STUDENT LEARNING OUTCOME ASSESSMENT HANDBOOK FOR FACULTY

2020-2021

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An introduction to assessment

Assessment is a fundamental and necessary component of the educational process. Faculty spend a significant amount of time preparing course materials and instructing students. As scholars, faculty are trained to analyze and evaluate evidence, to accept nothing as truth without thorough scholarly inquiry. Why, then, should the teaching process be any different? Why should faculty assume that learning has taken place without searching for any evidence of this? Assessment is a logical extension of teaching that enables faculty to determine whether learning did indeed occur. If assessment results fall short of performance goals, there is an opportunity to thoroughly investigate courses and programs to identify areas in which improvements can be made. Assessment is not merely a mandate from accreditors; rather, assessment is an integral part of the educational process.

As a public institution Florida Gateway College (FGC) has a responsibility to demonstrate to students, local communities, and the state of Florida that its educational programs prepare students to work in their chosen careers or to pursue further education. One way in which FGC publicly and transparently demonstrates its quality is through adhering to the quality requirements of accrediting bodies. FGC is regionally accredited through the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). In its Principles of Accreditation (SACSCOC, 2018), the Commission states that an institution “identifies expected outcomes, assesses the extent to which it achieves these outcomes, and provides evidence of seeking improvement...” (p. 20). Additional information about SACSCOC requirements can be found here. In order to demonstrate the value of FGC’s educational programs, faculty must regularly assess the extent to which students are learning the knowledge and skills that will help them to be active, productive citizens.

The mission of FGC is “to provide superior instruction, nurture individual development, and enrich the community through affordable, quality higher education programs and lifelong learning opportunities.” The 2017 – 2022 Strategic Plan identifies clear strategies to help FGC fulfill its mission. Several of these goals (including success, engagement, academics and lifelong learning, and assessment, accountability, and improvement) are clearly tied to the quality of the educational programs offered by FGC. As such, assessment results provide data points that help FGC determine the extent to which its strategic goals are being met.

Assessing student learning outcomes is necessary to improve educational programs and serves as a key input to educational planning processes. If students consistently fail to attain a learning outcome in a particular program, that indicates that programmatic changes are needed. Perhaps additional courses should be added to the program that stress this particular learning outcome, or one or more courses should be revised to better teach the knowledge and/or skills associated with the outcome. Without assessment data, program changes would be made blindly and might not target the areas in which improvement was most needed.

Students enroll at Florida Gateway College for many reasons, but all expect to learn the knowledge and skills that they need to improve their lives in some way. Student learning outcome assessment lets FGC ensure that students are obtaining an education that will open doors wherever they choose to go.
Assessment at FGC

Assessment is only useful if it helps faculty determine how well their students are learning and what can be done to improve their learning. Overly complex assessment processes that are tacked on to courses and programs are burdensome to faculty and will likely be of little value in improving student outcomes. The best assessment processes, then, are ones which can easily be incorporated into courses and programs and add value to discussions of how to improve educational processes. FGC recognizes that faculty are subject matter experts in their content area and are thus well-placed to create effective assessments and use assessment information for program improvement. Faculty are encouraged to use already-existing assignments to assess student learning. If current assignments are not well-aligned with program learning outcomes, faculty are encouraged to use this as an opportunity to create new, high-quality assignments that integrate with existing course material and align with learning outcomes. To the extent possible, faculty are encouraged to utilize authentic assessments. Authentic assessments are application-focused and require students to use their knowledge and skills to solve realistic problems. Such assessments are excellent indicators of students’ ability to use their learning outside the classroom (Mueller, 2016). While FGC staff are available to help faculty navigate the assessment process, learning outcomes assessment at FGC is a faculty-driven process.

At the program level, student learning outcome assessment helps programs identify opportunities to improve student learning. Changes include, but are not limited to, curriculum redesign, course redesign, changes in resource allocation, new technology, improved advising strategies, and additional staffing.

What are learning outcomes?

Student learning outcomes (SLOs) “clearly state the expected knowledge, skills, attitudes, competencies, and habits of mind that students are expected to acquire at an institution of higher education” (National Institute for Learning Outcomes Assessment, 2012). They capture what students should know or be able to do upon completion of their educational program. SLOs are articulated at multiple levels of FGC, as illustrated in Figure 1.

At the institutional level, FGC’s mission is pursued through the 5-year strategic plan. FGC’s general learning outcomes (GLOs) are designed to support the mission and strategy of the College by providing students in all associate degree programs with a core foundation of knowledge and skills applicable across a wide variety of topics and careers. The GLOs include communication, critical thinking, cultural awareness, information literacy, quantitative reasoning, and scientific reasoning. Attaining these outcomes helps students to develop in their personal and professional lives and contribute meaningfully to their community, thus supporting the mission of FGC.

At the program level, program learning outcomes (PLOs) articulate what program-specific competencies students should demonstrate upon leaving their educational program. Some of these PLOs align with GLOs, while other PLOs indicate which field-specific competencies students should master by the time they finish their educational program.

At the course level, course learning outcomes (CLOs) outline what students will know and be able to do at the end of a course. These CLOs align with PLOs and/or GLOs, as all courses in a program of study should contribute to student mastery of higher-level learning outcomes.
Faculty are directly involved in the assessment of CLOs, PLOs, and GLOs, and their work on these three levels of assessment directly contributes to the evaluation of whether FGC is fulfilling its mission.

