



Scientific Reasoning (SR) at Longwood University

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

Report Years:
2022-23 to 2025-26

Prepared by Longwood SR
Competency Lead and AIR Staff

Overview

How is this core competency defined at Longwood?

Students will be able to use scientific reasoning to address a variety of questions in context.

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

Civitas Core SR designated courses provide experiences and activities to develop knowledge and abilities.

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

Outcome #1: Students will be able to use scientific theories, scientific models, and empirical evidence to describe and make predictions about natural phenomena.

Outcome #2: Students will use appropriate scientific practices, including making observations, asking scientific questions, formulating hypotheses, identifying relevant variables, planning and carrying out investigations, evaluating data, and drawing evidence-based conclusions.

Outcome #3: Students will be able to describe how scientific reasoning is used to address significant contemporary issues with regard to social, cultural, and/or ethical considerations.



Goals & Methods

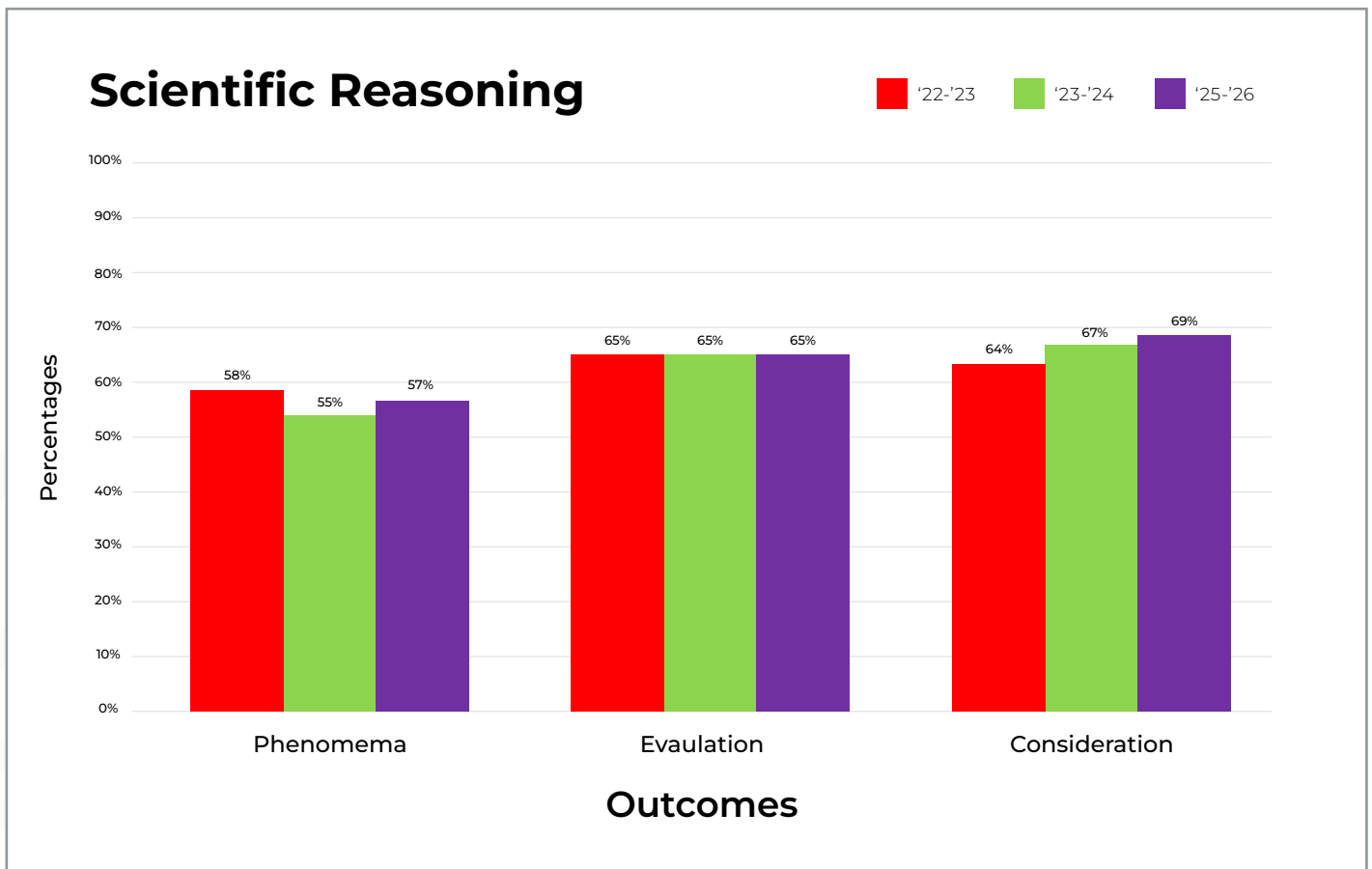
How do we know whether and how well students have achieved the competency?

All students are required to take a Scientific Reasoning course of their choice to satisfy Foundation requirements. The direct measure is carried out by utilizing a valid, reliable, and widely available selected response assessment instrument: the Madison Assessment SR Test. A segment of the student population targeted by the proposed assessment are those students who are enrolled in Fall semester SR Pillar courses.

Expected Level of Success:

70% target score for each of the three student learning outcomes.

Competency Assessment Results



Key Findings

Longwood University students have not met the target average of at least 70% in the relevant Madison Test categories in any of the past three testing years. The scores for the Evaluation and Consideration learning outcomes have been between 64% and 69% each year, but the average scores for the Phenomena test questions have been consistently below 60%.

Actions & Next Steps

Action Items and Next Steps to be determined by faculty in Professional Development workshops on August 2026.