

2018 Report
Of
The Provost's Assessment Committee
For
General Education Learning Outcomes

Committee Members

Alison Ziegler – Assistant Professor of Psychology and Committee Co-chair

Colleen McKenna – Associate Professor of Information Systems and Committee Co-chair

Alberta Jones – Assistant Professor of Education

Andrea Dewees – Assistant Professor of Spanish

Christopher Hay-Jahans – Professor of Mathematics

Math Trafton II – Assistant Professor of English

Robin Gilcrist – Associate Professor of Construction Technology

The Provost's Assessment Committee for General Education Learning Outcomes (PAC GELO) was formed in the Fall of 2016 and was charged with developing assessment tools and a process to assess the extent to which UAS undergraduate students have acquired broadly expected academic skills through the completion of UAS prescribed General Education Requirements (GER) coursework. The committee is comprised of faculty members from the three UAS campuses and from different disciplines within the schools of Education and Career Education, and the departments of Humanities, Social Sciences, Natural Sciences, and Business Administration. Work on identifying and creating General Education Learning Outcomes (GELO) began soon after representatives from the committee attended an Association of American Colleges & Universities (AAC&U) workshop in February 2017.

Since its inception, the PAC GELO has been on an accelerated timeline in preparation for the upcoming Northwest Commission on Colleges and Universities (NWCCU) UAS Accreditation Site Visit in the Spring of 2019. Despite this accelerated timeline, the PAC GELO has been successful in developing general education student learning outcomes along with accompanying rubrics. The committee also outlined an assessment plan and used this plan to assess the first two of six proposed learning outcomes.

This report comprises four sections, each of which outlines phases through which the PAC GELO has passed in meeting its obligations to date.

I. General Education Learning Outcomes and Rubric Development

With the UAS Student Competencies in mind (see <http://catalog.uas.alaska.edu/student-competencies/>) and recommendations in the highly regarded AAC&U Value Rubrics (Rhodes, 2010) found at <https://www.aacu.org/value-rubrics>, the following GELOs were developed and presented by the PAC GELO to the UAS Faculty Senate. The Senate approved continued work by the PAC GELO on these at their November 2017 meeting.

- **Effective Communication:** *Communicate thoughts and ideas effectively, orally and in writing.*
- **Critical Thinking:** *Demonstrate comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion.*
- **Creative Thinking:** *Present creative works of expression, innovative approaches to tasks, or solutions to problems.*
- **Empirical Reasoning:** *Articulate the scientific method and pose well-reasoned questions in the search for answers through data.*
- **Synthesis and Analysis:** *Use and extend theoretical concepts to qualitative and quantitative applications and problem solving.*
- **Environmental and Community Engagement:** *Use and extend Indigenous and global cultural perspectives with respect for diversity of people, the sustainable use of resources, and awareness of the environment.*

Rubrics for assessing the level to which UAS undergraduate students acquire these Values (and satisfy the corresponding GELOs) were adapted for UAS from the material provided in the AAC&U Value Rubrics resources.

After extensive discussions, the PAC GELO settled on adapting rubrics for use on assessing UAS undergraduate general education learning that are general enough to apply to a wide range of artifacts. In addition, the rubrics were designed to provide insightful information about the level of student learning. The three levels chosen are classified as *Beginning*, *Proficient*, and *Mastery*.

II. Method of Assessment

After agreeing on a tentative proposed method of assessment, the PAC GELO proceeded to test the assessment process on rubrics for the first two GELO Values, *Effective Communication* and *Critical Thinking*. This involved three stages.

Stage 1 – Selecting Learning Artifacts

It was determined that for each of the two GELOs chosen, two separate sets of learning artifacts would be used to assess student learning. Then, for each of these four learning artifacts, the GELO Value rubrics would be applied to ten randomly selected samples of student work.

For this first run of the assessment process, it was decided that the artifacts would be selected from 100- or 200-level courses from the Fall 2017 and Spring 2018 semesters. All members of the PAC GELO solicited artifacts from faculty within their respective areas. In the end, only one non-committee member volunteered an artifact, so three members of the PAC GELO volunteered artifacts from their own courses.

