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

AALHE

PROMOTING ASSESSMENT FOR LEARNING

AALHE 2021
Conference Proceedings
Online, June 7th – 11th

Contents

Technology Helps Assessment; Assessment Helps Technology

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Abstract: What do the baking & pastry arts and computer technology fields have in common? At A-B Technical Community College, they both take assessment of student learning seriously and work hard to do it efficiently and effectively. Using authentic capstone projects for program assessment, both programs include field experts in the assessment process, and harness technology in different ways to gather and analyze the data efficiently. This allows time to focus on what the data shows and determine what should be done going forward to improve the learning experience for students. It also facilitates greater connections between industry experts and employers and program faculty, allowing informed, responsive, and ongoing curriculum development. The strategies employed by the two disciplines featured here may be applied in a number of different fields. The key is flexibility to allow each program to find the technological tools that best fit each particular context

Keywords: *Authentic assessment, industry reviewers, capstone projects, technology*

Introduction

Capstone courses and projects are a feature of a number of different programs at Asheville-Buncombe Technical Community College (A-B Tech). Regarded as a high impact practice (Kuh, 2008), capstone projects have gained popularity particularly at baccalaureate institutions and in smaller, liberal arts colleges (Jankowski et al., 2018; Padgett & Kilgo, 2012). Most of the academic literature focuses on describing capstone experiences in four-year degree or graduate programs and covers a variety of culminating experiences for students.

At A-B Tech, the focus in Baking and Pastry Arts Department and the Computer Technologies Department – and in many other career and technical education programs at the college – is on authentic projects where students undertake a semester-long project in their final semester which synthesizes all aspects of student learning that have been articulated in the assessment plan for each program. These authentic projects result in comprehensive demonstration of the creation, development, and execution of tangible products, as well as demonstrating knowledge and key skills in the process. Industry experts and instructors provide authentic assessment of students' culminating work as a summative assessment. It is an intensive experience for the students and involves a great deal of guidance and formative assessment and feedback from instructors along the way. For the programs highlighted here, there can be up to eighteen industry experts and several instructors involved in the assessment of students' capstone projects with consideration given to a number of student learning outcomes. This generates a significant amount of data that can be overwhelming, and at a time when both faculty and students are running on fumes, trying to make it to graduation.

The use of various technological platforms and tools has made the collection of assessment data more efficient and has significantly reduced the timeframe between student demonstration of learning and

analysis and interpretation of results to identify potential improvements to the student learning experience. The use of technology is tailored to the needs of each program, yet the end results are similar – industry experts participate in assessment and provide timely, constructive feedback to students; assessment results are available quickly, allowing faculty the opportunity to analyze and discuss the findings while the story behind the numbers is still fresh in their minds; and improvements can be implemented with little to no time lag.

Capstone Project Format

The Baking and Pastry Arts AAS program and five AAS programs in the Computer Technologies department use rigorous and comprehensive capstone projects in the final semester of the student learning experience to assess students' knowledge, skills, and abilities. Instructors and industry experts assess the student work together in a culminating presentation of the students' work in late Spring, using rubrics and various technologies to facilitate the efficient recording and gathering of assessment data. Each program has its own preferred method of sharing instructions, information, and student work with industry reviewers and program faculty. The Baking and Pastry Arts (BPA) program is accredited by the American Culinary Foundation (ACF) and utilizes ACF assessment criteria as a basis for judging a wide array of baking and pastry products created by students during their capstone project. The Computer Technologies (CT) programs have developed their own specific assessment rubrics over a number of years, through ongoing analysis, interpretation, and discussion of student learning outcomes.

A range of hardware and software, such as the college's learning management system, the Microsoft Office suite of products, LinkedIn, iPads, and other external tools, have been employed according to the needs and context of each capstone project. Some of the Computer Technologies capstone projects include a greater element of collaborative work among students (Network Management and Systems Security) and utilize platforms that facilitate student collaboration and communication while other capstone projects assess student work as individual endeavors (Baking and Pastry Arts, Digital Media, Software and Web Development, and Information Systems).

The Baking and Pastry Arts program utilizes the rubric and grading guide tool embedded in the college's Learning Management System (LMS), Moodle, to assess several aspects of the capstone project which are assessed by a single person (an industry reviewer who is also an adjunct instructor in the program or a full-time faculty member); the capstone packet, breads, and cake, chocolate, and sugar showpieces are assessed in this way. The desserts and pastries, and chocolates and candies - which complete the requirements of the BPA capstone project - are typically assessed by two judges per student using customized spreadsheets accessed on iPads during tasting on Capstone Day. This negates the need to create guest access to the LMS for industry reviewers external to the college and also overcomes the inability to directly input more than one set of scores and calculate averages within the learning management system. Verbal feedback is provided to the students by industry reviewers on the actual Capstone Day and followed up within the next few days with written and numerical feedback uploaded to the Moodle gradebook. Industry reviewer feedback and scoring is also reviewed by the lead BPA instructor to check for any scoring that is an extreme outlier or feedback comments that are not appropriately worded prior to sharing the feedback form with the student. This process has been in place for a number of years.

The quick move to remote emergency education in Spring 2020 meant that the full-blown realization of the BPA capstone project could not be carried out. Alas, there was to be no consumption of delicious baked delights in the name of assessment! However, the creation of themed products and plans to execute those could still be accomplished and presented electronically in the LMS. The assessment of this important preparatory work became the focus for determining what the students had learned throughout the program for the Class of 2020. In Spring 2021, we were able to reinstate the actual execution of the themed concepts of our BPA students with appropriate protocols in place to keep everyone safe. Assessment, chocolate, and cake could once more converge in an intense, real-life experience for all, aided by technology.

The Computer Technologies department has a presentation day for each program to which all faculty in the department are invited along with industry experts in each particular area of specialization. Prior to the pandemic, students did an in-person presentation followed by a Q & A session where faculty and industry reviewers could gain further insight into the creative process, as well as the students' technical knowledge and ability to interact in a less structured format than the formal presentation. Digital means of gathering data for assessment purposes were already established and had been improved over the years. Each of the five programs in Computer Technologies chose their own tools and technology for collecting assessment data.

The Information Systems AAS program used spreadsheets to record and gather data from industry judges, having also provided a set of instructions and folders of materials for review electronically prior to participating in a virtual question and answer session with the students. The Digital Media Technology program chose to use Microsoft Office forms to gather expert reviews of student work, while the Network Management and Systems Security programs utilized a number of technologies, including building a LinkedIn site for collaboration, a SharePoint site, and using Vimeo for the sharing of student presentations. When instruction moved to entirely online in Spring 2020, the presentations were recorded on video with the Q & A sessions occurring in a synchronous video conference attended by industry reviewers, faculty, and all capstone students. This format was refined and continued for Spring 2021.

Benefits of using Technology for Assessment

Both the Baking and Pastry Arts and Computer Technologies programs have used electronic means of gathering assessment results for a number of years, so when the pandemic hit in Spring 2020, it was possible to continue using existing assessment methods with minimum disruption. This allowed faculty to focus on determining the best options for students to complete and share their capstone project work for review virtually, rather than in person. While it was not possible for the BPA students to hold their usual Capstone Day table displays and tastings with industry judges in Spring 2020, it was possible to increase the focus on the capstone packet to demonstrate the extensive planning process for this challenging project (see Figure 1 for capstone packet requirements).

Figure 1
Overview of BPA Capstone Packet Requirements

BPA Capstone Packet Elements and Guidelines

1. **Idea**: Theme must flow through the entire capstone show pieces and dessert products.

2. **Marketing:** Business card sample, Imaginary Menu of the proposed business operation incorporating the dessert, pastries, and breads you wish to sell (should fit the theme), costing of the menu you are preparing for tasting, Business plan, budget for the proposed business operation), a sketch of the layout of the operation.

3. **Portfolio**: Must include biographical paragraph, updated resume, professional certificates, letters of recommendations, special interests, or awards, photos, and any other pertinent information.

The capstone packet had been identified as an area of relative weakness for BPA students from assessment results in 2017-18, and curricular improvements put in place in 2018-19 resulted in some improvement in student performance in this aspect of the capstone project the following year. In Spring 2020, when the capstone packets formed the focus for the capstone project without the ability to execute the plans contained within them, a further improvement in student performance was gained with all students meeting the criteria. Having the ability to continue monitoring this aspect of student performance through the use of technology was a bright spot in an otherwise challenging semester for BPA students and faculty alike.

The use of digital means to gather assessment data greatly speeds up the timeline from the actual assessment of student learning to the analysis, interpretation, and use of the results for implementing improvements. Assessment reports are completed annually during the summer at A-B Tech and BPA and Computer Technologies are consistently some of the first programs to complete and submit their reports well before the deadline. The reports detail proposed actions for improvement based on the assessment results from the academic year that has just concluded.

On several occasions the results have indicated that a particular skill needs to be practiced more thoroughly in courses early in the program and the ability to reach this conclusion by early summer allows faculty time to put things in place for the fall for the incoming cohort of students to the program, ensuring there is no lag time between the identification of the problem and the implementation of a potential solution. This also allows us to assess the efficacy of such implemented actions in improving student learning within a 2-year timeframe, assuming that at least some of the new students exposed to the extra practice early in the curriculum will reach the capstone project and demonstrate improved skills by the end of their second year. An example of this occurred in the Information Systems AAS degree program in Spring 2020 (see Figure 2 for project overview). Expert reviewers noted that students had paid insufficient attention to risk analysis and mitigation of risk while completing their capstone projects. This is an area of increased focus in the IT industry, so our faculty were able to quickly incorporate this aspect into future capstone projects in a deliberate way and consider where the teaching of risk management could be further infused into the curriculum to support student learning

of this key skill. Assessment results for the following year showed an improvement in student performance, despite a greater scrutiny of the inclusion of risk management in the student projects.

Figure 2
Overview of Capstone Project in Information Systems AAS program

CTS-289 System Support Project Description/Explanation

You are designing the information system for a small to medium size bicycle shop business. You will be given most of the data needed to create the products for this business. You will use the knowledge you learned in previous courses to create this project using Word, Excel, Access, and PowerPoint. You will create a project that will show the following four required skills: An online presence; database; documentation; planning/completion. In addition, you need to choose a minimum of four skills that interest you and match previous classes from the following items: Network design; security design; operating System choices with rationale; programming skills; hardware/software decisions; GIS; Data analysis/ business analytics. You will present this project to a panel and also have a display at the Capstone Expo.

Required Skills (include all 4)	Other Skills (minimum of 4)
Online presence	Network design
Database	Security design
Documentation	Operating system choices with rationale
Planning/completion	Programming skills
	Hardware/software decisions
	GIS
	Data analysis/business analytics

A further benefit of using digital methods of assessing student learning is that industry reviewers, who are often employers in the field, are more easily able to participate in the assessment of capstone projects. Materials can be shared ahead of time to ensure thoughtful review and affords the opportunity to ask questions for clarification with program faculty before live interaction with the students, if necessary. It also increases the pool of potential expert reviewers as the geographical and time constraints of travel to and from campus for an in-person event have been removed.

The use of technology platforms, such as LinkedIn used by the Network Management and Systems Security degree programs, has increased employment opportunities for students. Potential employers were able to see direct evidence of student skills, knowledge, and abilities and students could share resumes and other information. This resulted in students in the Network Management and Security Systems degree programs obtaining job interviews and employment, either during, or very soon after their capstone project experience.

