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## Assessment Measures

by Catherine Wehlburg and David Eubanks

Greetings and welcome to the fall edition of the Intersection.

Many of you will have received an email from your regional accreditor which indicated that there was going to be a special review of institutions that have issues with low graduation rates: below 25% (6-year rate) for four year institutions and below 15% (4-year rate) for two year institutions. This is estimated to affect about 18% of the nearly 3,000 regionally accredited institutions.

While no one in higher education wants low graduation rates, we are concerned that the quality measures being adopted are blunt instruments that can do as much harm as good. The institutions impacted are likely to include many that are already struggling with enrollment and finances, or have unique missions, such as minority-serving institutions, community colleges, and small regional institutions.

It remains to be seen what this special review entails, but it may have negative consequences for those institutions that need the most support and that are working with the most vulnerable populations of students. We have seen this happen in the K-12 setting, where schools that are working with some of our most underprepared children have their funding cut because of low standardized test scores. Whatever this additional scrutiny looks like, it will almost certainly require more administrative management at the campus level, more reporting, and a structure which will move funding and resources away from the work done to increase and enrich student learning.

The impetus for more attention to graduation rates comes from regulators, who understandably must seek out ways to discriminate between institutions that are providing valuable educational services and institutions that are defrauding their students. The choice of blunt instruments like graduation rate and loan repayment is a sign that the decades-long assessment movement has failed to provide assessment reporting that is a credible indicator of educational value to external stakeholders. This failure is simultaneously a rebuke and an opportunity.

Assuming that this new directive is not a passing fad, we might productively ask ourselves how we can enrich the conversation with our own expertise. This means asking new kinds of questions, such as:

- How are learning outcomes related to earning grades?
- What can assessment tell us about retention and graduation?
- What can assessment tell us about success *after* graduation?
- How can important student decisions, like declaring a major, be improved using assessment?
- How do academic programs promote student success beyond academic learning?

## Assessment Measures

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These questions will push many of us out of the comfort zone, because they overlap with traditional institutional research roles. This suggests a greater partnership with that office for many of us, in order to take what is the logical next step for assessment professionals. More generally, we need innovation. And if we are to inform the discussion about graduation, we need good data.

Over the previous decades, assessment practice has been in large part about accreditation, and standard practice has come to resemble a set of rules of what to do and what not to do. This rigidity does not serve us well. As an example, the assessment movement has essentially waged a war on grades from the beginning, with the mantra ‘grades are not assessment’. However, grades are key to graduation, and a more enlightened approach is to ask what useful information grades do give us, and how are they related to more formal learning outcome assessments. Can we honestly say that we understand learning, but that this has nothing to do with grades, graduation, or success after? Can we claim to know how well students are prepared to write, but have nothing to say about their employment opportunities (since employers want good writers)?

In the face of these new demands for quality metrics an entrenched position that, for example maintains the grade versus assessment divide, would weaken the assessment movement to the point of questioning its reason for existing. On the other hand, questions about grades and graduation seem like the next step after creating embedded assessments.

Connecting traditional assessment to outcomes like graduation and success afterward has practical implications for the profession. For one thing, we cannot simply add this new task to the existing administration of campus assessment activities. To be effective, it will require more flexibility in how we spend our time, and this means more flexibility with respect to accreditation reporting. Many of the factors that affect student success will be campus-wide, not specific to an individual program, and—in collaboration with institutional researchers—we need the ability to shift work from the microcosms of individual program outcomes to general learning outcomes and their impact on grades, graduation, and other signs of success.

Currently, even a small institution may have hundreds of learning course- and program-level learning outcomes, creating a logistical and statistical impossibility to test measures for reliability and validity. Thus, most of the data collected does not meet the requirements to perform predictive analytics. We need better data to demonstrate the relationship between learning and graduation.

To summarize, the program we are advocating has these points of departure from current practice:

- Linking learning outcomes to grades and graduation at the campus or institutional level
- Integrating with institutional research offices to produce bigger, better, data and its analysis
- Lobbying accreditors for the flexibility to respond to these new demands

The goal of this transformation is to generate better quality assessment data that leads to a better understanding of how student development drives grades and graduation, so that we can better align the two, and so that we can share generalizable findings with each other about how to improve learning, grades, and graduation.

This edition of *Intersection* is a small step in this direction. Our call for proposals invited authors to send us their examples of the use of data, and we chose examples that show a range of such uses. We would love to hear your thoughts on the matter. Our email addresses are shown below.

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## Program-Level Assessment of the Physics Major

by Peter P. Ohotnický

The mission of the United States Air Force Academy (USAFA) is to educate, train and inspire men and women to become officers of character, motivated to lead the United States Air Force in service to our nation. USAFA is an institution of undergraduate education, military training, physical/athletic conditioning, and leadership development. Graduates of the four-year program earn a Bachelor of Science degree and are commissioned as second lieutenants in the United States Air Force with a five year commitment. Admission to USAFA is highly competitive: nearly all cadets graduated in the top 25% of their high school class, earned an athletic letter, and demonstrated superior leadership and character in the years prior to admission. For the class entering in 2014, the acceptance rate was 16.6%. Retention and graduation rates at USAFA are high, with 93 percent of entering cadets continuing at the Academy as sophomores and 77 percent of students graduating within four years. The average entering class size of 1200 allows for careful monitoring and longitudinal study of individual cadets along their curriculum trajectories.

The primary purpose of the physics major at USAFA is to prepare graduates to serve in the Physicist/Nuclear Engineer career field in the US Air Force. Approximately 12-20 cadets per graduating class (the average size of a graduating class is 950) majored in physics. In 2008-2010, the department of physics engaged in a well-intentioned portfolio-based assessment effort designed to document and improve the quality of the curriculum. The process proved unsuitable for meaningful discussion as the collection of artifacts and rubric grading of six major program outcomes (MPOs) and 17 sub-MPOs consumed what little time faculty had to devote to assessment. Moreover, the portfolios were not used for subsequent decision-making or evaluation of cadet performance—such as graduate school placement or demonstration of individual student learning for stakeholders—the general reasons educators employ individual student portfolios. As a consequence, the portfolio system was abandoned.

In 2015, the department undertook a renewed assessment effort and implemented a revised assessment process to overcome the complexity of the previous iteration, as well as to make assessment more useful to the faculty. The first step was to develop a more streamlined set of MPOs to simplify assessment efforts and better define the educational outcomes expected of physics majors. While the defining document for the MPOs includes more detailed descriptions, the general assessment areas are best understood within the department by these topic areas: Physics Knowledge & Application, Problem Solving Skills, Experimental Skills, Communication Skills, Research Skills, Philosophical Basis of Science, and Character Traits. The last MPO is perhaps a somewhat unusual educational outcome within an undergraduate major, but it reflects the overall mission of USAFA as stated earlier. With the MPOs defined, the department mapped them to nine required courses within the major. Each MPO is mapped to at least two courses. No differentiation is made on the level of development or degree of emphasis of the MPO within the course; the department understands that some MPOs are developed by increasing proficiency over the sequence, while others are fulfilled as each course adds a “piece” to the whole picture.

The course directors of the required courses have input in the annual review of the curriculum map, and it is approved by department leadership before implementation. With the curriculum map in place, course directors next define one or more course objectives which relate to the course’s assigned MPOs. The course objectives are concrete “should be able to” statements of the performance expectations at the end of the course. The Director of Assessment, the process-owner for assessment, assists with the writing of the course objectives from an assessment standpoint, while the Director of Advanced Programs, the faculty member responsible for the overall program, approves the objectives to ensure they meet the intent for how the MPO should be fulfilled in that course. The department’s process uses embedded assessment, so course directors also identify which parts of graded assignments—such as papers, presentations, laboratory write-ups, and exam items—will be used to assess the course objective. This allows assessment efforts to be interwoven with grading and minimizes duplicative efforts: grading is combining the data “horizontally” in the gradebook to obtain a measure for each student, while assessment is combining the data “vertically” to determine how well the group of cadets is doing on graded work related to a course objective.

