Assessment Group[*] Core Competency Report

AY: 2022-2023

Core Competency: Quantitative Reasoning

Introduction

Woodbury University has implemented a model for collecting and reporting student achievement on the 5 Core Competencies (CC) for undergraduates. The model is meant to allow programs to assess each competency in a way most meaningful for their students.

The model calls for the Assessment Group (AG) to collect the results of program-level assessment and then synthesize the results for the university. In 2019-20, the AG began a process to provide programs feedback on their assessment activities and to highlight exemplary assessment activities. This is done via a brief summer meeting among the program chair, their assessment officer, and the Faculty Director of the Innovative Teaching and Learning Center.

This report will first describe the process the AG engaged in to synthesize the results submitted by each program in their summary report in spring. Next, the report presents the results of program level assessment at the university level. Finally, the report presents action items that any program can take to improve student achievement on the core competency.

Outcome(s)

In this report, the CC we are reporting on is Quantitative Reasoning (QR). Examples of outcomes for this CC include, but are not limited to:

- ✓ Ability to explain information presented in mathematical forms
- ✓ Ability to convert relevant information into various mathematical forms
- ✓ Ability to make judgments and draw appropriate conclusions base on the quantitative analysis of data, while recognizing the limits of this analysis
- ✓ Calculation
- ✓ Ability to make and evaluate important assumptions in estimation, modeling, and data analysis
- ✓ Expressing quantitative evidence in support of the argument or purpose of the work

Processes used to synthesize program level CC Assessment

In spring 2023, 7 programs submitted a summary of their QR assessment to their school's ePortfolio Coordinator or to the Faculty Director of the Innovative Teaching and Learning Center. The ePortfolio Coordinator compiled the CC QR summaries in Digication. Synthesizing findings across programs was challenging for the AG largely due to issues of validity and reliability in the results. Our goal as the AG is to consider the findings as best we can and focus on the big picture. In the future, the AG needs to consider improving the methods used by programs when assessing core competencies, particularly considering programs that are low enrolled.

The Faculty Director of the Innovative Teaching and Learning Center compiled and summarized the AG's responses to the following 4 questions for each program:

[*] The Assessment Group comprises representatives of the three Schools, the College, the Library, Academic Affairs, the ePortfolio Coordinator, and the Faculty Director of the Innovative Teaching and Learning Center.

1. What were the program's findings related to this Core Competency?
2. What was the program's need for additional resources?
3. Did the program describe excellent practices in assessment we want to share with other programs?
4. Were there issues or challenges in assessment we want to address with the program?

This report will cover the AG's responses to question 1 in the Results section; then some attention is paid to the AG's responses to questions 2-4 in the Close the Loop section. Finally, recommendations for improving QR are offered.

Closing the Loop. The AG completed 2 steps to close the loop for Quantitative Reasoning assessment. First, the Faculty Director of the Innovative Teaching and Learning Center met with programs individually to review the AG's feedback on questions 3-4: areas of strength and need for resources for improvement, as gathered from the summary descriptions.

At the aggregated level, areas of assessment strength and need for improvement are presented here:

Assessment process strengths included, but were not limited to:

- Having more than one faculty member involved in assessment activities
- Using an effective rubric
- Having a strong close-the-loop process
- One program (AVFX) made a good attempt to use Moodle to assist with assessment

Assessment process areas for improvement included, but were not limited to:

- Increasing the sample size of student evidence to improve reliability of findings
- Defining and more clearly providing examples of the scope of QR
- Coordinating and aligning QR with ULO 3.2: Interpret and/or apply quantitative reasoning relevant to discipline
- Developing a more thorough and sustainable process for assessing QR

The second step of the close the loop process was this report, drafted by the Faculty Director of the Innovative Teaching and Learning Center and sent to the AG for their recommendations to the university. It is being disseminated to all faculty, chairs, and deans. In addition, this annual Close the Loop Report is available on the Innovative Teaching and Learning Center SharePoint site.

Results

What conclusions might we draw from the assessment findings regarding our students' performance? Here we describe the strengths and areas for improvement that were common across programs. It is important to keep in mind that each program had their own student evidence and rubric for judging that evidence.

Student *strengths* in Quantitative Reasoning

- Across all disciplines assessing QR, the majority of students were proficient in QR according to the department standards.

- Of note, in the Architecture program, all students met or exceeded QR expectations.
- Fashion Design and Interior Design had particularly interesting methods to assess QR, applying technical data to generate realistic solutions to meet the conditions of human ergonomics—Fashion Design used clothing patterns and Interior Design used construction documents.

Student *areas for improvement* in Quantitative Reasoning

- Students in Psychology often did well on quantitative questions on exams, but didn't apply quantitative reasoning confidently to independent projects.
- In Interdisciplinary Studies, most students need one-on-one guidance to design quantitative research projects and interpret data for their projects.

Assessment to Action: Recommendations for the University

In this section, we report possible actions for improving student achievement in Quantitative Reasoning across programs. The first set of recommendations was gleaned from the programs' proposed and/or completed action steps reported in their summary report. The second set of recommendations comes from the AG.

Recommendations from the Programs
Better connect QR to real world situations. Many students do well when assessed in testing situations, but aren't connecting QR to their senior projects, or having trouble developing quantitative methods for specific situations and interpreting real world data.
Scaffolding assignments and adjusting the language used in assignments.

Recommendations from the Assessment Group
Programs that are assessing QR should show how this is being done at or near graduation. AG should revise the summary report form to explicitly ask about this.
AG can better define and give examples of QR so that more programs participate and identify how QR can connect to their discipline.
AG should help devise ways to increase N (participation) for assessment. (N was typically in the single digits for each program.)