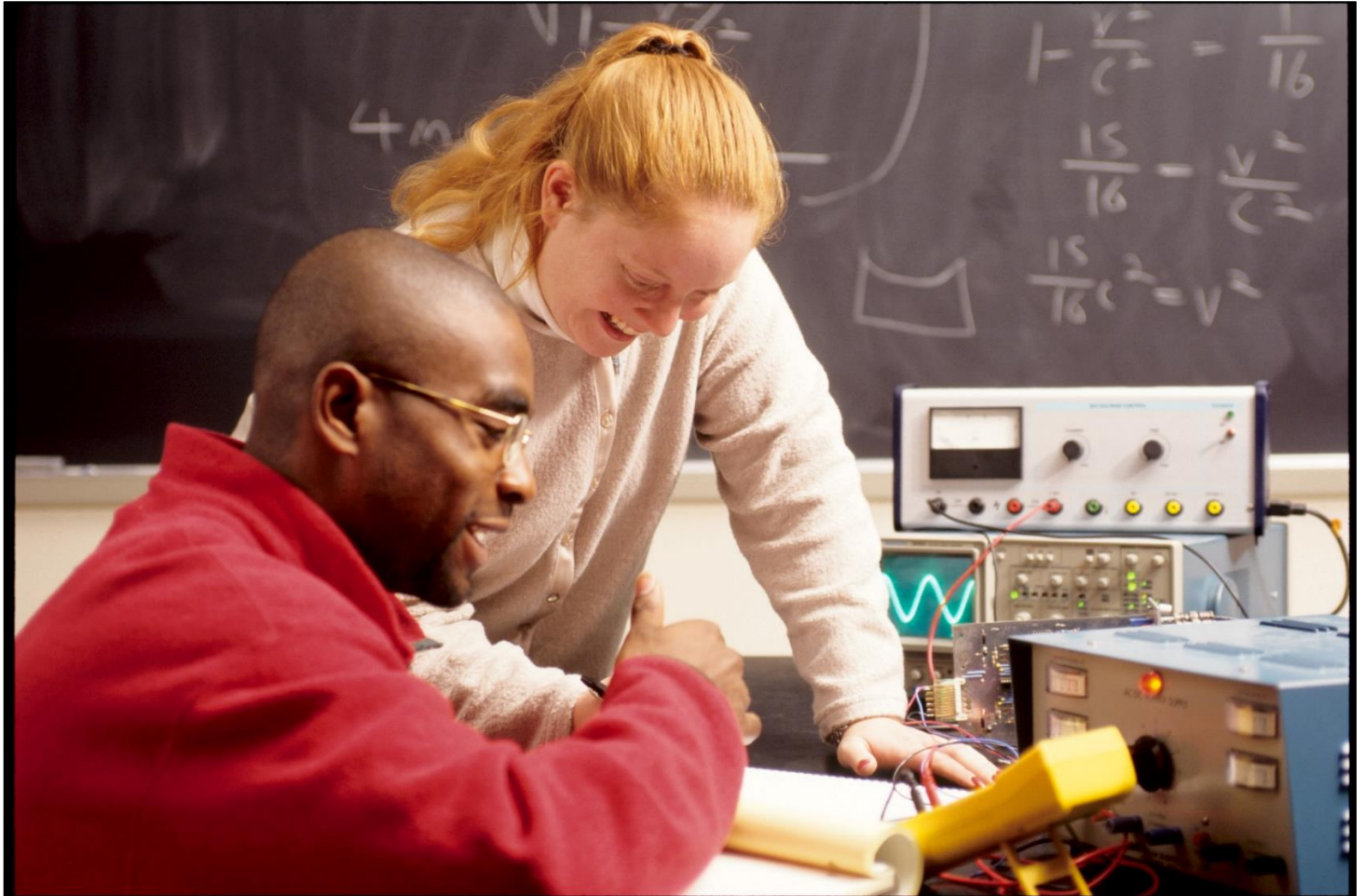


# Quantitative Reasoning Competency at Longwood University



**REPORT: SCHEV  
Core Competency  
Assessment & Planning  
for Improvement**

Report Years:  
2019-20 to 2021-22

*Prepared by Longwood QR Competency Faculty Lead and AIR Staff*

# Overview



How is this core competency defined at Longwood?

QR is the ability to analyze which quantitative reasoning methods best address different types of questions and apply them to various problems in context.