About the Artifacts

The artifacts for *Effective Communication* included student work selected from the following courses:

- a 200-level writing course: A brief paper in which students summarized the first 50 pages of a novel, focusing on its main plot points.
- a 200-level business course: A project in which students completed an emotional intelligence self-assessment and summarized and reflected upon their results.

The artifacts for *Critical Thinking* included student work selected from the following courses:

- a 100-level psychology course: A portion of the final paper in which students were assigned to research a topic of interest and to find a peer-reviewed article on that topic. They then summarized the article and discussed what interested them about it.
- a 100-level mathematics class: This GER course is closely coordinated throughout the semester and a common final exam is taken by all students. The Juneau mathematics faculty chose one problem from the Fall 2017 final exam as being suitable for assessing the level of student learning achieved in critical thinking with respect to this subject area.

Student work samples in the four courses were selected at random from among all students in the course. This random selection was done by assigning each potential student work sample a sequential number. A random number-generating tool was then used to select eleven work samples. The first ten items were used for the actual assessment, and the eleventh item was distributed to workshop participants in advance as a practice example (see Stage 3).

About the Students Being Assessed

The first three courses listed below are classified as GER courses, and the typical student taking any one of these three courses is enrolled in either an associate or bachelor's degree program.

The fourth course listed below is a core foundational course for business administration majors. Students taking this course are generally enrolled in either the Associate of Applied Science in Business or the Bachelor of Business Administration (or both).

- The 100-level psychology course is a general education option within the Social Sciences category. To enroll in this course, students must have either passed a 100-level writing course, or have instructor permission.

- The 100-level mathematics course is the most common mathematics general education option. To enroll in this course, students must have either passed MATH 105 Intermediate Algebra with a C or better, or they must place into the class by taking a placement exam.
- The 200-level writing course is a general education course that is required of students in all bachelor's degree programs. To enroll in this course, students must have passed a 100-level GER writing course with a C or better.
- The 200-level business course is taken by business students, usually before they move on to their upper division coursework.

Stage 2 – Forming Assessment Teams

Assessment workshop participants consisted of the seven members of the PAC GELO and four faculty volunteers from a variety of departments and disciplines. Participants were divided into two teams: one to assess Effective Communication artifacts, and the other to assess the Critical Thinking artifacts.

The PAC GELO co-facilitators created the teams and split up the committee members, with three on the Effective Communication team, and four on the Critical Thinking team. The four faculty volunteers were also split up, with two on each team. The main consideration in dividing up the teams had to do with spreading the committee members around as evenly as possible, since they were more familiar with the rubrics, artifacts, and processes.

Stage 3 – The Assessment Workshop

The PAC GELO co-facilitators distributed randomly selected student work samples to members of the two workshop participant teams (one each for effective communication and critical thinking) along with the relevant rubric via email a few days before the workshop. Participants were asked to use the rubrics to score the sample artifact prior to the workshop. Then, at the start of the workshop and at two separate locations, each team walked through the rubric together, comparing scores and discussing questions raised about applying the rubrics. Each team then developed their own criteria to score the two sets of work samples during the workshop, and the Provost visited the two locations to provide support as needed.

The *Effective Communication* team walked through their example first, and then touched base and compared scores after scoring every second work sample. The *Critical Thinking* team walked through their examples first, and then worked individually through all ten student work samples for an artifact before discussing their scores together.

During the workshop, team members wrote their scores on scorecards – it should be noted that the two teams did differ slightly in the assignment of scores (the Effective Communication team included half-points, the Critical Thinking team did not). At the conclusion of the workshop, one of the co-facilitators gathered all score sheets and then manually entered these into a spreadsheet for later summarization and analyses.

After the workshop, the co-facilitators followed up with thank-you letters to faculty volunteers, and sought feedback about the assessment workshop, the rubrics, the process, suggestions about effective communication about the committee's work, and anything else.

III. Results

Raw scores assigned by the two assessment teams were summarized using pivot tables with two aims. The first was to determine the consistency among evaluator scores, and the second was to assess student learning, the actual purpose of the assessment process. The committee also held further discussions on the appropriateness of artifacts chosen after using the rubrics on them to assess learning.