**Figure 1. Learning outcomes at FGC**

**Writing learning outcomes**

Learning outcome statements indicate what the student should know or be able to do at the end of a course or program of study. They are focused on the student and what he or she will learn, not what the instructor will do (Indiana University Center for Innovative Teaching and Learning, n.d.). For example, “students will be introduced to key ethical frameworks in the medical profession” is not a good learning outcome, as it is focused on what the instructor will introduce to the students rather than what students will learn.

Learning outcome statements should include action verbs. Verb choice is important, as it indicates the depth to which the student will master the knowledge or skill. This then dictates teaching and assessment practices. For example, if a learning outcome includes “create” as a verb, it would not be appropriate to assess this with a multiple choice exam. Similarly, if a learning outcome includes “describe” as a verb, this learning outcome should not be assessed with an analytical essay.

Verbs included in learning outcome statements should be measurable. Verbs such as *appreciate, comprehend, be exposed to, master, be familiar with, and know* are vague and difficult to measure. Additionally, try to limit the number of verbs included in each learning outcome statement to one or two. Complex, multi-verb statements can complicate assessment. For example, consider “Students will be able to describe, create, and evaluate lesson plans.” To determine whether students achieved this outcome, it would be necessary to measure three things: Can students describe lesson plans? Can students create lesson plans? Can students evaluate lesson plans? Think carefully about what students should know or be able to do when they complete the program, and choose verbs accordingly. For
example, if students will need to create lesson plans in their post-graduation careers, then “Students will be able to create lesson plans” is an appropriate learning outcome statement.

Learning outcome statements should be specific. Vague learning outcomes are challenging to measure well. Specific learning outcomes, on the other hand, are easy to assess. For example, consider this learning outcome: “Students will be able to use accounting software.” It is not clear from this outcome what exactly students will be able to do with accounting software when they complete the program. Compare this to “Students will be able to use accounting software to report key financial metrics to stakeholders.” It would be much easier to assess whether students had achieved this learning outcome. As a rule of thumb, if you cannot quickly determine how to assess a learning outcome, it is too vague.

Keep in mind that all program learning outcomes must be assessed. Thus, if your program has 30 learning outcomes, all 30 learning outcomes will need to be assessed. Three to six learning outcomes per program is generally sufficient (Suskie, 2018). To ensure that your program doesn’t have too many learning outcomes, focus on the most important student learning outcomes. What knowledge and skills do program graduates need to have after leaving the program in order to succeed in their career, life, or further education?

When to assess?

Students can be assessed at any point during their educational program. Since GLOS and PLOs should be taught throughout a student’s educational program, assessing students towards the end of their program offers the best chance to assess what students can do upon completion of their educational experience. However, there are good reasons to assess learning outcomes earlier. Especially in short programs, some learning outcomes may be taught in a course early in the sequence and not addressed again. In such cases, assessment of these PLOs early in the program makes sense. Additionally, many community college students fail to complete their program of study and thus would not be assessed if PLO assessments were concentrated at the end of the program (Nunley, Bers, & Manning, 2011). Consult your curriculum map (see next section) to determine where each learning outcome is taught in the program, and then identify courses that help students master this learning outcome. Courses that focus on mastery of the learning outcome are good courses in which to assess that learning outcome, regardless of where they occur in the program.

Curriculum maps

Curriculum maps indicate where each learning outcome is addressed throughout a program of study. They also show whether the learning outcome is introduced, reinforced, or mastered (or emphasized). Learning outcome assessment should focus on courses in which the learning outcome is mastered. An example curriculum map can be found in Table 1 below. A full curriculum map template can be found in Appendix A. Note that curriculum maps are housed in Xitracs, the College’s assessment, planning, and accreditation software.
Table 1. Curriculum map example

<table>
<thead>
<tr>
<th>Course</th>
<th>PLO1</th>
<th>PLO2</th>
<th>PLO3</th>
<th>PLO4</th>
<th>PLO5</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 1000</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>PSYC 2000</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 3000</td>
<td>M</td>
<td>R</td>
<td></td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>PSYC 4000</td>
<td></td>
<td>R</td>
<td>R</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>PSYC 4900</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. I = introduced, R = reinforced, M = mastered

If a program coordinator wanted to assess PLO 1 in the fictitious program in Table 1, PSYC 3000 would be the ideal time to assess this learning outcome. Similarly, PLOs 2, 3, and 4 should be assessed in PSYC 4900. It is possible to measure several PLOs within a single course. In fact, provided that evaluation criteria (such as rubrics) are broken up by learning outcome, it is possible to measure several learning outcomes within the same assessment. For example, assume that PSYC 4900 above is a capstone course requiring that students complete their own research project. If the rubric for this project had separate sections for assessing PLO 2, PLO 3, and PLO 4, then this capstone project could be used to assess all three learning outcomes.