**Representation:** formulate a question/issue using appropriate mathematical, algorithmic, and/or statistical terms, and explain the decision process behind the choices made in that formulation.

**Solving Problems:** use mathematical, algorithmic, and/or statistical methods to gather and/or analyze data. Justification of the methods chosen should be included.

At the completion of the Pillar course, students will be able to:

**Reasonableness:** determine the reasonableness of an answer and/or evaluate the explanations of data for reasonableness. Understand the limitations behind the methods used in the previous outcome.

**Close the Loop:** interpret the results of a mathematical, algorithmic, and/or statistical analysis. Present the interpretation in a context appropriate for a broader audience.



How are Longwood students able to develop the knowledge and/or abilities expected of this competency?

QR is specifically addressed in the QR Pillar courses of Civitae Core. All students are required to take a QR course of their choice to satisfy the Core Foundation requirements.



# How do we know whether and how well students have achieved the competency?

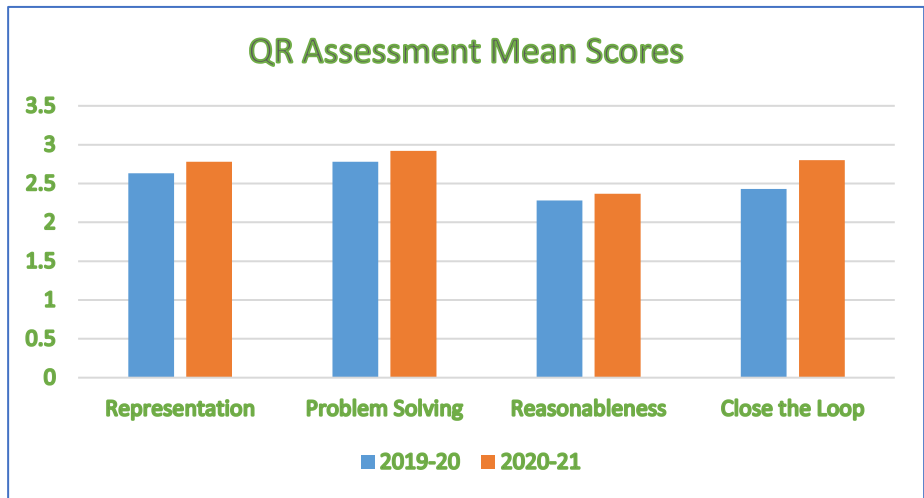
STUDENT ARTIFACTS ARE COLLECTED FROM QR PILLAR COURSES IN THE CIVITAE CORE CURRICULUM TO BE ASSESSED BY JURIED ASSESSMENT. A RANDOM SAMPLE OF THE COLLECTED ARTIFACTS ARE ASSESSED BY USING AN INTERNALLY DEVELOPED RUBRIC DESIGNED TO ASSESS EACH QR LEARNING OUTCOME. QR ASSESSORS ARE FACULTY TEACHING QR COURSES.

*Expected Level of Success*

For the Reasonableness outcome, the target mean score will be 2.75 and on each of the 3 other QR outcomes the target will be 3.0 or higher.



*Competency Assessment Results*



## Key Findings



### *Rubric Redesign*

Refining of rubric to better distinguish between factors of individual learning outcomes.



### *Assignment Design*

Targeted assignment design to align clearly with SLO and rubric



### *Writing Assessment*

Guidance desired on best practices for assessing writing while maintaining a manageable workload.

## Next Steps

How is Longwood using information to improve students' educational experience and enhance future achievement of the competency?

Action Item



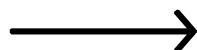
THE QUANTITATIVE REASONING RUBRIC WAS UPDATED IN 2021–2022. BEGINNING IN 2022–2023, JURIED ASSESSMENT FOR QUANTITATIVE REASONING COURSES WILL BE CONDUCTED USING THE REFORMATTED AND UPDATED RUBRIC.

CENTER FOR FACULTY ENRICHMENT STAFF LED A WORKSHOP ON BACKWARDS DESIGN, A BEST PRACTICE TECHNIQUE THAT HELPS TO ENSURE ASSIGNMENTS ALIGN WITH STATED LEARNING OUTCOMES.



Action Item

Action Item



LONGWOOD WRITING CONSULTANT LED A WORKSHOP AND MODERATED DISCUSSION OF ASSIGNMENT DESIGN, GRADING AND FEEDBACK TECHNIQUES.