Reflections and Audience Responses

Many of the expert reviewers participating in the assessment of student capstone projects are also members of the Advisory Committee for each program. This allows these individuals a greater insight into the educational experience of our students and can lead to more informed suggestions for curricular improvements to better align with current workforce requirements. Subsequent to this presentation at the 2021 AALHE conference, the recently published *Exemplars of Assessment in Higher*

Education (Souza and Rose, 2021) has been read with interest and many aspects of what we describe here within the A-B Tech Community College context can be found in Chapter 12 of that text. Stillman School of Business at Seton Hall University describes how capstone projects and expert reviewers are used for assessment of student learning at both the undergraduate and graduate level within the business management programs of that institution. However, the role of industry reviewers is taken a bit further at Stillman, with industry reviewers serving as coaches and mentors for students as they work through to the completion of their capstone projects. This provides an additional level of connection between the workplace and the college curriculum that feeds the workforce pipeline. Our model of inviting industry reviewers to assess the end point of capstone projects inherently limits the industry reviewer to being able to directly assess the end product and not the process. We supplement that by also having instructors assess the student projects but adding industry reviewers as additional assessors of the project development process allows for even greater insight into the curriculum and can shift the focus from merely content knowledge and technical prowess to better assessing the development and demonstration of key core skills constantly sought by employers, such as teamwork, communication, critical thinking, problem-solving.

Baking and Pastry Arts students complete a work-based learning experience in the summer between the first and second years of the AAS program. This, coupled with exposure to a cadre of local industry experts during the Capstone Day in their final semester, often results in students graduating from the program having already secured positions in the field. While the use of technology cannot replace the in-person tasting experience required for the BPA capstone, it does provide an additional method of communicating constructive feedback to students. The BPA Capstone Day is an intense event that the students take very seriously. The expert reviewers hold an in-person debrief with each student at the conclusion of their judging on the day. At this point, however, the students are exhausted and somewhat stressed and may not absorb and remember all that is conveyed to them in that moment. The backup of legible feedback summaries that they can reflect on after the event and keep for posterity is a valuable addition to the learning experience for the students and provides excellent data for the assessment of student learning and curriculum development. The assessment of student learning in the Baking and Pastry Arts program does not occur solely in this final, intensive capstone project, however.

Hathcoat compares Gordon Ramsay's Master Chef competitive cooking show to the assessment of student learning (Hathcoat, 2018). He considers the potential merits of generalization (drawing conclusions about ability from a limited number of observations) versus observation (drawing a conclusion from a single direct observation of completing a task). Three ways of handling generalization in performance assessment are suggested: 1) increase the number of observations, 2) restrict the domain of generalization, and 3) infer what is "possible" instead of what is "typical". Our BPA program does all three: 1) students complete productions on Thursdays throughout their program that are graded components of their classes, 2) they contribute desserts, pastries, and breads to weekly lunch and dinner menus of different national cuisines, and 3) they create their own themes and recipes for their capstone which demonstrates what is possible. In addition, the capstone project incorporates direct observation/tasting of all baking and pastry techniques learned throughout the program. One BPA student in Spring 2021 summed up the nature of the BPA capstone experience beautifully in a short video vignette: "My favorite thing is that we got to do one of everything we have covered in our pastry education." (Cauble, 2021 BPA graduate).

The capstone project is an obvious place for program assessment to be conducted. Indeed, many capstones were created for this very purpose. A candid paper by Catherine Berheide in 2007 shares the perspective of a faculty member reluctant to fully engage in assessment because of the work involved for little perceived additional insight into the student learning experience. Berheide heralds the use of the capstone for program assessment purposes as a way to do less work and collect better data. However, we argue that capstone projects are intensive experiences for both faculty and students when done thoughtfully and well. They involve a significant amount of planning, guidance, and formative feedback culminating in comprehensive summative assessment of multiple intended learning outcomes. The harnessing of technology to do most of the heavy lifting of data collection takes time and effort to set up and get right but has several benefits for student feedback. Faculty can maximize input from industry reviewers to complement their own assessments in shorter timeframes and focus on the most important task: teasing out what the data shows and what should be done to further enhance the learning experience for our students. The disparate fields of baking and pastry arts and computer technologies discussed here demonstrate that a variety of tools can be used to make the assessment process more efficient. While there are many similarities in the approaches taken by each program, it is important that faculty have the flexibility to utilize the technologies that are most appropriate for their particular context. The role of the assessment professional is to provide frameworks and an array of mechanisms for efficient and effective assessment that allows the faculty to focus on providing the best learning experience possible for our students.
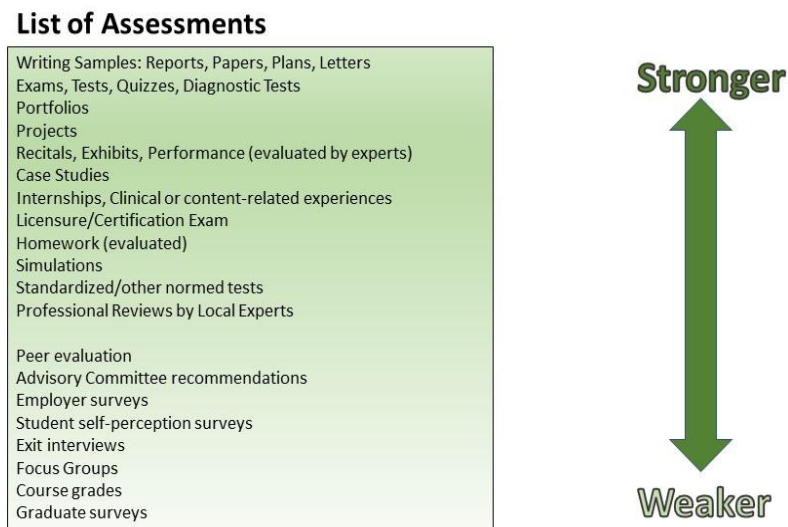
An interesting discussion during the conference presentation revolved around the use of expert reviewers. A participant shared that the use of expert reviewers had been "prohibited" at their institution (or perhaps it was at the school or program level – it was not specified) on the assertion that only faculty could conduct direct assessment of student learning. Confusion over the definition of direct and indirect assessment was evident at A-B Tech back in 2013 when the Director of Curriculum Quality Assurance and Assessment position was put in place. A deliberate strategy was adopted to avoid the use of these terms and replace them with a range of potential assessment measures, listed in descending order of strong to weak measures of student learning at the program level (Figure 3). Of course, the order of assessment measures on this descending scale may vary from discipline to discipline and can be debated but it was generally accepted as a decent rule of thumb across the college.

You will note that "Recitals, Exhibits, Performance (evaluated by experts)" is fifth on the list. This is not because industry reviewers are considered unable or unqualified to assess student work; rather, it is a reflection that most industry reviewers participate in assessment of a final product and have little to no insight into the process by which the final student artifact was created and developed. This is why, at our college, we complement assessment by industry reviewers with assessment by faculty also. After reading the approach taken by the Stillman School of Business in *Exemplars of Assessment in Higher Education* (Souza & Rose, 2021), a possible strategy for addressing the limitations of the industry reviewer purview may be to have local employers or alumni working in the field serve as coaches or mentors to students throughout their projects, in addition to formally assessing the end products of the capstone project.

Figure 3

A list of potential measures for assessing student learning at the program level, ordered from the strongest measures to the weakest (Chrystall, unpublished)

List of Assessments

Writing Samples: Reports, Papers, Plans, Letters
Exams, Tests, Quizzes, Diagnostic Tests
Portfolios
Projects
Recitals, Exhibits, Performance (evaluated by experts)
Case Studies
Internships, Clinical or content-related experiences
Licensure/Certification Exam
Homework (evaluated)
Simulations
Standardized/other normed tests
Professional Reviews by Local Experts

Peer evaluation
Advisory Committee recommendations
Employer surveys
Student self-perception surveys
Exit interviews
Focus Groups
Course grades
Graduate surveys

Stronger

Weaker

A second factor that potentially decreases the "strength" of the assessment through expert review is inter-rater reliability, but this is also a consideration for any institution conducting assessment of student work with faculty groups, and can be mitigated through clear guidelines, definitions, and norming sessions. At A-B Tech, we believe that the value added by having expert reviewers assess student work against a professional standard outweighs the potential challenges to this assessment method. In the world of career and technical education, the faculty generally bring considerable real-life experience to the curriculum, but full-time faculty also have to consciously find ways to keep updated with current practices and trends in their particular field, having moved into education from industry settings. The relationship with advisory committee members and expert reviewers is an excellent way to stay current with workforce developments and needs and ensure that current trends are reflected in the curriculum through which we train our students to pursue careers in their chosen field.

Summary

Just as there are many ways to assess student learning, there are equally as many technological tools available to facilitate the inclusion of a range of stakeholders in the assessment process and to do the heavy lifting of data collection and analysis. The time between the assessment of student work and discussion of results by faculty can be shortened. Where capstone projects are used for summative assessment of student learning at the program level, this can be crucial to allow faculty to articulate the story behind the numbers while it is still fresh in their minds and before nine-month faculty go off contract for the summer. If the assessment results indicate that changes are needed earlier in the program curriculum to scaffold student learning towards the intended program outcomes, these can be implemented with little time lag in the following academic year with preliminary evaluation of improvement occurring in the capstone in two years for Associate of Applied Science degrees.

Improvements directed at the capstone course or project can be implemented immediately with the impact measured in the subsequent year. Allowing flexibility for faculty to use the technological software and hardware relevant to the context of their particular program is key; there is no "one size fits all" solution. Experience at A-B Tech Community College and the assessment literature tells us that the assessment of student learning process is most effective when program faculty and assessment professionals work together at the program or department level to harness tools appropriate to each context. When every effort is made to avoid trying to put square pegs into round holes, it is much more likely that the focus will be where it needs to be: striving to provide the best learning experience possible for our students.

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Two Changemakers in Assessment Culture: Summary and Reflections from the 2021 AALHE Conference

By Sheri Popp, WEAVE Education

Abstract: The following paper is a descriptive account of the proceedings from a panel discussion at the Association for the Assessment of Learning in Higher Education 2021 conference. The facilitator leads professional development courses for assessment professionals and in that capacity is privileged to see and hear the stories of successful assessment work being done at a wide variety of institutions. The facilitator's background working in assessment at a small faith-related institution led her to invite representatives from two similar institutions to co-present and tell their assessment stories. The purpose of the session was to showcase their work in leading institutional effectiveness on campus by building a collaborative culture of improvement focused assessment work. Participants heard practical tips for engaging faculty and program leads in building and revising assessment plans at both the undergraduate and graduate level. Included in this paper are some additional reflections by the author prompted by other formal sessions and informal conversations in the conference app chats.