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At the end of the semester, the department holds a meeting called an “assessment board” to review the assessment results; the board is chaired by the Department Head, facilitated by the Director of Assessment, and attended by the course directors. For a cadet to meet a course objective, he or she must meet the standard of “passing” on the graded assignment as judged by the faculty member. Course directors then assess the accomplishment of their course objectives using a “stoplight” methodology: “Green” means 80% or more of the cadets met the objective; “Yellow” means 70%-80% met the objective; “Red” means less than 70% met. Course directors can always submit recommendations to improve student learning, but recommendations are required when an assessment is “Red.” The faculty can discuss student performance, clarify standards, and develop learning interventions. The emphasis is on improvement of the overall program and alignment of efforts across the sequence of required courses.

At the end of the 2014-15 academic year, the department identified several cross-curricular areas where cadet performance did not meet expectations and developed interventions to target those areas. Assessment results from the 2015-16 academic year showed improvements for nearly all these identified shortfalls. Some examples include:

- *Assessment of Solutions* (aligns with Problem Solving Skills): A two-course sequence on Electricity and Magnetism began to require cadets to determine if solutions were reasonable during formative assessments such has homework and board work. The deliberate learning experiences in two courses improved cadet ability on this skill, although overall the assessment is still “Yellow” in both courses.
- *Programming Skills* (aligns with Problem Solving Skills): After being assessed as “Yellow” during the previous year, an increase in the number of problems requiring use of MATLAB was incorporated into one course. The assessment was “Green” at the end of the academic year. The course director stated: “I also asked the students to do self-assessments on their MATLAB proficiency before and after the course. All the students said that they had improved their skills in MATLAB with the exception of the [students] who came in at a high level of MATLAB proficiency.” The department improved the alignment and progressive development of programming skills across the curriculum. The faculty redesigned the 200-level course, based on dissatisfaction of physics majors’ performance in this area. Academic year 2015-16 was the first year that senior cadets took a required 400-level course after the redesign. The higher-level course director noted a marked improvement: “The students were especially strong; they were the first group to have taken Physics 264 since the course was restructured a couple of years ago to include more quantum physics and MATLAB programming. The result...was noticeable – in addition to a better head start in quantum mechanics, these students had superior math and MATLAB skills than I am used to seeing.” The assessment of Problem Solving Skills in this course went from “Yellow” in 2015 to “Green” in 2016.
- *Error and Uncertainty Analysis* (aligns with Experimental Skills): The assessment, administered in an advanced laboratory course, was “Red” after the 2014-15 academic year. The department chose to increase emphasis on the importance of this skill by clarifying faculty expectations and reinforcing to cadets the attention to detail necessary to do this analysis correctly. The following academic year 86% of cadets met standards on these assessments in the advanced laboratory course that develops this skill.

As mentioned earlier, the department also assesses character traits as part of this process, including integrity, dedication to duty, commitment to excellence, teamwork, intellectual curiosity, innovation, and responsibility. The department developed a rubric which gives a further definition of each trait and a matrix of observable behaviors under the general performance areas of “superior,” “capable,” “developing,” and “unacceptable.” Faculty assess every physics major in each department-sponsored course using this rubric, and the data are analyzed by graduating class. Graduating physics majors are expected to meet the standards under “capable” upon graduation, and the assessment is “Green” if the average rating for the graduating class is at or above that level, with no cadets scoring “unacceptable.” The lower classes are “Green” if the average rating is between “capable” and “developing,” with no cadets scoring “unacceptable.”

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Thus far, assessment efforts have not highlighted any serious concerns for cadets meeting this MPO; however, faculty are encouraged to share these assessments with the individual cadets to enhance their character and leadership development as they prepare to become Air Force leaders.

The Department of Physics at the US Air Force Academy provides an example of a relatively simple but effective model for program-level assessment. After a data-rich but cumbersome portfolio-based system struggled to provide meaningful information to faculty, the department implemented an assessment system which is largely embedded. This new approach uses “stoplights” based on pass/fail criteria to direct attention at areas needing improvement. This methodology, combined with assessment boards which create a forum for faculty discussion of results each semester, has generated curriculum improvements which subsequent assessments have validated as effective. Faculty members also evaluate the character of the students as part of the assessment process to ensure the academic experience supports the institution’s broader development of the cadet. The result is an assessment process which supports the department’s effort to graduate the best possible officers for the United States Air Force.

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*The views expressed in this article are those of the author and do not necessarily reflect the official policy or position of the United States Air Force, Department of Defense, or the US Government.*

## What Influences Faculty to Assign Writing?

By Shelly Stovall, Lindsay M. Ruckel, David Trafimow, and Yogesh J. Raut

To address faculty concerns about the quality of student writing in their disciplines, we wanted to learn which factors influence faculty to assign – or not assign – writing in their courses. We designed several faculty surveys to identify variables that impact faculty intentions to assign writing, anticipating that if we could influence faculty to assign more writing throughout the curriculum, writing would improve.

We adopted the reasoned action approach, or TRA, from the field of psychology. Originating as the theory of reasoned action (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975; Fishbein, 1980), TRA is based on the established premise that people perform behaviors that they intend to perform and do not perform behaviors they intend not to perform (Ajzen & Fishbein, 1977; Wong & Sheth, 1985). Ajzen (1988; 1991) later suggested that there may be complications, depending on whether a specific behavior is under an individual's own control. For example, if the curriculum for a course is standardized across course sections, instructors may not believe it is within their control to select the textbook for their own sections. To deal with issues related to control, Ajzen developed the notion of perceived behavioral control, which acts as a proxy for actual control. To further explain we can amplify the example above: Instructors may perceive that they cannot require or use a different textbook in their course, though in fact they could require it in addition to the standardized text.

Further research by Trafimow, Sheeran, Conner, and Finlay (2002) showed that perceived behavioral control actually is an amalgamation of two variables: perceived control and perceived difficulty. Perceived control refers to the extent to which people believe the behavior is under their control whereas perceived difficulty refers to the extent to which people believe that the behavior would be difficult to perform. Although these often go together, which is why both are used in traditional measures of perceived behavioral control, Trafimow et al. (2002) showed that they do not always go together. In fact, it is possible to perform experimental manipulations that influence perceived difficulty without influencing perceived control, and to influence perceived control without influencing perceived difficulty. In our study, we disentangled perceived control from perceived difficulty. With respect to the issue of faculty assigning writing, whether a teacher believes that assigning writing is under her control may or may not be a different matter from whether the teacher believes that assigning writing is difficult.

To further ensure optimal understanding of influential variables, we also measured attitudes and subjective norms. Attitudes are people's evaluations of behavior. In this study, attitude reflects how positively or negatively faculty view assigning writing in their classes. Alternatively, subjective norms reflect people's perceptions about what others who are important to them think they should do. Note that, for subjective norms, what is important is not what others actually think, but what subjects believe others think. If I identify my department head as an "important other," then what I believe he or she thinks about assigning writing contributes to my subjective norms. Important others could include colleagues, students, and perhaps even friends or family members.

Because research bears out that there is high correlation between intended and actual behavior, and because we could not directly observe and measure actual behavior, our first study was designed to identify faculty behavioral intentions (hereafter, intentions) to assign writing.

