Social Sciences Core Report

Office of Assessment

June 17, 2017

Introduction

The Core student learning objectives identify the educational priorities for all undergraduates in Santa Clara University's Core Curriculum. Assessment of student learning is ongoing in the Core—we seek to understand in what areas of the learning objectives students are challenged or excel, and how the Core can offer better support for faculty teaching in these areas.

This assessment report summarizes the process and findings from an assessment of the three learning objectives for the Social Sciences Core requirement. The intent behind this requirement, according to the approved Core document (2007), is that students will learn theory and concepts central to the study of a particular area of the social sciences; achieve a basic understanding of the methods and process of social scientific research, and how to distinguish it from other approaches; and demonstrate the ability to analyze social scientific problems, evaluate evidence relevant to them, and appreciate that their answers involve degrees of certainty and ambiguity.

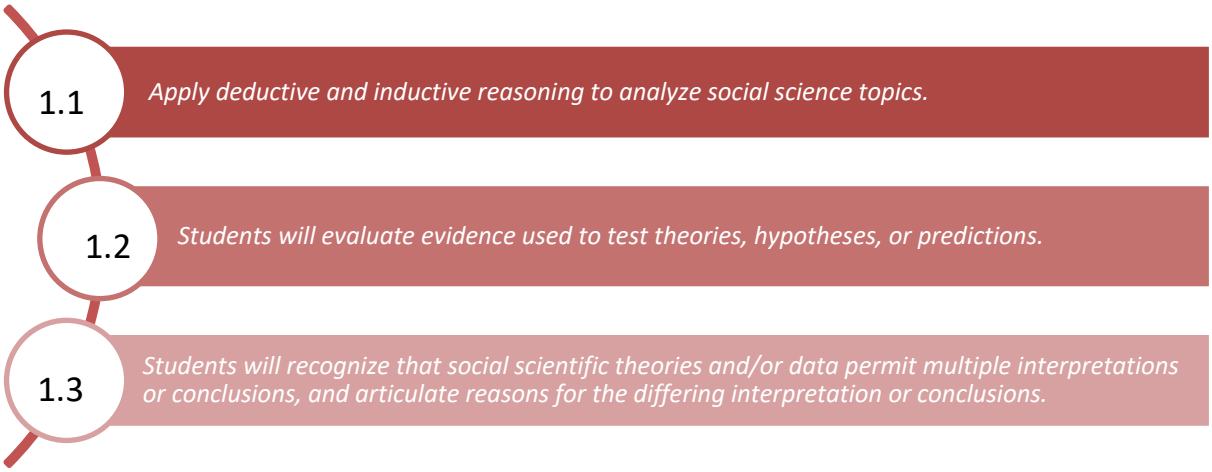
The Core learning goals motivating the social science requirement consist of:

- Scientific Inquiry: The principles of scientific inquiry and how they are applied in the natural and social sciences.
- Complexity: An approach to understanding the world that appreciates ambiguity and nuance as well as clarity and precision.
- Critical Thinking: The ability to identify, reflect upon, evaluate, integrate, and apply different types of information and knowledge to form independent judgments.
- Mathematical & Quantitative Reasoning: Analytical and logical thinking and the habit of drawing conclusions based on quantitative information.

The Assessment Process

In 2015-16, the Office of Assessment asked faculty teaching social sciences courses in the core curriculum to gather student work related to the three Social Sciences learning objectives. Student work was collected from a random sample of students from 20 of the 23 Social Science courses taught by distinct faculty during Spring quarter, 2016. Work from 17 courses could be used in the assessment. Eleven percent of the 837 students who completed Social Sciences core courses were sampled, a somewhat lower percent overall than is typical because of the number of faculty teaching multiple sections from whom we did not want to oversample.

Faculty teaching the courses identified the assignments or exam questions providing the clearest evidence for student learning with respect to the three learning objectives:



A rubric was used to score student work and student learning for each objective was scored on a four-point proficiency scale (see Appendix); however, a "0" could be used if there was no evidence that the learning objective was addressed in the student work. Five faculty and one staff member participated in two norming sessions in the Fall 2016 and Winter 2017 quarters.

After the norming sessions and discussion, two raters independently reviewed and rated all materials. Inter-rater reliability (IRR) was calculated using the software program AgreeStat® for the three learning objectives. The agreement coefficient Gwet's AC2 was interpreted, using simple ordinal weights and Landis-Koch benchmarks. IRR was 0.77 (Substantial), 0.84 (Almost Perfect), and 0.76 (Substantial) for LO1, LO2, and LO3, respectively. Given these high values, it appears the faculty raters were consistent with one another in their scoring and their use of the rubric. In the 18 instances where rater scores differed by more than 2 points, scores were reviewed by a third rater who served as a tie-breaker.