Keywords: *professional identity, reflection, assessment culture, faith-related, assessment stories*

Introduction

In their keynote presentation at the Association for the Assessment of Learning in Higher Education (AALHE) Annual Meeting in 2021, Jane Marie Souza and Tara Rose shared stories from research for their recently published *Exemplars of Assessment in Higher Education: Diverse Approaches to Addressing Accreditation Standards*. As they talked, they identified some gaps in the accredited institutions represented, mainly small, faith-related institutions. The facilitator's background in higher education began at a very small faith-related school, so the lack of participation and representation by these institutions is keenly felt. This prompted reflection on the journey of an assessment professional and what may be preventing the voices of those at smaller institutions from joining those of their peers. As noted by Clucas Leaderman and Polychronopoulos (2019), understanding the diverse ways we arrive at and ways we approach our roles as assessment professionals strengthens our work. Additionally, Polychronopoulos and Clucas Leaderman (2019) call on assessment professionals to reflect on their pathways to the profession as one means of advancing assessment to the next level of institutional leadership (p. 2). Following is a brief account of the facilitator's professional journey.

It seems like in many cases, we fell into our various roles by accident or appointment, but my journey feels slightly more deliberate, as I come from K-12 education originally, where assessment is part and parcel of educator training. After 14 years in public education, I had a better developed sense of assessment writ large, when I moved into higher education teacher training and assessment. You see, at very small institutions, nobody wears just one hat. We pull double and sometimes triple duty, and the idea of an 'office of one' is often really closer to an 'office of one half'. I didn't really fall into or get 'voluntold' for an assessment role, but I certainly didn't really know all that I was responsible for or how to carry out that work in a higher education setting. So, I went looking for help.

Fortunately, I stumbled upon AALHE and traveled to one of the earliest annual meetings in Albuquerque, NM, in 2012. I felt like a little fish in a very large pond but was pleasantly surprised at the support and collegiality I felt. I was also very pleased to learn that despite my newness to the profession, and the very small size of my institution, my teacher training had not let me down. I knew most of the right terminology and had already started leading my institution in the right direction to set us up for success in upcoming reaccreditation with both the Higher Learning Commission (HLC) and the Association for Biblical Higher Education (ABHE).

Ten years later, I've moved into a different role in higher education, but as I said, this most recent AALHE conference made me think back on the eight years I spent as first an Assessment Director and then as an Associate Dean for IE. Did I contribute to assessment as a discipline, outside of my institution? No. Why not? A mix of factors that may sound something like this:

"I'm not really sure I know if what I am doing is right."

"I don't have my doctorate (yet)."

"I could maybe share something, but I don't know where to start."

"We are a very small school. What we are doing won't apply to other institutions."

"We are a faith-based school. What we are doing won't apply to other institutions."

"Our context is unique. What we are doing…(you get the idea)."

In those comments, readers may hear echoes of their own experiences as new or rising expert assessment professionals. The facilitator currently teaches courses that introduce directors, program leaders, and faculty members to principles of assessment, and often hears similar comments. Nevertheless, in many cases people are reading the literature, accessing any training they can, and making a difference at their institutions in big and small ways. Sometimes that work results in quantifiable change and large data sets that meet the rigors of statistical analysis. But most times the result is measured in conversations that inspire faculty members to reflect and make brave choices to change individual courses or programs that improve learning for as few as two or three students a year. Are these small victories any less valuable because the *n* isn't research worthy? As Montenegro and Jankowski (2020) argue, it is valuable, most notably to the students who are directly impacted by the changes. To that end, the facilitator asked assessment leaders from two modestly sized faith-related institutions to join in a panel discussion at the June 2021 AALHE conference. Following is a brief summary of the panel discussions, given with permission from the speakers.

Assessment Stories

Central Methodist University
Central Methodist University (CMU) is a small, private college, historically affiliated with the Methodist church. The residential campus, located in Fayette, Missouri, is a College of Liberal Arts and Sciences

(CLAS) and the extended locations, dual credit, and graduate programs combine to form the College of Graduate and Extended Studies (CGES). Enrollment at the residential campus is 1133, with all programs combined enrolling 6596. In 2021, the institution adopted a new mission statement: "Central Methodist University fosters a diverse and caring community, empowering students to become lifelong learners, committed to academic excellence, prepared to engage in a complex world" (Central Methodist University, n.d.).

Sandra Wald, Assistant Dean, and Kasey Leech, Director of the Applied Behavior Analysis Program from CMU addressed participants to talk about the benefits of one-on-one collaboration in improving assessment culture. They connected when Wald was looking for a program to help through the process of refining its assessment plan. Both were surprised to learn that an assessment plan and defined set of outcomes existed for this program, but none of that was made apparent to Leech when she inherited the program. Building their relationship, collaborating, and honoring the hard work that had previously been done in the program were key to transforming Leech's approach to assessment. Leech is clearly passionate about her discipline, as so many faculty and program chairs are, and she now views assessment as one way to ensure graduates who will enter the field of Applied Behavior Analysis are well-prepared through CMU's intentionally designed curriculum and assessment plan. For Wald, understanding these steps as a process that can be replicated with other programs on campus was particularly valuable as she looks to impact assessment work at the macro level. The story isn't over for CMU; as Wald stated, "Assessment is like cleaning your house. As soon as you get started, you realize all the other things you need to do."

Truett McConnell University
Truett McConnell University (TMU) is a private Baptist university located in rural Cleveland, Georgia. It is operated under the auspices of the Georgia Baptist Convention. The total enrollment for TMU is 2,925, with 15 undergraduate programs and seven graduate programs. TMU's mission "is to equip students to fulfill the Great Commission by fostering a Christian worldview through a Biblically centered education in a family friendly environment (Truett McConnell University, n.d.)."
Dr. Tammy Mize, Assessment Coordinator, and Dr. Heather Ayers, Dean of the School of Nursing, shared TMU's assessment story. Mize explained her goal of emphasizing the benefits of assessment work with faculty at TMU, with Ayers confirming that a sense of complacency about assessment and student achievement had crept in among the faculty in the nursing program. Through the Institutional Effectiveness (IE) office's 'whatever it takes' approach, again using a lot of one-on-one intervention, faculty in the program have come to recognize that accreditors are interested in student achievement, a goal which aligns with the program's aims, and therefore, accreditors and the accreditation process are not viewed as punitive. Mize's goal is to help the faculty at TMU continue moving along a path from good to better, continuously striving for excellence. Her three-part assessment mantra is keep it simple, be willing to compromise, and agree on the non-negotiables. Ayers and her nursing colleagues are the beneficiaries of ongoing attention to faculty development that has seen them move from a paradigm of 'doing assessment' to 'using assessment' in order to improve student learning. One small victory was a recent curriculum sequence change that was initially opposed by some faculty members, but eventually embraced when assessment data indicated the students benefited from the change. Mize acknowledged that the work is not finished and is committed to further conversations to cross the

cultural divide that sometimes exists between administration and those in varying disciplines on campus.

Conclusion

The assessment leaders and program directors at these institutions had a lot of practical advice to share. Wald and Leech encouraged participants to begin with meaningful conversations to explore the department's story and try to understand what works. Having said that, they both highlighted the need for a willingness to change. Mize and Ayers focused on similar advice, pointing out the importance of communicating and building a shared understanding of assessment terminology. Mize also encouraged investing in faculty development for stakeholders as the main way to move the institution forward on its assessment journey. Their experience and wisdom may serve as inspiration to others. Institutions large and small with unique missions share many of the same goals for students and view assessment as a means by which to deliver on promises made to them. If that thinking aligns with the aims of other assessment professionals and the membership at AALHE, it is the facilitator's hope that they will be encouraged to speak up and tell their stories.

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Assessing Affective Learning Outcomes through a Meaning-Centered Curriculum

By Misty Song, Abilene Christian University; Vince Nix, Lamar University; and Joe Levy, National Louis University

Abstract: This research presentation updates previous research on affective learning domain assessment. Whilst presenting at AALHE 2020 the researchers discovered the Griffith University Affective Learning Scale (GUALS) developed by Rogers et al. (2018). Dr. Rogers' team granted our researchers permission to utilize his rubric to deepen our affective-learning assessment efforts. This session will review the GUALS-scale and present examples of data analyses. The researchers also expand the previous session by incorporating additional doctoral coursework data and Student Affairs Assessment Leaders' MOOC assessment data. As recent politically charged events have demonstrated, higher education institutions cannot afford to continue graduating valueless leaders. This research answers recent research calls from Hansen, 2019; Hundley et al. 2019; Norris and Weiss, 2019; and Zahl et al. 2019 to respectively assess growth mindsets, integrate affective learning outcomes based on reflection and introspection, transdisciplinary learning and assessment, and measurements of attitudes, skills, and values of professionals.

Keywords*: affective learning domain, emotions, attitudes, formative assessment, online learning, MOOC.*

Introduction

Meaning-centered education (Kovbasyuk & Blessinger, 2013) makes the radical assertion that instructors and students would benefit from tossing out the standardized paradigm, relying on cognitive-domain metrics, in favor of one which incorporates learning from all domains.   Over the past 21 years, the increasing emphasis on easily measured cognitive benchmarks has grown, arguably, into an obsession (Nix, et al., 2021). We posit that all parties would do well to incorporate affective-domain learning outcomes, as defined by Krathwohl, et al. (1964) :

> *Objectives which emphasize a feeling tone, an emotion, or a degree of acceptance or rejection. Affective objectives vary from simple attention to selected phenomena to complex but internally consistent qualities of character and conscience...objectives in the literature expressed as interests, attitudes, appreciations, values, and emotional sets of biases*. (p. 7)

From the educator's standpoint, we expect our students to master cognitive knowledge and professional skills while developing constructive mindsets, positive attitudes, and sustaining certain interests. For instance, the National League for Nursing (NLN) updated their first core value as "caring, integrity, diversity, and excellence; advocacy and civility" (NLN, 2017, p. 14). In other words, NLN requires a qualified nursing professional to not only come equipped with the necessary acquired knowledge and skills, but also to possess those affective competencies mentioned above; this updated

core value can be considered as newly added affective learning domain learning objectives for nursing students. The Community College of Aurora (CCA) and the University of Colorado's College of Nursing (CON) offered an integrated nursing program that listed *empathy* and *maturity* as prerequisite qualities for admission (Integrated Nursing Pathway Program at CCA, n.d.). Despite the long track record of heavy reliance on cognitive outcomes, it is plain that institutions are seeking both to integrate the affective domain into their curricula and inculcate their students with values informed by it.

As educators who served as faculty and student success staff, we experienced challenges of delivering educational programs that aimed to reshape students' value systems or construct their mindsets, such as we hope for in social justice trainings. And yet, the fact is that educators often consider how traditional teaching and learning activities are linked to the cognitive domain, but ignore the affective domain, perhaps due to the wide acceptance of Bloom's Taxonomy (Bloom, Madaus, & Hastings, 1981, as cited in Bolin et al., 2005). Miller (2010) stated that extensive work had been done in the cognitive domain, but found that educators were still neglecting the affective domain, especially with regard to professional-values development. But as Spady (1994) observed, the cognitive domain might not do a good job defining learning outcomes that involve values and other affective factors; the traditional Bloom's Taxonomy framework is, simply, an inappropriate construct with which to assess affective-learning objectives.

Affective Attributes

To properly incorporate the affective learning domain, we need to understand the difference between affective attributes and affective learning objectives. Affective attributes refer to people's interests, feelings, attitudes, emotions, and values (Krathwohl et al., 1964). However, these attributes are not affective learning outcomes. Affective learning outcomes should represent long-term internalized values that mediate behavior over extended periods of time; in other words, affective learning should linger well past any initial learning-activity.