Identifying useful assessments

Faculty are encouraged to identify assignments that they are currently using in their courses to assess student achievement of PLOs and GLOs. Assessment data can be divided into two major categories: direct assessment and indirect assessment. Direct assessments do directly measure students’ knowledge and skills. Faculty and program coordinators are probably quite comfortable with these kinds of assessments, as they are often administered as course assignments or used to award professional licenses and certifications. Common direct assessments, and the pros and cons of their use, can be found in Table 2. Indirect assessments do not directly measure students’ knowledge and skills. Common types of indirect assessments include grades, retention and graduation rates, job placement rates, student and alumni satisfaction surveys, and student self-ratings of knowledge and skills (Suskie, 2018). Indirect assessments can be used to supplement, but not replace, direct assessment methods.
<table>
<thead>
<tr>
<th>Assessment</th>
<th>Description</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Locally developed test</strong></td>
<td>Test developed to assess course content, with questions aligned to LOs of interest</td>
<td>- Easy to grade</td>
<td>- May not capture breadth and depth of student learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Can standardize across sections of course</td>
<td>- Need multiple questions per LO to help ensure reliability and validity</td>
</tr>
</tbody>
</table>
Capstone projects

- Project completed at end of program utilizing skills student has learned throughout program
- Inclusive of all program LOs
- Allows student to demonstrate depth of knowledge and skills
- Can be authentic assessments
- Including a capstone project may require an additional course in the program
- Requires good rubric aligned with LOs to score objectively
- Time-consuming to evaluate

Licensing or certification exams

- Exam developed by licensing body to award professional license or certification
- Easy to score
- Can compare pass rates with other institutions
- May not be possible to align scores with LOs
- May not capture all knowledge and skills of interest

Note. Sources include Alancraig et al. (n.d.) and Suskie (2018)

GLO and PLO assessment processes at FGC utilize signature assessments. A signature assessment:

- Is intentionally designed to measure one or more learning outcomes (a good signature assessment can measure multiple PLOs)
- Is realistic and applicable to real-world situations
- Requires students to use higher-order thinking skills (application, analysis, synthesis, evaluation)
- Is something that a student could show to a potential employer to demonstrate their knowledge and skills
- Makes up at least 10% of the final course grade
- Has an associated scoring guide (rubric, checklist, or similar)
- Is used in all sections of a course

Some examples of signature assessments are:

- A research paper requiring students to evaluate multiple perspectives on an issue of local or national importance
- A service learning project where students deliver training on an important topic to community members
- A project asking students to evaluate the health of a local body of water
- A skills demonstration evaluated with a rubric
- A group project where student teams create a complete business plan for a fictitious company

An exam can be a signature assessment, but only if it requires students to a) apply their knowledge to a realistic situation, and b) write something-multiple choice and true/false questions give students the opportunity to guess the correct answer, and have little real-world applicability. The exception to this is programs that have state or accreditor-mandated exams. If a particular exam in your program is required by the state or your accreditor, then that qualifies as a signature assessment.
Setting performance goals

Once faculty have determined how learning outcomes will be assessed, they must determine what the performance goals are for these outcomes. Setting performance goals helps faculty identify areas in which students are struggling. There are several ways to identify appropriate performance goals (Suskie, 2018):

- Create a local standard based on faculty consensus regarding what “acceptable” performance on the assessment looks like. For example, English faculty may determine that a score of “3” on the argument development section of an essay rubric indicates an acceptable level of critical thinking. According to Suskie (2018), a good way to identify what “acceptable” performance looks like is to decide what level of performance is needed for you to not be embarrassed about the student’s performance. For instance, if a student graduated from a program and demonstrated that level of performance in their job, would you cringe? If so, the standard should be higher.

- Use external standards to determine what level of competency students should demonstrate. For example, nursing faculty could identify current passing standards for the NCLEX exam to set standards for student NCLEX exam performance. Note, however, that it may be difficult to align external standards (such as required exam scores) with program learning outcomes.

- Use internal or external peer groups to identify appropriate levels of performance. As an example of an internal peer group, math faculty could use student performance in traditional sections of a course to identify expected levels of performance in online sections of the same course. As an example of an external peer group, corrections faculty could consult with faculty at other institutions to determine what percentage of students in the corrections program at these institutions can successfully perform key defensive tactics at the end of their program.

- Look at historical trends to evaluate how students performed in the past, and use this to set standards for student performance. For example, if over the past 5 years an average of 60% of students in the welding certificate program were able to successfully cut materials using oxy-fuel cutting equipment, expecting 90% of students to perform this task successfully might be unrealistic in the near term.

It is important to set realistic goals. Not all students will perform well in a program, and there will always be opportunities to improve programs through curricular and pedagogical changes. On the other hand, setting goals too low risks graduating students who are unprepared for the workforce or further education. Remember, the goal of student learning outcomes assessment is to improve student learning. Challenging but realistic performance goals help faculty identify areas in which course and program changes are needed. As student performance improves over time, performance goals can be adjusted accordingly.

Here are some good examples of performance goals being used in programs at FGC:

- At least 70% of students will achieve a rating of 3.0 or above (competency of objective) on the “Argument Development,” “Documentation,” “Source Quality,” and “Location of Source Texts” criteria on the standardized rubric for the required departmental essay. Evaluated on a scale of 1.0-4.0, a rating of 3.0 constitutes competency for meeting each objective.
• 85% of students will score at least 80% on both the end-of-course multiple choice exam and each proficiency demonstration area. A score of 80% is the chosen passing score, pursuant to subsection 11B-35.0024(3)(c)(2), F.A.C. for all Criminal Justice Standards and Training Commission approved High-Liability Basic Recruit Training Program.