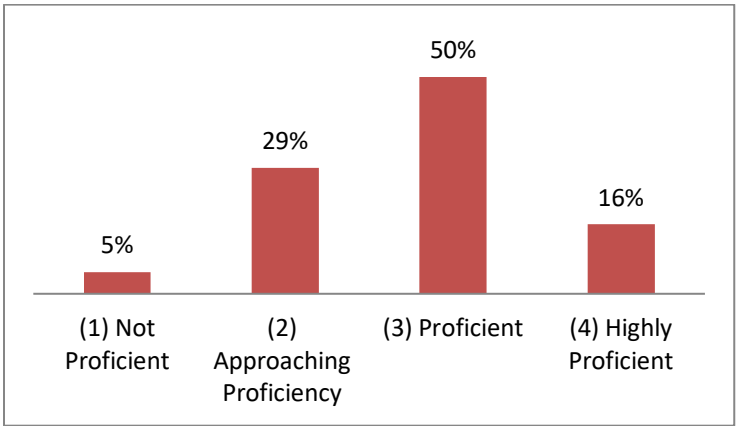
What We Learned

The scores given for work for each learning objective were tabulated and converted into percentages.

LO 1.1 *Students will apply deductive and inductive reasoning to analyze social science topics.*

Student work was generally judged as proficient or highly proficient for LO 1.1 (combined 66 percent, see Figure 1). An additional 29% of the student work was judged as approaching proficiency, and 5% was rated as not proficient.

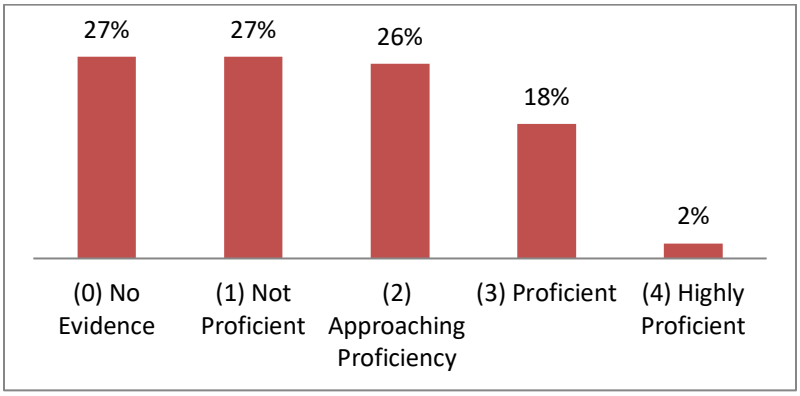
Figure 1. Percent of Rubric Scores for Learning Objective 1.1



LO 1.2 ***Students will evaluate evidence used to test theories, hypotheses, or predictions.***

This learning objective asks that students demonstrate an ability to evaluate social science evidence—a type of learning that emphasizes social scientific critical thinking. The pattern of rubric scores for LO 1.2 was much different than LO 1.1. Notably, in LO 1.2, 27% of the scores given were 0s, indicating that there was no evidence that students were addressing this learning objective in their work and 27% of the scores were rated as not proficient. Only 20% of the student work was rated as proficient or highly proficient.

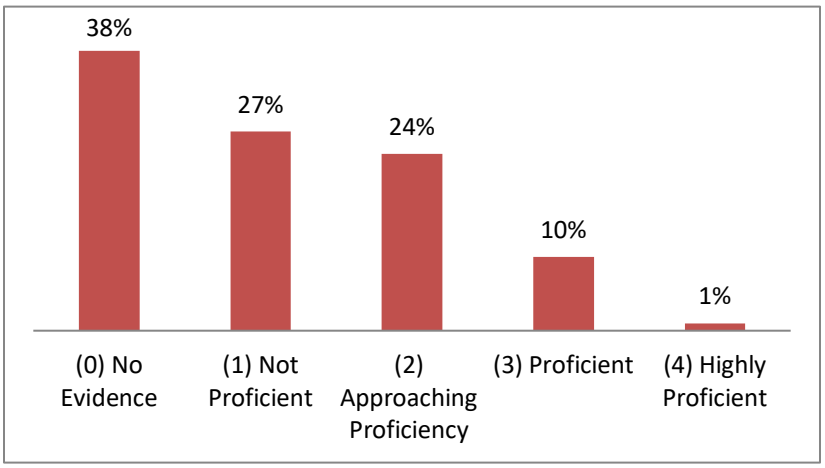
Figure 2. Percent of Rubric Scores for Learning Objective 1.2



LO 1.3 ***Students will recognize that social scientific theories and/or data permit multiple interpretations or conclusions, and articulate reasons for the differing interpretation or conclusions.***

LO 1.3 demands critical thinking and an ability to deal with complexity, and we see even more of the student work fails to show evidence for LO 1.3 (38%). Less than half of the student work received scores of approaching proficiency or stronger.