This section begins with a summary of the results from each of the two values – Effective Communication and Critical Thinking – and then outlines thoughts shared by workshop participants on the artifacts themselves. The raw data and accompanying pivot tables containing finer details of the raw score summaries are available upon request. Further discussions, in particular on the appropriateness of the artifacts for the associated rubrics, are contained in the last section of this report.

Results for Effective Communication

Table 3.1 provides an overall summary of the scores obtained from the two artifacts used to assess student learning in the area of effective communication. Figure 3.1 provides a breakdown of score distributions within each outcome.

Table 3.1: Summary of scores obtained from the Effective Communication artifacts; includes mean scores (\bar{x}), standard deviations (s), and percentages of items with scores higher than each benchmark.

		\bar{x}	s	% of work products with a score \geq		
				1	2	3
Outcomes	1. Context	1.44	0.71	86.0	33.0	4.0
	2. Arrangement of Material	1.40	0.77	79.0	41.0	2.0
	3. Content Material	1.37	0.58	92.0	27.0	3.0
	4. Supporting Material and Evidence	1.19	0.58	85.0	16.0	1.0
	5. Use of Language	1.41	0.70	86.0	39.0	3.0
Overall summaries		1.36	0.67	85.6	31.2	2.6

Among the ten work samples within each artifact: mean scores from the business administration artifact ranged from 0.26 through 1.74, and standard deviations of the scores ranged from 0.33 through 0.71. For the writing artifact mean scores ranged from 0.84 through 2.02 and standard deviations ranged from 0.32 through 0.68.

The last three columns of Table 3.1 list the percentages of student work samples that scored greater than or equal to the rubric’s three benchmarks: *Beginning* (1), *Proficient* (2), and *Mastery* (3). For example, for Outcome 4 (Supporting Material and Evidence) while only 1% of the work samples were considered to be at the *Mastery* level and 39% at or above the *Proficient* level, at least 86% were considered at or above the *Beginning* level.

The percentages in the last three columns of Table 3.1 suggest that students have the greatest difficulty in achieving the *Beginning* benchmark in Outcome 2 (Arrangement of Material) and the least difficulty in Outcome 3 (Content Material). Furthermore, students tended to have the most difficulty meeting the *Mastery* benchmark in Outcome 4 (Supporting Material and Evidence) and the least difficulty in Outcome 1 (Context).

As suggested in Figure 3.1, scores assigned by the effective communication team included half-points. Because of this, scores for all five learning outcomes appear more widely distributed in this area than for critical thinking.

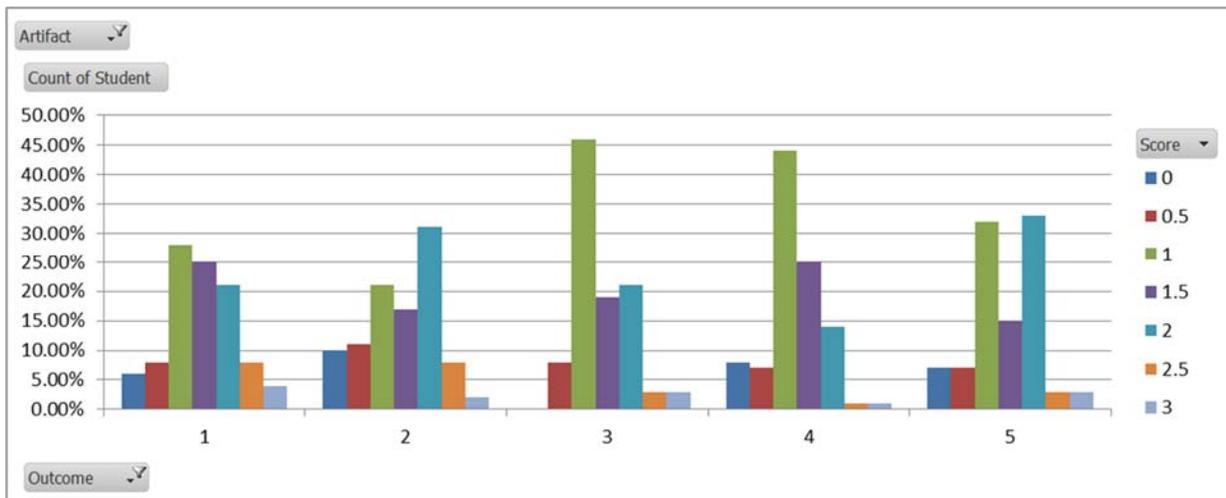


Figure 3.1: Distribution of scores assigned (ranging from 0 through 3) within each of the five student learning outcomes for Effective Communication.

