and uncritically. Equate power with the ability of one person to impose their will on others. Respond to images, media, books, or articles with only I like, or dislike, the subject matter. Write down their end result without showing their thinking. Equate theory with generalization.	Multiple Put information in broader contexts and ask what its utility is. Criticize everyday understanding. Distinguish correlation from causation. Generate definitions and counterexamples. Deconstruct, then reconstruct to solve problems. Identify rational and passionate grounds for differences of opinion between articles. Differentiate power as coercion, social capital, persuasion, overwhelming evidence, bureaucratic position, wealth, or resource control.	Embedded Consider how conceptual structures affect information. Alternate between creative and critical modes regarding interrelated sets of difficult concepts. Identify which sources contributed most to their own understanding. Situate articles within diverse disciplinary schools of thought. Read for a deeper sense of empathy. Relate institutional processes and power structures to member quality of life	Systematic Build conceptual structure by viewing distinctions across other concepts. Juxtapose ideas. Connect body with mind, praxis with theory, individual instances with the systems that created them. Identify reasons behind others' customs. Enliven places in books with matches to familiar places. Attack chronological snobbery (new ideas are better). Collaborate and help organize others' efforts.

APPENDIX B. Developmental Rubrics for Developmental Interviewing[20]

Dimension	Beginning	Easy	Practical	Inspiring
Identify Participants	Protected Interview friends or family	Volunteers Interview interested and willing experts encountered in daily life	Career Interview workplace experts needing to identify developmental patterns	Marketplace Interview ever expanding varieties of expert groups
Use Succession Graph	Levels Mention only the 4 strategy names. (levels). Interviewees apply it to themselves.	Decision & Time Focus on the decision and practice time (Ignore the graph and needs). Interviewees apply it to a few individuals they know well.	Dialog Dialogue about the graph with quick and flexible recall of all details. Use it to generate questions. Interviewees apply the tool broadly.	Enrichment Add or modify the table or preface to facilitate interviewee comprehension or incorporate his/her ideas. Interviewees enrich the graph or definitions with new concepts.
Collaborate	Introduce Introduce selves to interviewees. Explain why they were invited to participate. Expect interviewees to take care of themselves or do not think about protecting them.	Disclose Talk about selves, explaining why they are interested in conducting the interview. Explain that the interviews will not be confidential. Explain how they will help the interviewer.	Take Interest Explain how the interview will help both participants. Learn major settings of the participants' experience. Create opportunities to make formerly unarticulated voices audible to a small, known group of users. Build rapport by showing interest in interviewees' responses, being sympathetic, affirming.	Authenticate Explain how the interview will help people that the interviewee cares about. Authenticate the interviewee's expertise by making constructive use of it for broad audiences. Use developmental principles and interviewee knowledge to create more than either could create alone.

---

[20] Reprinted from Dirlam et al. (2010) and Dirlam (2017)

Dimension	Beginning	Easy	Practical	Inspiring
Define Dimensions	**Brainstorm** Ask interviewee to brainstorm the things people need to learn to become expert in their field.	**First Emotional** Ask interviewees to remember frustrating things advanced learners do. Then ask about the development of the first thing they mention.	**Multiple Emotional** Ask interviewees to remember frustrating things advanced learners do, list dimensions as they talk, and work on the list one dimension at a time after they are ready.	**Insightful** Ask interviewees to remember frustrating things advanced learners do, separate out dimensions as they talk, and pick unique insights from other dimensions to expand later.
Discover Commit-ments	**Grades** Be satisfied with grading analogies that use qualitative adjectives.	**Practice Times** Accept descriptors based on the amount of practice time it takes to achieve each level.	**Commitments** Record notes after discerning how the answer relates to one of the four commitments (try, learn, become proficient, or contribute).	**Innovations** See commitments unique to the expertise being discussed which have the potential to change the expertise.
Discover Practices	**Avoidance** Iinterviewees try to avoid particulars by asking questions or telling what they did or felt.	**Impressionistic** Record impressions of what learners feel, think or have "talent" in.	**Behavioral** Help interviewees focus on what people do. Ask for examples and then ask them to generalize.	**Activity** Help the interviewees recall the typical settings and interactions of experts.
Listen and Use Notes	**Recorded** Record the interview	**Sequenced** Record or take notes. Follow persistently the developmental order of questions even when the interviewee goes in a different direction. Ask more than one question at once.	**Interpreted** Use notes to pick up on potentially useful leads. Help interviewees interpret experiences that can be useful to others. Let them speak for themselves, unless they want help finding a word or idea.	**Constructed** Allow interviewees to process at their own pace and participate in constructing the meaning of the interview. Use notes to work together to create a way to express complex ideas, making sure the interviewees contribute more to constructing the narrative than the interviewer.

Dimension	Beginning	Easy	Practical	Inspiring
Improvise	Closed	Formulaic	Development Focused	Yes, and…
	Ask questions that can be answered by a single word or phrase.	Ask for elaborations, using formulaic questions like, "What do you mean by that?" "Can you tell me more about that?" Be satisfied with abstractions or adjectives.	Help interviewees focus on developmentally relevant information, especially, ask interviewees to describe what people actually do.	Help interviewees frame their narrative by affirming their thoughts and feelings, encouraging them to expound, and connecting their ideas with development by affirming interviewee contributions and added something to them.
Produce Flow	Pushing	Pulling	Patient	Open
	Keep the talking going even if they have to do it themselves.	Put words in interviewees' mouths even if it means interrupting them.	Wait patiently, realizing that people take time to come up with ideas.	Provide an atmosphere conducive to open and undistorted communication by being receptive to being changed and describing the change when it happens.
Use Results from Others	Personal	Leaders	Other Interviews	Community Building
	Talk about family, friends, etc.	Talk about researchers or disciplinary leaders.	Talk about other interviewees but give the interview back to the interviewee to modify.	Talk about ideas from other interviewees to help guide the interviewee as examples (but avoid implying that the "right answer" is known or providing so many ideas that it overwhelms them). Let the interviewees know that a "collective collage" of the interviews will be returned to the community for editing.
Clarify	Imitative	Stock	Lexical	Expansive
	Record whatever the interviewee says	Use paradigm questions such as "What does that mean?" or "Can you give examples?"	Get definitions of disciplinary jargon and enough examples for non-experts to get an idea of disciplinary concepts.	Use analogies from their developmental expertise to help users connect with both the interviewees and the interviewers discipline

APPENDIX C. Praxomics Terms

Praxomics term	Nearest common term	Definition
		REPETITIVE PRACTICES
Circular reactivity	Conditioned response	Responses that produce unintended consequences, strengthen and consolidate the response into a schema through repetition, incorporate cultural objects, and involve interactions with other members of a culture.
Actuation	Schema	The memory-dependent, multimodal integration of multiple circular reactivities—each involving cultural artifacts and social interactions.
Procedure	Learning Objective	A series of actuations that are carried out together regularly .
		ADAPTIVE PRACTICES
Phase of commitment	Course outcome	A set of ten components of transformative learning identified by Mezirow that are involved in various modes of commitment and with each phase consisting of multiple procedures that ultimately result in identifying and resolving disorienting dilemmas.
Mode of commitment	Course goal	The sequence of steps that learners engage in when making a transformation from one mode of practice to its developmental successor (the DEEP modes include Disorientation, Examination, Enabling, and Performing).
Mode of practice	Competency $\cong$ Sustaining mode	A developmental level of a dimension of a practice within a particular context that (1) displays consistent developmental parameters of endemicity, performance rate, commitment strength, and acceptance; (2) develops in competition with a few other modes of practice having different characteristics, usually including Beginning, Exploring, Sustaining, and Inspiring modes; and (3) coexists with any modes of other dimensions in the context.
Dimension of practice	Program outcome	A set of modes of practice in which learners can only use one mode at a time.
		COLLECTIVE PRACTICES
Cluster of dimensions	Specialty or sub-discipline	A group of dimensions in which the descriptions within the group are more similar to each other than descriptions of dimensions outside of the cluster.
Praxosystem	Discipline	A group of clusters usually defining a program, discipline, or trade.
Praxome	Progressive methodology	A methodology for advancing holistic knowledge, such as science, design, or interpretation.
Praxosphere	Holistic knowledge	The entire realm of potential holistic knowledge (including potential or actual agents, purposes, situations, cultures, and planned or performed actions).

Converting Assessments in Traditional, Subject-Centered Courses into Outcome-Based Assessments

Erin Hugus and Mary Tkatchov[21]

Abstract

The purpose of our session was to demonstrate the process the Center for Competency-Based Education at the University of Phoenix used for converting traditionally developed course assessments into quality competency-based assessments using an iterative backward design model based on outcome-based design principles, competency-based assessment standards, and adult learning theory. Participants were given the opportunity apply outcome-based design methodology to an assessment from a time-based, subject-centered course to define outcomes, develop competency statements, and have a dialogue about assessment revisions.

Keywords: adult learning theory, outcome-based assessment, competency-based education, authentic assessment, backward design, outcomes

Wiggins and McTighe's (2005) *Understanding by Design* identifies the "'twin sins of traditional design" and articulates our need for improving the student learning experience in order to improve student learning outcomes. The sins fixate on activity-oriented design and coverage:

1. *Activity-oriented design.* "'Hands-on without being minds-on'—engaging experiences that lead only accidentally, if at all, to insight or achievement ... such activity-oriented curricula lack an explicit focus on important ideas and appropriate evidence of learning."
2. *Coverage.* "Students march through a textbook, page by page (or teachers through lecture notes) In a valiant attempt to traverse all the factual material within a prescribed time ... No guiding intellectual purpose or dear priorities frame the learning experience….In neither case can students see and answer such questions as these: What's the Point? What's the big Idea here? What does this help us understand or be able to do? To what does this relate? Why should we learn this? Hence, the students try to engage and follow as best they can, hoping that meaning will emerge."

Too many of our courses have been a product of the second sin, *coverage*. Honest evaluation of these courses showed us that the "big ideas" and relevance to students were often unclear or lacking. We knew we had significant improvements to make using established theories of learning. To transition the participants into a discussion about adult learning theory,

---

[21] University of Phoenix

we asked for their input on their definition of assessment using Poll Everywhere, a polling app that can be used on cell phones or laptops. Figure 1 shows the participants' answers.
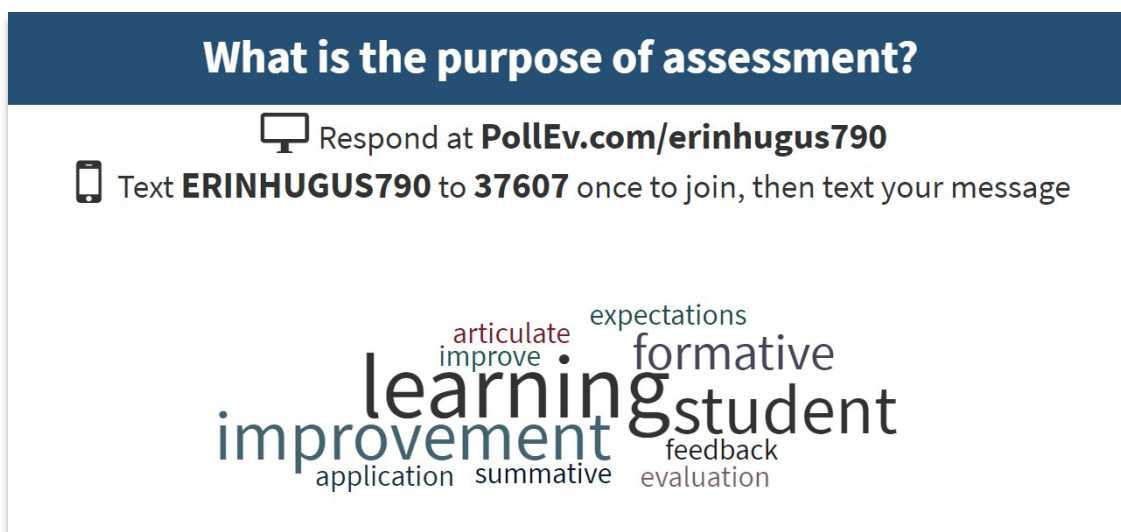

Figure 5. Responses to poll of purposes of assessment.

We discussed as a group how refreshing it was that no one answered "grades." There was a consensus that the purpose of assessment is to improve student learning and help students to achieve important, relevant learning goals. This discussion about the "why" of assessment led us into adult learning theory, which guided us through the first stage of the revision process for higher education courses. Knowles, Holton, and Swanson (2005) provide six assumptions about adult learners:

1. Need to know
2. Self-concept
3. Life Experience
4. Readiness to learn
5. S. Orientation to learn
6. Motivation to learn

Since adults need to know why they are learning and why they are being assessed, we as course designers and educators need to know why we are assessing so that we can use assessments appropriately and productively. We shared our session outcomes to model the transparency of outcomes that we expect to see in our courses:

- Describe the philosophy behind outcome-based assessment.
- Evaluate the quality of traditional assessments using an outcome-based perspective.
- Apply a framework for outcome-based design.

The rest of the content of our presentation was structured around Spady's essential principles of outcome-based education (Spady, 1994), which served as the framework for assessment revision:

1. Clarity of focus (defining outcomes)
2. Designing down (backward design starting with outcomes)
3. High expectations
4. Expanded opportunity

To demonstrate Principle #1, Clarity of Focus, which is defining and clearly articulating the learning outcomes, we showed the participants a description and organization of a traditionally designed course that is focused on coverage of weekly topics rather than outcomes:

GEN ED. Media influences on American culture (100-level course).

This course introduces students to the most prominent forms of media that influence and affect social, political, and popular culture in America.

- Week 1. The influence of mass media on culture
- Week 2. The internet and social media
- Week 3. Music, radio, television, games, and film
- Week 4. News media
- Week 5. Advertising

Course description. The course provides an introduction to the influence of media on popular culture in contemporary America. Learners will examine the use of media for information sharing, entertainment, business, and social interaction in the United States and around the world.

We then showed the following, traditional, summative assessment from this course and asked the participants to critique it using the standards and frameworks we had addressed so far (the twin sins of course design, the assumptions of adult learning, and the principles of outcome-based education). The assessment used an essay with the following requirements:

- Describe major developments in mass media in last century and how they influenced American culture.
- Explain how media convergence affects everyday life.
- Explain why media literacy is important for responsible media consumption.

As we discussed the traditional assessment example with participants, we directed them back to Spady's (1994) "clarity of focus on culminating exit outcomes of significance" and considered these questions:

1. Where is the transparency of outcomes in this assessment? What is the actual skill that is being measured?
2. Where is the application of knowledge? Why aren't students applying knowledge and skills to specific representations of media?
3. How is this assessment authentic or relevant to the student? Is describing developments in mass media over the last century a skill that prepares them for real life tasks?
4. Where is the uniqueness in the demonstration of knowledge? Won't a majority of submissions look alike?

The next point of the discussion was that according to Spady's outcome-based design, before you can get to backward design process, which is knowing the assessment first and then designing the learning activities around it, the first step in development is to clearly articulate the "WHY?" Why are the learners learning about this subject and developing these skills? Then the assessment is designed to the WHY. If you look at an assessment and you cannot answer the question, "Why are they taking this?" then maybe the students should not be taking it.

Prior to designing an assessment, outcome statements need to be written to clearly communicate to the learner the skills and knowledge that have been determined to be important because they point toward why they are important. We in competency-based education call those outcomes *competencies* or *competency statements*. Industry experts and faculty subject matter experts were involved in determining the competencies (the long-term learning outcomes).

It must be noted, since we used a general education course, not a career course, as an example that outcome-based education is not simply getting students ready for college or employment, but it is also focused on skills that prepare students for life. Here we also reflected back on adult learning theory, and how the authenticity of learning and assessment, and the apparent relevance to the individual, provide the motivation to learn and to achieve high quality on demonstration of learning—assessment.

We realized that critical thinking and media literacy skills—skills in critically evaluating media messages—are life skills that should be the overall focus of this course. It was clear to participants that the opportunity for evaluation of life skills was missed in this traditional assessment.

Next, we showed the competency statements (outcomes) that we developed in revising this course from an outcome-based perspective:

- Competency 1. Analyze the influence of media on the individual.
- Competency 2. Analyze the role of news media in a democratic society.
- Competency 3. Critically evaluate messages in media.
- Competency 4. Critically evaluate messages in advertising.

The following instructions illustrate the summative assessment for Competency 1, which is designed to elicit authentic and individual demonstrations of the desired outcome rather than generic, impersonal responses:

- Choose three media selections (books, TV shows, movies, biogs, radio shows or podcasts, songs, etc.) that were significant to your development or that are especially representative of your identity.
- Explain how the messages and/or representations in the media examples resonated with your or influenced your values and perceptions.

To show participants how we arrived at the competencies, we shared our process for revising assessments. This involved attention to the following four aspects of the course:

1. Course description
2. Program outcomes (PSLO)[22]
3. Learning resources
4. Professional standards

In order to reflect significant outcomes that are appropriate for the level of the course, competencies (outcomes) were derived in collaboration with subject-matter experts and faculty using the course description, program learning outcomes, published literature, and industry or professional standards.

We had a discussion about how learning objectives support the competency and how all learning objectives must be assessed with the competency, so the existing learning objectives in the traditional course had to be reviewed and revised as we solidified the competencies. Each learning objective would need to represent a stage or part of accomplishing the broader competency.

We ended the presentation with brief discussions about Spady's principles #3, High Expectations and #4, Expanded Opportunity. The high expectations are clearly communicated through grading rubrics. Furthermore, students are provided with expanded opportunity to meet high expectations through multiple attempts, such as learning from feedback, their mistakes, and resubmitting assignments. Since these concepts were outside the scope of assessment design, we spent less time discussing them but still wanted to address them to show complete application of the framework.

---

[22] Learning objectives support the outcome, so the exiting LOs in a course are revised (or removed) as needed.