We have anecdotally observed students who earned "A"s yet still expressed negative emotions, such as confusion, anxiety, and anger regarding their learning experiences. Some posed questions such as, "Why did I need to study this?" or, "How could I apply this content?" even while earning high marks. Those questions and emotions were the students' affective attributes, and they communicate that while these students have achieved the cognitive learning outcomes, their negative affect indicated that their learning experiences may not have been positive ones. Regardless, affective attributes cannot serve as evidence for nor against achievement of affective learning outcomes; first, one must understand how these varied components of affect can hinder or contribute to changed mindsets.

Researchers identified non-cognitive constructs that may determine an individual's success and well-being; for example, empathy is considered an essential leadership skill that leads to successful goal completion (Goleman, 2004). Fredrickson (2000) stressed that cultivating positive emotions such as joy and contentment not only counteract negative emotions but also "extend an individual's brain capacity by building personal resources for coping" (p. 18). Moreover, growth mindsets enable creative and flexible thinking, intensify resilience, and ultimately improve performance (Fredrickson, 2000; Yeager & Dweck, 2012). Additionally, Duckworth et al. (2007) discovered that grit accounts for up to four percent of the variance in successful outcomes. We argue that the benefits of including non-cognitive constructs into curricula are powerful, affective-domain learning outcomes should be incorporated, and assessment instruments integrated into educational metrics.

Affective Learning Domain Objectives vs. Affective Attributes

So, what is the relationship between affective learning domain and affective attributes? How can incorporating the former foster the latter? Pekrun and Linnenbrink-Garcia (2014), followed by Norris and Weiss (2019), encouraged further research looking at the impact of emotion on learning in the classroom setting. As early as 1996, (Rodríguez, et al. 1996) suggested that affective learning could serve as the central causal mediator refining teacher-student relationships. Hanson (2011) found that affective learning experiences could add value by promoting autonomy and empowerment among nursing practitioners. Bolkan (2015) believed that positive affective experiences could promote students' intrinsic motivation and facilitate cognitive engagement. Johns and Moyer (2018) stressed the importance of attitudes and beliefs, which support healthy behaviors, and can be considered as one of the best practices for addressing knowledge and skill development. It is clear to us that maintaining an awareness of students' affective reactions in classroom settings is crucial so that educators can reinforce positive affective experiences for students. Our recent research (Nix et al., 2021) demonstrated that emotions and attitudes may either catalyze or inhibit affective learning for adults enrolled in online coursework; that team of researchers has continually refined a mental model (Figure 1) demonstrating the structural relationship of affective attributes to affect and behavior.

Figure 1
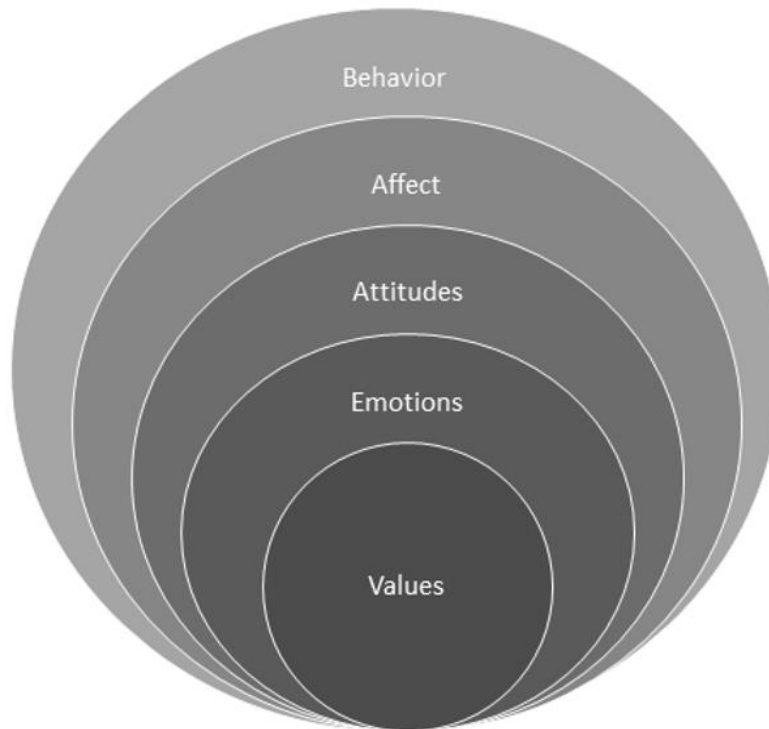
A Mental Model of the Relationships Between Values, Emotions, Attitudes, Affect, and Behavior

The model attempts to illustrate how affective attributes are 'stacked' to form affect, which serves as a mediator for behavior. The outer ring represents what is visible to observers; moving inward, we find affect, which onlookers may be unable to concretely identify. Hidden deeper inside the individual are attitudes, a relatively short-term class of constructs, but critical to the development of the three basic categories of affect—constructive, positive, and contrary—described by Arora and Sharma (2018). Deeper still, we find emotions, fleeting feelings that, repeated in context and over time, play a role in

the development of attitudes. Finally, at the center, we find values, deeply-held convictions which may be culturally influenced more than any other affective attribute. The diagram is meant to convey depth, as in a deep well; considerable effort is required to access values, which lie at the very bottom of the well. Each of these affective attributes are discussed separately, later in this paper.

While it is necessary to incorporate affective domain learning outcomes into curricula, there will be growing pains as these new metrics are grafted onto the traditional cognitive-metric-focused educational framework. Zahl et al. (2019) reported that the Center for the Advancement of Pharmacy Education advocated curricular change, specifically including concrete assessments of affective learning outcomes (ALOs) measuring the attitudes, skills, and values that are unique to the roles of professionals. Hansen (2019) claimed that effectively assessing the whole student would have to examine affective learning outcomes, such as mindsets and social intelligence, and recommended cross-disciplinary research from fields such as sociology, psychology, anthropology, and behavioral economics. Adopting the affective learning domain into the traditional cognitively-dominated instructional design paradigm would require widespread efforts along these lines. For instance, the Community College of Aurora and the University of Colorado's College of Nursing might have to establish and apply comprehensive assessment tools to pre-evaluate nursing applicants' empathy and maturity levels as well as assessing academic competencies. It would be a time- and effort-consuming process, but potential improvements to teaching, training, and developmental-programming effectiveness could provide excellent returns. Affective assessment that accounts for students' affective attributes such as motivations, feelings, attitudes and emotions towards learning, would provide a holistic vantage for evaluating student learning and development. Moreover, the efforts spent on engaging affective learning create and maintain emotional attachments and communication channels between the institutions and students, which may potentially assist institutions to retain students (Bolin et al., 2005).

Conceptual and Theoretical Frameworks for Learning

The authors relied heavily on Kovbasyuk and Blessinger's (2013) meaning-centered frameworks for education and learning. Meaning-centered learning depends upon the students' own viewpoints to inform content and structure, including the integration of phenomenological designs. Innovative teaching and creative learning guide the development of the course and learning activities stressing dialogue and collaboration with students, giving them opportunities to be active decision-makers guiding their own education.

Evolution of Learning Theories

From the advent of public education in the 19th century until the 1980s, learning theories evolved, growing from classical conditioning models into paradigms including humanistic elements. Affective learning was not considered important, and even as late as 1987 Dr. Skinner said in an interview (Goleman, 1987):

> *If I had it all to do again, I would still call the mind a black box; I would not use any of the new techniques for measuring information processing and the like. My point has always been that psychology should not look at the nervous system or so-called mind - just at behavior.*

Bridging understanding across the complex phenomena of learning leads to what Kincheloe (2008) describes as "critical constructivism." This paradigm posits that, because knowledge is not an external

object but rather taken in through cultural and emotional lenses, dialogue is necessary to achieve mutual understanding. By destroying unequal power imbalances that reproduce the status quo, critical constructivism:

- Encourages greater personal and social consciousness, helping to develop freedom of thought that recognizes authoritarian tendencies and connects knowledge to power.
- Motivates people to take constructive action, including repair work or de-construction of undesired structures.
- Theorizes that the connection between power and knowledge maintains the status quo, anointing certain groups and institutions as the gatekeepers of knowledge.
- Holds that powerful groups and influential people maintain their knowledge construction hegemony by continually undermining alternative routes to learning. (Nix, et al., 2021, p. 4)

And so we ask, "Have the structures and institutions we've built for learning fostered knowledge as a benefit for everyone, or only a select few?" If we wish for education to serve as a public good, yet find the latter holds true, then deconstruction and reconstruction work must follow. Gredler (2009) opined that any justice-minded framework ought to consider the intersections of personal, social, and cultural factors. Therefore, micro-and macro-level examinations are necessary to achieve holistic learning outcomes.

Kovbasyuk and Blessinger (2013) defined meaning-centered education (MCE) as an "approach that facilitates the conscious integration of new [and] prior learning across all domains based on personal meanings about oneself in relation to the world" (p. 20). In the same volume, they defined meaning-centered learning (MCL) as "a human centered approach that facilitates the holistic integration of all learning domains... through diverse life contexts, which motivates learners to apply meaning-based principles" in their own lives (p. 18). MCL fosters self-determined personalities and self-evolution, through multiple dimensions of meaning-making including phenomenological, philosophical, psychological, and sociological. This framework fits neatly inside the construct of critical constructivism (Kincheloe 2008), providing a foundation which we can use to begin to incorporate ALOs into modern curricula.

Emotions

Baumeister and Bushman (2007) conceptualized the experience of an emotion as "a subjective state, often accompanied by a bodily reaction (e.g., increased heart rate) and an evaluative response to some event" (p. 61). Emotions include reactions and judgments as interactive core elements, and research recognizes that such behavior stems from attitudes, which are in turn formed from values (Izard, 2010). Studies have identified the most powerful emotions in terms of the consequences they may have on an individual's productivity (Ortony & Turner, 1990) or propensity to learn; a landscape of defined positive and negative emotions has emerged. Repeated exposure to conditions which elicit the same emotions have long-term effects on attitude formation and might eventually dictate behavior. Among the positive emotions, joy, satisfaction, and contentment have the greatest positive impact on behavior, while anxiety, fear, and confusion have the strongest negative effects. Immordino-Yang and Damasio (2007) suggested that emotions are attached to learning in the classroom and may dictate information retrieval; this suggests that the affective domain is integral to learning and academic success.

Attitudes

Two separate groups of researchers (Katz, 1960; Smith, Bruner, & White, 1956) spurred the development of functional attitude theory. Working independently, they derived lists of functional attitudes, and their parallel findings ensured that these attitudinal frameworks were solidified as the *de facto* paradigm for more than two decades (Snyder & DeBono, 1985). Katz defined his categories, but he did not offer any methods for conducting empirical research; it fell to later researchers (Debono, 1987; Debono, 2000; Herek, 1986, 1987, 2000; Locander & Spivey, 1978; Petty & Wegener, 1998; Shavitt, 1990; Shavitt, Swan, Lowrey, & Wanke, 1994) to devise innovative methods for utilizing this attitude construct in research projects. Our own research was built on Katz' original framework, with four categorical levels of attitude as a controlled nuisance variable; attitude was an exploratory factor.