• 75% of the students will score in the “Meets Expectations” level, or higher, on all five categories of the rubric being used to score the assessment. The expectation of 75% is based upon the previous four years of experience and the average of the pass/fail rate of students in those four years.

• 75% of students will earn a score of 70% or higher on the rubric used to score the assessment. 70% was selected due to the level of communication expected from students. The two projects are cumulative work that draws on knowledge gained throughout the semester. 70% allows for deviations in the style or content of the projects, but allows for a firm grasp of the subject matter.

Analyzing and presenting results

Assessment results should, at a minimum, be reported by learning outcome. In Xitracs, you will be asked to present the percentage of students who met the performance goal, and to indicate whether the performance goal was achieved. However, additional detail may be useful for you to better analyze your results and determine what they mean for your program and/or courses. This additional information can be uploaded as a file to Xitracs. For example, if a rubric or similar evaluation instrument is used to evaluate an assessment, report the number and percentage of students in each rubric category. Table 3 illustrates one way in which rubric results can be reported. As was done in Table 3, it may be helpful to include a summary column showing the number and percentage of students who achieved the targeted level of performance. If there are multiple course modalities (for example, online and traditional), consider breaking out results by modality.

Table 3. Example rubric reporting table

<table>
<thead>
<tr>
<th>Rubric section</th>
<th>4 (mastery)</th>
<th>3 (competent)</th>
<th>2 (developing)</th>
<th>1 (needs work)</th>
<th>Total 3 or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of ethical issues</td>
<td>5 (29%)</td>
<td>3 (17%)</td>
<td>7 (39%)</td>
<td>3 (18%)</td>
<td>13 (76%)</td>
</tr>
<tr>
<td>Stakeholder perspectives</td>
<td>6 (35%)</td>
<td>5 (28%)</td>
<td>4 (22%)</td>
<td>2 (12%)</td>
<td>9 (50%)</td>
</tr>
<tr>
<td>Connection to ethical frameworks</td>
<td>2 (12%)</td>
<td>1 (6%)</td>
<td>3 (17%)</td>
<td>8 (47%)</td>
<td>5 (28%)</td>
</tr>
<tr>
<td>Evaluation of consequences</td>
<td>6 (35%)</td>
<td>6 (33%)</td>
<td>8 (44%)</td>
<td>1 (6%)</td>
<td>14 (82%)</td>
</tr>
</tbody>
</table>

Many programs utilize evaluation forms to capture student performance in a simulation, clinical, or internship experience. These forms are often broken down into categories that are aligned with PLOs. When reporting results of these practical, hands-on experiences, be sure to present results by PLO,
rather than for the evaluation as a whole. For example, Table 4 includes the results by PLO for a clinical evaluation instrument.

**Table 4.** Example PLO reporting table for clinical evaluation

<table>
<thead>
<tr>
<th>PLO #</th>
<th>PLO</th>
<th># assessed</th>
<th>% meeting 80% standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Knowledge</td>
<td>25</td>
<td>87%</td>
</tr>
<tr>
<td>2</td>
<td>Leadership</td>
<td>25</td>
<td>91%</td>
</tr>
<tr>
<td>3</td>
<td>Inquiry</td>
<td>25</td>
<td>82%</td>
</tr>
<tr>
<td>4</td>
<td>Service</td>
<td>25</td>
<td>86%</td>
</tr>
</tbody>
</table>

Graphs can be very useful, especially when comparing performance across course modalities. The figures below provide several examples of graphs that can be used to present results, although these are not inclusive of all graphs that could be used for results presentation.

**Figure 2.** Course modality comparison graph
Figure 3. Fall to spring PLO achievement comparison graph

Figure 4. Performance by rubric category graph
**Figure 5.** Graph comparing percentages of students who did and did not meet LO standards

![Student performance on PLO 3](image)

**Figure 6.** Fall to spring comparison of students meeting performance goals across courses

![Student achievement of critical thinking GLO 2107-2018](image)

*All faculty* should provide the assessment information requested by their program coordinator or GLO team leader. This includes both full-time and part-time faculty. Faculty who do not provide requested results, or who do not provide the information needed (for example, reporting course success rates instead of assessment results) hinder the assessment process and make it difficult for faculty to make data-driven decisions about programs.
Similarly, faculty should adhere to the assessment plan agreed upon at the beginning of the academic year. A professor who swaps out a planned assessment in her section of a course for one of her choosing makes it difficult to incorporate her assessment results into GLO or PLO assessment.

Program coordinators and GLO team leaders are responsible for integrating assessment information provided by faculty into a single, coherent report. They are responsible for reviewing all PLO/GLO assessment results, meeting with program faculty to collaboratively analyze this information, and creating a cohesive report from this information. Simply collecting all faculty reports with no attempt to discuss the results with one another or to synthesize the data provided in these reports severely limits the utility of the learning outcome assessment process.

Turning results into action

Assessment helps faculty identify ways in which student learning can be enhanced through changes to courses and programs. The list below (adapted from University of Central Florida, 2008) identifies changes that can be made based on assessment results. Note that the use of results should focus primarily on curriculum changes. Assessment plan modifications should be made only if there are clear problems with the approach currently being used (for example, it doesn’t adequately measure student achievement of the LO). Do not change the assessment just because students are performing poorly, as this could indicate a curriculum issue rather than an assessment issue. Planned actions must be specific; continuing to monitor student performance does not count as an action. A planned action is required if a performance goal is not met.