Reflection on Ideas Generated from the Discussion

One participant pointed out that since the rigor was higher in the revised summative assessment, more attention to formative assessment would be required. We acknowledged that formative assessment will be vital in preparing students for meeting high expectations in outcome-based assessments, and the learning objectives would help to identify opportunities for formative assessment. Another participant commented about our intentional use of learning objectives, sharing that learning objectives often refer to topic areas and are not necessarily represented in course assessments. The group recognized this is an example of Wiggins and McTighe's second sin, *coverage*.

References

Glatthorn, A. (1993). Outcomes-based education: Reform and the curriculum process. J*ournal of Curriculum and Supervision, 8*(4), 354-363.

Killen, R. (2000). *Outcomes-based education: Principles and possibilities*. Unpublished manuscript, University of Newcastle, Faculty of Education.

Knowles , M. S., Holton, E. F., Swanson, R. S. *The adult learner, Sixth edition*. Waltham, MA: Butterworth-Heinemann.

Spady, W. (1994). *Outcome-based education: Critical issues and answers.* Arlington, VA: American Association of School Administrators.

Wiggins, G. (1991). Standards, not standardization: Evoking quality student work. *Educational Leadership, 48*(5), 18-25.

Wiggins, G., & McTighe, J. (2005). *Understanding by design.* Alexandria, VA: Association for Supervision and Curriculum Development.

Exploring the Scope and Work of Assessment Committees

Kelly McMichael[23]

Abstract

As institutions increase in their complexity and broaden their scope of assessing accountable units, the task of working with all relevant assessment coordinators and keeping all departments on task with reporting is a tremendous responsibility that ought to be shared with a number of capable people. Creating or building an assessment committee or council is an essential effort that can assist an assessment director or office in a number of ways. The primary outcome of such a group should be to help all entities within the university understand the importance and logistics of the assessment process. This Roundtable Discussion session explored the roles, the people and the questions surrounding the formation, challenges and highlights of such a committee.

Key Words: committee, review, coordination, consultation

If you have ever watched the National Geographic series, *Mars*, you will agree that it was captivating to consider the unprecedented cost of sending a group of humans on such an epic 34 million mile journey. The intense dynamics of such a diverse group of human beings, with unique and specialized training and abilities, working together in a dangerous and unpredictable environment is what makes this most challenging. Sounds somewhat like the higher education environment, doesn't it?

If your institution was going to begin the management of university assessment by creating a council or committee dedicated to academic and departmental improvement, who would you want to initially be part of such an important group? What would be the ultimate mission or charge of such a group? What would be the scope of such a group in light of professional accreditation, accountability, program self-study and the like? Additionally, how do such bodies develop over time and change in their role and responsiveness? Such is the focus of good discussion and broad developmental thinking. If you are just beginning the venture of leading an assessment committee or have been at it awhile, the concerns and questions seem to keep emerging, changing and growing.

The University Assessment Council (UAC) of Mercer University has not been immune to such change over the last fourteen years. An initial assessment council existed at Mercer from 2003 to 2010 and disbanded after the reaffirmation in 2005 by The Southern Association of Colleges and Schools Commission on College, a few key retirements, and other changes. It was resurrected in 2012 after the internal hiring of a new vice provost of Institutional Effectiveness, purchase of new assessment and planning software, and hiring of a new Director of University

---

[23] Mercer University

Assessment. Mercer was then getting ready for the upcoming reaffirmation in 2015. The new assessment council was comprised of about twenty new members, four of which were members of the former council. The members presently represent the College of Liberal Arts, School of Education, School of Engineering, School of Music, School of Business, School of Theology, School of Law, College of Health Professions (Medicine, Nursing, Pharmacy, and Health Sciences), Penfield College (professional and continuing education), University Libraries, Student Affairs, Institutional Effectiveness and two other non-academic administrative units.

These members are chosen and the length of their tenure on such a group varies from institution to institution. Some institutions utilize their committee as one that strictly focuses on the peer-review of assessment reports. To that end, since they are engaged together twice a year and in the training of other colleagues, each is chosen based on their networking ability and teamwork skills. Since their assessment review is occurring twice annually and centered on the collaborative and corrective process of answering the question, "What is a good plan?" the responsibilities, or charge, for such a group is relatively simple. Other schools may have more expansive roles.

Unlike the assessment councils that focus on biannual peer reviews, the charge of the Mercer council since 2012 has engaged its members a bit more in a "hands-on" approach. After some minor revision in the last three years, there are three essential responsibilities that capture their roles not only as reviewers, but as advisors and collaborators:

- Annually reviewing select university assessment reports (meta-analysis) to help individual departments/programs improve their assessment process and understanding.

- Encouraging programs/units to look regularly at the quality and operation of their assessment process, including reviewing data on continuous improvement and providing instructional sessions in the use of assessment practices and reporting.

- Exercising an advisory role to those representing academic or co-curricular assessment committees across the University.

In this sense, the charge for Mercer reflects a sense of collaboration and connectivity with undergraduate, graduate and General Education committees at a number of points throughout the year. In the last three years, I have increasingly utilized peer review assessment meetings, which occur three to four times during an academic year, to teach about multiple assessment methodologies, purposeful and meaningful narratives, as well as identifying and training assessment coordinators in each respective school who need additional help. The components of a good and meaningful assessment narrative have been shared and discussed with the Council. These elements of narrative were shared earlier in our presentation found in the 2016 Proceedings, *Presenting Assessment as Telling Your Learning Story*. As such, we look for thoroughness and clarity in the programs reviewed.

We have jointly developed an assessment "checklist" (see the Appendix) which is embedded in our online assessment platform. We systematically review up to about twenty different units a year utilizing teams of two. The reviews are then saved in PDF format and sent on to the respective coordinators near the end of the following spring term, so that they receive the review (and comments) after commencement and about the time they will begin closing the loop on the current cycle. In this way, the recipients each have recent suggestions and/or kudos about their report which can provide timely and informative help in completing the current report for the unit. This is proving to be effective so far.

A number of us on the Council are members also of the Undergraduate Curriculum Council, Graduate Council and/or the University General Education Council. Three of our members give leadership to their own internal assessment committees which focus on their own curricular concerns or student body activities. This kind of overlap addresses and facilitates the sharing of assessment information with other groups. This is especially true when there are curricular issues where the sharing of questions and findings of assessment work among others is important. Palomba and Banta (1999) note that

> If these two committees exist separately, assessment information still needs to be considered in curriculum deliberations. One approach to coordination is to have overlapping membership between the two committees; another is to ask the separate committees to hold one or more joint meetings each year (p. 304).

The role that council members have in "reviewing data on continuous improvement and providing instructional sessions in the use of assessment practices and reporting" is still taking form. According to Hernon and Dugan (2004),

> Assessment committees at a number of institutions have reported that, in addition to the usefulness of bringing outside peer consultants to work on campus with individual departments or groups of departments, it has proven valuable to have their own members work one-on-one as consultants on assessment…Once individual chairs have become receptive to learning more about assessment, the assessment committee or one or more of its members hold workshops for all chairs and seminars for the faculty…(p. 43).

While there are some individual members who are taking the initiative with faculty members in their departments, there are some who need more encouragement and guidance. The process can take time and I have collaborated with associate deans and chairs to plan assessment sessions with faculty members and coordinators. However, the ideal scenario is that of assessment members initiating such sessions with their own departments. Hernon and Dugan (2004) assert that,

> In their role as in-house consultants, assessment committees meet with departments on an on-going basis and are able to provide faculty and students working to develop a departmental assessment program with a comfortable environment in which to ask

questions about any aspects of assessment they are having difficulty with (p. 50).

While we could certainly increase our coordination with others, Mercer's Assessment Council acts as the central body of assessment discussion, initiative, representation and particularly the review of the assessment process in units across the University for the purpose of improvement in specific areas. This review-oriented role is reinforced by others in the higher education community and according to Friedman (as cited in Palomba & Banta, 1999),

> In some cases, the assessment committee acts as an oversight body that receives assessment information from campus units and issues summary and evaluative reports. The University Assessment Committee (UAC) at the University of Wisconsin-Whitewater provides feedback to departments about four areas of their required assessment reports. The UAC determines whether reports contain specific measurable objectives, multiple measures and thorough data collection, documentation for changes (or no changes), and evidence of feedback to students and faculty. Each criterion is judged as "needs improvement" or "meets the standard." (p. 23).

In the recent roundtable discussion, a good number of participants indicated they were relatively new to the leadership of such groups and were still forming their charge as a committee. A good question arose about the difference between the term "council", as opposed to "committee." The generally definitive answer I proposed, based partly on Mercer's approach and other schools' protocol, is that a committee is typically comprised of those who serve for a specific term—perhaps a year to two years—and rotate off, while council members are appointed by a school dean to serve as a representative of that school or department for as long as they are able. When current council members at Mercer are ready to leave, they have generally worked with their dean to identify another representative to replace them so that the changes are nearly seamless.

Had we the time to break out and discuss further, we would probably have addressed the issue of assessment knowledge and responsibilities. This is an important aspect of "carrying the torch" forward and broadening the culture of assessment and improvement. I initially shared with the discussion group that one of my frustrations was that many of our members do not yet consistently, as part of their charge, "look regularly at the quality and operation of their assessment process… and provide instructional sessions in the use of assessment practices and reporting." Having shared this, I know that we are also currently working on improving our instruction and are now beginning to work through collaborating as schools and departments.

One model of this was mentioned in the January 2003 *Academic Leader* where Slippery Rock University, working through their Assessment Core Committee, was bringing student affairs together with academic affairs sharing assessment techniques and learning outcomes. These outcomes were tracked and then linked, showing how the outcomes were being addressed and assessed. As the article stated, "…the Core Assessment Committee meets once a month, providing an opportunity for departments across campus to meet and discuss progress, technical

issues, and maintain the links between academic affairs and student affairs" (p.8).

Having heard in discussions how colleagues are struggling with how to engage such a group and getting them to congeal in their mission, I know that our council has good people who understand on a one level the importance of assessment. On another level, they can certainly grow deeper in its application and in their collegiality. While Mercer, after five years, is still in the development phase of some of this, we will be developing five strategic objectives for the Council in the year ahead.

The UAC will need to;

- Track University General Education Outcomes in various schools and make certain these are showing up in assessment narratives.
- Coordinate with the Center for Teaching and Learning (CTL) to help faculty members understand the assessment process better and share anonymous results of peer reviewed assessment reports to determine what faculty development actions may be utilized by CTL.
- Discuss how to emphasize program department outcomes that actually measure what departments are trying to do and explaining how they know it is working.
- Share updates and concerns during each meeting that encourage and elicit feedback and discussion from other Council members—encouraging thought- leadership among members.
- Encourage council members to take increasing initiative as a consultant with those in their respective department.

Summary

It has become clear, both in the literature and in discussions with colleagues, that the scope of such a committee should, at least, involve the oversight and "quality control" of annual program and department assessment. To that end, effective institutions utilize faculty and staff members to accomplish this, whether they are part of the committee or not. Secondarily, such committees may also be involved in program review and the review or development of general education outcomes, unless a General Education Council assumes that responsibility.

While several examples of assessment committees were uploaded and made available to attendees prior to the conference, we did not have the time to explore these in any way. These examples can serve as models for some who are searching for some sense of organization and may find that some aspect of a committee structure or protocol could be incorporated into their institutional framework.

One of the challenges that surfaced over conversations with some colleagues in and outside of this roundtable discussion was that members of such committees, and their leaders, were not prepared well for the assessment task and the coordination of such a diverse group. While this was an important discovery, there was simply no time to pursue this line of inquiry in

a forty-five minute discussion.

Those of us at Mercer hope to experience further success in the work of the council and to share in subsequent conferences the progressive ways in which an assessment council can keep moving forward to engage and connect its members toward effective, creative and meaningful assessment work on the council (or committee) level. This topic is obviously important to many who attended and we are looking forward to discussing the possibility of organizing this topic into a pre-conference workshop which could better address the needs mentioned above. The effectiveness of such committees is too important not to have focused time dedicated to its development.

References

Collaborative assessment brings together student and academic affairs (2003). Academic
 Leader, January, 8.

Hernon, P., & Dugan, R.E. (Eds.). (2004). *Outcomes assessment in higher education: Views and
 perspectives.* Westport, CT: Libraries Unlimited.

Palomba, C.A, & Banta, T.W. (1999). *Assessment essentials: Planning, implementing, and
 improving assessment in higher education.* San Francisco, CA: Jossey-Bass.

Peer Review for Quality Reporting

Fiona H. Chrystall[24]

Abstract

A process for the peer review of Student Learning Outcomes (SLO) Assessment Reports by faculty has been in place at Asheville-Buncombe Technical Community College (A-B Tech) since 2012. Incorporating the best practice model of James Madison University's Assessment Progress Template (APT) rubric (Fulcher, Sundre & Russell, 2009), the peer review process at A-B Tech has evolved since its inception. Through careful analysis of early implementation strategies and outcomes, and regular feedback from peer reviewers and faculty involved in the assessment process, new tools and modes of operation were developed to fully integrate the peer review process into the College structure. The result is a system that works within the College culture and operational needs while still maintaining the integrity and intended function of the process.

Keywords: peer review, student learning outcomes assessment, effective reporting

Information is more than data (Middaugh, 2010). The annual reporting of assessment of student learning at the program level can easily become an exercise in data presentation that serves no greater function than to meet an administrative reporting requirement. In order for the data gathered to serve a meaningful purpose, they must be analyzed, manipulated, discussed and explained within the context of each academic program. Only after such activity can an informative report be written that may be used by both internal and external audiences for decision-making or recording of effective assessment practices. The challenge is to write reports that represent adequately the assessment process without overwhelming both the authors and the readers. In short, the annual report should be a stand-alone document that tells the story of student learning within a particular program using a format and language that is comprehensible to intelligent but uninformed readers. Achieving this takes time and effort to refine the reporting process to meet the needs of the institution. One strategy to help achieve this goal is the use of a peer review process. Kuh et al. (2015) argued that faculty will actually use assessment information, when assessment work becomes an established integral part of the structures and processes of the institution. Thus, many institutions have created committees to provide some kind of oversight of the assessment process, following suggested best practices published in assessment texts over recent years (Palomba and Banta, 1999; Allen, 2004; Banta, Jones & Black, 2009; Walvoord, 2010; Brunner & Roof, 2014; Suskie, 2015). What has not been as well documented in the assessment literature, is how institutions have taken best practice models and modified these over time to better fit their particular context. Two institutions provided a

---

[24] Asheville-Buncombe Technical Community College

longitudinal look at the first few years of implementing a peer review process for SLO assessment reporting at the 2017 AALHE conference: Georgia State University and Asheville-Buncombe Technical Community College (A-B Tech). The A-B Tech experience is discussed here.

Asheville-Buncombe Technical Community College created a peer review committee as a pilot project in 2012. With a ten-year reaffirmation of accreditation self-study due in 2013, the committee was to serve two purposes:

1. Ensure the quality of SLO Assessment reporting
2. Mentor departments in revising reports, as needed.

Faculty were recruited to serve on this committee during the Summer of 2012 and were paid a small stipend if they were 9-month faculty not currently on contract. Six teams comprising of two faculty members were each given twelve reports to review in one week using an evaluation rubric based on the James Madison University (JMU) Assessment Progress Template (APT) model (see Appendix A). The workload was brutal and initial scores demonstrated that several things needed modification such as the wording in the rubric, training for reviewers, timeframe and workload, and the database system created for recording evaluation scores. Nevertheless, the pilot provided a reasonable baseline on the quality of reporting of student learning outcomes (SLO) assessment, and the Student Learning Outcomes Assessment Review Committee (SLORAC) was formalized as a Standing Committee of the College in 2013 and remains in place today. Since inception, the peer review process has undergone several revisions and improvements as lessons have been learned, and tools and methods have been developed that best fit the needs of the college.

The purpose here is not to present the specific details of what was created, omitted, or revised during implementation of the peer review process over the past four years. Rather, the main differences between then and now are discussed, including the rationale and triggers for these changes. Through a process of trial and error, analysis, feedback, and data-driven modifications to a model of best practice, A-B Tech Community College now has a peer review system that operates well within the context of the College's culture and operational needs.

The main changes over time are:

- Reduction in workload
- Simplification of the evaluation rubric
- Creation of a better data-gathering tool
- Greater flexibility in what is evaluated

Reduction in workload

Initially, the peer review workload was in addition to normal contractual expectations with associated compensation for such work. Integrating the peer review work into the Standing Committee structure of the College, and ensuring the work takes place during the typical timeframe of nine-month contracts for faculty, has expanded the pool of potential reviewers. Serving on the committee fulfills an expectation of full-time faculty contracts, making this part of the assessment process "a regular part of work in the academy…..woven into established structures and processes" (Kuh et al., 2015, p. 66). Integration into the established structure of the college is a key modification that has increased acceptance of this assessment activity. However, the most important change has been to ensure the workload is manageable.

After each peer review cycle, peer reviewers are asked to provide feedback on the process via a short survey. Responses are summarized and used to produce recommendations for further improvement, which are included in the end-of-year Standing Committee report. It was clear from the pilot project that the workload needed to be reduced, not only for the peer review work to be "accepted" but also to increase the effort and feedback put into evaluating each report. Peer reviewers now evaluate three to four reports over a three-week period compared to the twelve reports in a single week implemented in the pilot project. The result has been increased buy-in to the peer review work and improved feedback to each report writer.