Neurobiology of Values

Affect includes an array of emotions, attitudes, and values. As we have mentioned, noticing (and assessing for) the presence of those attributes in students is *not* the same thing as assessing for affective learning. Neurobiological research suggests that values are not hard-coded, but rather are categorized and chosen as decisions are made; researchers used magnetic resonance imaging (MRI) to map what happens in our brains during decision-making (Davis, 1992; Forbes & Grafman, 2010; Miller, 2001). That research shows that values are not as immutable over the long-term as sometimes anecdotally assumed; values have informed our affect and long-term impressions, but they are not necessarily the basis for our imminent decisions. At best, abstract representations of values exist in two prefrontal cortices; those representations seem to be reinterpreted and calculated at the time of decision-making (Padoa-Schioppa, 2011). Indeed, what happens as the impulses cross from the *limbic system* into the *prefrontal cortex* resembles combat, wherein the constructs that make the strongest impressions are supported by heritability, and the process is highly susceptible to being manipulated by serotonin (Clark, Chamberlain, & Sahakian. 2009). MRI gives evidence that interaction occurs between the regions as people synthesize cognitive information and characterize moral judgements at the same time (Forbes & Grafman 2010). The impact of culture on these processes is not fully understood and requires additional research.

Authentic Formative Assessment

Schneider and Preckel (2017) conducted a systematic review of previous meta-analyses investigating 105 correlates associated with achievement in higher education. Three variables significantly predicted learner achievement: social interaction, meaningful learning, and assessment. Any assessment system should be robust and include all elements of the course (Gatignon, Tushman, Smith, & Anderson, 2002). According to Schneider and Preckel (2017), "Teachers with high-achieving students invest time and effort in designing the microstructure of their courses, establish clear learning goals, and employ feedback practices" (p. 565). We built our course curriculum with the express intent of incorporating student feedback and assessing ALOs.

Online Learning Pedagogy

Salmon's (2013) five-stage learning model was integrated into the curriculum of our doctoral-level strategic planning course. Pertinent to this study were the fourth and fifth stages of her model, which address how learners might construct and utilize knowledge:

- In the fourth stage, learners become comfortable working in the online environment; the learning management system is freely utilized for conferencing, collaborative learning exercises, and team projects, and knowledge is created through these activities.
- In the fifth stage, learners achieve contentment with and have synthesized their newfound knowledge for goal-setting, discovery, reflection, and confidently presenting information to others.

Affective Learning

Krathwohl et al. (1964) set forth affective learning outcomes as "characterization by a value or value sets" (p. 184). The affective taxonomy levels are "ordered according to the principle of internalization… the process whereby a person's affect… [grows] to a point where the affect is 'internalized' and consistently guides or controls the person's behavior" (Seels & Glasgow, 1990, p. 28). The affective learning domain contrasts with the cognitive-focused model and represents vastly different goals for learners that sit atop the learning taxonomies: mental tasks are the desired outcomes of cognitive learning, whereas states of mind—affects—are the focus for affective learning. Those affects, which stem from context and experience, can be powerful tools; for example, constructive affect (as defined by Arora & Sharma, 2018), may foster a growth mindset and could be useful for organizational change-agents. When examining the affective learning domain and identifying assessment points, it is imperative to note that the domain is divided into five progressive levels: 1) Receiving/attending, 2) Responding, 3) Valuing, 4) Organization, and 5) Characterization by value or value complex (shortened to one word for the figure). Each level is embedded with assessable milestones that may indicate advancement through that level. Figure 2 illustrates the taxonomy and respective assumptions for progressing through each level and across each sub-level as described in Krathwohl, et al. (1964).

Figure 2
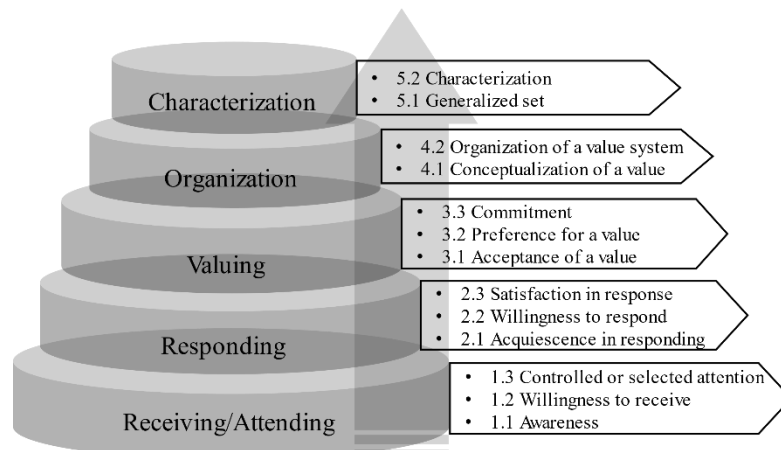
The Affective Learning Domain

Historically, the affective domain has been viewed as a potential obstacle to learning and described in unflattering terms. Consider Edward DeBono's "Six Thinking Hat" model (DeBono, 1985), where different colors of hats were used to represent different modes of thinking. Red hats represented affective thinking and were portrayed as emotional and illogical. Even now, in preparation for annual reviews, faculty must decide whether the affective responses of students have an undue influence on course ratings; some might argue that the course-reviews primarily measure affective attributes *rather than* cognitive learning outcomes. If we are to encourage institutions and individuals to value affective-domain outcomes, we need to change these views. And to do that, we have to devise useful metrics by which to measure ALOs--which requires that we identify the attributes of those desired ALOs in the first place.

Assessing Affective Learning Outcomes

Two researchers analyzed open-ended reflexive student text responses from Level 2 (Kirkpatrick, 1994) evaluations. While the hierarchical top level of "characterization" was the desired ALO, any evidence of affective learning was coded as the students' reflective pieces were read and reviewed using the GUALS (Rogers et al., 2018), illustrated in Figure 3.

Figure 3

1	2	3	4	5	6	7
No evidence of affective learning	'Receiving'	'Responding'	'Valuing'	'Organisation'		'Characterisation'

The Griffith University Affective Learning Scale (GUALS)

Note that the GUALS has a seven-point ordinal scale for rating the five hierarchical levels of affective learning; this image is used with permission from the author.

Procedures

Simonson, et al. (2015) recommended using Kirkpatrick's (1994) evaluation framework for assessment in distance education. Level 1 evaluations measure reaction to the learning event, course materials, and a trainer's perceived likeability or effectiveness; the Level 1 evaluation construct is an indirect measure. However, Level 2 evaluations explore respondents' deeper reflections and offer direct evidence of learning. The first two evaluation levels are listed below, preceded by their shorthand labels, as in Simonson et al.:

1. Reaction—Did they like it?
2. Learning—Did they learn it? (pp. 308-309)

The researchers employed focused comparisons of mixed data from previously completed course assessments. According to Salkind (2010), this fits into a post-hoc or *a posteriori* analysis framework.

For this study, ordered response items were used, allowing students to self-rate their relative agreement with five statements, corresponding to five elements of the course:

- The learning activities were effective.
- Instructions were clear and easy to follow.
- I learned something I had not known before this week.
- The learning activities were engaging.
- I struggled with comprehension for this week's learning activities.

Quantitative data were collected from the Level 1 evaluations via ordered response items, while qualitative data were collected from the Level 2 evaluations through students' reflective formative assessment prompts. The rationale for including the formative assessments from Level 1 evaluations in the course was so that instructors could improve instruction after a summative evaluation of weekly ratings. Based on earlier research regarding the need to assess reactions to change (Gatignon et al., 2002), the instructors implemented weekly formative assessment into the course. Data from these items were analyzed using the Minitab statistical analysis program. Level 2 evaluation prompts asked students to examine the most interesting or the most useful constructs from their learning activities. We included one ALO with the course learning outcomes (CLOs): Characterize organizations through analyses of strategic plans. Researchers coded textual data using the MAXQDA qualitative data analysis software. The data were for affective learning at two levels: 1) evidence of affective learning and 2) level of affective learning. The Griffith University Affective Learning Scale (GUALS; Rogers, et al. 2018) was utilized for second-level coding, with permission from the authors.

Nested within the organizational institutionalism framework are several classic sociological theories that offer interesting and exciting ways to re-invigorate how those works are viewed and incorporated into contemporary research. Tucked away, nearly hidden in the theories of practice, we find such a gem: Harold Garfinkel's ethnomethodology (1967), which holds that reality is only knowable by how participants restore order after a *breach event.* Participants will continue restorative work until their actions and the organizational procedures are publicly accountable. If we want to find a silver lining in COVID-19, it is that we can consider it the great breach-event. Assessing student reflections as they were navigating several crises during 2020 allowed course instructors opportunities to peer into a world not often seen and responding to students contextually began to deepen dialog. It soon became clear: the instructors were learning, too.

Population Characteristics

Two doctoral cohorts, registered for the Strategic Planning and Resource Allocation course over a period of two years, provided data for this study. Seventy percent (*n*=84) of the students were women. Cohort one consisted of 56 students (39 women and 17 men), while cohort two included 64 students (45 women and 19 men). Eighty percent were working in primary and secondary education (K-12), and 15% worked in tertiary education. Five percent of the students worked in nonprofit and for-profit organizations outside the education industry, including active-duty military-officer personnel. All students were tasked to complete Level 1 and 2 evaluations each week. After both 8-week courses, there were 838 responses to the formative assessment tasks.

Data Analysis and Results

Researchers utilized both fixed-effects and general linear model routines in Minitab statistical software. For any variable that appeared to have a statistically significant impact, we performed an individual Kruskal-Wallis test. The effects of attitude on the affective learning outcome are demonstrated in Table 1.

Table 1

Kruskal-Wallis Test: GUALS-Score Versus Attitude

Descriptive Statistics

Attitude	N	Median	Mean Rank	Z-Value
Egoism	222	3	225.0	-13.96
Knowledge	412	5	529.2	12.90
Utilitarian	73	2	242.7	-6.53
Value-expressive	131	5	502.6	4.28
Overall	838		419.5	

Test

Null hypothesis	H_0: All medians are equal		
Alternative hypothesis	H_1: At least one median is different		

Method	DF	H-Value	P-Value
Not adjusted for ties	3	282.30	0.000
Adjusted for ties	3	290.66	0.000

Attitudes indicative of knowledge and learning appear to have a powerful impact on affective learning; ego-defensive attitudes served as extreme barriers to achieving the desired ALOs, while contentment was strongly correlated with success. Attitudinal shifts across the cohorts were salient and statistically significant $\chi^2(1, N = 838) = 30.04$, $p = .000$, $\eta^2 = .03$, though with an insignificant effect size. Researchers found it interesting that value-expressive and ego-defensive attitude codes increased to the extent observed. Additional qualitative analysis and qualitizing revealed that those codes were most associated with events extrinsic to the course itself, primarily weather/climate disasters and/or significant familial COVID-related disruptions in students' lives. Perhaps fuzzy-set qualitative content analysis (fsQCA) would be of use for digging deeper into such data sets.

As mentioned earlier, contentment was the emotion most clearly associated with ALO attainment. A follow-up Kruskal-Wallis test demonstrated extremely significant differences between GUALS score medians by emotions $\chi^2(8, N = 838) = 416.79$, $p = .000$, $\eta^2 = .49$. Earlier, Nix, et al., (2021) described an original code, "anxiety no worry" (ANW). Both the data coded ANW and the originally coded anxiety-worry (AW) each served as significant barriers to affective learning, as evidenced by Table 2. The researchers may eventually remove or enhance this code in future projects as we explore *fuzzy-set* (Rihoux & Ragin, 2009) data analysis.