Results for Critical Thinking

Table 3.2 provides an overall summary of the scores obtained from the two artifacts used to assess student learning in the area of critical thinking. Figure 3.2 provides a breakdown of score distributions within each outcome.

Among the ten work samples within each artifact: mean scores from the mathematics artifact ranged from 0.13 through 1.96, and the standard deviations of the scores ranged from 0.34 through 0.68. The mean scores from the psychology artifact ranged from 0.73 through 1.93, and the standard deviations ranged from 0.61 through 0.95.

Table 3.2: Summary of scores obtained from the Critical Thinking artifacts; includes mean scores (\bar{x}), standard deviations (s), and percentages of items with scores higher than each proficiency benchmark.

Outcomes	\bar{x}	s	% of work products with a score \geq		
			1	2	3
1. Student Position	0.80	0.80	60.0	16.7	3.3
2. Student Assumptions	1.08	0.84	70.0	37.5	0.8
3. Issue or Problem	1.40	0.70	91.7	44.2	4.2
4. Info. From Sources	1.58	0.66	94.2	60.8	3.3
5. Conclusion or Outcomes	1.45	0.88	83.3	54.2	7.5
Overall summaries	1.31	0.81	79.8	42.7	3.8

The last three columns of Table 3.2 list the percentages of work products that scored greater than or equal to the rubric's three benchmarks: *Beginning* (1), *Proficient* (2), and *Mastery* (3). For example, for Outcome 3 (Issue or Problem to be Considered Critically), 91.7% of the items scored across both mathematics and psychology artifacts were identified as at or above the *Beginning* benchmark, 44.2% were identified as at or above the *Proficient* benchmark, and 4.2% were identified as at the *Mastery* benchmark.

In this case the data suggest that students have the greatest difficulty meeting the *Beginning* benchmark in Outcome 1 (Student's Position) and the least difficulty in Outcome 4 (Information Taken from Sources). Furthermore, students tended to have the most difficulty meeting the *Mastery* benchmark in Outcome 2

(Student’s Own Assumptions) and the least difficulty in Outcome 5 (Conclusions or Related Outcomes). Figure 3.2 lends support to the observation that student learning in the first outcome (student position) is generally at or below the beginning level.

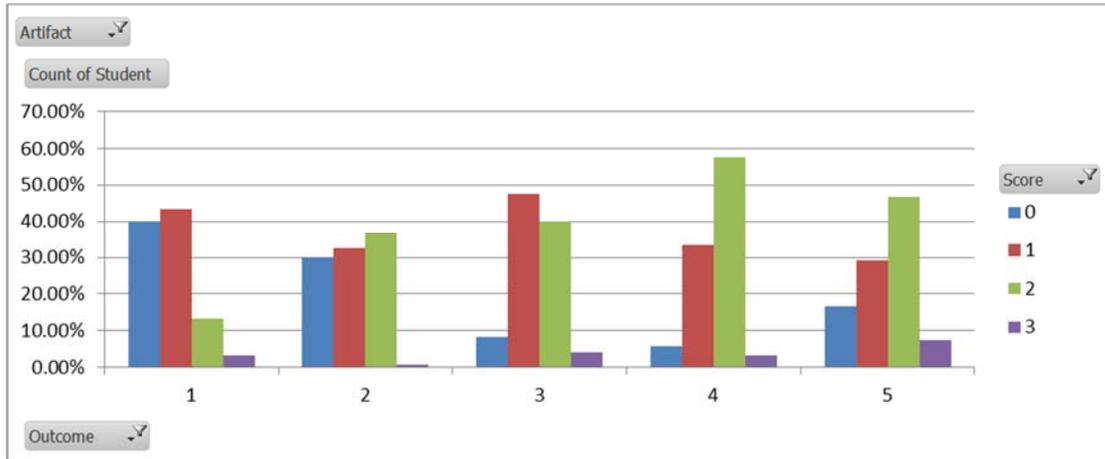


Figure 3.2: Distribution of scores assigned (ranging from 0 through 3) within each of the five student learning outcomes for Critical thinking.