Simplification of the Evaluation Rubric

The challenge when creating rubrics is to provide sufficient detail with unambiguous wording to ensure comprehensive evaluation without overwhelming both the evaluators and those receiving the feedback. Suskie (2015) noted that templates can help faculty understand good practices as they begin assessment work. While the JMU ATP evaluation rubric model was a good starting point, initial efforts to try and provide as much guidance to reviewers as possible within this instrument resulted in a complex and poorly understood tool. The method for using the tool also did not align well with how reports were laid out and read. Through listening and observing the challenges with using this tool, a new method of evaluating SLO Assessment reports has been developed which better aligns with how faculty approach the task. The parsed out rubric criteria have been re-grouped into fewer categories, each containing two or more of the original criteria resulting in far fewer judgment calls by reviewers. The language has been changed to better reflect how faculty talk about the information contained in the reports and how they interpret the language in the rubric descriptors. The result is a tool which is deemed useful for the task at hand and is much easier for peer reviewers to grasp during a shortened training session (see Appendix B).

Creation of a Better Data-Gathering Tool

With a proliferation of tools to help assessment professionals handle the vast amounts of data now being gathered, it can be difficult to determine which option best fits the need. Balancing the needs of the front-end and back-end users of any data-handling system can be tricky and rarely can all scenarios be predicted or accounted for when making a selection from the array of choices. Initially, we chose to use in-house expertise to create a database system using readily available freeware. It quickly became clear upon implementation that it was neither user-friendly for front-end users (faculty peer reviewers) nor back-end users (assessment professionals). Grappling with yet another new system quickly began to overshadow the actual intended work of the peer reviewers. In addition, our ability to modify the initial system disappeared when the IT expert that created it left the college. With no funds for purchasing an off-the-shelf system, and recognizing that a system that exactly meets our needs probably does not exist, we chose to create as simple a tool as possible using Microsoft Excel software that was generally familiar and available to all faculty. Moving to something more familiar, and designed specifically in response to reviewer feedback about how they approach the review work has allowed the focus to shift to the evaluation and feedback functions of the process.

Greater Flexibility in What is Evaluated

Our peer review process at A-B Tech does not pass judgment on the assessment results of any program. Rather, the rubric aims to evaluate the alignment of the various elements of the assessment plan detailed in the assessment report using language that can be easily followed by an intelligent but uninformed audience. The goal is to have reports that tell the story of student learning in academic programs in an accessible way. A-B Tech is not alone in grappling with this challenge. McMichael reported in the *2016 AALHE Conference Proceedings*, that "many reports [at higher education institutions] lack depth, length, or breadth in their response" and that "results are missing many valuable aspects of deeper reflection on good questions and issues" (p.75). Thus, A-B Tech Community College is not alone in seeking ways to improve the assessment narratives produced for decision-making.

Initially all reports were peer evaluated to establish a baseline for our results. As the assessment and peer review processes have developed and matured, the quality of reporting has improved in the majority of cases. With a sufficiently mature system in place, we are now able to introduce some flexibility into the system to keep the workload manageable and meaningful. Reports that scored in the "Satisfactory" category using the evaluation rubric for two consecutive years are exempt from peer review for a year before being put back into the peer review cycle. All programs produce an annual SLO assessment report. However, reports for newly introduced programs do not enter the peer review cycle until they have completed at least one report for their first cohort of graduates and received feedback from the assessment office. This strategy

has reduced the number of reports requiring peer review each year to a more manageable number while ensuring that the quality of reporting remains sufficiently high to meet standards.

Despite the peer review process being in place for a number of years now, there is still some sensitivity among faculty about an evaluation process that crosses departmental boundaries. The National Institute for Learning Outcomes Assessment (NILOA) has been developing a transparency framework for assessment in higher education for some years (Kuh et. al., 2015) but there is still much work to be done for this to be fully realized. Not all SLO assessment report authors at A-B Tech are entirely comfortable with having their reports "judged" by their peers, and it became clear quite quickly in the implementation process that peer reviewers were most comfortable providing feedback on an anonymous basis. Therefore, the second purpose of the peer review committee has changed from mentoring departments in revising reports as needed, to providing opportunities for faculty, not directly involved in the formal program assessment process, to gain some awareness and understanding of this work. The feedback from peer reviewers are compiled in summary reports by the assessment office and there is no expectation for peer reviewers to act as mentors to those requiring support in improving their assessment report. It is one thing to train peer reviewers to identify potential issues with the reporting of assessment work through guided evaluation; it is quite another to have peer reviewers work with those they have evaluated to find solutions to the identified issues. The peer review process now serves as a means for the status of SLO assessment report-writing to be recorded and communicated, as well as indicating where the assessment office should concentrate efforts on working with individual programs requiring some improvement in their assessment work.

The peer review process for evaluating SLO assessment reporting at A-B Tech Community College has evolved since its inception in 2012 as a pilot project. Established on the principles of best practice, it continues to serve a useful function in the assessment processes at the College. Through careful analysis of the methods and tools put in place over time, coupled with regular feedback from the peer reviewers and faculty involved in assessment of academic programs, modifications have been made. The system in place today reflects the evolution of this best practice model from theory to a fully implemented practice that meets the needs of the A-B Tech context. It continues to be monitored and remains dynamic to changing needs while striving to maintain the integrity and intended function of peer review in the assessment process.

References

Allen, M.J. (2004). *Assessing Academic Programs in Higher Education.* San Francisco, CA: Anker Publishing.

Banta, T.W., Jones, E.A. and Black, K.E. (2009). *Designing Effective Assessment: Principles and Profiles of Good Practice.* San Francisco, CA: Jossey-Bass.

Brunner, P.W. and Roof, K.W. (2014). Developing Assessment Champions in a Resistant Environment. In Cunliff, E. and Romano, T. (Eds.). Proceedings from The Fourth Annual

Assessment Conference of the Association for the Assessment of Learning in Higher Education (AALHE): *Emerging Dialogues in Assessment.* Albuquerque, NM: AALHE.

Fulcher, K.H., Sundre, D.L., and Russell, J.A. (2009). *The Assessment Progress Template*. Unpublished manuscript, the Center for Assessment and Research Studies. Harrison, VA: James Madison University.

Kuh, G.D., Ikenberry, S.O., Jankowski, N.A., Cain, T.R., Ewell, P.T., Hutchings, P. and Kinzie, J. (2015). *Using Evidence of Student Learning to Improve Higher Education.* San Francisco, CA: Jossey-Bass.

McMichael, K. (2016). Assessment as Telling Your Learning Story. In Cunliff, E. and Romano, T. (Eds.). Proceedings from The Sixth Annual Assessment Conference of the Association for the Assessment of Learning in Higher Education (AALHE): *Assessing What We Value: A Focus on Student Learning.* Milwaukee, WI: AALHE.

Middaugh, M.F. (2010). *Planning and Assessment in Higher Education.* San Francisco, CA: Jossey-Bass.

Palomba, C.A. and Banta, T.W. (1999). *Assessment Essentials: Planning, Implementing, and Improving Assessment in Higher Education.* San Francisco, CA: Jossey-Bass.

Suskie, L. (2015). *Five Dimensions of Quality: A Common Sense Guide to Accreditation and Accountability.* San Francisco, CA: Jossey-Bass.

Walvoord, B.E. (2010). *Assessment Clear and Simple: A Practical Guide for Institutions, Departments, and General Education* (2nd ed.). San Francisco, CA: Jossey-Bass.

APPENDIX A

Progress Rubric: Program Level Student Learning Outcomes Assessment Report

Beginning (1) Much work needed	Developing (2) Some minor revisions needed	Implementing (3) Plans and processes are in place	Integrating (4) Plans and processes are established and integrated	Score
1. IRA CHART				
Few program courses are listed	Some of program courses are listed, and some of the Gen Ed.	Most of the program courses are listed and most of the Gen. Ed.	All of the program courses and Gen Ed course are listed (clearly links learning pathways by outcome)	
Few SLOs have an I,R or A	Some of SLOs have an I,R or A.	Most SLOs contain an I, R or A	All of the SLOs contain an I, R, or A.	
Few courses have an I,R and/or A	Some of courses have an I,R and/or A.	Most courses contain an I, R and/or A	All of the courses contain an I, R, and/or A.	
Comments:				
2. ARTIFACTS OF STUDENT LEARNING				3.
Some artifacts are appropriate/sufficient	Many artifacts are appropriate/sufficient (exemplary, satisfactory, unsatisfactory)	Most artifacts are appropriate/ sufficient	All artifacts are appropriate/sufficient (reflect varying levels of student achievement)	
Few artifacts are organized	Some artifacts are organized, but better organization needed	Most artifacts are well organized, but better organization still needed	All artifacts are well-organized (shows clearly artifacts by site and format)	
Comments:				
4. STUDENT LEARNING OUTCOMES AT PROGRAM LEVEL				5.
Few SLOs use precise verbs and others include imprecise verbs such as *know, understand, develop an understanding of* that are difficult to measure	Some SLOs use precise verbs and others include imprecise verbs such as *know, understand, develop an understanding* that are difficult to measure	Most SLOs use precise verbs which are measurable	All of the SLOs use precise verbs which are measurable	
Few (0-10%) of the outcomes are at the higher level of Bloom's Taxonomy *(Applying, Analyzing, Evaluating, or Creating)*	Some (*10-25%)* of outcomes are at the higher level of Bloom's Taxonomy *(Applying, Analyzing, Evaluating, or Creating)*	Many (25-49%) of the outcomes are at higher levels of Bloom's Taxonomy at least 25%	Most (50 % or more) are at higher levels of Bloom's Taxonomy *(Applying, Analyzing, Evaluating, or Creating)* as appropriate to the program and credential level	
Comments:				

Beginning (1) Much work needed	Developing (2) Some minor revisions needed	Implementing (3) Plans and processes are in place	Integrating (4) Plans and processes are established and integrated	Score
6. ASSESSMENT TOOLS/METHODOLOGY				7.
Few Assessment tools/ methodologies align with outcomes	Some Assessment tools/ methodologies align with outcomes	Most Assessment tools/ methodologies align with outcomes	All Assessment tools/ methodologies align with the level and the scope of the outcomes	
Few of the direct and indirect measures have clear descriptions of the tools and methodologies used for assessment	Some of the direct and indirect measures have clear descriptions of the tools and methodologies used for assessment	Most of the direct and indirect measures have clear descriptions of the tools and methodologies used for assessment	All of the direct and indirect measures have clear descriptions of the tools and methodologies used for assessment	
Few of outcomes are assessed with a variety of tools/ methodologies appropriate for the for the delivery format	Some of outcomes are assessed with a variety of tools/ methodologies appropriate for the for the delivery format	Most of the outcomes are assessed with a variety of tools/ methodologies appropriate for the for the delivery format	All of the outcomes are assessed with a variety of tools/ methodologies appropriate for the delivery format	
Comments:				
8. CRITERIA FOR SUCCESS: PERFORMANCE METRIC				9.
Few criteria for each assessment are appropriate. Most seem too low or show no evidence of the use of baseline data	Some of the criteria for each assessment are appropriate and based on previous results/ baseline data and are set at reasonable level.	Most of the criteria for each assessment are appropriate and based on previous results/baseline data and are set at reasonable level.	All of the criteria for each assessment are appropriate and based on previous results/baseline data and are set at reasonable level.	
Few of the assessments have multiple criteria based on delivery method, site, or other variables.	Some of the assessments have multiple criteria based on delivery method, site, or other variables.	Most of the assessments have multiple criteria based on delivery method, site, or other variables.	All of the assessments have multiple criteria based on delivery method, site, or other variables.	
Few results presented align with assessment tools and criteria for success	Some results presented align with assessment tools and criteria for success	Most results presented align with assessment tools and criteria for success	All results presented align with assessment tools and criteria for success	
Little data presentation goes beyond the basic level of mean and percentage reporting	Some data presentation goes beyond the basic level of mean and percentage reporting	Most data presentation goes beyond the basic level of mean and percentage reporting	All data presentation goes beyond the basic level of mean and percentage reporting	

Beginning (1) Much work needed	Developing (2) Some minor revisions needed	Implementing (3) Plans and processes are in place	Integrating (4) Plans and processes are established and integrated	Score
Little data analysis is provided and what is there does not include disaggregation by site and/or format if appropriate	Some data analysis is provided and might include partial ,as appropriate , disaggregation by site and/or format	Most data analysis is in depth and includes ,as appropriate , disaggregation by site and/or format, comparison to results from previous year(s), potential causes for changes in data	All data analysis is in depth and includes ,as appropriate , disaggregation by site and/or format, comparison to results from previous year(s), potential causes for changes in data	
Comments:				
10. USE OF RESULTS (FOR CONTINUOUS IMPROVEMENT)				11.
Few Current Actions For Continuous Improvement (CI) plans include a description of what the program **is doing** during the specified program year.	Some Current Actions For Continuous Improvement (CI) plans include a description of what the program **is doing** during the specified program year.	Most Current Actions For Continuous Improvement (CI) plans include a description of what the program **is doing** during the specified program year.	All **Current** Actions For Continuous Improvement (CI) plans include a description of what the program **is doing** during the specified program year.	
Few Proposed Actions For Continuous Improvement (CI) plans include a description of what the program **will do** during the next program year.	Some Proposed Actions For Continuous Improvement (CI) plans include a description of what the program **will do** during the next program year.	Most Proposed Actions For Continuous Improvement (CI) plans include a description of what the program **will do** during the next program year.	All **Proposed** Actions For Continuous Improvement (CI) plans include a description of what the program **will do** during the next program year.	
Few proposed (future) continuous improvements are based on the analysis of overall and disaggregated data. Future CI is not linked to analysis of the data.	Some proposed (future) continuous improvements are based on the analysis of overall and disaggregated data. Future CI is not clearly linked to analysis of the data.	Most proposed (future) continuous improvements are based on the analysis of overall and disaggregated data.	All **Proposed** Actions For Continuous Improvement (CI) are based on the analysis of overall and disaggregated data.	
Comments:				
TOTAL				

		Score	Acti on Required	
		7-12	Mentoring	
		13-20	Revision Self-directed	
		21-28	Satisfactory-No Action Required	
Overall Comments:				

APPENDIX B
SLOARC Scoring Rubric 2015

Directions: Save the file to your computer. For each SLO, use the drop down box to indicate if all or most requirements per report section are met or not. For the general comment score, choose an overall score for each SLO. The % and score will be calculated according to the number of SLOs you enter. Your overall report score will be in YELLOW.

	Consider	SLO	SLO	SLO	SLO	%	Score	Comments
SLO Statement	• Measurable & precise action verbs used • Outcomes at higher level of Bloom's Taxonomy • Outcomes contain only 1 or 2 closely related action verbs					!	!	
Proposed Actions	• Explanation for variation between proposed and implemented actions					!	!	
Assessment Measures: The next 3 sections allow you to provide a response for each assessment measure per SLO								**Identify the relevant SLO #**
Methods for Assessment	• Assessment tools align with outcomes • Descriptions of tools & methods are clear • At least 1 strong outcomes measure							
		No	No	No	No	0	1	
Success Criteria	• Appropriate units &/or measurement scales for data interpretation • Criteria are clear							
		No	No	No	No	0	1	
Results	• Results align with assessment tools & success criteria • Sample size & range of results included, plus sub-sets of scores, as appropriate							
		No	No	No	No	0	1	
Results Analysis	• Compares results by year(s) & subsets (if applicable) • Provides explanations for results					!	!	
Actions for CI	• Clear description of program changes • Clearly based on analysis of date					!	!	
General Comment	Give an overall score for the report, and provide any perspectives you may have about the overall quality and readability of the report.						!	
	Scoring						**!**	
	(1) Needs significant improvement							
	(2) Needs a moderate amount of improvement							
	(3) Needs a little improvement							
	(4) Satisfactory							

A Stakeholder-Involved Process for Reviewing Courses in a Medical School

Nancy Shane[25]

Abstract

This paper describes a new course review process at an undergraduate medical school. I evaluated the process in terms of seven assessment outcomes after its first year of implementation: faculty oversight, timely feedback, faculty and student participation, accountability, usefulness of recommendations, involvement of all stakeholder groups, ability to inform the school about successes and needs for the curriculum overall. The results are largely positive with some important room for improvement. Applications include (a) designing curriculum assessment or evaluation processes that provide timely results, includes faculty and students while respecting their time, ensures faculty oversight, incorporates feedback loops, results in high-quality recommendations, involves all stakeholders, and informs the overall curriculum; and (b) ways to measure evaluation process outcomes

Keywords: course review, medical school, faculty oversight, faculty involvement, student involvement, timely feedback, high-quality recommendations

Both for accreditation purposes (see especially Liaison Committee on Medical Education, LCME, Accreditation Standards ED 33-35) and to reflect best practices in higher education assessment, medical schools must ensure faculty oversight of courses. Staff and faculty members of the University of New Mexico School of Medicine Undergraduate Medical Education division (UME) recently overhauled its process for reviewing the Phase I curriculum – the pre-clerkship courses and 'blocks'[26] covered in the first year and a half of medical school. The existing process had consisted of course directors and block chairs completing a Block Chair Report and reporting on their own progress to the body overseeing the curriculum, aptly called the Curriculum Committee.

The Undergraduate Medical Education administration considered others' ability to assess courses inadequate. Thus, one purpose of the overhaul is to ensure that oversight by the UME

---

[25] University of New Mexico School of Medicine. Other faculty and staff involved in the design of the process described in this paper are: Paul McGuire; Deana Richter; Joanna Fair; Roger Jerabek; and Debbie Dellmore. Analysis of findings and reflections are those of Nancy Shane.

[26] Basic science courses vary in length and are usually called 'blocks;' their course directors are usually called 'block chairs.' Block chairs and the course directors for the semester-long skills courses hold essentially the same roles and responsibilities.

Curriculum Committee is meaningful while still, however, respecting faculty time. In addition, the new process is designed to meet several other desirable evaluation outcomes, including:

1. ensure course directors and block chairs receive feedback in time to implement changes by the course's next iteration;
2. improve faculty and student participation in and understanding of the evaluation process;
3. ensure accountability/ feedback loops to the curriculum committee recommendations;
4. maximize the likelihood that resulting recommendations are useful;
5. meet the needs of all stakeholders; and ideally
6. result in evaluation results for individual courses being used to inform the overall curriculum.