- Changes to curriculum
  - Changes in teaching practices
  - Revision of prerequisite courses
  - Changes to program course sequences
  - Changes to course content
  - Addition of course(s)
  - Removal of course(s)

- Changes to academic processes
  - Changes to course scheduling/frequency with which course is offered
  - Changes to course technology
  - Personnel changes
  - Additional training for instructors

- Changes to assessment plan
  - Revise learning outcome statements
  - Revise assessment(s)
  - Collect additional data

Once clear actions are identified for improving student learning, faculty should create a plan for implementing these changes and assessing the effect of these changes. A change is not an improvement unless it actually improves student learning. It is possible that a change to a course or program, despite being well-intentioned, will not improve student learning. In the assessment report, faculty should identify:
• Who will be responsible for implementing the planned change
• When the planned change will be implemented
• How the effect of the planned change will be assessed
  o Be specific. What tool(s) will be used to evaluate whether student learning has improved? Over what time period will this evaluation occur?

General learning outcomes assessment

General learning outcomes, or GLOs, are the learning outcomes that all students completing an associate in arts (A.A.), an associate in science (A.S.), or an associate of applied science (A.A.S.) degree are expected to achieve prior to earning their degree. The Florida Department of Education requires that students complete 15 hours of general education (for A.S. and A.A.S. degrees) and 36 hours of general education (for A.A. degrees) across five subject areas: communication, mathematics, social sciences, humanities, and natural sciences (Florida Department of Education, 2014). Throughout the course of their degree program, students must take at least one course in each of these areas. FGC’s GLOs build on these requirements to ensure that students will be prepared for their career and/or further education through their achievement of these essential competencies. FGC’s GLOs are defined below:

• **Communication**: Students will effectively communicate through oral or written skills.
• **Critical thinking**: Students will logically evaluate, analyze, and synthesize information.
• **Cultural awareness**: Students will explain how aspects of culture relate to the human experience.
• **Information literacy**: Students will use information effectively and ethically.
• **Quantitative reasoning**: Students will apply mathematical concepts and reasoning to draw valid conclusions.
• **Scientific reasoning**: Students will apply empirical evidence to evaluate natural phenomena.

The following courses (Table 5) are included in GLO assessment:

<table>
<thead>
<tr>
<th>GLO</th>
<th>Team Leader</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Communication</strong></td>
<td>Dr. Troy Appling</td>
<td>ENC 1101; SPC 2608</td>
</tr>
<tr>
<td><strong>Critical thinking</strong></td>
<td>Jennifer Evans</td>
<td>PHI 2600; PHI 2020; ENC 1101; SPC 2608; ECO 2013; ECO 2023; STA 2023; MGF 1106; PSY 2012</td>
</tr>
<tr>
<td><strong>Cultural awareness</strong></td>
<td>Dr. Fred Smith</td>
<td>AMH 2010; AMH 2020; ARH 1000; ARH 2051; HUM 2020; HUM 2551; MUL 1010; THE 2000</td>
</tr>
<tr>
<td><strong>Information literacy</strong></td>
<td>Dr. Michael Baker</td>
<td>Library Skills Assessment (no associated course); ENC 1102; SLS 1501</td>
</tr>
<tr>
<td><strong>Quantitative reasoning</strong></td>
<td>Dr. Pedro Mora Medina</td>
<td>MAC 1105; MGF 1106</td>
</tr>
<tr>
<td><strong>Scientific reasoning</strong></td>
<td>Dr. Juan Guzman</td>
<td>BSC 2010; BSC 2085; CHM 2045; PHY 1020; GLY 1001</td>
</tr>
</tbody>
</table>

It is important to note that these courses are *not* the only courses in the A.A., A.S., and A.A.S. programs that develop the GLOs. In fact, the competencies measured by the GLOs are developed
throughout all associate degree programs. The courses in the GLO assessment process were chosen because they are high-enrollment courses completed by many associate degree-seeking students, thus providing opportunities to assess most associate degree seekers at FGC.

GLO assessment occurs annually. Table 6 outlines important items, accountabilities, and deadlines for the 2020-2021 academic year.

Table 6. GLO assessment calendar 2020-2021

<table>
<thead>
<tr>
<th>Item</th>
<th>Responsibility</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit 2019-2020 assessment report</td>
<td>GLO team leader</td>
<td>August 31, 2020</td>
</tr>
<tr>
<td>GLO assessment academic year planning meeting</td>
<td>GLO team leader and associated faculty</td>
<td>August-September 2020</td>
</tr>
<tr>
<td>Complete 2020-2021 assessment plan in Xitracs</td>
<td>GLO team leader</td>
<td>October 15, 2020</td>
</tr>
<tr>
<td>Midyear GLO assessment check-in with IEA</td>
<td>Director, IEA</td>
<td>January 27, 2021</td>
</tr>
<tr>
<td>End-of-year GLO assessment check-in with IEA</td>
<td>Director, IEA</td>
<td>April 28, 2021</td>
</tr>
<tr>
<td>GLO team meetings to discuss results</td>
<td>GLO team leader</td>
<td>August 2021</td>
</tr>
<tr>
<td>Complete 2020-2021 assessment report in Xitracs</td>
<td>GLO team leader</td>
<td>September 31, 2021</td>
</tr>
<tr>
<td>Integrated LO assessment report submitted to academic leadership</td>
<td>Director, IEA</td>
<td>November 15, 2021</td>
</tr>
</tbody>
</table>

GLO assessment reporting

GLO assessment reports should be completed in the “programs” module in Xitracs. Each GLO report will be reviewed by the Director of Institutional Effectiveness and Assessment using the rubric provided in Appendix B (note that this rubric is also available in Xitracs). The report may also be reviewed by the Associate Dean of Academic Affairs. Revisions may be required to the report before it is considered complete.

