Scientific Reasoning Workshop

06/29/2023

SR Objectives and Outcomes

Objective. 1: Apply methods of scientific inquiry effectively. (shares with SSS)

1. Understand the scope and philosophy of scientific inquiry

2. Use scientific methodology to address and/or solve a problem

3. Using knowledge of scientific methods [i.e., outcomes 1 and 2], analyze a scientific study to determine if the conclusions are appropriate (unique to SR)

SR Objectives and Outcomes

Objective. 2: Demonstrate logic and reasoning skills. (shares with CRWT, QR, CC, SSS, and VE)

1. Demonstrate logic and reasoning skills.

SR Objectives and Outcomes

Objective. 3: Apply disciplinary and interdisciplinary knowledge and skills to address complex problems. (shares with SIAH, and QR)

1. Apply disciplinary and interdisciplinary knowledge to identify key resources or steps required to address* a complex problem.

2.Utilize disciplinary or interdisciplinary skills to address* problems appropriately.

* Address may include, but is not limited to, “communicate with parties affected by complex problems,” or “investigate and understand complex problems, research methods, navigating data collections,” or “solve complex problems”

Indirect Assessment

Student Survey: Google Form

https://docs.google.com/forms/d/e/1FAIpQLSf-Qv_FO1VI19vYPMCwVgdIUwC43Kug2S5vb91R3nFx_JmHdA/viewform

Syllabus Audit

Assignment Audit

Direct Assessment

Curriculum Assessment Team (CAT) assesses student work - Rubric

https://docs.google.com/spreadsheets/d/1RHG_Y9q9qZH4ueeCBvNtVpbdOICCPN1EIW61CoMNfsg/edit#gid=0

Direct Assessment

What Works:

Lab Report

Lit Review

Journal entries

Case Studies

Q&A with long answer

Embedded questions

What does not work:

Data Sheets

Short Answer

Q/A without any work shown

Calculations (with no context)

Graphs