Table 2

Kruskal-Wallis Test: GUALS-Score Versus Primary Emotion

Descriptive Statistics

Primary emotion	N	Median	Mean Rank	Z-Value
*	33	1	145.6	-6.63
Anxiety no worry	90	3	344.6	-3.11
Apathy	13	1	55.5	-5.46
Anxiety-worry	167	3	250.4	-10.09
Confusion	36	3	229.2	-4.82
Contentment	359	6	602.2	18.91
Happiness	12	4	387.9	-0.46
Joy	19	5	445.1	0.47
Satisfaction	109	3	327.0	-4.28
Overall	838		419.5	

Test

Null hypothesis		H_0: All medians are equal	
Alternative hypothesis		H_1: At least one median is different	

Method	DF	H-Value	P-Value
Not adjusted for ties	8	404.80	0.000
Adjusted for ties	8	416.79	0.000

*Note. All negative emotions with fewer than 10 coding instances were combined into the * category for final analyses.*

One of the more interesting findings with which the researchers are surprised is that satisfaction appears to stunt learning in the affective domain. Many more studies ought to be conducted and much more representative data needs to be collected and analyzed regarding this result. Educational assessment, as a profession, is built on the assumption that satisfaction is positively related to learning; indeed, across industries we rely on satisfaction to inform the trainers and facilitators of learning exercises through Level 1 evaluations (Kirkpatrick, 1994). The implications of a generalized finding which corroborates a link between satisfaction and stunted learning would be staggering.

Leaving aside that surprising finding, the bottom line here is that we found an emotional impact on attainment of affective learning outcomes. Instructors and student development professionals are, if willing, able to feel the authenticity of the student; as Nix, et al. (2015) demonstrated, when instructors, paraprofessionals, and professionals forge authentic connections with students, attainment of cognitive and affective learning outcomes is facilitated. As evidenced earlier in this report, analysis of this data-type may be challenging, but not insurmountably so. Rihoux & Ragin (2009) demonstrated the feasibility of calibrating partial membership in categorical and ordinal variables, a useful tool in this line of research since attitudinal and emotional conditions do not always fit the sets we created to make them accountable, or even fit neatly into categories at all! However, they either stunt or catalyze learning. The researchers recoded and condensed the data into three categories: negative emotions,

positive emotions, and confusion. Table 3 provides a closing snapshot for researchers, instructors, and advisors to consider.

Table 3

Kruskal-Wallis Test for GUALS-Score Versus Emotion

Descriptive Statistics

Recoded Primary emotion	N	Median	Mean Rank	Z-Value
Negative emotions	303	3	258.6	-14.48
Confusion	*36*	*3*	*229.2*	*-4.82*
Positive emotions	499	5	530.9	16.17
Overall	838		419.5	

Test

Null hypothesis		H_0: All medians are equal	
Alternative hypothesis		H_1: At least one median is different	

Method	DF	H-Value	P-Value
Not adjusted for ties	2	261.89	0.000
Adjusted for ties	2	269.65	0.000

Massive Open Online Course (MOOC) setting

In addition to the strategic-planning course, data from *Applying and Leading Assessment in Student Affairs*, a massive open online course (MOOC), was used for additional analyses of affective learning. It is important to give background context to the MOOC, which was created by a body called the Student Affairs Assessment Leaders (SAAL). This group organized the course in order to pull together resources to support folks doing assessment work; these individuals do not typically have access to extensive academic preparation, training, or professional experience before entering the field (Kuh et al., 2015). Indeed, it has been rare, historically, for institutions to employ assessment professionals on the student-affairs side (Roper, 2015); indeed, most people responsible for assessments are thrust into those positions rather than hired for their assessment experience (Levy et al., 2018).

SAAL, hoping to address these chronic deficiencies in training and hiring competent assessors, brought several volunteers together throughout 2015-2016 to think about the typical assessment cycle. They investigated commonly encountered issues, assembling a series of seven documents that covered various needs, information, and resources that could be useful for a would-be assessment professional. In partnership with Colorado State University, SAAL used these papers as the foundation for a fully developed eight-module course that first ran in 2017. The course has run once a year since then, with a significant development in 2020, when a partnership with National Louis University allowed course-completers to earn elective credit in the Ed.D. in their Higher Education Leadership program.

This course is totally self-paced. From day one, students can access any of the course's modules. While students may move as fast or slow as they like, the instructors teach one module per week over eight weeks. As far as content is concerned, there are lecture-videos plus personal takes from instructors and students sharing information as to how the weekly topics resonate for them, or how the information from the course has proven useful. There are assigned readings, as well as further-learning content available for those who wish to dig deeper into the specifics of any particular assessment topics.

There are eight discussion boards, seven quizzes, and for the first time this year, two written assignments. To successfully complete the course and earn the badge, participants must earn a 75% or better on each individual quiz; because the written assignments were a new addition to the course, there was no threshold score for participants to meet; they simply needed to make a good faith effort to complete the assignment. Furthermore, students can choose to join groups, based on institutional type, for smaller group engagements in discussion boards, and can opt to share contact information and professional interests so participants can connect and follow up during and after the course. When these courses have over a thousand participants signed up, it makes for a lot of folks engaging and learning from one another, as a whole and in small groups!

The instructors guiding the class also provide a few live webinars. The first one occurs before the course begins to promote it and prep participants for what to expect. The last one (after unit-embedded live webinars too) bookends the course during the last week, offering students and the instructors an opportunity to reflect on the experience. The webinars are recorded so that folks who cannot make it are able to view and post comments as a method of asynchronous engagement. These opportunities are the only live, synchronous settings to engage and obtain feedback from participants. Otherwise, instructors benefit from participant feedback in discussion boards, emails, and via the course evaluation.

While SAAL does its own course analysis, that organization and the class instructors have benefitted from partnering with the research team of Nix, Song, and Zhang. This partnership has given course instructors the opportunity to not only learn more about affective learning, but also to see the impact the open course has on its participants' achievement of ALOs. While the goal of the course is simple (to support those engaging in assessment work) this exploration of the extent and type of impact – beyond what might be expected from a solely cognitive-based paradigm – is powerful and gives affirmation to the great work of the instructors leading the course.

Summary and Conclusion

This research extended earlier studies (Nix & Song, 2020; Nix, et al. 2021) by incorporating MOOC data into the analyses. As such, a new coding team had the opportunity to investigate the reliability of the GUALS. Intra-rater reliability was assessed using Minitab; Fleiss' kappa was 0.93 (95% CI: 0.92--0.96) for rater agreement. Table 1 provides a snapshot.

Table 1

Intra-Rater Reliability for GUALS-Scores

Between Appraisers Assessment Agreement

# Inspected	# Matched	Percent	95% CI
838	792	94.51	(92.75, 95.95)

Fleiss' Kappa Statistics

Response	Kappa	SE Kappa	Z	P(vs > 0)
1	0.91526	0.0345444	26.4951	0.0000
2	0.65154	0.0345444	18.8608	0.0000
3	0.90054	0.0345444	26.0691	0.0000
4	1.00000	0.0345444	28.9482	0.0000
5	0.99625	0.0345444	28.8397	0.0000
6	0.99355	0.0345444	28.7616	0.0000
7	1.00000	0.0345444	28.9482	0.0000
Overall	0.93484	0.0147045	63.5747	0.0000

We have included in Appendices A and B the results of the MOOC data analyses. Value-expressive attitudes were the greatest catalyst for affective learning as assessed by the GUALS. Knowledge and utilitarian attitudes had positive impacts on affective learning as well. Only an Egoism attitude stunted learning in the affective domain. In terms of emotions, contentment again had the greatest positive impact on attainment of affective domain learning outcomes, and happiness was also found to increase levels of affective learning outcomes. However, as mentioned earlier in the report, satisfaction was, once more, an unexpected barrier to achieving affective learning outcomes within this group of assessment professionals. In this dataset, satisfaction was even more detrimental to achieving affective learning outcomes than anxiety-worry! Indeed, the ramifications of such findings could be staggering if those are replicated in future studies. Appendix C demonstrates that generally, the median GUALS score significantly $\chi^2(6, 838) = 31.30$, $p = .000$, $\eta^2 = .03$, increased as the for-credit course progressed, a trend that we hope to strengthen as our understanding of ALOs progresses.

Reviewing the weekly reflections through an ethnomethodological lens a la Garfinkel (1967), we were able to ascertain that most of the restorative work was and is being done by women for their families. While the reflections of men were focused primarily on organizational restorations, women were generally preoccupied with moving their professional roles online and homeschooling their children. Traditional notions about sex and gender roles were still salient within this subpopulation, and the researchers believe that ethnomethodological analyses should take greater precedence since the whole of the planet is engaged in restorative actions from the COVID-19 great breach event. Organizational- and business- anthropological lenses may also enlighten researchers as we re-evaluate designs available for qualitative methodology. Affective learning and affective attributes contribute to a research area for which fsQCA may enhance researchers' understandings of students' realities.

Lastly, as fellow conference participants and other researchers have pointed out, a discussion of effect size is warranted here. For the Kruskal-Wallis H-test, a nonparametric statistical routine adopted when comparing more than two groups, the eta-squared (η^2) estimate may be computed using the formula, $\eta^2_H = \dfrac{H - k + 1}{n - k}$, where H is the Kruskal-Wallis value, k is the number of groups and n is the number of observations (Tomczak & Tomczak, 2014). The eta-squared estimates are expressed in values from 0 to 1; multiplying those by 100% indicates the percentage of variance in the dependent variable explained by that particular independent variable. We computed effect size for all statistically significant independent variables in the study and listed those in Table 4.

Table 4

Effect Sizes for Statistically Significant Independent Variable Impacts

Independent variable	η^2 estimate	Percent of variance in GUALS-score explained
Attitude	0.347	34.7%
Confusion about instructions	0.073	7.3%
Learning module (week)	0.037	3.7%
Primary emotion	0.498	49.8%

As evidenced, those four factors accounted for over 95% of the variance in levels of affective learning achieved across the doctoral courses as assessed using the GUALS instrument. Other independent variables (*gender*, *industry*, *profession*, *perceived effective learning activities*, *perceptions of learning new information*, *perceived engaging learning activities*, and *perceived struggles with comprehension*) combined account for less than five percent of variance in affective-learning outcomes attainment. While the researchers do not advocate for manipulation of student emotions, as student development and learning professionals we cannot ignore the impact of negative emotions on affect, or states of mind. The need to maintain positivity as we approach our own tasks—particularly those that are interaction-heavy with students—must begin to take center-stage as we delve further into understanding affect. We can choose to point out the positives of each interaction and attempt to reduce the probability of negative attitudinal or emotional responses in our students. Complimenting students' strengths and focusing on successes may set the stage for positive relationships and increased learning. There is something to be said for reminding people of purpose and value as they prepare for and engage in learning experiences and/or when crafting interventions; our research found satisfaction may not be a key driver or consideration to hold dear, but rather we ought focus on design and remind participants of purpose and value of experience. This may be uncomfortable, but such is growth…and life.