At the current time (July, 2017), the Curriculum Committee has heard the reviews of thirteen courses taught during the 2016-17 school year. This paper describes the new review process and outcomes to date.

Undergraduate Medical Education at the UNM School of Medicine

Following orientation and an introductory look at medicine in our state, Phase I courses consist, first, of eight basic science blocks (represented in green in Figure 1). Concurrently, students take a three-semester series of 'Clinical Reasoning' courses; a two-semester series of 'Quantitative Medicine' courses; and four 'Doctoring' courses that focus on communication, clinical skills, professional identity, and ethics. Collectively, I refer to courses other than basic science blocks as 'skills courses.' After completing the basic science and skills courses, students
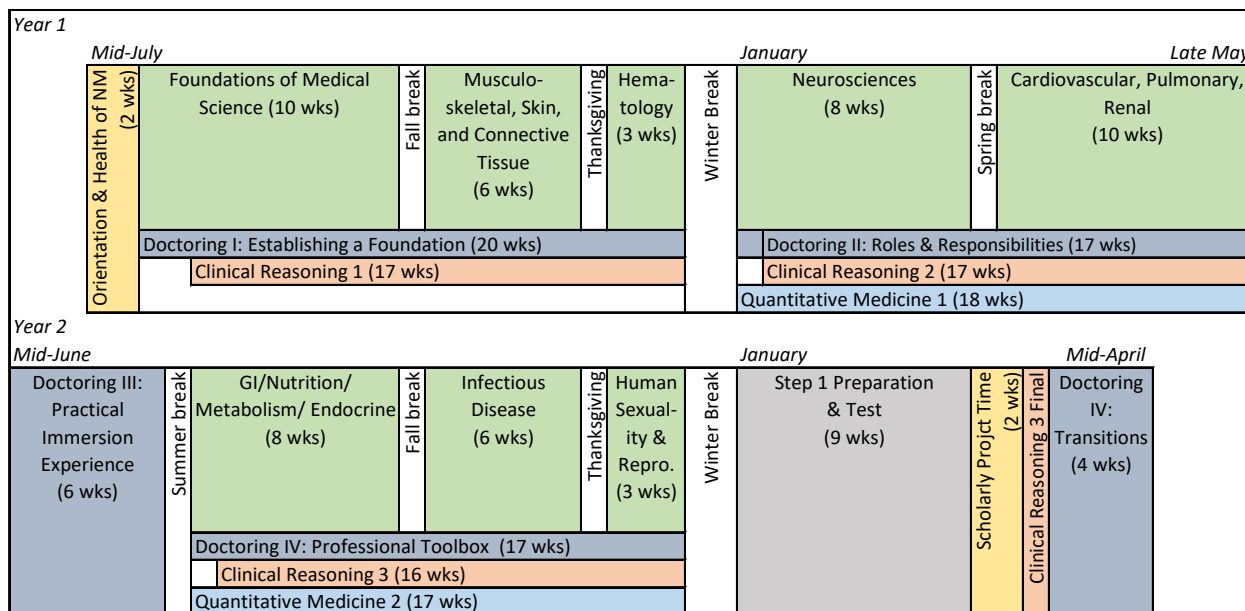

Figure 6. The Phase I Curriculum

study for and take their first, very high stakes medical degree (MD) licensure exam, the United States Medical Licensing Examining (USMLE) Step 1. They then have some time to work on their required scholarly project; they take a skills exam; and then take their fifth Doctoring course, an introduction to the clinical rotations or clerkships that follow in Phases II and III – the remainder of their undergraduate medical education.

It may be important for the reader to consider the differences and similarities of medical school Phase I with other higher education contexts, particularly baccalaureate programs. Among the differences, students in Phase I attend courses sequentially as a single cohort. At UNM, medical school cohorts consist of approximately 103 students. Courses are generally designed and overseen by one to three course directors or block chairs, but taught by many faculty members. In the basic sciences, an average of 24 supporting faculty lecture or present in their areas of expertise, with knowledge of student learning objectives and guidance from block chairs. In skills courses, course directors usually train an average of 65 other faculty to implement the curriculum in small groups. Another difference with other higher education contexts is that 90% of medical students in American Schools typically pass each individual course. This means that student grades, in and of themselves, are problematic to use as an outcome measure when seeking program improvement, if only because the room for improvement is so low. Additionally, the amount of content covered, particularly in basic science courses, is very high compared to baccalaureate coursework. Finally, the USMLE Step 1 exam near the end of Phase I provides a clear accountability measure for students and the curriculum.

Differences aside, assessment and evaluation staff in all higher education contexts seek to create processes that build faculty buy-in, understanding, and empowerment; desire or require faculty use; and include students in meaningful ways. I hope this paper might have lessons for assessment staff and evaluators in any higher education context.

Phase I Review Process

The UME Curriculum Committee (CC, the body responsible for overseeing the undergraduate medical curriculum) consists of administrators, representative faculty from across the four years of the medical school curriculum, as well as faculty from partnered departments and organizations, such as the Public Health and the Physician Assistant Programs and the local Veterans Affairs facility in which many students study. The Committee also includes several UME staff, recent graduates (residents), and student representatives from each active cohort. The Committee meets on 1st, 3rd, and 5th Wednesdays for one hour to consider all aspects of the UME curriculum.

In the Spring of 2016, six administrators, faculty and staff members began designing the new CC evaluation process for courses in Phase I (see Figure 2). The new process relies on short-term volunteer 'Evaluation Teams' to assess the course and present their findings and recommendations to the CC for consideration and approval. One faculty Curriculum Committee

member leads each Evaluation Team and is supported by two other CC members, be they students, faculty, or staff members.

The UME assessment office, the Office of Program Evaluation, Education, and Research (PEAR), prepares a packet of information and data for Evaluation Teams. The packet includes the course syllabus, the Student Continuous Quality Improvement (CQI) report, and the Block Chair report. The Evaluation Team uses the information provided in the packet to complete its report, consisting of six substantive sections: (A) Block Learning Objectives and Content, (B) Structure and Integration, (C) Learning Strategies and Methods, (D) Assessment Plan and Student Performance, (E) Block Faculty Development and Resources, and (F) Block Evaluation Data, Plans for Improvement, and Implementation of Changes. Each section includes 1-3 Likert items and an area for comments under each. Section G describes the Evaluation Team's conclusions and recommendations.
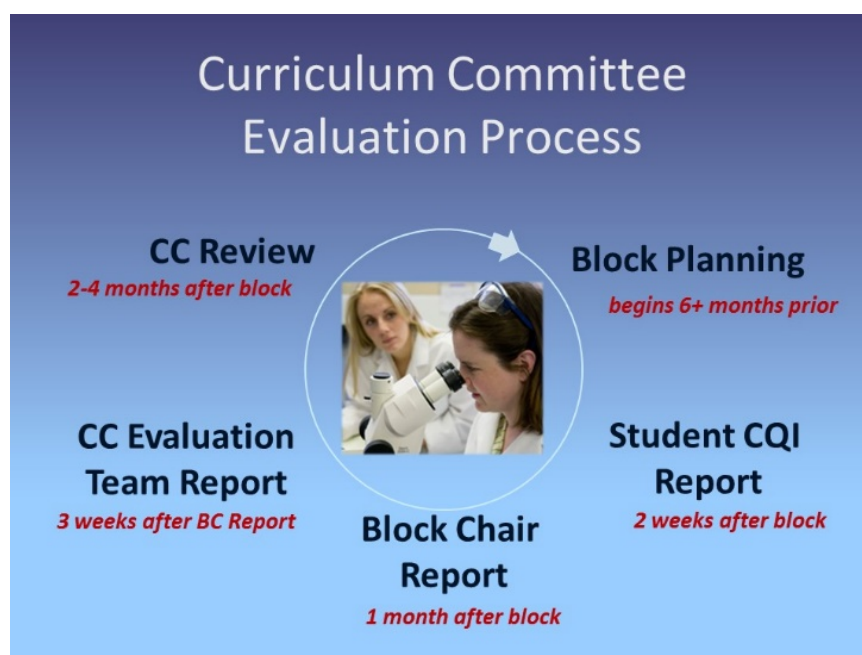

Figure 7. The Curriculum Committee Evaluation Process

Once the Evaluation Team has completed its report, all CC members receive it electronically a few days before the course's review. CC members also receive the course's CQI and Block Chair Reports. After the Evaluation Team presents its findings and recommendations, the Curriculum Committee votes to accept or amend the recommendations and determines when next the course should undergo the review process, either one or two years. These decisions along with the general content of the discussion about the course are documented in Section H of the report.

One important document in the packet is the report from the Student Continuous Quality Improvement (CQI) process, which has been in existence for about 10 years at UME. PEAR recruits and trains six enrolled student volunteers to serve on the CQI Team for each course or block. The CQI Team serves as the eyes and ears for all members of their class, meeting with block chairs regularly to provide formative feedback. After the course, the CQI team summarizes the content of their conversations in a report. If applicable, the CQI also responds to any recommendations the CC made in its prior year's evaluation report.

Perhaps the most important document in the Evaluation Team's packet is the Phase I Block Chair Report. PEAR pre-fills the report template with student end-of-block evaluation results; final grades as well as grades for major tests and assignments; and a break-down of lecture vs. active learning contact hours. The template requests block chairs to map course learning objectives to UME learning objectives. Then, block chairs comment on a series of mostly open-ended questions, largely mirroring the structure of the CC Evaluation Team Report. If applicable, block chairs also respond to any recommendations the CC made in its prior year's evaluation report. The quality of block chair reports may be one of the key factors in the quality of Evaluation Team Reports, in that approximately one-third of Evaluation Team recommendations were adopted (or adapted) from recommendations that block chairs created themselves.

Assessment Process Outcomes

After this first year of implementation, I attempted to assess the success of the new evaluation process by examining the extent to which the process met the seven purposes as listed above.

1. **Is oversight by the UME Curriculum Committee meaningful?**

In twelve of the thirteen reviews, the CC altered the recommendations made by the Evaluation Team in some way; by that measure, the CC membership seems to have been engaged in course reviews. Early on, some members of CC had worried that the amount of time dedicated to course reviews – 20-25 minutes- would be too brief for meaningful engagement. Thus, the school began sending the block chair and student CQI reports to all CC members ahead of time, in addition to the CC Evaluation Team Report. This change seems to have improved CC members' engagement with and understanding of the Evaluation Team's presentation.

2. **Do course directors receive feedback in time to implement changes by the course's next iteration?**

In about 67% of course reviews, the CC finalized the Evaluation Report six months or more before the next iteration of the block – generally early enough to plan active learning methods and secure faculty and classroom space. Most other course reviews were completed three to four months in advance.

3. Is faculty and student participation in and understanding of the evaluation process sufficient?

In this initial year, unusual in that nearly every block was reviewed, 30 different faculty CC members volunteered to participate in at least one Evaluation Team. Ten students also participated. Given the generally thoughtful nature of Evaluation Team reports and the learning that Evaluation Team members profess from their participation, these numbers suggest meaningful faculty and student involvement. However, recruiting volunteers takes CC and administrators' time. A few faculty participated in two course reviews, contrary to the desire to respect faculty time.

4. Does the process ensure accountability/ feedback loops to CC recommendations?

The reader may have noticed that the Phase I Course Evaluation Process provides feedback to recommendations in two explicit ways. First, the students comment on the extent to which the recommendations are addressed in the Student CQI process in the iteration of the block following the course review. Similarly, block chairs comment on the recommendations in their next Block Chair Report. Both of these documents are provided to the all CC members, even in years when the block is not undergoing formal review (i.e. when the CC Evaluation Team had voted for the next review to be in two years). However, in such 'off' years, the reports will not necessarily elicit any discussion. As well, we might expect future Evaluation Teams to explore course directors' and block chairs' responses to prior recommendations, even when not explicitly directed to do so (i.e. after an 'off year.) It will be interesting and important to monitor responses to CC recommendations as this process unfolds.

5. Does the process elicit useful recommendations?

'Useful recommendation' has not been considered or defined by UME. For the purposes of this paper, I considered a 'useful' recommendation to be one that was (1) put into place and (2) of 'high quality.' Unfortunately, it is too early in the process to know whether any of the recommendations will be put into place (although we might at least expect those written first by block chairs to be implemented). I defined 'high quality' on a scale of 1-3 based on its potential to impact student learning. Recommendations coded as '1' (low) were generally actions that did not touch the classroom, for example changes to the syllabus or other paperwork. Recommendations coded as '2,' with a deliberately low bar, were any changes touching on what happens in the classroom. These recommendations, sometimes vague, concerned changes in assessment, reorganization of material, or limited changes in content, pedagogy, or faculty development. Recommendations coded as '3' (high), with a deliberately high bar, were similar in kind but higher in degree, often incorporating active learning throughout the block, adding to the length of the block, major infusion of new content, or strong faculty development.

As seen in Table 1, the number of recommendations ranged from 1 to 9. Interestingly, most basic science block reviews included at least one high quality recommendation; whereas

most skills course reviews did not. As many of the high quality recommendations related to active learning, it could be that skills course reviews lack high quality recommendations because they tend to incorporate active learning methods already. Or, it could be that the course directors for skills courses – often having more teaching responsibilities than the course directors of basic science blocks, were less thoughtful in their reports, thereby providing less 'food for thought' for evaluation teams to generate recommendations.

Table 1: Basic Science Blocks tend to include high quality recommendations.

	1 'Low'	2 'Medium'	3 'High'	Total
Basic Science Block 1	2	2	0	4
2	0	1	0	1
3	0	2	1	3
4	0	1	2	3
5	3	5	1	9
6	3	1	1	5
7	1	1	1	3
8	2	4	3	9
Skills Course 1	1	1	0	2
2	4	2	0	6
3	1	3	0	4
4	4	2	0	6
5	1	5	3	9

Does the process meet the needs of all stakeholders?

Another important question evaluators ought to ask themselves about any evaluation process is whether it is fair and representative to all stakeholders. In this case, the UME process is lacking in two respects. The first was noted during Curriculum Committee course reviews more than once – the lack of representation of supporting faculty, both in terms of gathering their perspectives or their involvement in the evaluation process. The Curriculum Committee was distressed by the omission of supporting faculty in particular because many of the

recommendations focused on their professional development. The second missing stakeholder group is subtle. Approximately seventeen Physician Assistant (PA) students participate in Phase I coursework, to varying degrees. In some courses, PA students attend all activities and complete all assignments and assessments just as the medical school students do. PA students do complete end-of-block evaluations; but block chairs and course directors receive their feedback separately and may not weigh it heavily in comparison to feedback from medical school students. Evaluation Teams do not receive PA student feedback at all. PA students are not part of CQI Teams; and they have no student representative on the Curriculum Committee, although there is a PA faculty member representative.

6. Does the process provide useful information regarding the overall curriculum?

Finally, one way education evaluators may provide useful information about a program's overall curriculum is by identifying the common themes across courses. Course reviews elicited several common themes, including especially: (1) active learning successes and struggles; (2) integration successes and struggles; (3) desire to standardize practices across courses; (4) the need for improvement among some supporting faculty; and (5) struggling students failing to reach out for help. These themes would probably come as no surprise at UME. Some of the themes have been discussed a number of times in recent months. Did the assessment process, then, add any value in terms of learning about the curriculum overall? Possibly, since the information was written, it may be that themes were described in more depth and with more specificity. PEAR could pull from all content related to themes from Block Chair and Evaluation Team Reports. Provided in in one place and time, the information could create a richer discussion than might otherwise be possible.

Another way evaluators can enhance organizational learning is to share aggregate data, in part so that individual course directors and block chairs can compare their results to typical UME results. While UME had not planned to do so, I see potential in this approach. For example, Table 2 represents a selection of findings from the Evaluation Team Report Likert items, suggesting two priority areas for UME.

Table 2: Evaluation teams suggest faculty preparation and assessment are priorities.			
	1 'Minimal'	2 'Good'	3 'Excellent'
Faculty preparation	8%	69%	23%
Assessment	23%	46%	31%
Implementing change	22%	33%	44%
Active learning	8%	46%	46%
Logical structure		58%	42%

Performance analysis	42%	58%

As another example, as an evaluator I can share common needs. Table 3 indicates the demand for faculty training sessions – useful for the school's Office of Medical Educator Development.

Table 3: Demand for 'Transforming Your Lecture' and 'Team-Based Learning' are high.

	Benefit Many Faculty	Benefit Some
Transforming Your Lecture	33%	33%
Team-Based Learning	25%	33%
Teaching with iClickers	33%	8%
How People Learn	25%	25%
Active Learning	17%	33%
Providing Feedback	25%	--
Flipped Classroom	8%	33%
Peer Observations	--	33%

Conclusions

This analysis suggests varied success in meeting assessment process outcomes. The process does seem to improve the Curriculum Committee's oversight to an adequate degree. Members can read materials and prepare questions for Evaluation Teams ahead of time, often resulting in lively discussions and nearly always some change in Evaluation Team recommendations. Most of the time, blocks are reviewed in a timely manner. Most CC members participated on an Evaluation Team, leading not only to strong faculty involvement but also strong student involvement. In terms of usefulness, admirably most reviews for basic science courses did included one or more recommendations with high potential to improve learning, though there is room for improvement among skills courses. Overall, the quality of recommendations seems reasonable.

On the other hand, the assessment process fails to meet two important stakeholder groups, PA students and supporting faculty, both in terms of obtaining their feedback and allowing them roles in the review process itself. In addition, the process as designed so far, does not necessarily tell UME much about the curriculum overall.

It is too early to know some assessment process outcomes. We do not yet know the extent to which block chairs and course directors will even attempt to implement recommendations. Some will be relatively easy to implement; but these may tend to be recommendations with relatively little potential to impact learning. Some recommendations will no doubt require quite a

lot of effort. While both student CQI groups and block chairs will comment on the extent to which block chairs responded to recommendations, this type of accountability may or may not be strong enough to compel difficult changes.