Overall Observations and Comments

While there was a good degree of consistency in the scores, allowing for variability, evaluators did encounter difficulties in applying the rubrics seamlessly to all four artifacts. In particular, in almost all cases it was not possible to place many work samples in the Mastery level because of the nature of the student assignment/exercise. Also, for the mathematics artifact for Critical Thinking, the first learning outcome (Student Position) could not be assessed at all and rubric criteria for the remaining learning outcomes did not have a natural fit for assessing the artifact.

IV. Lessons Learned and Next Steps

The process of diverse faculty working together to define student learning outcomes and then create rubrics that can be applied to learning artifacts not in their expert areas was a worthwhile and educational experience. It was observed that the collaborative process was very effective, and lessons learned will benefit participating faculty who might work with other rubrics for grant requirements in other disciplines. For example, an implementation of the team approach employed by the PAC GELO can be used to develop learning outcomes and rubrics for the assessment of academic environments for Cultural Arts Grants in a teacher preparation program.

The PAC GELO members believe they have been largely successful in realizing the first goal assigned to them, and more. This being said, they have identified areas for improvement in the design and future implementations of the remaining GELO rubrics, and in the assessment process itself.

This section includes a breakdown of observations by PAC GELO members and assessment workshop participants, as well as an outline of the Committee’s proposed next steps in completing the task of preparing and implementing an effective general education student learning assessment plan.

Artifact Selection

For both GELOs that were assessed, it quickly became clear that appropriate artifact selection was essential to the effectiveness and overall success of the process.

It was initially believed that the rubrics were designed to be relatively general and flexible, the intent being that they could be applicable to a wide range of artifacts across different disciplines. However, the rubrics do include a number of very specific criteria since the assessment process requires some level of specificity in order to properly assess student learning from any given (but appropriately selected) course. It turned out that, while not evident in the artifact selection process, this specificity gave rise to some uncertainties which needed careful discussion by assessment team members before and/or during the evaluation and scoring process.

For example, both of the artifacts that were selected for the Effective Communication GELO required students to incorporate just one external source. However, the rubric used to assess Effective Communication specifically identifies among the assessment criteria the expectation that students are able to appropriately use and incorporate external sources in the presentation of their work. Because each of the assignments being used as artifacts required only one source, it was difficult to fully assess the extent to which students successfully incorporated, cited, and analyzed supporting material and evidence.

Similarly, in the case of both of the Critical Thinking artifacts, the assignment instructions precluded attainment of “mastery level” on the rubric. For the mathematics artifact, in particular, the first learning outcome was not applicable. This in itself did not pose a problem since it is a possibility that is allowed for in the rubrics. However, justifying a scoring process for the remaining criteria proved to be quite challenging.

One important part of the process that will be modified for future assessments is artifact selection. Additionally, establishing early contact and discussions with relevant course instructors is likely to improve the chances of choosing appropriate and useful artifacts, as well as gain a clear idea of the number of work samples available.

Rubrics

Regarding the rubrics themselves, room for some potential improvements (or clarifications in expectations) were identified. For each column of a given rubric, student learning is measured as attaining one of four achievement classifications: *Not Yet* (0), *Beginning* (1), *Proficient* (2), and *Mastery* (3). In hindsight, the criteria in—or the use of—the *Mastery* level category is worth further discussion. In fact, some faculty members asked to review one of the rubrics expressed the concern that the criteria laid out are too rigorous even for high performing graduating students.