Study 1 first determined which of the four main variables – attitude, subjective norms, perceived control, and perceived difficulty – best predicted faculty intentions to assign writing and, second, obtained a list of relevant beliefs for each of the variables, which were then used in Study 2. Study 2, in turn, first investigated open-ended beliefs obtained in Study 1 to find out which beliefs best predict intentions to assign writing and, second, identified which beliefs should be the focus of interventions intended to increase faculty intentions to assign writing.

### Faculty Writing Survey – Study 1

Study 1 involved the development of a faculty survey. Careful attention was given to measurement issues, including using the principle of correspondence, which states that all items should match with respect to an

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action, target, context, and time. In addition, because reliability sets an upper limit on validity, we insisted on measures that would maximize reliability. Thus, we included four items for measuring each construct, each designed to maximize inter-item correlations. This made for a repetitive survey, but provided the needed reliability. To prevent frustration and participants exiting the survey prematurely, we told them up front that the survey might seem repetitive, but there was research behind the design and we begged for their indulgence. Fortunately, we secured fifty-two complete responses from a pool of just over 3,000 faculty. Survey participants included faculty recruited through teaching workshops and an NMSU email list. All participants taught at least one face-to-face class (not online) during the semester in question.

We were vindicated in our efforts to secure high reliability measures; reliability for the four constructs ranged between .93 and .99, using Cronbach's alpha. Correlations indicated that attitudes and perceived difficulty were the best predictors of intentions to assign writing ( $r = .65, p < .001$  and  $r = .43, p < .01$ , respectively). The attitude-intention correlation alone accounted for 42% of the variance in intentions, and multiple correlations with all variables only accounted for an additional 4% of variance – not a statistically significant increase.

To analyze open-response questions regarding positive and negative beliefs about and consequences of assigning writing, we created four tables – one for each of the four constructs – and sorted all beliefs submitted by participants among those tables. Two types of negative beliefs emerged on three of the four tables: Time and difficulty involved with grading writing assignments were considered to be a) disadvantages, b) factors that place assigning writing in their classes beyond their control, and c) factors that make it difficult to require writing in their classes. Essentially all beliefs about writing were widely endorsed by participants.

### **Faculty Writing Survey – Study 2**

The goals of Study 2 were to garner a larger participant sample, cross-validate that attitudes and perceived difficulty predict intentions, and capitalize on the information gained in Study 1 about beliefs pertaining to attitudes and perceived difficulty. Specifically, in this study we assessed the ability of individual beliefs to predict intentions so that we could identify the beliefs that would be the best candidates for intervention. Recruitment was similar to Study 1. We obtained a sample of 113, with 107 participants completing all measures. This survey was much shorter than in Study 1, as we eliminated some of the questions and constructs based on earlier findings. We also added closed-ended questions that were developed from the responses elicited from the open-ended questions in Study 1.

Attitude-related questions focused on consequences of assigning writing and evaluation of how good or bad the consequences would be, if they did indeed happen. For example, if a participant believed a particular consequence to be extremely likely to occur (scaled “extremely unlikely” to “extremely likely”), they could then evaluate the consequence as either positive or negative (scaled “extremely bad” to “extremely good”). Belief-evaluation pairs were used to predict attitudes and, eventually, intentions to assign writing. Additional questions pertained to perceived difficulty and the extent to which different variables made it easy or difficult to assign writing (scaled “extremely difficult” to “extremely easy”). We tested the extent to which difficulty beliefs predicted both perceived difficulty and intentions to assign writing.

Reliability scores from this study were similar to those in Study 1, ranging from .87 (perceived difficulty) to .99 (behavioral intentions), with attitudes at .95. In this study, the efficacy of attitudes and perceived difficulty as significant predictors of intentions was reversed from Study 1. Still, the multiple correlation of attitudes and perceived difficulty to predict behavioral intentions was strong ( $R=.65$ ). Furthermore, correlations among belief and evaluation product scores and intentions resulted in the following significant correlations ( $p < .05$  in all cases):

- Increase student learning ( $r = .56$ )

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- Increase critical thinking ( $r = .54$ )
- Increase ability to communicate ( $r = .46$ )
- Increase students' ability to apply what is learned in class ( $r = .51$ )
- Increase students' reflection on course material ( $r = .48$ )
- Aid in assessment of student learning ( $r = .47$ )

Relevant significant correlations between perceived difficulty beliefs and behavioral intentions included the following ( $p < .05$  in all cases):

- Having control over structure of the course ( $r = .49$ )
- Belief that it is good for the students ( $r = .64$ )

Multiple regression including all belief-evaluation products and difficulty beliefs to predict intentions to assign writing resulted in  $R = .77$  ( $R^2 = .59$ ,  $p < .001$ )—an impressive value for this type of research.

We identified the belief that assigning writing is “good for the student” as the best predictor of intention to assign writing, accounting for 41% of the variance in intention to assign writing. Multiple correlation calculations suggest that 59% of the variance can be accounted for by using all of the beliefs, meaning an additional 18% of variance can be exploited by using all of the beliefs instead of just the top predictor. We emphasize that most of the beliefs that were good predictors of intention pertained to ways in which writing is good for students.

We believe there is a reasonable explanation of the reversal of the relative contribution of attitudes and perceived difficulty from Study 1 to Study 2. The belief that assigning writing is good for students was listed as a factor that makes assigning writing easier — that is, a perceived difficulty item — but it also can be thought of as a positive consequence of writing, which would render it an attitude item. Although Trafimow and Duran (1998) have shown that attitudes and perceived difficulty are different concepts, in general, our suspicion is that there is some overlap between them with respect to the issue of assigning writing.

From our findings, we conclude that one could increase the frequency at which writing is assigned by convincing faculty that writing is good for students. In addition, although our research does not bear out that time and difficulty are strong influences on faculty intentions to assign writing, we have found that the rhetoric faculty use in their arguments against assigning writing includes these factors. For that reason, administrators may find research by Elbow (1994, 1997) useful. Elbow explores ways to assign writing that do not involve a large amount of time and effort adds to our optimism. For example, Elbow (1994) suggests low-stakes writing-to-learn exercises such as 8 minutes of free writing at the beginning of class to help students focus and/or 5 minutes of free writing at the end of class to consolidate course material. Such writing does not require extensive feedback; Elbow recommends a straightforward and efficient system of putting straight lines next to strong passages, wavy lines next to passages that need work, and X's next to flat-out mistakes. Such approaches explicitly address the top two disadvantages that Study 1 participants identified with regard to assigning writing: “grading papers is time-consuming” and “a great deal of effort is required to give useful feedback.”

### Intervention Strategies

Our findings provide a direction for designing a successful intervention, and also testify to faculty’s authentic concern for the good of their students. That is, if we want faculty to assign more writing, we need to convince them that more writing ultimately benefits the student. Such an argument is on solid ground, given the significant body of research on the benefits of writing for students—see Arum and Roksa (2011)’s claim that many students fail to improve in critical thinking and writing over four years in college partially because they have not done enough reading and writing, as well as Christopher and Walter, 2006; Connor-Greene, 2000; Drabick et al., 2007; Marek et al., 2005; Nevid, Pastva and McClelland, 2012; and Stewart et al., 2010. The same body of research shows that such an intervention should be worthwhile.

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Moreover, we have strong evidence to support intervening at the level of several beliefs rather than with a single belief. Several of the significant correlations related to beliefs about the potential favorable impacts of assigning writing, are directly related to a broader notion about what is good for the student. For example, faculty indicated that if assigning writing did indeed increase student learning, critical thinking, and students' reflection on course material, this would be a good thing. Angelo (1995) and others (Blake, 2005; Dunn & Smith, 2008; Mills, 2008; O'Connell & Dymont, 2006; Tsui, 1999; 2002; Wade, 1995) all contend that writing does indeed positively impact learning, thinking, and reflection. Convincing faculty about the benefits of writing to students should induce them to include more writing in their courses.