In light of these findings and conclusions, UNM SOM UME might wish to do some or all of the following:

1. UME could request the Curriculum Committee discuss and define 'high quality' recommendations. Once defined, UME can encourage their use by Evaluation Teams through their instructions.
2. Since Block Chairs are themselves probably in the best position to assess information and create recommendations, UME should encourage thorough and thoughtful Block Chair Reports. At times, Evaluation Teams can expand and/or brainstorm upon ideas Block Chairs discuss in their reports; but it may be difficult for Evaluation Teams to unearth important issues if Block Chairs have not mentioned them at all.
3. UME could ask PEAR to create and share with the Curriculum Committee summary reports including aggregate quantitative information and detail around themes to increase the chance for the process to result in system-wide improvement.
4. UME could consider ways to obtain feedback from supporting faculty and PA students. UME might also consider allowing PA student and more supporting faculty representatives on the Curriculum Committee, so that they might be involved in decisions that affect them.

Engaging faculty in assessment: Using protocols for meaningful assessment

Bridget Lepore[27]

Abstract

Higher education faculty bring a critical view of both content and context of student learning to the assessment process. Unfortunately, many faculty members are reluctant to commit to assessment. There is a need for easy to implement solutions that take into account both barriers to faculty participation and strengths and abilities of faculty members. This paper describes the use of protocols, frequently used in professional learning communities in elementary and secondary education, to encourage faculty to collaborate around evidence of student learning.

Keywords: faculty engagement, collaboration, analysis, protocols

Faculty involvement is necessary for meaningful assessment of teaching and learning. Faculty members, with their unique view of both the context and content of learning, can analyze assessment data and identify actions to improve student outcomes and experiences. Unfortunately, faculty may be reluctant to engage in assessment work and are usually not as involved or as enthusiastic about assessment as we think they should be. As teachers, many expect university faculty not only to be interested in assessment but embrace it as a tool for improving their classes. Instead, assessment is often viewed as an administrative task centered on accreditation or accountability (Fuller, 2013). The belief that assessment is an accountability measure that belongs to solely to administration may work to push faculty further away from assessment while careful planning for assessment activities can help to engage faculty with each other and provide evidence of student learning and the institution itself.

Finding a way to engage faculty requires thinking about how faculty work, what they value, and leadership in general. In many regards, faculty work is different from other types of work and universities function with unique processes and structures. In fact, colleges and universities differ from other institutions because of the complex and distinct history, governance structure, values and goals, and have a complex mix of teaching research, service, and outreach (Bollman & Gallos, 2011). Higher education institutions are not designed to encourage collaboration however collaboration is what enables innovation and problem solving (Kezar, 2005). For these reasons, it makes sense to look at assessment from a leadership standpoint when working to engage faculty. Since assessment is a change process, assessment leadership needs to

---

[27] Kean University

follow a model that focuses on collaboration, knowledge creation and sharing, and making a positive difference for those involved (Fullan, 2001).

Looking for Possible Solutions

In order to engage faculty, there is a need for a process that is easy to implement and cost effective. This is especially important for faculty who have many responsibilities to balance and those with less experience with assessment. Any solution or process built to engage faculty should focus on the following:

- Require minimal preparation and training
- Use faculty members' strengths
- Use language and methods faculty are comfortable with
- Accommodate faculty schedules
- Fit within short blocks of time
- Accomplish something in each session
- Have a structure
- Be linked directly to teaching and learning

In looking for a tool to encourage faculty to see assessment data as an important part of their teaching practice, it makes sense to not only work within their constraints but to also plan for their strengths. Adding to this, having structure, working with an explicit goal, and expecting and communicating how the sessions themselves contribute to student learning should also be part of the process.

The literature on professional learning communities provides a possible tool for increasing collaboration and working within the constraints of faculty work. Protocols are structured conversations, which are objective focused and have short time commitments. While protocols are used as part of professional learning, they also provide structure and increase collaboration for assessment in higher education. In elementary schools, protocols have provided structure for professional learning communities, such as Critical Friend's Groups, which were found to increase collaborative work, knowledge, and understanding of schools, and improve instruction and student achievement (Curry, 2008). Curry refers to an example protocol for "collaborative assessment conference" (CAC) that is available on-line at http://www.lasw.org/vp.html. The appendix contains a different sample assessment protocol, which I created for the higher education setting at Kean University.

Working with Protocols

Protocols are specific, structured steps which provide a way for a group to work towards an articulated outcome. Protocols serve as a framework for collaboration, enabling deep consideration and meaningful analysis. While structured steps are used in various parts of

professional life, in education protocols can be used to provide structure for professional learning. More specifically, the structure can aid in identifying and clarifying problems, analyzing evidence, evaluating options, gaining consensus, and soliciting outside expertise.

Protocols enable effective discussion among faculty members. Using a structured set of steps, where each person contributes in each round before moving on to the next, usually leads to deeper and more reflective participation (McDonald, Mohr, Dichter, & McDonald, 2013). All participants have a chance to speak and contribute equally. Using rounds focused on specific questions or areas of inquiry and consideration helps the group to move slowly and deeply into the material, giving each person a chance to look, think, listen, and respond. The structure of a session keeps everyone on topic. The structure also limits emotional responses by focusing on evidence and not individual practice or beliefs. One thing that makes protocols effective for higher education is that by focusing on evidence, participants are less likely to react emotionally and personally, and instead should be able to tap into their analytical skills. Protocols can prevent personal attacks, hurt feelings, and emotional reactions.

Each protocol-based session focuses on a specific topic, framed by either a specific objective or focusing question and has a clear and explicit outcome. Participants are aware of the process, have a chance to ask clarifying questions about the evidence and process, and then are guided through the reflection and discussion process by the facilitator. At the end of the session, participants have a chance to discuss the experience so that the facilitator can increase their skills.

Protocols to facilitate meetings have many different purposes and are available to structure data analysis, problem solving, working through problems, discussing issues and identifying areas of further inquiry. Setting a clear focusing question is key for planning a session. Planning and preparation make the process successful.

Preparation for Protocol Meetings

Preparation should include answers to the following questions:

- What is the goal for session?
- What will amount of structure is needed and what steps will help to create the knowledge needed?
- Who are the participants? What are their backgrounds and communication style? How much structure will help contemplation and discussion and how much will hinder progress? What type of analysis skills do the participants have?
- How much time is available? Published protocols usually have a timeline in their description. It is helpful to make sure there is time to talk about the session and to leave some extra time at both the beginning and end for questions and debriefing.

- Choose protocols based on the type of work or evidence needed. Some protocols lend themselves to data in numerical form while others work best with text, stories, or problems. Setting up the data to work well with the protocol and with the participant's background and analysis skills can help a session remained focus and useful.

Preparing Data and Evidence

Data should be prepared specifically for the work sessions to best match the protocol, participants, and overall session goal. Things to think about include the original format of the data and the familiarity participants have with data. While charts and graphs are everywhere in research and assessment, not everyone is comfortable with the visuals. Overwhelming participants with data can cause them to shut down and disengage. Taking time before the session to work on the visuals is worthwhile. It may make sense to provide the same data in multiple forms when working with faculty from different disciplines that have different ways of presenting data. Providing data in multiple forms, for example as a table, bar chart and multiple small pie charts may make it easier for faculty to understand what they are viewing. Keeping data concise, with the minimal amount of special effects and breaking data into clearly labeled, smaller charts often helps to lower confusion. Because quality discussion starts with a clear understanding of the data presented, starting with a clarifying question round gives the group a chance to ask any questions and for the facilitator to be sure that the team is ready for analysis.

Facilitating a Session

The role of the facilitator is to promote participation, ensure equity, and build trust (McDonald, Mohr, Dichter, & McDonald, 2013). Facilitators may take part in the rounds or may focus on facilitating. There are some general principles to keep in mind when facilitating a session. These principles may make a session more engaging and easier to manage for the facilitator and participants.

- Formally open the session by explaining the purpose, the steps, and process while setting the norms for the session
- Explain your role as the facilitator
- Discuss the purpose and outcome of the session
- Stick to the protocol, especially when you first use them
- Intervene if needed to bring the group back on task and to keep the protocol itself running
- Close formally, asking for feedback about the process and what worked well and could be done differently next time
- Be clear about results, records, and next steps

Focusing Questions and Objectives

It is important to have a clear goal for a protocol-based discussion. Establishing a clear goal can be done by creating good focusing questions or stating clear objectives. A focusing question is used when someone brings a problem or issue to the group for suggestions and discussion. In this case, the focusing question provides the objective for the session. Objectives can also be used, especially when there is no specific presenter. Objectives serve to focus the discussion on the needed information. In either case, the focusing question or stated objective places the focus of the session directly on the evidence and what is needed (by the presenter or from the process) rather than on the participants themselves. Good focus questions and clear objectives allow for engaging discussion but are narrow enough to keep the group on topic.

How to facilitate protocol-based meetings

Like any other meeting, facilitating protocol based meetings takes practice. With time and experience, both facilitators and participants will improve in following the protocol, staying on topic, and creating meaningful results. Some ways I found to make getting started easier include:

- Start simple with protocols that are similar to the way the group usually works. For instance, if a group enjoys unstructured debate and is respectful, look for protocols that give some structure but have room for their preferences.
- Choose protocols that are easy to explain with steps that make sense. Some protocols are simple while others are complex. In the beginning, while everyone is learning the process, it makes sense to work with protocols that have clear steps that are not complicated for use.
- Sometimes protocols are useful in managing challenges a group has in discussion and meetings. One example is using a protocol that encourages teamwork and collaboration may be important in team building if a group does not know each other or has a history of working independently.
- Protocols vary in how constraining and intense they are- pick one that matches the participants, work environment, and purpose.
- Keep sessions short with realistic goals. Being clear from the beginning, even from the invitation to participate, helps the group to understand why they are they, what they are doing, and how it helps teaching and learning.
- Before beginning, make sure that norms are stated explicitly. Simple norms, such as not speaking over each other, not interrupting, and listening and incorporating other people's answers into your own will help the session be productive. It is important that these are stated clearly before beginning and if the group will meet many times, it is often worth the time and effort to have the group set norms for themselves.

- The facilitator's role is to help the team create and share knowledge. This is different than what many people are familiar with in meetings. When starting, a facilitator should explain their role, so the group understands what is happening, especially if the facilitator needs to bring the group back on track.
- Document answers and keeping records from structured discussions is important and makes assessment reporting easier. Taking notes and then sharing them with the group for comment, expansion, and agreement is a good practice for creating assessment memory.
- Remember that protocols are tools there to help with a process and are not, by themselves, set in stone. Adjust protocols as needed beforehand and if necessary during a session, explain the change and why it is being made. For instance, one group I led wanted to continue a discussion openly without the structure of the protocol. Instead of completing the rounds, I asked the group if I saw the situation correctly, and when they agreed, I listed the steps that we would omit, the timeline for discussion and then continued the session. Protocols are there to be helpful, and an experienced facilitator uses them to make progress on the work without limiting what the participants accomplish.

Adjusting protocols

Many protocols available online are intended for professional learning in elementary education. As such, they are geared towards teachers and their specific needs. These protocols can be used for assessment in higher education, but often need adjustment to work. Some things that may help when using published protocols:

- Try to keep between 5 and 8 participants in a session. Smaller numbers can work but tend to give less feedback and information. More than eight can also work however the facilitator may need to be very clear and about the process and how they will redirect people. More intense protocols, which expect more contemplation and have more rounds, may not work with a large group.
- Protocols typically have rounds, where participants go around the table and take turns answering the questions. Sometimes the rounds present in a protocol do not apply, or may not include rounds that would be helpful. It is okay to modify protocols, as long as it is done carefully and thoughtfully.
- Timings can be adjusted as well. It may make sense change how long rounds take, depending on data, the topic, and participants.
- Use methods that work for faculty. For example, for faculty, it may be best to have (and let the participants know that there is) time for open discussion at the end. Another method that may be helpful for faculty who are comfortable with data analysis is to provide a structured note sheet based on the protocol that faculty can use to gather their thoughts.

- Sharing protocols with participants beforehand can make sessions more effective. Faculty may have suggestions of things to add or change and may identify strengths and weaknesses in the protocols based on the work needed.

References

Bolman, L. G. & Gallos, J. (2011). *Reframing academic leadership*. San Francisco, CA, Jossey-Bass.

Curry, M. (2008). Critical friends groups: The possibilities and limitations embedded in teacher professional communities aimed at instructional improvement and school reform. *Teachers College Record*, 110(4), 733-774.

Fullan, M. (2001). *Leading in a culture of change*. San Francisco, CA, Jossey-Bass.

Fuller, M. (2013). An empirical study of cultures of assessment in higher education. *Education Leadership Review*, 14(1), 20-27.

Kezar, A. (2005) Redesigning for collaboration within higher education institutions: An exploration into the developmental process. Research in Higher Education, 46(7), 831-860.

McDonald, J. P., Mohr, N., Dichter, A. & McDonald, E. (2013). *The power of protocols: An educator's guide to better practice*. NY, New York, Teachers College Press.

Appendix: A Sample Assessment Protocol[28]

Name: Simple Data Analysis Protocol for Higher Education

Time: 40 minutes

Number of participants: 5-10 (ideally, can be more or less as needed)

Purpose. The purpose of this protocol is to help a group with different backgrounds analyze and Discuss a data set used for assessing program effectiveness. This protocol is useful for working with data from standardized testing, or rubrics. At the end of the process, a series of notes should be ready for use in assessment reporting which summarize the data, identify strengths and weaknesses, and list possible actions that may be taken as a result.

Preparation. Data should be prepared beforehand to ensure that it is useful to the participants. Numerical data should be presented in more than one format- for instance, in a table, and with charts. It may be worthwhile to have a member of the group look at the data presented before the session to identify any issues with formatting or labeling and to make comments and suggestions

---

[28] Protocols are available online, and two websites with protocol libraries are The National School Reform Faculty www.nsrfharmony.org and the School Reform Initiative www.schoolreforminitative.org

about how to enhance the presentation. Data preparation is critical as research methods, and data presentation varies between disciplines.

Steps:

1. **Introduction.** The Session begins with an introduction to the goals of the session, data, and participants. The facilitator sets the norms for the session and explains the protocol. Participants have the ability to ask questions about the process.
2. **Preview.** Participants have approximately five minutes to look at the evidence. It may be helpful to give each participant a printout with the protocol so that they can take notes.
3. **Clarifying questions**: The facilitator begins the process with clarifying questions. This round allows individuals to ask questions about the data or evidence and ensure that the group is familiar and ready to talk.
4. **What do you see or notice?** The facilitator next directs the group to discuss what they see and what they notice. This round is intended to point out things that are interesting within the data. Participants should not try to explain, expand, or discuss the data. Each participant should say what they see or notice, without discussion or elaboration. The facilitator takes notes on this round and at the conclusion, synthesizes and presents the results of the round.
5. **What does this suggest?** The facilitator presents the question to the group of what this data suggests. Participants should only state what this may mean or suggests about the students without discussion. Each participant, in order, should say what they believe this data suggests without discussion. The facilitator takes notes on this round and at the conclusion, synthesizes and presents those results to the group.
6. **What does this data NOT tell us? What are you curious about and what do you want more information about?** For this round, participants are asked to consider what is not present in the data and where more information is needed. Participants may explain what they want and why it would be helpful. The facilitator takes notes on this round and at the conclusion, synthesizes and presents those results to the group.
7. **What do we do now?** In this round, participants make suggestions for action. The facilitator takes notes on this round and at the conclusion, synthesizes and presents those results to the group.
8. **Reflection and closing.** Participants are asked to consider and discuss the experience. The facilitator takes notes and then formally closes the session.

Building Grassroots Leaders for a Sustainable Assessment Culture

Yao Zhang Hill[29]

Abstract

Grassroots assessment leaders at the unit level play a critical role in involving individual faculty members in program learning assessment. Building a network of grassroots leaders is key to a sustainable assessment culture on campus. Facilitation skills are as important as assessment skills for grassroots assessment leaders in engaging their colleagues in the assessment-for-improvement process. In order to cultivate a sustainable assessment culture, the Assessment Office at the University of Hawai'i at Mānoa initiated an Assessment Leadership Building Project in 2013. The project has three components: multi-day intensive training, follow-up support, and participants' presentation of an assessment project on campus. The project adopts professional development best practices and focuses its training on both assessment and facilitation skills. This paper describes the project and its six key features, namely, careful selection of participants, training on collaborative leadership skills, building an assessment-for-improvement mindset, motivating incentives, follow-up expert and peer support, and sustained scholarship opportunities. After sharing the project evaluation results and the insights gained, the author concludes that grassroots leaders are the change agents at the departmental or unit level. Under their influence and leadership, assessment can function as a set of tools for faculty collaborative reflection and action on curriculum quality and coherence, thus perpetuating the culture of assessment for improvement of teaching and learning.

Keywords: assessment leadership, facilitation skills, professional development, learning communities

The University of Hawai'i at Mānoa (UHM) is a large urban public comprehensive university. It is the flagship campus of the University of Hawai'i ten-campus system. It is a land-, sea-, space-, and sun-grant institution with high research activity. We enroll about 20,000 students a year and currently have 238 academic programs. We are accredited by the Western Association of Schools and Colleges Senior Commission or WASC Senior. Our accreditation standards require that the institution and all programs conduct learning outcome assessment (Standard 2) and be committed to quality assurance, institutional learning, and improvement (Standard 4). The Assessment Office (AO) was established in 2008 to provide faculty with technical support in conducting program learning assessment. The mission of the office is to improve student learning through academic program assessment. We have two full-time faculty

specialists in the office. The AO primarily works with program assessment coordinators and department chairs.

Before 2013, our office's primary means of assisting faculty was through providing online resources, campus-wide workshops, customized workshops, and one-on-one consultations. These forms of support made an impact in building assessment capacity on campus (Stitt-Bergh, 2016).