Program learning outcomes assessment

FGC requires that each degree and certificate program engages in program learning outcome, or PLO, assessment. Each program has PLOs that were developed by faculty to represent the most important competencies for students completing the program. Faculty are encouraged to review these PLOs on a regular basis, in conjunction with the program’s advisory committee to ensure that they are aligned with student and workforce needs.

PLO assessment occurs annually. Table 7 outlines important items, accountabilities, and deadlines for the 2020-2021 academic year.
Table 7. PLO assessment calendar 2019 – 2020

<table>
<thead>
<tr>
<th>Item</th>
<th>Responsibility</th>
<th>Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submit 2019-2020 assessment report</td>
<td>Program coordinator/lead instructor</td>
<td>August 31, 2020</td>
</tr>
<tr>
<td>PLO assessment academic year planning meeting</td>
<td>Program faculty</td>
<td>August-September 2020</td>
</tr>
<tr>
<td>Complete 2020-2021 assessment plan in Xitracs</td>
<td>Program coordinator/lead instructor</td>
<td>October 15, 2020</td>
</tr>
<tr>
<td>Midyear PLO assessment check-in with IEA</td>
<td>Director, IEA</td>
<td>January 27, 2021</td>
</tr>
<tr>
<td>End-of-year PLO assessment check-in with IEA</td>
<td>Director, IEA</td>
<td>April 28, 2021</td>
</tr>
<tr>
<td>Program meetings to discuss results</td>
<td>Program faculty</td>
<td>August 2021</td>
</tr>
<tr>
<td>Complete 2020-2021 assessment report in Xitracs</td>
<td>Program coordinator/lead instructor</td>
<td>September 31, 2021</td>
</tr>
<tr>
<td>Integrated LO assessment report submitted to academic leadership</td>
<td>Director, IEA</td>
<td>November 15, 2021</td>
</tr>
</tbody>
</table>

PLO assessment reporting

PLO assessment reports should be completed in the “programs” module in Xitracs. Each PLO report will be reviewed by the Director of Institutional Effectiveness and Assessment using the rubric provided in Appendix C (note that this rubric is also available in Xitracs). The report may also be reviewed by the program’s director or executive director. Revisions may be required to the report before it is considered complete. An example PLO assessment report can be found in Appendix D.

Course learning outcomes

Course learning outcomes, or CLOs, articulate what students should know or be able to do by the end of a course. These CLOs should be listed in course syllabi so that students know what to expect in the course. CLOs should relate to course materials, including readings, presentations, exams, assignments, projects, and other learning opportunities. CLOs should be specific enough to give the student an idea of what they will achieve throughout the course, but not so specific that they need to be updated each time an assignment or reading is slightly modified (University of Rhode Island, n.d.). For example, “Students will write a marketing plan for a product or service at a small nonprofit organization” is too specific, as a slight assignment change would require revising the CLO. “Students will write a marketing plan” is specific enough that the student knows what to expect, but general enough that the assignment can be modified slightly without requiring the CLO to be changed.

CLOs should focus on what the student knows and is able to do at the end of the course, not what the instructor will cover in the course. For example, “students will practice creating cash flow statements” is not a CLO. “Students will be able to create cash flow statements,” however, is a CLO.

Courses that are a part of a specific program of study should have CLOs that align with PLOs. Similarly, courses that are part of the A.A. program, and thus part of the general education program,
should have CLOs that align with one or more of the GLOs. This alignment ensures that students receive a coherent learning experience in which courses build program-level competencies.

Faculty are not required to complete any reporting related to CLOs. However, CLOs guide course pedagogy and should each be directly assessed through an activity that students complete during the course. The assessment module in Xitracs can be used by faculty to organize CLO-level assessment.
Assessment questions or concerns?
If you have any questions or concerns about the assessment process, or need assistance preparing assessments and/or reporting results, please contact:

Natalie Wright. Ph.D.  
Director, Institutional Effectiveness and Assessment  
(386) 754-4461  
natalie.wright@fgc.edu

Laurie Layton  
Coordinator, Research and Data Analysis  
(386) 754-4365  
laurie.layton@fgc.edu

You are also encouraged to contact the director/executive director of your academic unit if you have concerns about how academic assessment fits into your job and the goals of your program.