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Kruskal-Wallis Results for Attitudes Versus GUALS-Score, MOOC Data

GUALS-score by Attitude, 2020 SAAL MOOC

Descriptive Statistics

Attitude	N	Median	Mean Rank	Z-Value
*	32	1	25.0	-8.72
E	10	3	87.9	-2.48
K	42	5	174.0	1.18
U	90	5	173.8	1.88
V	142	5	179.3	3.65
Overall	316		158.5	

Test

Null hypothesis	H_0: All medians are equal
Alternative hypothesis	H_1: At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	4	85.40	0.000
Adjusted for ties	4	88.82	0.000

Kruskal-Wallis Results for Emotions Versus GUALS-Score, MOOC Data

GUALS-score by Emotion, 2020 SAAL MOOC

Descriptive Statistics

Emotion	N	Median	Mean Rank	Z-Value
AW	10	5	163.9	0.19
CN	119	5	192.0	5.06
H	60	5	182.0	2.21
J	45	3	124.4	-2.70
S	82	3	110.8	-5.50
Overall	316		158.5	

Test

Null hypothesis	H₀: All medians are equal
Alternative hypothesis	H₁: At least one median is different

Method	DF	H-Value	P-Value
Not adjusted for ties	4	48.62	0.000
Adjusted for ties	4	50.57	0.000

Appendix C

GUALS-Score by Module/Week Across Two Doctoral Cohorts

GUALS-Score Statistics by Learning Module, Two Cohorts

Statistics

Variable	Module/Week	N	N*	Q1	Median	Q3	IQR	Mode	N for Mode
GUALS_score	1	112	0	1.250	3.000	5.000	3.750	1	28
	2	122	0	3.000	4.000	5.000	2.000	3	28
	3	121	0	3.000	4.000	5.000	2.000	3	38
	4	123	0	3.000	5.000	6.000	3.000	3	33
	5	118	0	3.000	4.500	7.000	4.000	7	33
	6	122	0	3.000	5.000	7.000	4.000	7	32
	7	120	0	3.000	4.000	5.000	2.000	3, 5	31

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Help Me Help You: Motivating Campus Enigmas to Become Exemplars

By Kate Oswald Wilkins and Susan Donat, Messiah University

Abstract: Engagement and buy-in remain key predictors of a culture of learning assessment on college and university campuses, but this is rarely accomplished without effective leadership (Ewell & Ikenberry, 2015). Building a culture of learning assessment depends upon assessment leaders' ability to garner wide-spread engagement in assessment activities (Jankowski & Marsha, 2017). Institutional assessment work requires the ability to work with others. And other people can be complete enigmas, especially in times of stress (thanks, COVID). At first, we might ask: why don't they care? The reality is that our colleagues care about student learning, but some require motivation to deconstruct the barriers they have about assessment. We identify strategies for empowering and equipping assessment "enigmas" to help them grow into exemplars.

Introduction

Kinzie and Jankowski (2015) argue that meaningful, consequential assessment occurs when there is authentic, widespread engagement in assessment activities on a campus. It is not enough to have compliance with assessment expectations when it means that in reality, a limited number of individuals submit assessment reports or post results that are neither seen nor used. However, achieving more than mere compliance can feel nearly impossible in an era in which educators and administrators alike are overwhelmed by a multitude of disruptive changes: rapid adoption of technologies, budget cuts, falling enrollments, restructuring, and more. One could argue, however, that times in which higher education institutions are struggling to survive are also the times in which they stand to benefit most from authentic assessment efforts, ultimately demonstrating the value of college education to external audiences such as prospective students, parents, and accreditors (Bassis, 2015).

Equipping and empowering diverse individuals and groups to do assessment work is one essential way to encourage a culture of assessment to flourish. The NILOA Transparency Framework points to the centrality of well-used assessment resources in equipping educators and administrators to engage in authentic assessment. But because one size does not fit all, we need to "give faculty and staff clear expectations and guidance on what they are to do, but at the same time offer flexibility and options" (Suskie, 2018, p. 132). Assessment leaders need to become skilled at identifying the reasons for resistance on their campus and adapt in order to reach and teach. This paper presents a framework for assessment professionals to target assessment efforts based on personas faculty may adopt in discussions about improving student learning.

We present our framework to help assessment professionals:
- **Identify common personas** that might hinder/enhance individuals' willingness to engage in campus assessment activities.
- Describe **strategies for equipping and empowering** diverse individuals for engagement in authentic assessment.
- Identify specific **ways to diversify approaches and mediums** for reaching and teaching your campus educators and administrators.

Where Have We Gone Wrong?

What prevents key members of your institution from engaging in assessment efforts? Ikenberry & Kuh posit that some barriers arise due to a lack of communication. "Often not consulted in advance or viewed as partners, faculty members may see efforts to gauge student learning as threatening, unneeded, useless, intrusive, or irrelevant" (2015, p. 21). The way faculty perceive assessment efforts should guide our strategies in leading and supporting faculty and administrators. In our tenure as assessment professionals, we noticed common responses from faculty. Some responses indicated faculty who were happy to dig into assessment work, some from faculty who were less than enthusiastic, and some responses were borderline hostile. We present these common assessment personas that present challenges for accomplishing assessment work and offer observations about behaviors that might help you spot these personas on your campus.

Common Assessment Personas & How to Spot Them

We developed these personas based on observing how our colleagues responded to assessment tasks. We chose the term "persona" because it means a role a person adopts (Goffman, 1959). It doesn't essentialize or stereotype the person, but rather it presents the behavior as a chosen response within a particular situation. Individuals may present multiple personas simultaneously, and individuals may not fit our types exactly because of course humans are not archetypes--they are complex. Finally, while we've all had our frustrations with colleagues because of the ways these personas impede our work, we want to emphasize that our focus is **not on labeling.** Rather, our focus is in seeking to understand and respect our colleagues toward the goal of finding ways to equip and empower them for the sake of improving learning assessment on our campuses. As an organizing tool, we categorize these personas in accordance with difficulty level: easy to support/encourage in their assessment tasks; moderately challenging; and, difficult to support/encourage.

Turning your Enigmas into Exemplars

To work with the personas and move them from assessment enigmas to exemplars, you must listen to and observe your enigmatic colleague with the goal of identifying that persona's barriers to assessment work. This next section presents a description of each persona, principles from organizational theories, learning theories, and assessment literature that have helped us understand how to approach each persona, and equipping strategies to use while interacting with each persona.

Easy Personas

The personas that tend to be the easiest to support and encourage in accomplishing assessment tasks, and the most receptive to discussions about assessment data are the learner, the altruist, and Mr./Ms. Independent.

The learner/innovator: This persona expresses genuine curiosity about how assessment processes and data can help improve the student experience and their program's curriculum. You can identify this persona by looking for the people who volunteer for pilot projects and the colleague who emails or catches you at the beginning or end of meetings to ask questions about assessment because they genuinely want to learn more. Adult learners tend to be autonomous, self-directed, and problem centered (Knowles, 1973); therefore, a learner/innovator attends trainings and provides insight into additional applications of core concepts. The learner also tends to embrace innovation, and you can lean on these people to support the culture change needed to embrace a culture of learning (Rogers, 1962).

If we connect assessment to learning, we can connect to educator's excitement as learners (Suskie, 2018). Therefore, when dealing with a learner persona, frame assessment in ways to spark curiosity, such as modeling the type of open-ended questions based on their assessment data that inspire a deeper discussion about our students' experiences. Offer collaborative faculty development sessions, interactive group/individual trainings, lists of resources to share and opportunities to connect with other campus innovators or risk-takers who enjoy trying new pedagogies or technologies. Set the learner persona up for success by ensuring the expectations are clear, and that 1) your institution's assessment policies and directions are clear, and 2) that the policies and directions are easily and widely available through multiple channels: websites, portals, email, or regularly updated manuals. Consider providing screenshots and short, topic-specific, or problem-shooting videos.

The second persona that's easy to support is ***the altruist.*** The altruist is willing to do tasks if those tasks clearly contribute to the wellbeing of others, to their program or department, or to the well-being of the institution. You can spot the altruist because they are the ones who ask questions about the university's assessment expectations. They want to understand what the school or the university or accreditor expects regarding assessment. The altruist either volunteers or willingly completes assessment work for their program or department. Another indicator is that an altruist tends to authentically connect with and talk about the university's values or mission. They see the connection of how assessment can provide evidence of accomplishing the mission.

Altruists are more likely to have a connection to the organization or team's culture (Pacanowsky & O'Donnell-Trujillo, 1982). Equip an altruist for assessment tasks by connecting assessment to the institution's mission and values. Cultivate a shared vision for assessment, an essential element in creating a learning organization. With this, altruists can feed the vision and inspire others (Senge, 1990). Encourage/model how improvements in learning support students' ability to discuss what they know as a result of completing the program, and improve placement after graduation, emphasize ways assessment helps improve programs and bolster recruitment. Encourage altruists to place assessment work on performance appraisal under "institutional service."

The third persona that is easy to support is ***Mr./Ms. Independent***. This person needs to complete tasks themselves; they avoid dependence on others. You can spot this person because they can sometimes trigger whiplash. They ignore your emails and may blow off training sessions. You despair that they don't care or are going to blow off the work, but then you're surprised to discover they found and read the manual or your directions, and jumped in with both feet, and accomplished the tasks on their own! Bear in mind that adult learners tend to want to think of themselves as autonomous and self-directed (Knowles, 1973). Therefore, allow people to use the methods they feel comfortable with; offer flexibility (Massa & Kasimatis, 2017). Equip your Mr./Ms. Independents for assessment work by providing on-demand resources that are clear and accessible. Do your best to allow autonomy as long as they are meeting the expectations.

Moderately Challenging Personas
The personas that present moderate challenges for partnering are the perfectionist, the achiever, the responsible colleague, the change averse, and the overworked colleague. These personas require more targeted communication than the easy personas and can require more time to support as they grow into campus exemplars.

The perfectionist needs to do things correctly and avoid subpar performance, so their assessment focus tends toward generating perfect results/showing their program is already great. Perfectionists tend to respond to suggestions by telling you they already tried that. Or they may respond in a way that seems like they need to prove they already accomplished what you're talking about. The perfectionist takes directions literally and never leaves tasks undone. Adult learning theory tells us that orientation toward learning tends to be life-centered; adults want to learn in order to increase their competence and accomplishments (Knowles, 1973). These individuals need a safe, affirming environment in which to be given permission to be imperfect and consider how they might grow (Kasworm & Bowles, 2012). Consider supporting a perfectionist by ensuring they have the resources they need to do the job "right." Cite institutional policy, provide detailed manuals with screenshots and step-by-step videos, tell them ways to share the results of doing things the right way, tell them they are an example for others. Model ways less-than-perfect results can provide a springboard for improving and celebrating future program success.

The second persona in the moderate category is ***the achiever.*** The achiever only wants to invest in work if it makes them look good or if it helps them advance professionally (and doesn't want to invest in other activities). You can spot achievers because they may only answer your emails when their supervisor is copied, if it might make them look bad, or if it's a request to feature them in the next assessment newsletter. As you engage with an achiever, keep these principles in mind. Adult learners need to tap into personal incentive (Knowles, 1973), and helping this colleague achieve "personal mastery" will nurture their happiness and commitment to their work (Senge, 1990).
To support an achiever, consider offering incentives, like reminders to put assessment tasks on their performance appraisals, badges, certificates, campus highlights or recognition. Set achievers up for success. Establish institutional awards and connect the achiever with the ability to successfully apply. Provide shout outs to acknowledge their participation during meetings with chair/dean when they are also present.