### Conclusion

Research supports the premise that increasing frequency of writing improves writing. Moreover, writing functions as a unique "mode" of learning (Emig, 1977; Wiley & Voss, 1996; McLeod, 1992; Spivey, 1990). Specifically, findings show that writing-to-learn facilitates critical thinking and acquisition of disciplinary concepts (Christopher & Walter, 2006; Connor-Greene, 2000; Tsui, 2002). Many, including Nevid and Colleagues (2012), conclude that writing assignments need not be overly burdensome or time-consuming to faculty to be valuable to students.

While most faculty are generally inclined to acknowledge the importance of writing, many of them do not assign writing in their courses. Attitudes and perceived difficulty emerge in our analysis as the most important predictors of whether faculty assign writing. Based on our findings, we suggest that improving faculty appreciation of the benefits of writing, while lowering perceived difficulty, would result in more writing being assigned and considerable benefit to students.

### Works Cited

- Angelo, T.A. (1995). Classroom assessment for critical thinking. *Teaching of Psychology*, 22, 6-7.
- Ajzen, I. (1988). *Attitudes, personality, and behavior*. Chicago, IL: Dorsey.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
- Ajzen, I., & Fishbein, M. (1977) Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin*, 84, 888-918.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Arum, R., & Roksa, J. (2011). *Academically adrift: Limited learning on college campuses*. Chicago: University of Chicago Press.
- Blake, T.K. (2005). Journaling: An active learning technique. *International Journal of Nursing Education Scholarship*, 2, 1-13.
- Christopher, A.N., & Walter, M.I. (2006). An assignment to help students learn to navigate primary sources of information. *Teaching of Psychology*, 27, 44-46.
- Connor-Greene, P. A. (2000). Making connections: Evaluating the effectiveness of journal writing in enhancing students learning. *Teaching of Psychology*, 27, 44-46.
- Drabick, D. A. G., Weisberg, R., Paul, L., & Bubier, J. L. (2007). Keeping it short and sweet: Brief, ungraded writing assignments facilitate learning. *Teaching of Psychology*, 34, 172–176.

## What Influences Faculty to Assign Writing?

Continued from page 9

Dunn, D.S., & Smith, R.A. (2008). *Writing as critical thinking*. In D.S Dunn, J.S.

Elbow, P. (1994). *Writing for learning--not just for demonstrating learning*. Amherst: University of Massachusetts, Amherst. Retrieved February 5, 2015, from <http://assessment.nmsu.edu/files/2013/05/Writing-for-Learning-Not-Just-for-Demonstrating-Learning.pdf>

Elbow, P. (1997). High stakes and low stakes in assigning and responding to writing. *New Directions for Teaching and Learning*, 1997(69), 5-13.

Emig, J. (1977). Writing as a mode for learning. *College Composition and Communication*, 28, 122-128.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.

Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York: Psychology Press (Taylor & Francis).

Marek, P., Christopher, A. N., Koenig, C. S., & Reinhart, D. F. (2005). Writing exercises for introductory psychology. *Teaching of Psychology*, 32, 244-246.

McLeod, S.H. (1992). Writing across the curriculum: An introduction. In McLeod, S.H., & Soven, M. (Eds.), *Writing across the curriculum: A guide to developing programs*, (pp: 1-11). Newbury Park, CA: Sage Publications, Inc.

Michel, N., Cater III, J. J., & Varela, O. (2009). *Active versus passive teaching styles: An empirical study of student learning outcomes*. *Human Resource Development Quarterly*, 20(4), 397-418.

Mills, R. (2008). 'It's just a nuisance': Improving college student reflective journal writing. *College Student Journal*, 42, 684-690.

Nevid, J.S., Pastva, A., & McClland, N. (2012). Writing-to-learn assignments in introductory psychology: Is there a learning benefit? *Teaching of Psychology*, 39 (4), 272-275.

O'Connell, T., & Dyment, J. (2006). Reflections on using journals in higher education: A focus on group discussion with faculty. *Assessment & Evaluation in Higher Education*, 31, 671-691.

Spivey, N.N. (1990). Transforming texts: Constructive processes in reading and writing. *Written Communication*, 7, 256-287.

Stewart, T. L., Myers, A. C., & Culley, M. R. (2010). Enhanced learning and retention through "writing to learn" in the psychology classroom. *Teaching of Psychology*, 37, 46-49.

Trafimow, D., & Duran, A. (1998). Some tests of the distinction between attitude and perceived behavioural control. *British Journal of Social Psychology*, 37, 1-14.

Trafimow, D., Sheeran, P., Conner, M., & Finlay, K. A. (2002). Evidence that perceived behavioral control is a multidimensional construct: Perceived control and perceived difficulty. *British Journal of Social Psychology*, 41, 101-121.

Tsui, L. (1999). Courses and instruction affecting critical thinking. *Research in Higher Education*, 40(2), 185-200.

## What Influences Faculty to Assign Writing?

*Continued from page 10*

Tsui, L. (2002). Fostering critical thinking through effective pedagogy: Evidence from four institutional case studies. *The Journal of Higher Education*, 73(6), 740-763.

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

Wiley, J., & Voss, J. (1996). The effects of "playing" historian on learning in history. *Applied Cognitive Psychology*, 10, 63-72.

Wong, J., & Sheth, J. (1985). Explaining intention-behavior discrepancy--a paradigm. *Advances in Consumer Research*, 12, 378-384.

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## Minimally Invasive Assessment

by Jim Woehrle, David Kammler, and Hannah Spirrison

Antioch College is a private liberal arts college in Yellow Springs, Ohio. After a brief closure in 2008, Antioch reopened in 2011 and with that, was given the opportunity to build assessment plans and processes from the “ground up” based on current best practices in academic assessment. Recognizing that assessment can be negatively perceived as a bureaucratic necessity for accreditation purposes, Antioch focused on designing an assessment plan that was as minimally invasive, and maximally efficient, as possible.

The resulting Academic Affairs Assessment Plan focuses on nine Liberal Arts Learning Outcomes that span the whole of Antioch’s educational activities: Knowledge and Inquiry, Skill and Innovation, Critical Thinking, Intercultural Effectiveness, Social Engagement, Deliberative Action, Written Communication, Oral Communication, and Quantitative Communication. The rubrics used to assess these outcomes are partially adapted from the AAC&U VALUE rubrics. While all courses of two or more credits are required to assess student learning, the means of assessment are mostly up to the instructors themselves. All faculty are strongly encouraged to use or adapt assignments they already have to the assessment of learning, instead of changing what they do to enable assessment. Course assessment then feeds up through the entire chain of assessment and collectively provides about half of all necessary assessment data. The remaining information is culled from program and degree level assessments, such as retention rates, satisfactory academic progress, post-graduate outcomes, and surveys.

Antioch College conducted its first review of the General Education program in 2015. Along with course assessment reports, the program review used student outcome data from the Registrar’s Office (e.g., Satisfactory Academic Progress) and nationally normed student surveys (discussed later) to assess the program goals in the General Education Assessment Plan. These goals have a minimum competency requirement for student cohorts and academic programs. The goals are:

1. To impart fundamental knowledge, skills, abilities, and habits of mind that enable students to succeed academically;
2. To develop analytical, critical, and problem solving skills;
3. To enhance a student’s written communication and quantitative reasoning skills; and
4. To impart in students an understanding and appreciation of global cultures, situations, and diversity.

The Academic Affairs Assessment Committee at the college shared the results of this program review in a General Education Program Assessment Report, which included a table with key findings to share outside of the Committee to inform campus decision-making. This is presented as Table 1 on the next page.