For more information about Xitracs, please consult the Xitracs resources course in Canvas, or contact Natalie Wright. If you need access to the Xitracs course in Canvas, contact Brandon McIntire (brandon.mcintire@fgc.edu).
References


Indiana University Center for Innovative Teaching and Learning (n.d.). Developing learning outcomes. Retrieved from https://citl.indiana.edu/teaching-resources/course-design/developing-learning-outcomes/


Appendix A: Curriculum Map Template

Florida Gateway College

Curriculum Map

Please indicate whether each outcome is introduced (taught for the first time at an introductory level), reinforced (taught at a higher level with opportunities to practice), or mastered (the highest level of instruction the student will receive in the program). A course in which an outcome is mastered is the course in which an outcome should be assessed. With the exception of certificate programs, there should not be any courses in which content is introduced, reinforced, and mastered. It should take more than one course to move from introductory-level to mastery-level content.

Program:

Program learning outcomes:

<table>
<thead>
<tr>
<th>Core Program Courses</th>
<th>PLO 1</th>
<th>PLO 2</th>
<th>PLO 3</th>
<th>PLO 4</th>
<th>PLO 5</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

I = introduced, R = reinforced, M = mastered
# Appendix B: Rubric: GLO assessment report rubric

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Meets expectations</th>
<th>Approaching expectations</th>
<th>Developing</th>
<th>Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment methods</strong></td>
<td>Signature assessments are used in all associated courses. Assessments clearly measure relevant learning outcome. Assessments are clearly described.</td>
<td>Lower-quality assessments are used in several courses. Most assessments clearly measure relevant learning outcome. Most assessments are clearly described.</td>
<td>Most courses used poor-quality assessments. Most assessments do not clearly relate to learning outcome. Most assessments are vaguely described.</td>
<td></td>
</tr>
<tr>
<td><strong>Performance goals</strong></td>
<td>Specific and measurable goals are provided for all assessments. Goals are aligned with assessment methods. Goals are realistic and based on available past performance data.</td>
<td>Specific and measurable goals are provided for some assessments. Goals are generally aligned with assessment methods. Some goals are unrealistic and not based on analysis of past performance data.</td>
<td>Vague goals are provided for most assessments. Most goals do not align with assessment methods. Most goals are unrealistic and are not based on analysis of past performance data.</td>
<td></td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>It is clear whether the performance goal was achieved. Results align with assessment methods. Results reported for all assessments in the appropriate level of detail. All results are presented numerically. Results are well-organized.</td>
<td>It is usually clear whether the performance goal was met. Results generally align with assessment methods. Sufficient detail is provided for most results. Most results are presented numerically. The results are somewhat disorganized.</td>
<td>It is difficult to determine if the performance goals were met. Many results do not align with assessment methods. Most results are not presented with sufficient detail. Most results are not presented numerically. The results are disorganized.</td>
<td></td>
</tr>
<tr>
<td><strong>Planned actions</strong></td>
<td>Actions listed for all courses where the performance goal was not met. All planned actions are listed in detail, including the timeline, the person responsible for the action, and the budget (if applicable) that will be used to support the action. All planned actions have a clear relationship to student learning. It is clear how all actions will be assessed to determine their effect on student learning.</td>
<td>Actions listed for most courses where the performance goal was not met. Some planned actions are missing key details, such as the timeline, responsible person, or budget information. Most planned actions have a clear relationship to student learning. It is unclear how some actions will be assessed to determine their effect on student learning.</td>
<td>Few or no actions listed, even when performance goal was not met. Planned actions are vague and missing key details, such as timeline, responsible person, and budget. It is not clear how most actions relate to student learning. A plan to assess the effect of the actions on student learning is not included.</td>
<td></td>
</tr>
<tr>
<td><strong>Analysis &amp; reflection</strong></td>
<td>A clear analysis of all assessment results is included. The analysis is tied directly to the assessment results and identifies implications for each course, the GLO specifically and the general education curriculum broadly. The analysis discusses planned actions in depth and explains how these will improve student learning.</td>
<td>A generally clear analysis of assessment results is included, although some results aren't discussed in depth. The analysis is generally tied to the assessment results and identifies some implications for each course, the GLO and the general education curriculum as a whole. The analysis discusses planned actions in general terms but</td>
<td>The analysis is weak and does not discuss assessment results in depth. Few implications of assessment results for each course, the GLO or the general education curriculum are identified. Planned actions are not discussed or are only briefly mentioned.</td>
<td></td>
</tr>
</tbody>
</table>
does not clearly explain how they will improve student learning.
### Appendix C: Rubric: Academic assessment report rubric