Considering that GER courses are intended to be more general overview courses, achieving the *Mastery* level might be too great an expectation for students enrolled in such courses. This issue suggests another area of further discussion and possible clarification. It will also be useful to discuss whether learning artifacts from higher level courses should be considered, or whether the criteria within the rubrics should be adjusted so that more student work may be identified as achieving the (relevant) *Mastery* level.

Assessment Teams

Members of the PAC GELO constituted the majority of both assessment teams and were thus available to answer any questions regarding the evaluation process. However, in moving forward, there are two matters that will need attention.

The first and less obvious matter concerns sufficient discipline-specific knowledge within teams in the subject area of the field from which a given artifact is chosen. Indeed, it may be the case that certain artifacts require more discipline-specific explanations than others, provided by a faculty member (or the course instructor). For example, it was noted in the Critical Thinking team that the Mathematics

professor's explanation of the assignment in the mathematics artifact was necessary for an effective assessment by non-experts.

The second and more obvious matter concerns the use of tools developed by this PAC GELO by future assessment committees. It will be necessary to develop clear and specific instructions for later committee members on how to assemble effective teams and how to independently use the rubrics in evaluating artifacts. Having at least one past assessment team member on subsequent GELO assessment committees might also be useful.

Directions and advice on how to address these matters will most likely be developed in discussions on preparing the GELO Assessment Plan.

Assessment Workshop and Artifact Evaluation

It was unanimously agreed that the length of the workshop was perfect, the presence of the Provost for quick feedback on miscellaneous questions was very helpful, and the inclusion of pizza as a resource for workshop participants was greatly appreciated. Moreover, the variation in strategies used by the two teams in the assessment and scoring process provided some useful insight.

The Effective Communication group found it helpful to independently assess each artifact, but to check in with the group after scoring two. In a sense, this allowed for periodic recalibration and presumably helped create more uniform application of the rubrics. The Critical Thinking team did not follow this strategy, consulting only after each artifact was completely assessed they moved through the process much more quickly than the Effective Communication team.

A worthwhile matter for consideration would be to revisit these two approaches, and other possibilities, to come up with an effective yet efficient way of assessing artifacts.

Scoring and Norming of Scores

As part of the assessment process, each team began by norming their scoring process. To do so, each team was provided a practice document which they evaluated using the rubric and then checked in with one another to determine how each member was applying the rubric. All team members found this to be incredibly useful in the process. One suggestion for improvement was to perform this norming using a strong (i.e., high scoring) artifact. The idea behind this is to help with the norming as well as provide a standard for a high-scoring artifact with which to compare the remaining artifacts.

With respect to the actual scoring, the Effective Communications team used half points, while the Critical Thinking team considered expectations in a criteria cell "met" if at least one of two checkboxes were checked. In the future, to ensure that the scoring procedure is consistent, related and more detailed definitions of each heading in the rubrics would be helpful. Additionally, instructions should include information about the point values of the checkboxes on the rubrics, and whether or not half-points are included or whether scores are rounded up or down.

It is worth noting that while scores assigned by evaluators did vary, there was a fair degree of consistency. This suggests that the pre-scoring norming discussions served their purposes for both teams. Participants unanimously expressed satisfaction with going through the score norming process prior to the actual assessment and scoring. They were also pleasantly surprised by how similar the scores were, and with how few outliers appeared throughout the assessment process.

Using Results from GELO Assessments

As is evident, this report does not contain any recommendations to program faculty regarding their respective GER courses used in the current assessment exercise. However, it is recognized that the purpose of such assessments is to provide academic programs with meaningful data and useful analyses so that they may affect changes to courses. An important part of future discussions in PAC GELO

meetings will involve identifying potentially meaningful methods of analyses of assessment scores as well as the clear reporting of findings in a manner that is informative to the broadest range of faculty.

Formal Assessment Plan

The PAC GELO noted the importance of preparing a formal assessment plan that outlines the process for future GELO Assessment Committees. This will be main agenda item as work begins again in the fall of 2018. Another important next step includes reviewing and possibly improving the rubrics used for the current assessment. Then, using lessons learned from using and fine-tuning these two rubrics, rubrics already created for the two next GELOs can be fine-tuned for the upcoming year's assessment workshop.