The findings from the report and data sharing that occurred with campus stakeholders provide several examples of assessment data informing decision-making. At a classroom level, an audit of assessment reports demonstrated that over 40% of instructors make changes to their courses based on classroom assessment each academic term. This is a promising finding, as it illustrates that instructors at Antioch are actively “closing the loop” with assessment data (i.e., incorporating assessment findings to improve classroom teaching and learning).

In addition, sharing the assessment report findings with faculty led to faculty-driven discussions about the best ways to assess various outcomes. Although the outcomes of Intercultural Effectiveness, Social Engagement, and Deliberative Action are critical to Antioch’s educational mission, they were found to be infrequently assessed, despite many courses listing these learning outcomes on syllabi. Upon discussion of the report, faculty members who already taught these outcomes agreed to begin assessing them, while others agreed to add them to their syllabi and assessment plans.

Regarding the infrequency of assessment for the communication learning outcomes, the Curriculum Committee enacted a new policy that required courses that met Antioch’s Quantitative Requirement to assess the outcome of Quantitative Communication, and courses that met Antioch’s Writing Requirement to assess the outcome of Written Communication.

## Minimally Invasive Assessment

*Continued from page 12*

**Table 1:** Findings from the General Education Program Assessment Report and an outline of data sharing

Finding	Share with	Shared by
Class of 2016 did not meet Satisfactory Academic Progress goal	Academic Policy Review Committee	Registrar, Assessment Committee
Intercultural Effectiveness, Social Engagement, Deliberative Action not assessed enough	Community/Residence Life, Curriculum Committee	Institutional Research, Assessment Committee
Some outcomes are taught, but not assessed	Academic Affairs	Dean of Academic Affairs, Assessment Committee
Outcomes can be mapped onto survey items and assessment plans	Assessment Committee, Institutional Research	Institutional Research
Antioch students revise papers less frequently than at peer institutions	Writing Institute	Dean of Academic Affairs
Written Communication score has improved	Writing Institute	Dean of Academic Affairs, Institutional Research
Norming and rubric training sessions needed	Academic Affairs	Dean of Academic Affairs, Institutional Research
Communication outcome is infrequently assessed	Academic Affairs, Faculty	Dean of Academic Affairs
40%+ of instructors make changes based on assessment	Academic Affairs, Faculty	Assessment Committee

For Oral Communication, faculty agreed that all Global Seminar courses (a core general education requirement) must teach and measure this learning outcome. The Humanities Division, based on the frequency of oral presentations in their division courses, also agreed to require the measurement of Oral Communication in classroom assessment. Similarly, the Language and Culture Program agreed to require all language courses to link to the Oral Communication learning outcome in syllabi, as well as to assess it in the classroom.

Finally, the General Education Program Assessment Report represented the first effort of the Academic Affairs Assessment Committee to map Antioch's learning outcomes onto nationally normed survey items and constructs. Specifically, learning outcomes were mapped onto survey items and constructs from the Higher Education Research Institute (HERI) student surveys, which include The Freshman Survey (TFS), Your First College Year survey (YFCY), and the College Senior Survey (CSS). These surveys are intended to be taken prior to starting college, upon completion of the first year, and upon graduation. The data can then be linked longitudinally to assess academic growth. Importantly, use of these nationally normed survey items and constructs allows for normative comparisons between student peer-groups (such as students at all 4-year colleges/universities). For the current assessment report, aggregate results from student cohorts were used. Selected examples of how learning outcomes were mapped onto HERI survey items and constructs are provided below.

This use of survey items and constructs provides an alternative and indirect method to assess institutional learning outcomes. Because the surveys in the HERI series can be linked through common items and constructs, it is possible to assess the longitudinal learning gains of student cohorts as they progress from their first year to commencement. Figure 1, on the page following, provides an example of longitudinal growth between The Freshman Survey (TFS) that is given to first-year students upon arrival on campus, and the Your First College Year (YFCY) survey that is given to students upon completion of their first college year.

## Minimally Invasive Assessment

*Continued from page 13*

**Table 2:** Selected examples of survey data mapped to Liberal Arts Learning Outcomes

Liberal Arts Outcome	Outcome detail	HERI construct	HERI item
Knowledge and Inquiry	Understanding modes of inquiry	Habits of mind	Explore topics on your own
Skill and Innovation	Problem solve and innovate	Habits of mind	Seek alternative solutions to a problem
Critical Thinking	Evaluate knowledge	Habits of mind	Evaluate the quality or reliability of information you received
Intercultural Effectiveness	All components	Pluralistic orientation	All items (Construct)
Social Engagement	All components	Social agency	All items (Construct)
Deliberative Action	Reflect on the personal and social significance of learning as a guide toward a purposeful future	Civic engagement	All items (Construct)
Written Communication	All components	Habits of mind	Revise your papers to improve your writing

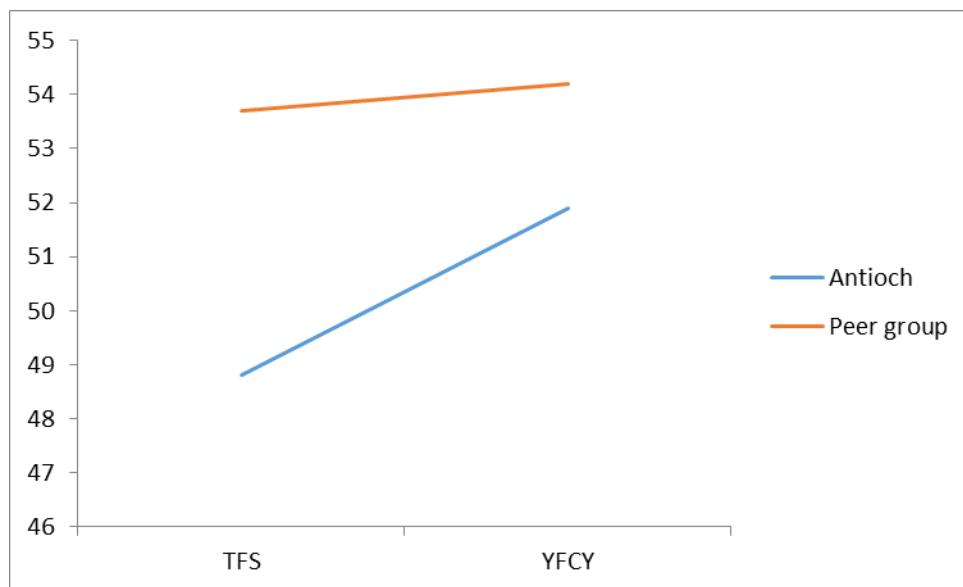
In Figure 1 on the next page, the aggregate results of Antioch's most recent first-year class on the survey construct of Pluralistic Orientation are depicted, along with the same results for a peer comparison group. The definition of the Pluralistic Orientation construct, as provided by the purveyors of the survey, aligns with the Antioch learning outcome of Intercultural Effectiveness. These results show that Antioch students initially score lower than peers on the construct but report high levels of growth on the construct after a year at Antioch. However, it is only a single year of data and must be considered in the context of historical data trends, which are not yet available.

In many cases survey data is most helpful when there are several years of data, so that patterns of data, rather than a single data point, are used to inform decision-making. For example, a recent YFCY survey finding that showed Antioch students reported revising their papers significantly less frequently than their peers at other colleges. The Academic Affairs Assessment Committee shared this finding with the campus Writing Institute, which is responsible for helping students with their written assignments. Given that this was only a single data point, however, it was important to not be too reactive. When the same survey was conducted with the subsequent student cohort, Antioch was not significantly different than peers in terms of frequency of paper revision.