Meanwhile, my colleague and I still saw a great need to improve the quality of program assessment so that assessment activities would be meaningful and useful for faculty to improve teaching and learning. As of 2013, we had only 61% of the programs that used assessment for program action/decision twice in a five-year cycle. To strengthen our culture of assessment, my colleague and I have designed and implemented a new model of faculty assessment capacity-building— grassroots assessment leadership development—in our Assessment Leadership Building Project (ALBP). We started the project in 2013.

ALBP Rationale

The Importance of Grassroots Leaders for a Sustainable Culture of Assessment

The AO perceives program learning outcomes assessment as a set of tools for faculty to collaboratively reflect on program quality and coherence and to act on learning evidence for program improvement. We adopt Fuller, Skidmore, Bustamante, & Holzweiss's (2016) definition of a culture of assessment as "institutional contexts supporting or hindering the integration of professional wisdom with the best available assessment data to support improved student outcomes or decision making" (p. 404). In the positive assessment culture that we aim to cultivate, the institutional context would be one that promotes faculty collaborative reflection on and action upon assessment data. It would be a context that puts the focus of assessment on teaching and learning and on community building. It would also be a context that welcomes change for improvement, rather than one that fears or hinders change.

How to cultivate such a culture? Faculty involvement, leadership vision and support, and personnel and resource support are key strategies identified in the assessment field (Banta, Jones, & Black, 2009; Maki, 2004; Suskie, 2009; Walvoord, 2010). At UHM, we have high turnover at the executive leadership level and our resources are limited. As an office, AO can involve some faculty in assessment. The question is how to involve individual faculty members in each of the 238 academic degree programs.

The higher education assessment literature promotes the following faculty involvement strategies: engaging faculty in the conversation of teaching and learning; framing assessment work as part of scholarship; embedding assessment in their regular work; and providing faculty professional development (PD) on assessment knowledge and skills (Banta et al., 2009; Hutchings, 2010; Kinzie and Lindsay, 2014; Maki, 2004; Walvoord, 2010). However, these

recommended strategies do not often come with specific guidance for implementation at the program level. As the AO only has two faculty members, the campus needs a wide net of distributed assessment leadership at the program level for a sustainable assessment culture. We believe building leadership from the bottom, among faculty and staff and within the unit, is the key to fulfilling our vision of a positive assessment culture. We consider these leaders as grassroots leaders, defined by Kezar and Lester (2011) as "individuals who do not have formal positions of authority, are operating from the bottom up, and are interested in and pursue organizational changes that often challenge the status quo of the institution" (p. 8). They are faculty or staff within a program or department. They can be faculty members without any formal leadership position. Even when they are in formal positions such as department chair or program assessment coordinator, they are willing to go beyond their normal responsibilities to push the unit forward in building a culture of assessment.

Banta, Jones, and Lack (2009) also recognized that "Although leadership is imperative at all levels, assessment has the most impact when responsibility for carrying out assessment resides primarily at the unit level" (p.12). At the unit level, grassroots assessment leaders can raise the importance of teaching and learning among their colleagues, empower colleagues to reflect on curriculum and investigate learning achievement using assessment tools, integrate assessment work into what their colleagues are already doing, and facilitate collaborative actions for improvement. Grassroots leadership is a way to cultivate a culture of assessment regardless of administrative leadership turnover and resource constraints. Grassroots leaders at the unit level may be more willing and knowledgeable to serve on campus wide assessment committees, a more recognized form of faculty leadership in the assessment literature (e.g., Maki, 2004). As some of these faculty members move to higher-level formal leadership positions, we will gain more and more support for assessment over time. By implementing this model, we will build a culture of assessment that is sustainable.

Facilitation is an Essential Grassroots Assessment Leadership Skill

The field has evolved in its view of assessment professionals' roles and competencies. Rather than mainly seeing assessment professionals as methodologists and technical experts (Astin & Antonio, 2012), we recognize the importance of assessment professionals as facilitators/guides and political navigators (Ariovich et al., 2017; Jankowski & Slotnick, 2015). Facilitation has been considered a key to successful program assessment (Stitt-Bergh, 2015). This is because assessment is "a process of nested discussions, decisions, and actions" (Maki, 2004, p.4.) and a process of "collective inquiry" (p. 14). In fact, all key assessment processes involve the need for faculty collaboration and discussion. Student learning outcomes, rubrics, and standards are expressions of the faculty's shared expectation of knowledge, skills, and values upon graduation. Curriculum mapping, choosing assessment methods, and results interpretation are best done when faculty collaboratively connect learning opportunities to assessment and reflect on curriculum quality and coherence. Walvoord (2004) has long recognized that "[a]ssessment can be divisive and unnecessarily time consuming or it can be productive,

inspiring, and thought-provoking for the department…" (p. 51). Facilitating collaboration, consensus building, negotiation of meaning, and – sometimes – conflict resolution, is an essential part of the learning assessment process, which is a process of change for improvement. Especially in units with contentious political contexts, facilitation keeps assessment from being divisive and makes it productive.

The field of program evaluation has recently developed a more mature recognition of the importance of the facilitation skills. *New Directions for Evaluation* published a special issue dedicated to "Evaluation and Facilitation" in 2016. Assessment professionals can adapt strategies such as appreciative inquiry, cooperative interviews, making metaphors, and graffiti walls, which are commonly-used strategies to facilitate the evaluation process (Fierro, Schwartz, Smart, & Brandon, 2016). Another powerful resource for assessment professionals is the detailed descriptions of an evaluator's 13 interactive facilitation strategies by King and Stevahn (2013, pp. 101–147). Over the years, the UHM AO has conscientiously used facilitation techniques in learning outcome assessment and has presented the techniques regionally and nationally (Hill, 2014; Stitt-Bergh, 2014). We developed a PD curriculum for our grassroots leaders that emphasizes facilitation skills training.

The Assessment Leadership Building Project (ALBP) Informed by Best PD Practices

In 2013, my colleague and I submitted the proposal for the ALBP to the higher level administration. The mission of the project was to cultivate a cadre of faculty in different programs who are willing, able, and ready to take a leading role in student learning assessment, including helping their faculty colleagues use assessment to improve teaching and learning. In addition to increasing knowledge and skills in learning assessment, as do many assessment PD programs (e.g., Burrack and Urban, 2014; Cook, 2017), we focus on building the participants' facilitation skills.

Our proposal was accepted upon the first submission and we received our anticipated $5,000 annual funding as an incentive to the participants. The following strategies seemed to contribute to this smooth acceptance of the proposal: we aligned the project with the University's mission, vision, strategic plan, and our office's outcomes. We clearly specified the project intended outcomes, the curriculum map, and the project evaluation plan. In addition, we offered the administration four options for providing incentives for the participants, with funding requests ranging from $0 to $35,000, and we described how increased funding would lead to a higher level of impact.

The ALBP has three components: (1) a three-day summer training in the Assessment Leadership Institute (ALI), (2) follow-up support group meetings in fall, and (3) participants' presentation of an assessment project our Assessment for Curricular Improvement Poster Exhibit (the Poster Exhibit hereafter). Eligibility to apply to the ALBP is extended to all faculty and staff who are directly responsible for or interested in contributing to program/institutional-level learning assessment. We give priority to program assessment coordinators. Every year we accept

ten to 12 participants. The project participants commit to attending the ALI, the support group meetings, and presenting at the Poster Exhibit. The main material incentive for participation is an iPad or equivalent computer tablet.

In designing our project, we have selected the following best practices from the PD literature:

- The duration of PD must be significant (Gulamhussein, 2013; Hunzicker, 2010). Yoon et al. (2007) found studies that had less than 14 hours of PD had no statistically significant effects on student achievement (p. 3).
- Engage faculty in active learning and participation (DeMonte, 2013; Garet, Porter, Desimone, Birman, & Yoon, 2001; Gulamhussein, 2013).
- Model the practices (Gulambussein, 2013; DeMonte, 2013).
- Provide follow-up support for teachers to learn each new strategy and grapple with implementation problems (Blank & De Las Alas, 2009; DeMonte, 2013; Gulamhussein, 2013).
- Provide opportunities to collaborate (e.g., learning communities) and peer feedback (Hunzicker, 2010; DeMonte, 2013).

The first component of our project is the three-day all-day training on assessment and facilitation skills. The intended outcomes for the ALI are as follows:

1. Identify applicable learning assessment principles and practices to enhance student learning.
2. Develop learning assessment plans to support program/institutional level assessment.
3. Utilize learning assessment tools to implement assessment projects that are meaningful and manageable.
4. Identify venues and locate resources to develop scholarship in teaching and learning utilizing learning assessment.
5. Utilize facilitation techniques to guide discussions and collaborative projects.

The main ALI topics include Introduction to Program Assessment, Student Learning Outcomes, Curriculum Map, Direct Assessment, Capstone and Signature Assessment, Rubric Adaptation, Standard Setting, Data Analysis and Reporting, Meeting Facilitation, Use of Results, and Faculty Engagement. (See the 2017 Institute agenda here: http://manoa.hawaii.edu/assessment/institute/Institute_agenda_2017.pdf.) We engage participants in active learning using quizzes, scenario analyses, hands-on practice, and facilitation simulation in particular. We integrate self- and peer-reflection throughout the ALI and provide real life examples using guest speakers and our own experiences.

Participants develop their own assessment project plans during the ALI, receive feedback from peers and experts, and present their project plans on the last day.

During the ALI, the participants identify their assessment buddy or buddies and schedule to meet in the fall semester for at least three times. These meetings are called support-group meetings. I serve as the facilitator for most of the meetings. During these meetings, participants provide updates on their projects and seek feedback from peers and me. In the following spring semester, the participants continue to receive feedback and assistance from me to prepare for their project presentation in the Poster Exhibit.

Six Features of the ALBP

The two faculty specialists in the UHM AO have engaged in a great amount of deliberation in planning, implementing, and tweaking of our ALBP model. The project started in 2013. After five years of implementation, I identified the following six key features of our model:

1. Careful selection of participants
2. Training on collaborative leadership skills
3. Building an assessment-for-improvement mindset
4. Motivating incentives
5. Follow-up expert and peer support
6. Sustained scholarship opportunities

Feature 1: Careful Selection of Participants

To cultivate grassroots leaders is to cultivate change agents. They are the people who are motivated (willing), in a position to make a change (ready), and capable of doing so (able). To ensure that the project participants have intrinsic and extrinsic motivations, we used an application process. The applicants describe how they meet two selection criteria:

Criterion 1: Goals/Needs are Specific and Aligned with Institute Outcomes
    The applicant had specific learning needs and/or goals. He/she clearly articulated how the achievement of one or more Institute learning outcomes help in planning and implementing future assessment activities.

Criterion 2: Demonstrates Assessment Leadership Potential
    The applicant demonstrated the potential to make an impact on the program/institution level assessment activities. The applicant has experience in (1) collaborating with colleagues, (2) coordinating assessment or professional development activities/events, and/or (3) planning and/or implementing program/institutional level learning assessment activities.

The applicants' response to Criterion 1 expresses their learning needs and goals, which is an indicator for their motivation.

Criterion 2 speaks to the applicants' ability to collaborate and coordinate projects, a prerequisite for making a collaborative change. In addition to selecting applicants meeting these criteria, we give priority to people who are in a position to make a change – people who influence curriculum decisions, such as tenured faculty, curriculum committee chairs, or well-respected staff. Furthermore, we target recruitment and selection of the applicants from the programs who have not completed an assessment cycle. In 2017, we started accepting team applications to increase within-unit collaboration and peer support.

Feature 2: Training on collaborative leadership skills

As explained earlier, facilitation skills are key for collaborative grassroots leaders. We designed eight facilitation simulations around five ALI training topics, including eight facilitation tasks and eight note-taking tasks. We recognize that facilitation is hard, so over the past five cohorts, we have increased our support for helping participants develop this skill. We developed facilitation scripts for each topic. Participants have to sign up for one or two facilitation tasks before the ALI and then meet with me to go over the task(s): the purpose, sequence, facilitation or note-taking tips, and ways to manage difficult situations (e.g., distracting topics, dominant speakers). I then send them the preparation materials and facilitation tips through email. During the ALI, my colleague and I explain the facilitation task before it starts and have participants reflect on what has worked well after it is completed. We dedicate one training module to meeting facilitation techniques.

Additionally we engage participants in using a variety of facilitation techniques: the graffiti wall, making metaphors, the gallery walk, appreciative inquiry, and the sticky-note bar chart. We also reinforce general meeting facilitation techniques throughout (e.g., prepare an agenda and a script; make contribution visible; decide how to decide). We describe and reinforce the role of the facilitator as follows:

- Remains neutral & provides guidance for the procedure.
- Sets the ground rules.
- Prepares the materials for the participants.
- Summarizes and disseminates input.
- Signals when switching to a participant role.

In addition to the facilitation skills, we also provide general faculty engagement strategies for building collaborative leadership among the participants, such as active listening strategies and language for validation (e.g., "I can see that you care about student learning." "It is not a surprise that you feel that way."). We provide sample language to describe one's journey of using assessment for teaching and scholarship in the tenure application dossier, making assessment personally relevant for faculty.

Feature 3: Building an Assessment-for-Improvement Mindset

Although accreditation may be the first thing that attracts faculty's attention and involvement in assessment, use of assessment for learning improvement is what makes assessment meaningful and relevant to faculty and students. We want our participants to see program assessment as a set of tools for collaborative reflection on program quality and coherence and a way for faculty to act upon learning evidence for program improvement. To instill this mindset, first, we introduce Jankowski's (2017) Learner-Centered framework, adapted as shown in Figure 1. This framework eases faculty into assessment work without the jargon (e.g., student learning outcomes, curriculum map). It puts the focus of assessment work on student learning. Our participants react positively to this framework.
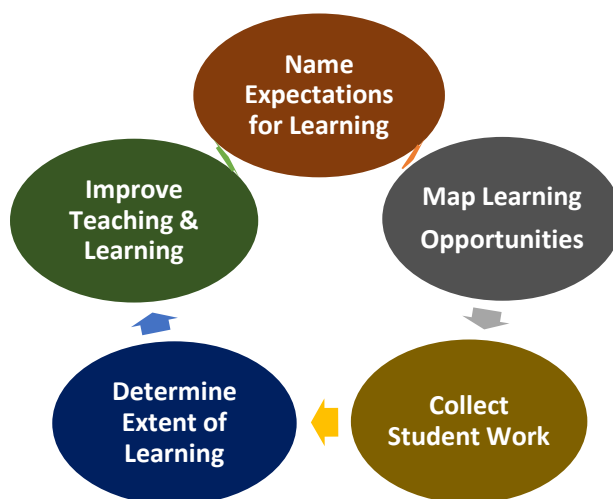

Figure 8. Learner-Centered Assessment Framework

Second, we provide examples of how programs have used assessment process or results at each stage of the assessment. For example, using student learning outcomes content analysis, the Graduate Chair of East Asian Languages and Literatures (EALL) engaged faculty in a program merge. The department merged seven advanced degree programs (i.e., Chinese MA and Ph.D.; Korean MA, Language Flagship MA, and Ph.D.; and Japanese MA and Ph.D.) into two degree programs EALL MA and Ph.D. (Park, 2017). For another example, at the stage of reviewing the curriculum map, our Nutrition Ph.D. program faculty discovered that the program had no structured learning opportunity to help their students achieve the program SLO in grant writing. They acted upon this finding and changed their requirement for a dissertation proposal to a grant proposal. They also made a grant-writing course into a required course to scaffold students' learning (Fialkowski, Esquivel, and Novotny, 2016).

Our third strategy to cultivate the assessment-for-improvement mindset is to ask faculty to reflect on curriculum quality and coherence during our facilitation tasks and discuss possible actions for program improvement. The following are two sample reflection questions from the

curriculum mapping activity: "*A. Does each course (and required experience) contribute to the program SLOs*?" and "*B. Do we offer students enough learning opportunities for each outcome?*"

Feature 4: Motivating Incentives

Within our limited budget, we have utilized multiple forms of incentives to facilitate learning and motivate participants to complete their projects. For example, we provided quality snacks and healthy lunches and designed sophisticated and official Institute Completion certificates with the Chancellor's and Vice Chancellor's signatures to show support from the executive leadership. We also invited the administrative and faculty leaders to welcome the participants, give a concluding talk, and participate in the award ceremony. After our participants indicated their commitment to the project, we gave each participant an iPad or equivalent computer tablet. Furthermore, we provided funding for our participants to go to local conferences and further training on assessment or facilitation. We purchased membership from Association for the Assessment of Learning in Higher Education (AALHE) for some participants. The peer support network accessed through the project is another incentive for our participants.

The campus-level incentives seemed to serve two important functions. First, incentives signal that the institution and administration value assessment work and value the faculty's commitment to assessment. Some project participants, functioning at the grassroots level, had to battle open opposition and passive aggression in their departmental politics. Some easily spent 100 hours or more in researching peer institutions, talking to key individual faculty, and consolidating a vast amount of information to lead collaborative assessment work. A large majority of them have shaken the inertia and made groundbreaking progress in assessment work. Their courage and dedication leave people in awe. Incentives such as ours are truly just a token of appreciation from the institution.

Assessment is a mechanism for culture change. Culture, by definition, consists of established sets of practices and value systems, and is therefore hard to change. The process of planning and implementing assessment projects can be taxing, both mentally and emotionally. Many other department priorities and job duties can distract one from completing the assessment project. This is when an incentive, such as an iPad, serves a second important function: fueling the emotional energy of the grassroots leaders and keeping them accountable to the completion of the project.

Feature 5. Follow-up Peer and Expert Support

Follow-up support is the key to maintaining learning communities among the participants. The assessment learning communities in our ALBP are small groups of faculty or staff sharing their assessment project implementation process and insights, receiving feedback and mutual

support, and engaging in collaborative reflection and problem-solving. During the ALI, the participants have had opportunities to interact and learn from each other through self-introductions, group work, and peer feedback on projects. They choose a buddy or two to meet in the fall as part of a learning community. Members of our assessment learning communities, often come together because they are in similar disciplines, like Nursing and Dental Hygiene, or they have similar projects, like assessing learning in Ph.D. programs.

