

# Annual Assessment Report: Quantitative Skills (QS) Committee 9 June 2021

## Introduction

The Quantitative Skills (QS) Committee consists of four faculty members drawn from across the disciplines that teach QS-coded courses: William Haden-Chomphosy (ECON), Lars Seme (MATH/CSCI), Damon Spayde (PHYS), and Leslie Zorwick (PSYC). Leslie Zorwick was on sabbatical during academic year 2020-2021 and did not participate in assessment activities. The committee held its assessment meeting at 2 PM on Wednesday, 9 June 2021. This report summarizes the findings of this year's assessment cycle.

## Assessment of Program Learning Goal 1

According to the Student Assessment Plan and associated assessment cycle that was developed during the 2019-2020 academic year, the QS committee is tasked with assessing Program Learning Goal 1 (PLG1) during the 2020-2021 academic year:

*“Upon successful completion of the requirements for the Quantitative Skills Capacity, students will be capable of interpreting quantitative ideas graphically, symbolically/algebraically, and/or numerically.”*

## Direct Assessment

As part of its work in 2019-2020, the QS committee developed direct assessment instruments to be completed by faculty teaching QS courses. (A copy of the direct assessment instrument can be found in the filed Student Assessment Plan.) This instrument asks each instructor to tally the number of students in their QS-coded course(s) achieving each of the following levels with respect to PLG1: Strong, Satisfactory, Needs Growth, Unsatisfactory, or Not applicable. This is the first time that QS faculty have been asked to provide information of this type.

In the spring of 2021 the instrument was distributed to a total of 10 faculty teaching a total of 16 courses (or sections of courses). Responses were received from 9 faculty representing 13 courses (or sections). Data were reported on a total of 246 students enrolled in QS courses in spring 2021. The majority of faculty reporting based their assessments solely on grades and exams; a few faculty also incorporated information from presentations or papers.

An analysis of the data set revealed that, overall, the QS faculty felt that 76% of students had achieved PLG1 at the Strong or Satisfactory level. The remaining 24% of students were approximately split between Needs Growth and Unsatisfactory. No instructor indicated that PLG1 was Not Applicable to their students. The overall direct assessment results, as well as results broken down by course, can be found in Figure 1.

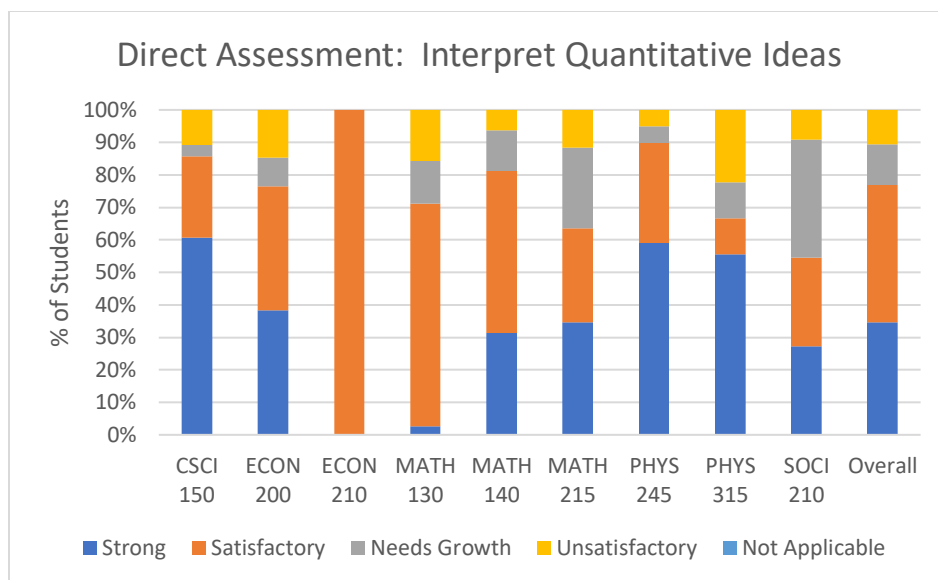


Figure 1. This stacked bar graph displays the results of the QS committee's direct assessment of students' capability to interpret quantitative ideas graphically, symbolically/algebraically, and/or numerically. Each bar indicates the fraction of students achieving a given rating (Strong, Satisfactory, Needs Growth, Unsatisfactory, or Not Applicable) in each reported QS course, and overall.

## Indirect Assessment

During the development of the QS SAP in 2019-2020, the committee also developed a question to be included on end-of-course evaluations for QS-coded courses to provide an indirect assessment of PLG1:

*"I am capable of interpreting quantitative ideas graphically, symbolically/algebraically, and/or numerically."*

Unfortunately, this question did not make it onto course evaluations in spring 2021 so there is no indirect assessment data to present. The Hendrix faculty took up the issue of including these kinds of program-specific questions during the spring 2021 semester and passed faculty handbook language that will allow for their inclusion and dissemination in future semesters.

## Use of Evidence

As evidenced by the direct assessment data presented in Figure 1, the 2020-2021 assessment results generally indicate that QS-coded courses are prepare students to satisfy PLG1. All classes for which there is data showed fewer than 50% of students were categorized as "Needs Growth" or "Unsatisfactory" with regards to PLG1. For the majority of classes that number was less than 30%. When the data are aggregated across all reporting sections, the fraction of students categorized as "Needs Growth" or "Unsatisfactory" was 24%. QS courses appear to prepare students to interpret "quantitative Ideas graphically, symbolically/algebraically, and/or numerically."

In the next academic year, 2021-2022, the QS committee will assess PLG2. With the passage of faculty handbook language regarding course evaluations it should become possible to easily collect the indirect assessment data outlined in the QS SAP. This will allow the committee to form a more well-rounded picture of the situation regarding PLG2. It is expected that committee membership will remain the same

in the upcoming academic year. Damon Spayde will not be involved in spring semester activities while he is on sabbatical; Lars Seme has agreed to serve as contact person for the committee.