In sum, the findings of the General Education Program Assessment Report informed discussions and led to evidence-based decision-making on several issues. The report was used as the basis for a faculty retreat focused on improving key components of the General Education program and continues to inform changes in general education at Antioch. As time passes, the Academic Affairs Assessment Committee at Antioch plans to continue to use similar non-invasive assessment methodologies in other divisions and programs.

## Minimally Invasive Assessment

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**Figure 1:** Longitudinal change in Pluralistic Orientation construct (mapped onto the Intercultural Effectiveness outcome) over 1st year of college: Antioch (n=32) compared to respondents at all nonsectarian 4-year colleges (n=3,372)

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# Reflective Writing and the Research Process

By Larissa Gordon

As librarian educator, I am always looking for ways to collaborate with teaching faculty to help students become more critical and thoughtful researchers. Recently, I had the good fortune to collaborate with a first-year English composition instructor, Daniel Schall, to explore the idea of using reflective writing as a teaching and assessment tool. While faculty in English composition are familiar with the use of reflective writing, this strategy may be less often employed in the field of librarianship. This article details a pilot assessment project to learn how reflective writing might be used to teach and assess student research and information literacy skills in a first-year composition course.

## Linking Disciplinary Standards to Assessment Strategies

A new framework for information literacy has recently been developed by the Association of College and Research Libraries (ACRL). This new framework focuses less on the development of research skills, and more on facilitating students' conceptual understanding of research as a process. It lays out six interconnected core concepts about how and under what circumstances information is created, shared and used. These more sophisticated outcomes require a fundamentally different strategy for teaching and assessment. After reviewing various possible approaches, Professor Schall and I decided that reflective writing held the most promise. Our assessment project described in more detail below, was completed with the support of ACRL's Assessment in Action Program. This program was designed to encourage collaborative relationships between academic librarians and the larger campus community. A secondary goal of the program was to aid librarians in contributing to the larger field of assessment in higher education.

## Discovering Reflective Writing as an Assessment Strategy

The initial idea to see how reflective writing can help students learn was prompted by a paper "Research Papers Have Always Seemed Very Daunting" (Detmering & Johnson, 2012). The study behind this paper used narratives written by students to investigate how those students reacted emotionally to the research process. The authors' goal was to give faculty and librarians a window onto the inner thoughts and feelings of students. However, the article ended with an intriguing question. It asked if these types of narratives could be used in the classroom to "foster a heightened awareness of the behaviors, attitudes, social practices, and power relations" inherent in the research process (Detmering & Johnson, 2012, p. 20). This article prompted me to wonder if student reflective writing could be turned into an assignment that would help students improve their understanding of academic research; an assignment that could then be assessed to show evidence of student growth. The article ended by calling for librarians and composition instructors to work together to teach students research skills. This call to action resulted in the collaboration with the English department faculty member on this assessment project. In addition to being a composition instructor, Daniel Schall also serves as the director of our campus writing center.

The project began with a review of the literature on reflective writing in higher education. "Structures for Facilitating Student Reflection" (Grossman, 2008) was particularly insightful. The author talked about one of his first experiences working on reflective assignments with students, and how he found that his students required a lot more help and support to develop the ability to reflect metacognitively; "it is only through a gradual process of support and challenge that students will move into this new way of processing their thoughts" (p. 18). After sharing this article with my faculty collaborator, and talking about his own experiences working with students using reflective writing, we decided to try a pilot experiment. While Daniel had previously incorporated reflective assignments related to writing in his class, he had not worked with students to process specifically how they felt about and engaged with the research process. Both of us wanted to know firsthand what type of reflection about the research process students were capable of producing on their own, before we went to the effort of making drastic changes to our instructional methods. We also wished to examine the level of student impact from the existing library instruction in Daniel's class. This is something we felt could be assessed in part by examining how (or if) students mentioned talking with a librarian in their reflective assignments. The Detmering and Johnson article had noted that the student narratives in their study did not feature any significant mention of librarians when students were discussing their research processes, a fact that was highly concerning to both Daniel and me.

# Reflective Writing and the Research Process

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## The Assessment Process

In developing our initial project goals, my collaborator and I discussed how we hoped students would be able to think about the research process by the end of their first year composition course. In the end, we determined that students' understanding of the intersection of the research and writing processes was very important to us, as first year composition courses are focused primarily on writing. Research skills are a secondary goal. The research questions we developed to guide our assessment process were: "Can reflective writing help students think about research as an iterative process that is connected to the writing process?" and "Will that type of process thinking improve students' research ability and ability to successfully integrate sources into their papers?"

To conduct our assessment, we modified two existing reflective assignments in Daniel's first year composition class. The first assignment was a literacy autobiography that asked students to discuss their past experiences as a reader, writer, and now researcher. The second assignment was a journal that was modified to include a requirement for students to write a certain number of entries about their research process for their argument paper. Daniel and I then discussed what criteria we wanted to see in these assignments and used those criteria to develop a rubric to assess student reflective assignments and the final draft of students' argument paper. The rubric that we developed is included at the end of this article.

We completed our assessment during the summer, after the semester was over. We began by jointly assessing papers from two students to help us refine the rubric. Next a google form was created, and we each input rubric scores for the remaining students into the form, along with comments about and quotations from student papers. Student names were removed from all papers before we began our assessment, and papers were given random identification numbers.

## Assessment Findings

In general, rubric scores showed that students only minimally conceptualized research as part of the writing process. In their research journals, students often wrote that they needed to find additional information for their argument paper, more "hard evidence," "research articles," or "sources to support my main ideas" but, subsequent journal entries often did not discuss what new information was found or, more importantly, how that information impacted the focus of the students' paper (figure 2). When assessing student final argument papers, we were sometimes able to fill in this evidence gap. Phrases such as "further research shows," and "it may seem...however....," indicate more depth in a student's argument and research process. However, it was rare to find a student who described a cyclical and integrated research and writing process. One exemplary journal from our sample did accomplish this goal: "Then, after reviewing and revising my draft, I assess what more I need to find...This process allows me to make necessary progress on an assignment while still leaving room for additional sources as they are needed."

This assessment project also brought to light other potential issues, such as the fact that students were not critically evaluating the authority and usefulness of their sources in their research journals (figure 3). This fact is concerning, because source evaluation is taught by librarians in first year seminar courses. It appears that students may not be transferring lessons learned in those courses to their English composition courses.

Finally, our assessment indicated that students had difficulties with reflective writing in general. For example, students often wrote about paper organization, ideas such as "changing the order of paragraphs," "taking out ideas," "proper formatting," and "APA style." This occurred in journal entries designed explicitly for them to reflect on the research process. By the conclusion of our assessment work, it was quite evident to us that that students need greater support for reflective writing.

# Reflective Writing and the Research Process

*Continued from page 17*

## Reflecting on Lessons Learned

These results prompted brainstorming sessions to strategize interventions and next steps. We determined that more focused assignment prompts were needed, as was modeling of reflective writing in class. We also felt that we should provide students with feedback on their reflective writing assignments throughout the course. Finally, we discussed how I, as the library liaison to this class, could partner more intensively with Daniel to help manage the workload required to implement these ideas.

Daniel and I also spent some time talking about the fact that the work involved in making these reflective assignments truly meaningful might not be worth the effort this early in student's careers. We began considering different possibilities such as first-year writing may be too soon to teach students about reflection. Perhaps an intervention and assessment such as this would be better situated in a second year research writing course. Finally, the research required for students' argument paper may not be complex enough to require meaningful reflection from students about their research process.

## Moving Forward

Even as we were discussing these possibilities, another option occurred to us. Rather than admit defeat, we could try scaffolding reflective writing skills by introducing students to the idea in first year composition courses, and then working more intensively with students in research writing courses. Students may just need a little more time to grow and develop their ability to reflect meaningfully.