Each assessment learning community meets three or four times in the fall semester, following the ALI. I attend each meeting serving both as an expert and as a facilitator. As an expert, I provide technical assistance and engage in collaborative problem-solving with the participants, our newly-minted grassroots assessment leaders. It is during this three or four months that participants grapple with emergent implementation problems. For example, what information to collect from faculty to prepare for the curriculum mapping session? Which curriculum map format to choose? After the curriculum map is developed and signature assignments are decided, how to proceed with rubric development? Through these follow-up meetings, I provide just-in-time support. I offer options, provide examples, create templates, and supply additional resources for the leaders. As a facilitator of the communities, I send out meeting reminders, reserve meeting rooms, bring snacks, take notes, moderate the meetings, and distribute summary notes.

Learning communities bring a great sense of comfort to our participants with the feeling that "I am not alone" and "we are in the same boat." They share work management techniques, personal experiences, and institutional history and context. Sometimes, after a bit of group commiseration, they return to their project with renewed energy and inspiration. We also have cases where they utilize each other as resources in their own assessment projects. For example, one project participant, a grassroots leader in the Nutrition Ph.D. program, facilitated the faculty's discovery that their program lacked a learning opportunity for grant writing. In her assessment learning community, she learned that another project participant developed a grant-writing course for the Molecular Biosciences and Bioengineering (MBBE) graduate programs. Using that resource, she further facilitated the collaborative decision to make the MBBE grant-writing course a required course for her program (Fialkowski, Esquivel, and Novotny, 2016).

Feature 6. Sustained Scholarship Opportunities

In higher education, especially in a research-intensive university, scholarship shapes a faculty's academic identity. Even in positions where publishing is not required, scholarship such as presenting at conferences earns faculty respect and helps establish one's expertise and authority in the field. Framing assessment as a scholarly inquiry has been recognized as a key faculty engagement strategy (Hutchings, 2010; Kinzie and Lindsay, 2014). We support assessment scholarship in the following ways:

1. We organize the Assessment for Curricular Improvement Poster Exhibits and require our project participants to present. We make the posters publicly available to make

their work easily accessible (http://manoa.hawaii.edu/assessment/poster/index.htm). In the 2017 Exhibit, we hired UH Productions, a student-run production organization, to make two-minute videos of selected presentations (http://manoa.hawaii.edu/assessment/workshops/poster2017/poster2017.htm#video). We promote the achievements of the presenters, including our leaders, to the department chairs and deans.

2. We encourage and sponsor leaders to present at conferences and pay for their conference registration.
3. I collaborate with participants to produce joint publications.

Evaluation of the Effectiveness of the Model

To evaluate the effectiveness of the model, my graduate assistant and I conducted a descriptive analysis of the quantitative data from the ALI evaluation surveys and a content analysis of the open-ended responses. We also conducted content analysis of the assessment project presentations to identify assessment processes and facilitation strategies that the participants plan to use. We tracked assessment project implementation and scholarly activities through observation and documentation.

The evaluative evidence first and foremost serves as formative assessment. We use them as the primary source for continuous adjustment and improvement. No two ALI's are exactly the same. We deleted topics (e.g., reliability), adjusted the schedule to better harmonize with the academic calendar, and added more learning opportunities for difficult areas, such as facilitation skills.

Consolidating the evaluative evidence also gives us summative information on the impact of our project. From the evidence collected on the first four cohorts (45 participants), we found the following:

1. 100% of the participants achieved learning outcomes based on the analysis of the ALI evaluation questionnaires and assessment plan content analysis.
2. 100% of the participants developed and implemented meaningful assessment plans.
3. 96% presented at the Assessment for Curricular Improvement Poster Exhibits.
4. At least nine participants are going to present or have presented at conferences.
5. 52 programs advanced their assessment work as a result, accounting for 22% of all the academic degree programs on campus.
6. 96% of the participants have involved or engaged program faculty in advancing program assessment.

Through these summative findings, we conclude that the ALBP Project is a successful model for building grassroots assessment leaders.

Key Insights Gained

After five years of experience carrying out the ALBP project, I have gained invaluable insights through working with the grassroots leaders in the project. My first realization is that the grassroots leaders do not need to be assessment experts, but they need to know enough to ask the right questions. For example, after the ALI, the participants have a basic understanding of key concepts and methods in learning outcomes assessment, such student learning outcomes, curriculum map, and rubrics. They may not master the six or seven ways of developing them, but they know the questions to ask to find a suitable approach, such as "Should I bring in a draft rubric or have faculty develop it from scratch?" or "Should I use student work in my course to jump start the program assessment process or wait for blessing from the department chair?" These questions reflect that the project participants contextualize the assessment process and make intentional choices that fit their situation. Their questions guide the choice of resources and support provided by their assessment learning communities and me.

My second realization is that leaders need many opportunities to practice leadership skills. As mentioned earlier, we consider facilitation skills the key to leadership training and that is the area that most participants struggle with. With that realization, we increased the number of facilitation tasks over time to 16 during the ALI and added more scaffolding. I also help the leaders to plan and design facilitation tasks and conduct the facilitation task for their projects if needed.

Another important realization is the importance of peer and sustained expert support. The grassroots leaders are often faculty members who carry various roles and responsibilities: academic adviser, instructor, assessment coordinator, principal investigator on grants, author, and member of various committees. Their willingness to go above and beyond do not make obstacles such as lack of time, lack of administrative support, or uncooperative colleagues go away. These faculty leaders are highly intelligent and innovative people capable of creative solutions. Follow-up support in the form of monthly meetings is crucial to help them to celebrate small successes, reflect on strategies that worked, and receive resources from their peers and assessment experts.

My last but probably the most important, insight is that assessment is an affective activity – i.e., it is tightly bound to human emotions and interactions. It is about building connections and building trust. As George Kuh said at the 2015 IUPUI Assessment Institute opening plenary: "*Assessment is a device for change*" and "*change moves at the speed of trust.*" Through the ALBP, I established in-depth relationships with the participants that are built on trust. This allows me to follow up with their project implementation and nudge them when necessary. Many of them seek my help even beyond their assessment project. I met with some of the project participants seven or eight times to plan the next steps. Almost all project participants were able to involve or engage their faculty members in a collaborative program assessment process. The common successful strategy is to establish individual relationships: knocking on the door, getting on the phone, text messaging, staging ways to bump into faculty, meeting with individual senior

faculty first, bringing graduate students into the project, working with like-minded faculty first, and so on. Once there are connections and trust, collaboration happens, and assessment moves forward in a way that benefits teaching and learning.

Conclusion

Our successful model of building grassroots leaders for a sustainable culture of assessment is based on PD best practices and has three components: multi-day intensive training, follow-up support, and participants' presentation of assessment projects on campus. I argue that building grassroots assessment leaders bridges the gap between involvement of individual faculty in assessment and cultivation of a sustainable assessment culture. I advocate for integrating training of facilitation and collaborative leadership skills into assessment leadership development. The grassroots leaders are the change agents at the departmental or unit level. Under their influence and leadership, assessment can function as a set of tools for faculty collaborative reflection and action on curriculum quality and coherence, thus perpetuating the culture of assessment for improvement of teaching and learning.

References

Ariovich, L., Bral, C., Gregg, P., Gulliford, M., Harris, S., & Morrow, J. A. (2017). *Assessment roles and activities: A framework for identifying professional competencies of assessment*. Workshop presented at the Association of Assessment of Learning in Higher Education Annual Conference, Louisville, KY. Retrieved from http://schd.ws/hosted_files/aalhe2017annualconference/b5/2017%20Final%20AAHLE%20Presentation.pdf

Astin, A. W., & Antonio, A. L. (2012). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education* (2nd ed). Lanham, MD: Rowman & Littlefield Publishers.

Banta, T. W., Jones, E. A., & Black, K. E. (2009). *Designing effective assessment: Principles and profiles of good practice*. San Francisco, CA: John Wiley & Sons.

Blank, R. K., & de las Alas, N. (2009). *The Effects of Teacher Professional Development on Gains in Student Achievement: How Meta Analysis Provides Scientific Evidence Useful to Education Leaders.* Washington, DC: The Council of Chief State School Officers. Retrieved from http://files.eric.ed.gov/fulltext/ED544700.pdf

Burrack, F., & Urban, C. (2014). Strengthening foundations for assessment initiatives through professional development. *Assessment Update*, *26*(6), 5–12. Retrieved from https://doi.org/10.1002/au

Cook, J. (2017, April). *Supporting success: Designing an assessment institute for your campus.* Paper presented at the Association of Assessment of Learning in Higher Education Annual Conference, Louisville, Kentucky.

DeMonte, J. (2013). *High-Quality professional development for teachers: Supporting teacher training to improve student learning.* Washington, DC: Center for American Progress. Retrieved from http://files.eric.ed.gov/fulltext/ED561095.pdf

Fialkowski M. K., Esquivel, M. K., & Novotny, R. (2016, April). *Fostering grant writing skills: A student learning objective of the intercollege Nutrition PhD program.* Poster presentation at the Assessment for Curricular Improvement Poster Exhibit of the University of Hawai'i at Mānoa, Honolulu, HI. Retrieved from http://manoa.hawaii.edu/assessment/workshops/poster2016/2016Nutrition.pdf

Fierro, R. S., Schwartz, A., Smart, D. H., & Brandon, P. R. (Eds.). (2016). Evaluation and Facilitation [Special Issue]. *New Directions for Evaluation*, *149*.

Fuller, M. B., Skidmore, S. T., Bustamante, R. M., & Holzweiss, P. C. (2016). Empirically exploring higher education cultures of assessment. *The Review of Higher Education*, *39*(3), 395–429. Retrieved from https://doi.org/10.1353/rhe.2016.0022

Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, *38*(4), 915–945.

Gulamhussein, A. (2013). *Teaching the teachers: Effective professional development in an era of high stakes accountability*. National School Board Association—Center for Public Education. Retrieved from http://www.centerforpubliceducation.org/Main-Menu/Staffingstudents/Teaching-the-Teachers-Effective-Professional-Development-in-an-Era-of-High-Stakes-Accountability/Teaching-the-Teachers-Full-Report.pdf

Hill, Y. Z. (2014, April). *Collaborative rubric adaptation: Engaging multiple perspectives to define quality*. Workshop conducted at the WASC Academic Resource Conference, Los Angeles, CA.

Hunzicker, J. (2010). *Characteristics of effective professional development: A checklist.* Peoria, IL: Bradley University. Retrieved from http://files.eric.ed.gov/fulltext/ED510366.pdf

Hutchings, P. (2010). Opening doors to faculty involvement in assessment. *NILOA Occasional Paper*, *4*. Retrieved from http://atlantic.edu/about/research/documents/OpeningDoorstoFacultyInvolvement.pdf

Jankowski, N. (2017, April). Communicating about learning: A national view of transparency. Presentation at the WASC Community of Practice: Advancing Learning Outcomes Visibility Convention, San Diego, CA.

Jankowski, N. A., & Slotnick, R. C. (2015). The five essential roles of assessment practitioners. *Journal of Assessment and Institutional Effectiveness*, *5*(1), 78–100. Retrieved from https://doi.org/10.5325/jasseinsteffe.5.1.0078

Kezar, A., & Lester, J. (2011). *Enhancing campus capacity for leadership: An examination of grassroots leaders in higher education*. Stanford, CA: Stanford University Press.

King, J. A., & Stevahn, L. (2013). *Interactive evaluation practice: Mastering the interpersonal dynamics of program evaluation*. Thousand Oaks, CA: Sage Publications.

Kinzie, J., & Lindsay, N. (2014). *Assessment administrators anonymous: 12 steps for involving faculty in assessment*. Paper presented at the AAC&U General Education & Assessment Conference, Portland, OR.

Maki, P. (2004). *Assessing for learning: Building a sustainable commitment across the institution* (1st ed). Sterling, VA: Stylus.

Park, M. (2017, March). *Merging graduate degree programs with the program assessment tool set*. Poster presented at the Assessment for Curricular Improvement Poster Exhibit of the University of Hawai'i at Mānoa, Honolulu, HI. Retrieved from http://manoa.hawaii.edu/assessment/workshops/poster2017/2017EALL.pdf

Stitt-Bergh, M. (2014). *Activities to promote use of assessment results in higher education*. Roundtable session presented at the American Evaluation Association Annual Conference, Denver, CO. Retrieved from https://www.academia.edu/7880640/Activities_to_Promote_Use_of_Assessment_Results _in_Higher_Education_roundtable_

Stitt-Bergh, M. (2015). Facilitation skills: A key to successful program assessment. *AALHE Intersection*. Retrieved from https://www.academia.edu/14695016/Facilitation_Skills_A_Key_to_Successful_Program _Assessment

Stitt-Bergh, M. (2016). Assessment capacity building at a research university. In W. H.Rickards, & M. Stitt-Bergh (Eds.), *Evaluating student learning in higher education: Beyond the public rhetoric. New Directions for Evaluation*, (151), 69–83. Retrieved from https://doi.org/10.1002/ev.20196

Suskie, L. A. (2009). *Assessing student learning: A common sense guide* (2nd ed). San Francisco, CA: Jossey-Bass.

Walvoord, B. E. (2010). *Assessment clear and simple: A practical guide for institutions, departments, and general education* (2nd ed.). San Francisco, CA: Jossey-Bass.

Yoon, K. S., Duncan, T., Lee, S. W.-Y., Scarloss, B., & Shapley, K. L. (2007). *Reviewing the evidence on how teacher professional development affects student achievement: Issues & answers. (REL 2007-No. 033).* Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Education Laboratory Southwest. Retrieved from http://files.eric.ed.gov/fulltext/ED498548.pdf

WSCUC's Community of Practice for Advancing Visibility of Learning Outcomes Assessment

Errin Heyman[30], Bert C. Christensen[31], and Carole Huston[32]

Abstract

The call for visibility of student learning outcomes is in the national spotlight. As a regional accreditor, WSCUC seeks to help assure various stakeholders (policy makers, parents, the general public, and students) that higher education institutions are delivering on their promises to students regarding learning outcomes. Institutions cannot do this effectively without making student learning visible and by communicating outcome achievement to multiple audiences. WSCUC has engaged in a three-year outcomes visibility project that offers institutions the opportunity to participate in a Community of Practice (CoP) to lend support and mentoring around projects related to assessing student learning and demonstrating visibility of that learning. Participating institutions have guidance and support as they implement their own projects. Through the work that develops in these projects, WSCUC will also develop a collection of good practices, resources, and guides to share, both regionally and nationally. This paper reviews progress thus far based on two participating institutional projects, focusing on co-curricular outcomes and website display of student achievement for multiple audiences.

Keywords: learning outcomes, visibility of achievement, community of practice, regional accreditation

Background

While progress is being made, relatively few higher education institutions have true "cultures of assessment" that produce enough evidence about student learning to fuel institution or system-wide improvements, including those at the course, assignment, and program levels. This will require more work directly with cohorts of faculty—changing their mindsets from "my work/my course" to "our work/our curriculum" and helping them see how meaningful assessment data can be used to improve outcomes. Through the WSCUC Initiative for Advancing Leadership for and Visibility in Student Learning Outcomes Assessment, the accreditor seeks to engage in continued capacity-building for institutions within the WSCUC region around student learning outcomes, specifically related to several requirements of the *2013 Handbook of Accreditation*.

Funded by a grant from Lumina Foundation, starting in October of 2016, WSCUC began planning a Community of Practice (CoP). The CoP brings together selected WSCUC institutions to work on projects that are specifically related to visibility of and leadership in student learning

---

[30] WASC Senior College & University Commission (WSCUC)
[31] Kaiser Permanente School of Allied Health (KPSAH)
[32] University of San Diego (USD)

outcomes, with the intent that the various institutional projects will yield a collection of guides, best practices, and/or templates that can be shared regionally and nationally to help advance conversations and practices.

WSCUC's Initiative for Advancing Leadership for and Visibility in Student Learning Outcomes Assessment seeks to address three primary project outcomes: 1) learning outcomes capacity building; 2) improved learning outcomes visibility; and 3) quality assurance / accreditation resource development. The knowledge, strategies, and approaches generated from institutional projects associated with the CoP should result in a rich collection of institutional and accreditation process resources, including exemplars and learning guides, for the WSCUC region – and nationally – around aligning and assessing student learning outcomes per the Standards of Accreditation, visibility of evidence, and using evidence for improvement.

Community of Practice Progress

Twenty-one institutions were selected to participate in the CoP. The themes of the projects include general education assessment, engaging faculty in assessment, co-curricular assessment, and how to best inform multiple audiences of institutional student achievement. Over 100 participants form the institutional teams, and they have been interacting in an online forum to begin the CoP. The Community has had one face-to-face workshop, and expert mentors are currently being matched with institutional teams to help them further their projects.

For the presentation at the annual AALHE conference, Errin Heyman, the Project Manager for the CoP at WSCUC, invited representatives from two of the institutions participating in the CoP to review their projects and progress.

Co-Curricular Assessment at KPSAHS

Description of the project

Co-curricular assessment is often met with confusion and frustration. Just defining exactly what co-curricular activities and assessment are can be a daunting task. There are two main groups of thought when defining co-curricular activities, those who believe it is all student learning activities outside the curriculum (i.e. critical thinking, information literacy, communication skills and problem solving), and those who believe co-curricular activities are learning outcomes and experiences students engage in outside the classroom which may fall within administrative and student support units (i.e. Library services, Career services, and Finance services).