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Meets expectations</th>
<th>Approaching expectations</th>
<th>Developing expectations</th>
<th>Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student learning outcomes</strong></td>
<td>All outcomes are clearly stated. All outcomes are measurable. All outcomes are appropriate for program and level.</td>
<td>Most outcomes are clearly stated. Most outcomes are measurable. Most outcomes are appropriate for program and level.</td>
<td>Most outcomes are not clearly stated. Most outcomes are not measurable. Most outcomes are not appropriate for program and level.</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment methods</strong></td>
<td>All learning outcomes are assessed. Signature assessments are used to assess all learning outcomes. Assessments clearly measure relevant learning outcome(s). Assessments are clearly described.</td>
<td>All learning outcomes are assessed. Lower-quality assessments are used to measure some learning outcomes. Most assessments clearly measure relevant learning outcome(s). Most assessments are clearly described.</td>
<td>Not all learning outcomes are assessed. Most learning outcomes are assessed using poor-quality assessments. Most assessments do not clearly relate to learning outcome(s). Most assessments are vaguely described.</td>
<td></td>
</tr>
<tr>
<td><strong>Performance goals</strong></td>
<td>Specific and measurable goals are provided for all assessments. Goals are aligned with assessment methods. Goals are realistic and based on available past performance data.</td>
<td>Specific and measurable goals are provided for some assessments. Goals are generally aligned with assessment methods. Some goals are unrealistic and not based on analysis of past performance data.</td>
<td>Vague goals are provided for most assessments. Most goals do not align with assessment methods. Most goals are unrealistic and are not based on analysis of past performance data.</td>
<td></td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>It is clear whether the performance goal was achieved. Results align with assessment methods. Results reported for all assessments in the appropriate level of detail. All results are presented numerically. Results are well-organized.</td>
<td>It is usually clear whether the performance goal was met. Results generally align with assessment methods. Sufficient detail is provided for most results. Most results are presented numerically. The results are somewhat disorganized.</td>
<td>It is difficult to determine if the performance goals were met. Many results do not align with assessment methods. Most results are not presented with sufficient detail. Most results are not presented numerically. The results are disorganized.</td>
<td></td>
</tr>
<tr>
<td><strong>Planned actions</strong></td>
<td>Actions listed for all learning outcomes where the performance goal was not met. All planned actions are listed in detail, including the timeline, the person responsible for the action, and the budget (if applicable) that will be used to support the action. All planned actions have a clear relationship to student learning. It is clear how all actions will be assessed to determine their effect on student learning.</td>
<td>Actions listed for most learning outcomes where the performance goal was not met. Some planned actions are missing key details, such as the timeline, responsible person, or budget information. Most planned actions have a clear relationship to student learning. It is unclear how some actions will be assessed to determine their effect on student learning.</td>
<td>Few or no actions listed, even when performance goal was not met. Planned actions are vague and missing key details, such as timeline, responsible person, and budget. It is not clear how most actions relate to student learning. A plan to assess the effect of the actions on student learning is not included.</td>
<td></td>
</tr>
<tr>
<td><strong>Analysis &amp; reflection</strong></td>
<td>A clear analysis of all assessment results is included. The analysis is tied directly to the assessment results and identifies</td>
<td>A generally clear analysis of assessment results is included, although some results aren't discussed in depth. The analysis is</td>
<td>The analysis is weak and does not discuss assessment results in depth. Few implications of assessment results for the program and its</td>
<td></td>
</tr>
<tr>
<td>generally tied to the assessment results and identifies some implications for the program and its students. The analysis discusses planned actions in general terms but does not clearly explain how they will improve student learning.</td>
<td>students are identified. Planned actions are not discussed or are only briefly mentioned.</td>
<td>implications for the program and its students. The analysis discusses planned actions in depth and explains how these will improve student learning.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: PLO
assessment example

Test program

**Cycles included in this report:**
Oct 1, 2019 to Sep 30, 2020
**Program Name: Test program [Test_program]**

**Reporting Cycle: Oct 1, 2019 to Sep 30, 2020**

**Student learning outcome  Writing**
Students will write technical documents.

**Assessment method**
In PSYC 2222, students will design and conduct an experiment to test a hypothesis about human behavior. They must write a technical report that includes a brief literature review, a hypothesis, the experimental method, the results of the experiment, a brief discussion and conclusion, and references. The report is graded using a rubric (attached).

**Assessment method**

**Performance goal**
80% of students will earn a score of at least 75% on the final technical report. In the past 3 years that this course has been taught, approximately 70% of students earned a 75% on the report. However, the course curriculum has been updated significantly for this year, and it is expected that this change will improve performance.

**Results**
72%

**Performance goal achieved?**

No

**Planned actions**
The course curriculum underwent significant change last year in part to improve students technical writing. However, it is clear that students need additional exposure to technical writing throughout the program. Beginning next fall, a technical writing project will be added to PSYC 1103 and PSYC 1104. Dr. Jane Jones, the primary instructor for both courses, will create a task force in spring 2021 to plan these changes. She will then implement them in the courses by spring 2022. Student performance on the PSYC 2222 report will be assessed for 2 years following the change to determine if the change to courses earlier in the curriculum improves student performance on the final technical report in the program.

**Budget**
$0

**Budget index and GL code**
Analysis and reflection

While the curriculum change in PSYC 2222 substantially improved students' performance on the technical report, students are still not meeting performance expectations. Incorporating more technical writing content in PSYC 1103 and 1104 will hopefully improve students' technical writing skills prior to their enrollment in PSYC 2222. If this change is not effective, we may explore creating a program-specific course focused exclusively on technical writing.

Program faculty are still struggling with overseeing research projects in PSYC 2222, as it is very difficult for students to create a testable hypothesis, find participants and gather data, and write a final technical report in a single semester. Each year, a number of students perform poorly on the research design PLO and in PSYC 2222 because they must rush their data collection and reporting. Beginning in fall 2021, each section of PSYC 2222 will conduct a survey-based research project as a class for a local organization in the community. This will reduce the time pressure students face while still giving them the opportunity to develop research skills in an applied setting. This change will also give the community more exposure to the program and its students, which may improve student recruitment and potentially students' ability to find work in the community after graduating.