These issues may best be considered through talking intensively with writing program coordinators at our institution. While this assessment project raised more questions than answers, the questions which were raised are meaningful ones that have the potential to encourage both the library and English composition program to collaborate more closely together in the future; something we would both appreciate.

If this project involving the library, writing program and reflective writing is of interest to you, please feel free to contact me. We would be happy to give you more detailed information about our process, and we would welcome cross-institutional collaboration as we continue our assessment project.

## Acknowledgements

Thanks to Daniel Schall, Writing Center Director & English Composition Instructor at Arcadia University for collaborating with me on this assessment project. Thanks also to Michelle Reale, Tom Hemmeter & Jeanne Buckley for advice and assistance with this project.

## References

Association of College and Research Libraries (n.d.). Assessment in Action: Academic Libraries and Student Success. Retrieved from <http://www.ala.org/acrl/AiA>

Association of College and Research Libraries (2015). *Framework for Information Literacy in Higher Education*. Retrieved from <http://www.ala.org/acrl/standards/ilframework>

Detmering, R. and Johnson, A. (2012). "Research Papers Have Always Seemed Very Daunting": Information literacy narratives and the student research experience. *Portal: Libraries and The Academy*, 12(1). 5-22.

Grossman, R. (2008). Structures for Facilitating Student Reflection. *College Teaching*, 57(1). 15-22.

## Reflective Writing and the Research Process

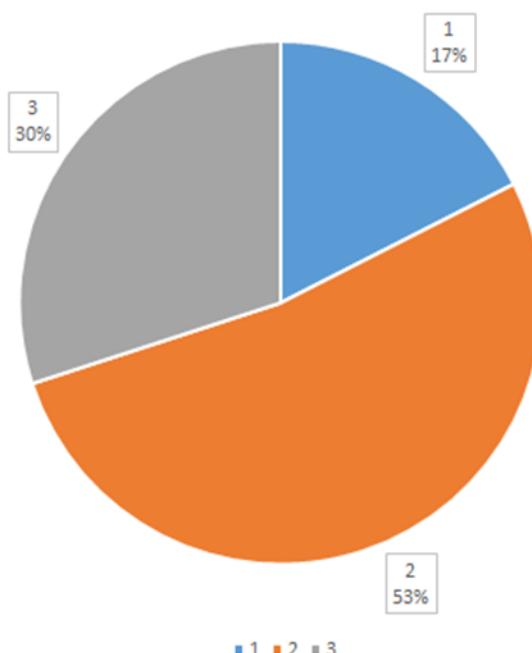
*Continued from page 18*

3 = Students will be able to analyze their changing information needs throughout the research process and adjust the scope of their investigation.

2 = Students will recognize gaps in information throughout the research process and may conduct more research to address these gaps, but not adjust the scope of their investigation.

1 = Students research only to fulfill the requirements of the assignment. No evidence of looking for additional information beyond the first attempt. Over-reliance on limited sources.

Research as Process (b)



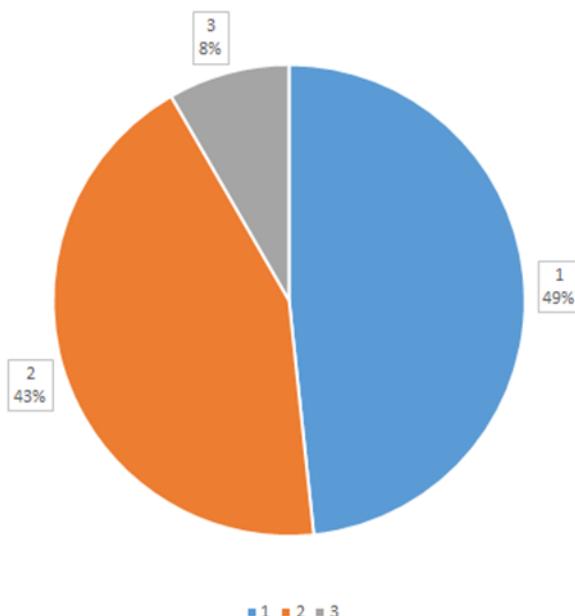
**Figure 2: Rubric Scores for “Research as a Process”**

3 = Students demonstrate that they have asked relevant questions about authority, context, point of view, and suitability of the sources they are considering.

2 = Students demonstrate that they have asked general questions about authority, context, point of view, and suitability of SOME of the sources, articles, collections they are considering.

1 = Students demonstrate no consideration of source authority, context, point of view, and suitability.

Source Evaluation (a)



**Figure 3: Rubric Scores for “Source Evaluation”**

# Reflective Writing and the Research Process

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**Table 1: Rubric**

	3	2	1	N/A
Seeking Help	Purposefully seeking advice from Librarian or Instructor regarding sources and information searching.	Seeks help as a perfunctory process in order to solve an immediate information problem.	Makes no mention of asking for advice from Librarian or Instructor.	
Implementing IL Practices	Indicates that they actively applied skills they learned during information literacy sessions.	Demonstrates minimal application of information literacy skills.	Does not demonstrate application/implementation of IL skills.	
Research as Process	Student will be able to formulate complex questions that focus the research agenda, as well as challenge assumptions and established claims about a topic for research.	Student formulates simple questions that focus the research process, but do not add complexity to topic.	Student does not have a focused, researchable topic, or student has a focused topic, but does not formulate guiding research questions.	
	Students will be able to analyze their changing information needs throughout the research process and adjust the scope of their investigation.	Students will recognize gaps in information throughout the research process and may conduct more research to address these gaps, but not adjust the scope of their investigation.	Students research only to fulfill the requirements of the assignment. No evidence of looking for additional information beyond the first attempt. Over-reliance on limited sources.	
	Students have described how their own research process reflects the nonlinear, open-ended nature of research.	Student describes a simpler research process that fulfills information needs, but does not reflect on the open-ended nature of research.	Students provide no description or reflection about their own research process.	
Source Evaluation	Students demonstrate that they have asked relevant questions about authority, context, point of view, and suitability of the sources they are considering.	Students demonstrate that they have asked general questions about authority, context, point of view, and suitability of SOME of the sources, articles, collections they are considering.	Students demonstrate no consideration of source authority, context, point of view, and suitability.	
	Students demonstrate an awareness of their own biases and worldviews in relation to that of the biases of their sources.	Students demonstrate an awareness of the biases of their sources, but not an awareness of their own biases and worldviews. Students may exhibit unfair use of sources to further a biased agenda.	Students demonstrate no awareness of their own biases and worldviews in relation to that of the biases of their sources.	
	Students will be able to differentiate different types of authority and demonstrate how and when each may be used to support complex arguments.	Students will be able to differentiate some types of authority, but not all (ie, popular vs. scholarly). Students may not always search out the most appropriate authority to support the claim being made.	Students may not be able to differentiate different types of authority, or may use, or talk about using, source authority inappropriately to support or evidence claims.	
Source Integration	Manages ideas gathered from multiple sources, including paraphrased and carefully chosen quotations from these sources in ways that make it clear they have fully understood the arguments made.	Manages ideas gathered from some but not all sources. Overreliance on quotation. Does not always use sources in ways that make it clear they have fully understood the most complex arguments being made.	Misusing or purposefully misrepresenting sources. Does not demonstrate ability to paraphrase and quote material appropriately from these sources in ways that make it clear they have fully understood the arguments made.	
	Students will be able to provide evidence supporting use of sources with multiple POVs to construct complex arguments.	Students will be able to provide evidence supporting use of sources with multiple, but simplistic POVs that do not encourage real challenging of their own POV. Student may use opposing viewpoints, but in limited ways that do not add complexity nor fully represent that view.	Sources primarily support their own POV.	