The third persona that presents moderate challenges to assessment work is ***the responsible colleague.*** This type of colleague does their duty because it's required, but not because they like it or see value in it. This individual contacts you right before a deadline (or right after the deadline), apologizes for not knowing what is going on, and then asks you to help them get it done. Alternatively, they may not ask any questions, but they submit only the bare minimum to check off their assessment requirements. In working with a responsible colleague persona, remember that adults tend to be ready to learn when the learning will help them cope with a situation or perform a task (Knowles, 1973). In assessment, duty-oriented individuals can be prone to compliance orientation and therefore take longer to move toward genuine buy-in (Ikenberry & Kuh, 2015). To equip your responsible colleague personas, provide on-demand resources that are clear and accessible. Encourage/model consequential use of data to help the responsible colleague to move toward authentic assessment. When possible, offer one on one assistance to continue coaching them toward authentic learning culture.

The fourth persona in the moderately challenging category is the ***change averse*** persona**.** The change adverse colleague reacts negatively to new processes, structures, and expectations. Once you start working with them, you realize their negative reaction isn't about you, and it isn't about the work. The negative reaction is their reaction to change. You can spot this person by their confused emails asking you clarify directions or explain what has changed, or because they can't find something due to a change. Another "tell" for this persona is that they make a point to mention that the university keeps "changing the rules" or changing the software.

When working with change averse personas, keep in mind that initiative fatigue is real. Colleagues can become jaded when the organization takes on too many short-lived change initiatives; Senge et. al (1999) calls them "flavor of the month" programs (p. 6). Assessment is particularly prone to cause initiative fatigue, so assessment professionals need to sell the merits of the initiative, hold large-scale events, conduct short-cycle assessments, calculate the return on investment, and connect the dots among initiatives over time (Kuh & Hutchings, 2015). Another underlying concern could be perceived lack of help/support to do what the institution expects. "If the help available to people is inadequate, the effectiveness of the change initiate suffers and learning capabilities fail to develop" (Senge et. al, 1999, 104). We also need to make it easy to seek help (p. 107).

Equipping strategies to try with change-averse personas include communicating the ways in which changes are a part of the same vision/goal. Present the vision as "insider knowledge" of the larger institutional plan. Ask those in positions of power to affirm the longer term goal in their presence. Connect assessment efforts to strategic planning efforts. Provide clear directions and make the path smooth (Heath & Heath, 2012) by removing known obstacles in their path. When possible, meet one on one to better understand their needs and concerns, and to provide targeted support.

The final persona in this level is the ***overworked colleague.*** This person either over-reacts or responds poorly to assessment due to their perceived bandwidth issues. They feel stretched too thin. We noticed a large uptick in this persona in the past year. You spot this persona by phrases such as "I just don't know when I can get to this." This persona may burst out in tears during a routine meeting because you told them one too many things they need to do. The principles to consider include those adult learners

need to know what to do (Knowles, 1973) but within their zone of proximal development (Vygotsky, 1978).

Equipping strategies to try with overworked colleagues include working with colleagues to eliminate busywork (Senge et. al, 1999). Find out "all the places learning occurs" (Kinzie & Jankowski, 2015, p. 83) and help them document it (rather than starting too many new initiatives). Meet with them one-on-one to understand assessment processes and take some of the leg work from them/facilitate delegation of legwork to their administrative assistant. Work with them (and their supervisor) to determine how to "stop doing something else" in order to prioritize assessment (Suskie, 2018, p. 140). Connect assessment work to their scholarship, teaching them to accomplish two goals at once. Finally, make sure they understand expectations, as "any task is less daunting if we know exactly what to do, and assessment is no exception" (Suskie, 2018, p. 132).

Challenging Personas
The personas that tend to be the most challenging to work with and the least receptive to assessment tasks are the low-priority and philosophical disagreement personas. Both of these personas require a shift in their attitude toward assessment or their understanding about assessment's value. These types of shifts are not impossible but require significant care/resourcing.

The low priority persona displays little motivation to engage in assessment. You can identify these people, as they are the ones who ignore your emails, are no-shows at trainings or appointments, and who don't provide required information. They provide no explanation for their lack of responsiveness. It could be the person who nods and smiles in meetings, but then does nothing to follow through. In working with this persona, Knowles' work tells us that adult learners need to know why (1973). A "commitment gap" will occur if the organization fails to help individuals "connect personally to a change initiative" (Senge et. al, 1999, p. 160).

As you work with low-priority persons, "locate assessment in the commitments that faculty hold" (Kinzie & Jankowski, 2015, p. 104). Other equipping strategies to try include finding a way to connect with your colleague, even if it has nothing to do with assessment. Tap into their passion for student success and find a connection to assessment. Ask the individual's supervisor to support your efforts. Ensure university governance structures include assessment. Each of these can help build relationships that inspire authenticity and leverage existing structures to support the common focus on learning culture.

A second persona that presents real challenges for collaboration is the ***philosophical disagreement.*** The way they talk and think about learning assessment seems to conflict with what they are being told to do in assessment. This persona reacts negatively to assessment terminology. You may find they hate the word "data." In trainings and meetings, they ask "why" questions rather than process questions, trying to rehash the debate about assessment.

When working with someone who holds a different philosophical view, keep in mind that adult learners need to know why (Knowles, 1973). In order for individuals to commit to something, they need to see it as relevant (Senge, 1999). Individuals "need to know how they fit in, how they can contribute, and how

they will benefit" (Senge, 1999, p. 160). Because faculty speak different "disciplinary discourses" about learning, assessment professionals need to translate (Becher, 1994, 1981). Make sure you define key assessment terms so that you can learn to speak the same language (Suskie, 2018). Therefore, assessment professionals need to examine their own "catch phrases" that create barriers with our colleagues (Jankowski, 2017). While it's not necessary to convince people, "it is important to help them see that the story you are telling is 'on their side,' and therefore worth listening to…that their point of view is treated fairly, and that they are not cast as an outsider" (Senge, 1999, p. 332).

Strategies that can help when you're working with a colleague with a philosophical different include learning your colleague's disciplinary dialect and helping them understand the overlapping goals with assessment. Emphasize outcomes of assessment that align with disciplinary views of learning. Define key assessment terms in ways that make sense to someone in their discipline, stop using turn-off catch phrases (e.g., "engage students," "close the loop").

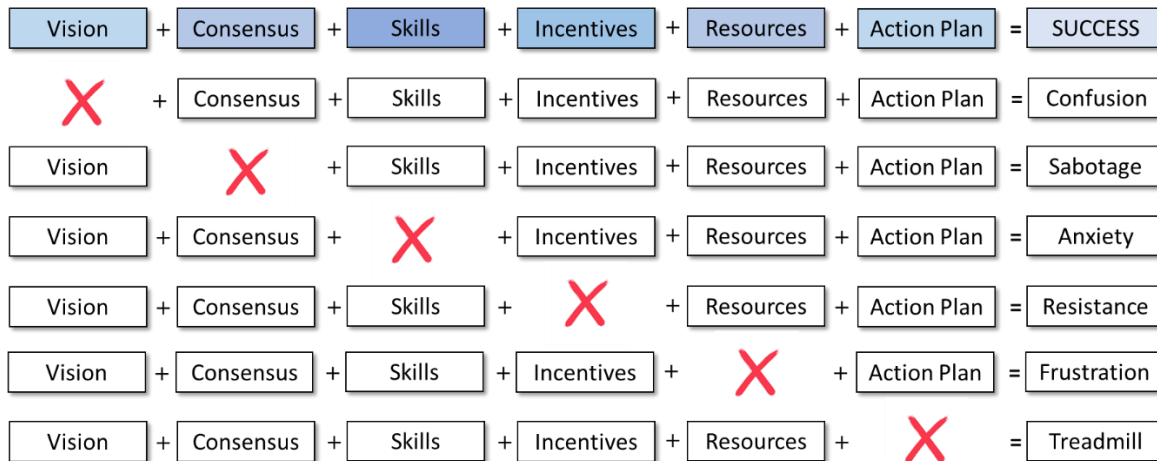### How to engage and equip someone presenting these attitudes/issues
Most people aren't jerks intentionally. As you try to identify personas and strategies that best support personas, sometimes it's tough because you may not yet know your colleague well enough to determine their motivations. In circumstances where you don't know the person well, it may help to think about the issue from the perspective of identifying a deficit.

The Lippitt Knoster model (Figure 1) for managing complex change helps with this. If someone is displaying confusion, it may be because they don't understand the vision. If you clarify the vision, they may be successful. If they display anxiety, it may be because they need support in developing their assessment skills. Transform the deficit into a strength, and you may help sway them into becoming a friend of assessment.

Figure 1.

Lippitt-Knoster model of managing complex change (Lippitt-Knoster, 1987, adapted by Knoster, 1991).

Vision	+	Consensus	+	Skills	+	Incentives	+	Resources	+	Action Plan	=	SUCCESS
✗	+	Consensus	+	Skills	+	Incentives	+	Resources	+	Action Plan	=	Confusion
Vision		✗	+	Skills	+	Incentives	+	Resources	+	Action Plan	=	Sabotage
Vision	+	Consensus	+	✗	+	Incentives	+	Resources	+	Action Plan	=	Anxiety
Vision	+	Consensus	+	Skills	+	✗	+	Resources	+	Action Plan	=	Resistance
Vision	+	Consensus	+	Skills	+	Incentives	+	✗	+	Action Plan	=	Frustration
Vision	+	Consensus	+	Skills	+	Incentives	+	Resources	+	✗	=	Treadmill

So, consider what is missing from your coworker's experience as it pertains to assessment work. Addressing the deficit could help turn them from enigma to champion. Our "easy" and "medium" categories tend to need a better understanding of the vision, or skills, or resources such as time and support. The "hard" categories tend to need intrinsic incentives, or an investment of time focused on building consensus. These are the people who are most likely to resist assessment or sabotage a department or program's assessment work.

Through the lens of transformational learning theory, adults go through ten phases when they need to learn and change (Mezirow, 1991), as quoted below:
- A disorienting dilemma
- A self-examination with feelings of guilt or shame
- A critical assessment of epistemic, sociocultural, or psychic assumptions
- Recognition that one's discontent and the process of transformation are shared and that others have negotiated a similar change
- Exploration of options for new roles, relationships, and actions
- Planning a course of action
- Acquisition of knowledge and skills for implementing one's plan
- Provision trying of new roles
- Building of competence and self-confidence in new roles and relationships
- A reintegration into one's life on the basis of conditions dictated by one's perspective

If the motivation to learn as adults often comes out of disorientation, disappointment, or disequilibrium, it is no wonder many adults don't navigate these experiences well. We like competence, control, and predictability in our work expectations. Learning assessment might be a trigger for negative reactions for a variety of reasons: it might disrupt a colleague's disciplinary perspectives on learning and how it should be evaluated, it might expose areas of low competence, and for others it presents challenges related to navigating technology or data in ways they feel ill-equipped to do. As assessment professionals work to equip our campuses for assessment work, it is important to recognize the vulnerable position our colleagues inhabit, and how essential it is for us to create a safe,

trusting, and respectful learning environment (Kasworm & Bowles, 2012). Learning occurs through dialogical processes – we need to listen and be flexible with others if they are going to be open to transformation (Shapiro, Wasserman, & Gallegos, 2012). Perhaps most importantly, the goal of transformational learning is emancipation: we want learners to be empowered to design effective assessments, interpret student performance data, and make evidence-based improvements.

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