KPSAHS is proposing to combine the two co-curricular groups into one, providing a robust and well thought out assessment of its co-curricular activities. To facilitate the demonstration of student learning through co-curricular assessment in addition to curricular assessment already in place, KPSAHS proposes to align assessment activities to support established Institutional Learning Outcomes (ILOs). KPSAHS has included the core competencies into its ILOs and this triangulation of co-curricular assessment, ILO assessment,

and assessment of core competencies will, it is felt, strengthen and demonstrate student mastery of the outcomes.

The project will identify administrative and student support units which support student success outside the curriculum, identify learning outcomes or service outcomes, develop a means of assessing outcomes, develop an assessment schedule, and initiate the assessment of co-curricular activities over a period of two year.

Co-Curricular assessment is expected to improve student development, success, and satisfaction; improve the student experience while attending KPSAHS; and improve processes in place which support students outside the classroom.

How does the project relate to your institution's mission, strategic or academic plan, and/or current student achievement initiatives?

We advance health care and improve lives by inspiring our students to be active, successful leaders in their careers and communities.

Students are at the heart of our mission. They represent the future of our profession and their work reflects our values and accomplishments. The degree status of our core programs demonstrates our commitment to providing students with the resources, connections, and support to launch successful careers throughout the health care industry.

How will the project address specific WSCUC Standards?

This project supports the following standards:

- The institution's formally approved statements of purpose are appropriate for an institution of higher education and clearly define its essential values and character and ways in which it contributes to the public good.
- 2.2a- ...These programs ensure the development of core competencies including, but not limited to, written and oral communication, quantitative reasoning, information literacy, and critical thinking. In addition, baccalaureate programs actively foster creativity, innovation, an appreciation for diversity, ethical and civic responsibility, civic engagement, and the ability to work with others...
- 2.3-The institution's student learning outcomes and standards of performance are clearly stated at the course, program, and, as appropriate, institutional level. ...
- 2.9-The institution recognizes and promotes appropriate linkages among scholarship, teaching, assessment, student learning, and service
- 2.11-Consistent with its purposes, the institution offers co-curricular programs that are aligned with its academic goals, integrated with academic programs, and designed to support all students' personal and professional development. The institution assesses the effectiveness of its co-curricular programs and uses the results for improvement.

- 4.1-The institution employs a deliberate set of quality-assurance processes in both academic and non-academic areas, including new curriculum and program approval processes, periodic program review, assessment of student learning, and other forms of ongoing evaluation...

How will the project address the Community of Practice initiative outcomes?

This project will assist other institutions within the Community in defining co-curricular activities, identifying which departments actively engage in co-curricular activities, constructing outcomes (student learning or service area) and a means of assessing the outcomes, and outlining a schedule of assessment, and the means of analyzing results and developing an action plan to address areas for improvement.

Scope of the project - Co-Curricular

This project will define co-curricular assessment, identify administrative and student support units which engage in student learning outcomes or student support activities, and develop a sustainable schedule of co-curricular assessment.

Goal/s of the project

Participation in the Community of Practice to develop co-curricular assessment will assist KPSAHS in achieving some of the goals of its strategic plan:

1. Cultivating successful graduates
2. Providing a means of monitoring student progress
3. Providing interventions for students in need
4. Developing partnerships by engagement of faculty and staff in regional, state, and national professional associations.

In conjunction with Service Area Directors, members of the team will engage in the following:

- Development of Service Area mission statements and goals
- Development of Service Area learning and service outcomes
- Development of Service Area rubrics and/or other means of assessing outcomes
- Development of Service Area assessment schedules

Timeframe to complete the project

One year for all administrative and student support units to have developed outcomes, means of assessment, schedule of assessment; and one year for implementation, analysis of results, and formulation of an action plan to "close the loop" on areas of improvement identified from the assessment process.

Uses of the project

Co-curricular assessment is expected to improve student development, success and satisfaction; improve the student experience while attending KPSAHS; and improve processes in place which support students outside the classroom.

KPSAHS History

Kaiser Permanente School of Allied Health Sciences (KPSAHS), part of The Permanente Medical Group (TPMG), started out as a vocational school training students in the art and science of Radiographic Technology. TPMG is one of the three-part system known as Kaiser Permanente (KP). The school was founded in Richmond, California, by the then Radiology manager and Chief Radiologist to address the need for and inability to hire qualified radiographers.

In the intervening years KPSAHS maintained programmatic accreditation for its imaging programs, Diagnostic Medical Sonography, Nuclear Medicine, and Radiography. Starting in 2011 KPSAHS started the process of regional accreditation from WSCUC, gaining accreditation in 2014. Emerging from the accreditation process KPSAHS was tasked by the WSCUC visiting team to develop an assessment plan of co-curricular activities

Participation in WSCUC's Community of Practice will allow KPSAHS, which is not the traditional college, to work with Assessment experts to determine what co-curricular assessment entails. Team members will then be able to adapt this definition to what co-curricular assessment means for KPSAHS and how it will be assessed.

KPSAHS team members will work with other institutions to review co-curricular assessment at their colleges, define best practices of co-curricular activities, and decide how to implement them at KPSAHS.

Definitions

The first step in the process was to clarify some definitions:

- Curricular
    - Refers to activities, programs, and learning experiences within the area of study.
- Co-curricular
    - Refers to activities, programs, and learning experiences that complement, in some way, what students are learning in school.
    - Takes place outside the curriculum.

Two schools of thought around Co-curricular activities:

Academic learning outcomes which fall outside the major but which support the curriculum. As a commuter college where students transfer in with an Associate Degree it was determined this would be covered by assessment of our Institutional Learning Outcomes:

- Critical Thinking
- Civic Engagement
  - Diversity
  - Ethics

The second area of Co-curricular activities would fall around Administrative and Support Units which *support* the curriculum and student success. Administrative and Support Units support the students in three ways:

- Student Learning Outcomes
- Service Outcomes
- Effectiveness Metrics

KPSAHS Proposal: Combine the two schools

Group 1 - Institutional Learning Outcomes assessment. Assessment of these learning outcomes, which lie outside the curriculum, will provide breadth and "soft skills" identified by employers as skills as important as theoretical knowledge. At KPSAHS the ILOs have been identified as:

- Critical Thinking
- Diversity
- Ethics
- Information Literacy
- Quantitative Reasoning
- Written and Oral Communication

Group 2 – Add Administrative and Educational Support Departments to the Assessment system. These Administrative and Support Units provide services to support students in attaining their educational goals:
- Accreditation and Compliance
- Student Services
- Career Services
- Financial Services
- Library Services
- Instructional innovation and Digital Learning
- Assessment and Institutional Research

Year one Timeline

KPSAHS has identified three ways Administrative and Support Units can contribute to the measurement of student learning and success. Since support units may provide learning opportunities or outcomes, measurement of skills gained by students can validate the unit's

accomplishments. In addition, service area outcomes can be measured by the use of and satisfaction with services offered by the unit. Lastly, other effectiveness metrics measure departmental procedures to determine if units are working within benchmarked parameters.

For the first step in the process Department Heads will meet with the Director of Assessment to determine if their department provides:

- Learning opportunities
- Student services
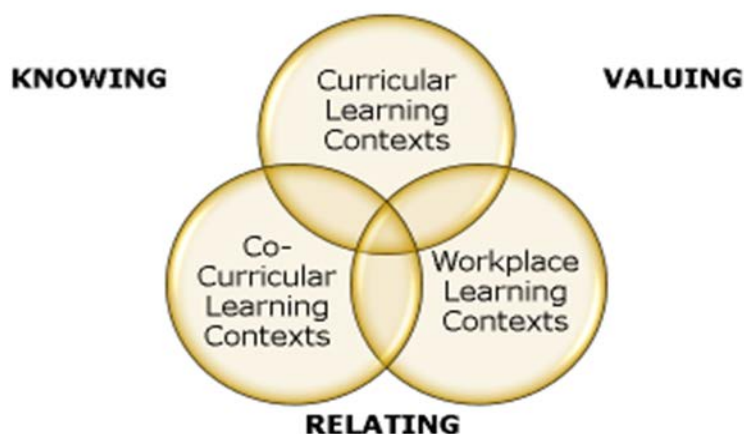- Support processes
- All Three

Department heads have been assigned to develop a Mission statement and goals for their department. Once received the department will then move to developing outcomes for assessment; setting a benchmark for success; creating or adapting a means of assessing the outcomes; and finally, outlining a schedule for implementation of the assessment. The Appendix shows first year progress.

USD Outcomes Visibility/Website Project

At the University of San Diego, we strive to conceive of, work with, and present student learning using a holistic model perspective. We know firsthand how easy it is to become immersed in individual silos to accomplish our separate goals and targets; it is a common complaint throughout higher education. We know equally well that until we can operate from a "big picture" mentality, we will remain unable to create a truly learner-centered environment.

A number of holistic models of learning have arisen in the last several decades. We chose to adapt one originally developed by Tosh and colleagues (2006) for understanding the integrated learning experiences of students who use e-portfolios (see figure X.X). In this model, effective, transferable learning is assumed to occur only when students make critical connections between specific curricular, co-curricular and workplace experiences (Penny Light, Chen, & Ittelson, 2012).

**Holistic Model of Student Learning*:
Making Critical Connections**

KNOWING   VALUING

Curricular Learning Contexts

Co-Curricular Learning Contexts   Workplace Learning Contexts

RELATING

*Adapted from Tosh, Werdmuller, Chen, Penny Light, & Haywood, (2006)

As Huber and Hutchings (2004) noted, "one of the greatest challenges in higher education is to foster students' abilities to integrate their learning across contexts and over time," and "learning that helps develop integrative capacities is important because it builds habits of minds that prepare students to make informed judgments in the conduct of personal, professional, and civic life" (p. 1).

In order to help us organizationally build toward a philosophy of integrated learning that can better guide USD's student learning experience, we developed an "outcomes" committee that would work to identify optimal learning outcomes across programs and contexts. We manifested this approach by developing an organized website, reflecting student outcomes. Our team consisted of members from academic and student affairs, career development services, institutional research and planning, information technology, and university communications (marketing).

The website itself is organized by three general areas: student learning, retention and graduation, and career development. Student learning is explored in terms of: 1) learning and assessment (outcomes, measures, results/next step summaries), student engagement (high impact practices and national surveys), and program review (4 types of review); 2) retention and graduation rates; and 3) career outcomes. A number of viewers have found the accordion view of learning outcomes, measures and results particularly useful as well as the search career function in the career outcomes' section.

This period represents Phase I of our efforts, identified by our committee outcomes as follows:

- Represent student learning holistically on USD's website
- Create a community of connections
- Build a team to accomplish main goal

Although it was quite an accomplishment to literally "get everyone on the same page," the design and display of information is fairly linear and static, and not as integrated as we would ultimately like to show.

When WSCUC provided an opportunity to form a community of practice for the "advancing the visibility of student learning outcomes assessment," our team saw this call as a timely opportunity to continue our work on representing student outcome achievement. The program provides working with a project mentor and networking with a community of institutions working toward similar sets of goals.

Our project acceptance into the WSCUC Community of Practice signaled Phase II of our planning. In this phase, we seek a mentor to help us create a more holistic, learner-centered approach for our website that is reflective of the students' experiences rather than solely in the manner we have chosen to organize ourselves as an institution. Our outcomes for Phase II include:

- Engage in "design sprint" activities to better understand audiences and purposeful searching to:
  - Create a dynamic interface with different entry points for specific audiences
  - Develop innovative access points and build these out where needed
- Complete representation of student learning and continuous improvement to:
  - Display in highly innovative ways student learning, engagement activities, student success, and career outcomes

At the highest website level, the Community of Practice will provide assistance in visualizing how to present the value proposition of a liberal arts education at USD, an engaged contemporary Catholic university. This view will speak directly to students and their parents as primary audiences, when representing learning in integrative ways across curricular and co-curricular learning integrated with career development; but it will also address assessment of learning when reviewing curricular and co-curricular outcomes and requirements that will appeal to audiences of faculty, administrators, and regional accreditors.

Ongoing updates and details on the Community of Practice project

For updates and details see https://www.wscuc.org/content/wscuc-%E2%80%98s-community-practice-advancing-learning-outcomes-visibility.

References

Huber, M., and Hutchings, P. (2004). Integrative learning: Mapping the Terrain. Washington, DC: Association of American Colleges and Universities. Retrieved from http://files.eric.ed.gov/fulltext/ED486247.pdf

Penny Light, T., Chen, H.L., & Ittelson, J.C. (2012). *Documenting learning with eportfolios: A guide for college instructors.* San Francisco: Jossey-Bass.

Tosh, D., Werdmuller, B., Chen, H.L., Penny Light, T., & Haywood, J. (2006). The learning landscape: a conceptual framework for eportfolios. In A. Jafari & C. Kaufman, (eds.), Handbook of research on eportfolios, (p. 24-32), London: IDEA Group Reference.

USD Outcomes Website: http://www.sandiego.edu/outcomes/

Appendix. Year One Progress for KPSAHS

Four of seven departments have developed Mission Statements and Goals:

Library Services. The mission of the Library is to provide information resources and services in support of education, research, administrative decision-making, and community needs of the Kaiser Permanente School of Allied Health Sciences (KPSAHS). The library provides knowledge-based information through a variety of formats, including books, periodicals, and through online access to electronic databases.

Career Services.

- The mission of Career Services is to enhance student success and to provide personalized career skills that will enable students to feel confident in the workforce of healthcare. The high touch, custom approach which is 1:1 support, empowers students to develop foundational skills unique to their background.
- The Vision of Career Services is to connect students with services and resources so that they can manage their career skills effectively. Training's include resume development, interview preparation, online job search and relationships building. We collaborate with employers to enable students to expand their professional network while developing meaningful relationships in the healthcare industry.
- Goals of Career Services include:
  - Work with students 1:1 to identify career skills needed to manage career development
  - Identify employers to develop and cultivate authentic relationships
  - Actively create diverse experiences to enhance student "real world" career skills

Finance Services

- The mission of Finance Service Department is to support the strategic vision of KPSAHS by providing financial leadership, preserving, enhancing and supporting TPMG/KPSAHS financial, physical and human resources, by ensuring regulatory compliance and by providing relevant, timely and accurate information to internal and external stakeholders. The KPSAHS Finance department will support KPSAHS students by providing timely, easily accessed and accurate information about the cost of KPSAHS programs and the status of students' accounts.

- The Vision of the Finance Services Department is to excel in demonstrating authenticity and integrity, create conditions in which employees and students can do their best work and to ensure that the activities proposed and resources requested reflect sound business judgment and support the overall goals and mission of KPSAHS.

- The goals of the Finance Services Department include:

    o Identify new student financial aid sources and communicate sources to students.
        - Seek scholarship resources (5 new scholarships identified annually and published on website)
        - Ensure that information is easily accessible to students. (Assess number of 'hits' on KPSAHS Scholarship page over time.)
    o Deliver relevant, timely and accurate information to budget owners and students.
        - Budget reports, frequency (Faculty/staff satisfaction surveys)
        - Student cost and payment information to students (Student satisfaction surveys)
    o Implement budget process that considers Use of Assessment Results (i.e., Student satisfaction surveys) and Action Plans developed in the allocation of KPSAHS resources.
        - Budget form and budget process
    o Implement Capital Budget Strategy that supports cross functional, collaborative planning of Capital Purchases

Instruction Innovation and Digital Learning (IIDL)

- The mission of the IIDL is to advance health care and improve lives by educating and supporting our students, faculty, staff, and partners with instructional design, technology, and educational innovations. We promote a culture of lifelong learning and graduate success through extended education offerings.

- The vision of the IIDL is to enhance KPSAHS's role as a leader in the field of health sciences education by providing excellent and innovative support, training, media, and branding. We will offer quality lifelong learning opportunities to all groups and individuals that come to us seeking self-improvement.

- The goals of the IIDL include:

    o Increase year over year contributions to school revenue.
    o Facilitate internal and external KP affiliations to strengthen the KPSAHS brand and reputation.
    o Apply instructional design knowledge to facilitate consulting and to support TPMG learning and training initiatives, thereby increasing KPSAHS's value to the larger organization and community.
    o Become a recognized leader for professional learning and continuing education offerings for alumni, physicians, and related health care professionals.

Three departments have identified learning outcomes for assessment and set benchmarks to demonstrate successful achievement of outcomes:

Library Services

Student Learning Outcomes (SLOs)

1. Students can navigate the Library effectively.
   - Assessed using a department created rubric.
2. Students can demonstrate search strategies.
   - Assessed using department created rubrics.

Service Area Outcomes (SAOs)

1. Students report satisfaction with library resources and space.
   - Assessed using a department satisfaction survey deployed yearly summer term.
2. Students report satisfaction with library services.
   - Assessed using a department satisfaction survey deployed yearly summer term.

Career Services

Student Learning outcomes (SLOs)

1. Graduates demonstrate ability to structure and create resume
2. Graduates will identify 2-3 concrete next steps in career planning
3. Graduates will gain tools to professionally present themselves to potential employers
4. Graduates will attend 1-2 career events per year to develop networking skills

Effectiveness Strategies:

1. Student Rubric
2. Student Career Fair Survey

Finance Services

Support Process
1. Increase Financial Aid sources for students seeking scholarship resources
   - 5 new scholarships identified annually.
2. Scholarship information to be published on the website.
   - Assessed using "website hit report" to ensure students are accessing the information.

Service Area Outcomes (SLOs)
1. Student Cost and payment information provided to students in a timely and easily accessible manner.
   - Assessed using the student satisfaction survey deployed annually spring term

Two departments have developed a means of assessment:

Library Services

- Rubrics to assess student learning outcomes have been developed.
- Has developed a Library Satisfaction Survey for assessment of service area outcomes.

Finance Services

- Rubrics
- Surveys
- Efficiency metrics

One department has implemented the assessment plan and will be analyzing results upon collection of survey data:

Library Services

- Has developed and deployed a Library Services Satisfaction Survey

Year two timelines
- Assess outcomes
- Analyze results
- Develop an action plan based on results
- Report Findings
- Implement Action Plan
- Re-Assess