## Q&A with Mary Ellen Petrisko

By Monica Stitt-Bergh

*Mary Ellen Petrisko is the President of WASC Senior College and University Commission (WSCUC). I interviewed her by email.*

**Q:** Demonstrating assessment of learning outcomes can be a problem area for institutions seeking reaffirmation. What are the characteristics of successful institutions in this area?

**A:** First, let me distinguish between demonstrating assessment of learning outcomes and demonstrating the achievement of learning outcomes through assessment. Perhaps only a subtle twist on the words, but I think it's an important one, as I believe assessment can be seen—and is sometimes seen—more as a process (the famous, or infamous, loop!) than the work through which student achievement of stated learning outcomes is assessed for the purpose of quality assurance and improvement. What we are talking about is seeing that learning has occurred, not that an assessment process has taken place. And all of that is easy to say. How to demonstrate that learning has occurred, and to what extent it has occurred, at what levels, is not as easy.

Institutions that are successful in demonstrating the achievement of outcomes distinguish inputs from outcomes, include not only retention and graduation data but quantitative and qualitative data and information about specific, high-level goals such as, for WSCUC, the core competencies that we expect all of our institutions to ensure for all students, no matter what their major course of study, and other institutional- and program-level goals. Successful institutions explicitly link their explicitly stated learning outcomes (e.g., "the ability to identify information needs, locate and access relevant information and critically evaluate a diverse array of sources") to evidence that those outcomes have been met (e.g., summary data on the extent to which an appropriate and representative sampling of students have appropriately identified, accessed, and evaluated information in assignments). They also indicate the extent to which they have been met (e.g., how many students have achieved the goal at what levels of achievement) and make clear what actions have been undertaken to improve students' achievement of those goals (e.g., additional orientation to available sources of information being provided earlier in the curriculum, or additional attention in the curriculum to identifying red flags in evaluating the reliability/biases/marketing aspects of information).

**Q:** What do you see as some of major challenges in faculty's carrying out their responsibilities in outcomes assessment?

**A:** For one, being a cohesive faculty at the program and institutional levels with the time available to work together to agree on what students need to learn and be able to do to earn a credential/degree from their institution. Faculty structures have changed enormously over the last years, making it increasingly challenging for faculty to be in the same place at the same time on a regular basis to work on setting, discussing, and working on outcomes. Especially when contingent faculty are hired with responsibilities limited to time in the classroom or online, including them in the conversations regarding outcomes and the work of assessment is a challenge—certainly possible, but a challenge. There is also the challenge of helping faculty to see that they really are interested in assessment, no matter how much they may protest to the contrary! They want their students to learn, they want them to succeed, and they want to be satisfied that they have done a good job in helping them meet their learning goals. Assessment helps them to do this and ultimately to take greater satisfaction in their work. The word "assessment" itself can be a stumbling block, as it has become so laden with connotations of external requirements above and beyond teaching and learning ("the accreditor is making us do this"). I've often told leadership to use whatever language works best to communicate the purposes—and rewards—of assessment and to help faculty to see that in many cases they are already doing more assessment than they realize.

## Q&A with Mary Ellen Petrisko

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**Q:** Do you think campuses have misconceptions about what WSCUC is looking for with respect to learning outcomes assessment?

**A:** I don't know if it's misconceptions about what WSCUC is looking for as much as it is difficulty in knowing how to present evidence of their student outcomes. We have a Criterion for Review (an element of one of our Standards) that states the expectation that "the institution regularly generates, evaluates, and makes public data about student achievement, including measures of retention and graduation, and *evidence of student learning*" (emphasis added). The institutional Statement of Accreditation Status pages on our websites includes a Student Achievement URL for each accredited and candidate institution through which we further disseminate this publicly available information. A research study of a selected sample of these URLs showed that a very wide variety of information has been made available but that it is not always good solid evidence of student learning. For this reason, we have begun work with representatives from a number of our member institutions to help us gather best practices and sample tools that institutions may find useful in gathering and presenting their own information. Stay tuned!

**Q:** Where do you see institutions struggling the most with learning outcomes assessment?

**A:** In the humanities. I used to love visiting institutions and talking to philosophy faculty in particular who said "you can't measure what I teach." As a former faculty member in philosophy, I always answered "oh, yes you can!" and/or "on what basis, then, do you grade your students?" What's needed IMHO is setting clear goals that are operationally defined: what does this skill or knowledge look like walking around? And what is the appropriate measurement to determine whether it's been achieved? It's easy, for example, to say that we want our students to be "global citizens." What makes a global citizen? Knowledge of political and economic systems other than our own? Knowledge of other languages? Experience studying in other countries? An understanding of how history gives us insight into current situations in our own country and how we are related to the cultures we grew out of? These are much more easily measured than "global citizenship." Another example, above and beyond the challenge in the humanities, is with some of the core competencies we expect to be developed in all students. Take for example "critical thinking." What IS critical thinking? What does it look like when in operation? Some institutions have defined this; others have not. WSCUC has offered a number of workshops to help institutions address this issue, including among other pragmatic assistance help in defining the competencies as makes sense for them, setting appropriate standards of performance, and using their findings to strengthen their programs. This is another aspect of the need for faculty to be working together to agree on what they want their students to know and be able to do and which measures are the appropriate ones to determine success.

**Q:** There seems to be pressure from the USDE and the political environment in the areas of learning and student success, how is that affecting WSCUC? How does it filter to institutions?

**A:** There has been a great deal of discussion nationally regarding both low graduation rates and the extent to which college and university graduates have the skills needed to succeed in the workplace. How the discussion regarding graduation rates has affected WSCUC has been to note that the low graduation rates published by IPEDS cover only about 40% of the undergraduates in our region due to their being restricted to first-time full-time students, clearly not the majority of students in our region. Not being satisfied only to criticize this measure, we have worked and are working on an alternative measure, the Graduation Rate Dashboard (GRD), that takes into account all students earning degrees at an institution, regardless of enrollment status or time to degree. This is how our work filters to institutions: giving them an alternative, often more-inclusive measure to demonstrate their students' success.

How the national discussion regarding alumni's having the skills necessary to succeed in the workplace has affected WSCUC can be seen in the requirement, unique to my knowledge among the regionals, that

## Q&A with Mary Ellen Petrisko

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institutions demonstrate that their students, regardless of major, have acquired the core competencies of writing and oral communication, quantitative reasoning, critical thinking, and information literacy. This filters to institutions, of course, in their needing to provide evidence of the achievement of these competencies in their self-study reports.

WSCUC prides itself on paying attention to what is being said outside of the higher education community regarding higher education and accreditation and responding appropriately. That does not mean that we agree with all critiques, and indeed in some cases it can mean working to educate critics regarding the realities of higher education and our work as accreditors as we see and experience them.

**Q:** How does WSCUC see itself working together with institutions to advocate for quality in higher education?

**A:** The number one priority listed in our 2017-19 Strategic Priorities is “Cultivate and steward stakeholder partnerships for research and learning in support of institutional improvement.” We have recently secured a Lumina Foundation grant to develop and facilitate a Community of Practice of WSCUC institutions in order to increase leadership for and institutional capacity in learning outcomes assessment. As referenced above, we have also called together a group of institutional representatives to work on how best to provide evidence of student learning to the public as is required by our Standards. Another group is working on an alternative institutional review process in response to calls for a more risk-based approach to accreditation that can provide a more compressed, streamlined approach to accreditation for institutions who meet certain criteria. As these examples demonstrate, WSCUC believes in the value of working together with institutions on not only advocating for quality in higher education but demonstrating it as well.