Figure 3. Percent of Rubric Scores for Learning Objective 1.3



Further Analyses

Scores were also examined by group differences to see if there were statistically significant differences by gender. For LO 1.1, males scored statistically significantly higher than females. For LO 1.2, however, females scored statistically significantly higher than males. There was no difference in scores for males or females found for LO 1.3. It should be noted that there were 34 males in the sample and 62 females. Scores were further examined by group difference to see if there were statistically significant difference by race/ethnicity, but no differences were found.

All course assignments provided (n=14) were reviewed to examine how well the assignments aligned with the three LOs. The assignments were evaluated using a three-point scale (1 = do not align, 2 = partially align, 3 = fully align) applied to each LO. The assignments were most aligned with LO 1.1: 12 of the 14 courses' assignments were found to fully align with LO 1.1. However, only 5 course assignments fully aligned with LO 1.2 (with 3 not aligning at all), and only 2 out of 14 aligned fully with LO 1.3, with 8 not aligning at all.

Table 1 presents the means in student proficiency for each LO according to the course alignment rating. The strongest evidence for student learning is found for assignments that offered students the clearest opportunity to demonstrate their learning, as is particularly evident in the 1.2 and 1.3 learning objective where student learning reaches its highest levels when assignments are fully aligned.

Table 1. Assignment Alignment of Social Science Courses with LO 1.1, LO 1.2, and LO 1.3

Assignments Alignment with LO	LO 1.1 Mean	LO 1.2 Mean	LO 1.3 Mean
1 – Do not Align	NA	1.03	0.87
2 – Partially Align	2.82	1.18	1.20
3 – Fully Align	2.83	2.05	2.32

Conclusions

The scores from the Social Science core assessment indicate that the student work shows considerable evidence of meeting LO 1.1— two-thirds students demonstrate proficiency in their ability to apply deductive and inductive reasoning to analyze social science topics, with another 29% approaching proficiency.

On the other hand, student work is not sufficiently meeting LO 1.2 and LO 1.3. The first concern is the high percentage of student work that did not address these objectives at all. Secondly, of the work that did address the objectives, over 25 percent was rated as not proficient according to the rubric standards. It may be that the assignments selected by faculty for this assessment did not ask the students to explicitly address the kind of learning in LO 1.2 and 1.3, and thus, the assessment underestimates students' ability to evaluate evidence and recognize and articulate multiple interpretations and conclusions in scientific theories.

The faculty members who helped score the work raised other issues that can guide further discussion among all faculty teaching in this area. They observed that LO 1.2 and 1.3 are challenging objectives for the students and may be difficult to teach in introductory courses. Recommendations from the norming session included reexamining the learning objectives (and their measurement) so they are more appropriate for the students' ability level in lower division courses where many of the social science core courses are taught; reviewing the natural science core learning objectives (which are quite similar) and considering whether they provide a clearer and more appropriate level of learning for the social science core; and initiating more discussion with faculty teaching in the area about assignments that can better promote and capture student learning for these two objectives.

Furthermore, course syllabi were reviewed for their inclusion of the social science learning objectives. The LOs were revised slightly for clarity by the Faculty Core Committee in 2016, but 10 of the 14 syllabi reviewed contained the old version of the LOs and four course syllabi did not list the Social Science core LOs at all. It is important for faculty to review their syllabi and make sure the current core LOs are present on their syllabi. All current learning objectives can be found on the Core website.

Faculty members who teach in this area have expressed strong interest in meeting to discuss the results in Fall, 2017. There is particular interest in discussing the learning objectives in cross-disciplinary groups.

Acknowledgments: The Office of Assessment thanks the Social Sciences FCC, the faculty teaching Core courses who participated in the assessment, the faculty members who offered to serve as scorers for the student work, and our student assistants who contribute ongoing support to the assessment process.

Appendix: Scoring Rubric

Objective	Highly proficient-4	Proficient-3	Approaching proficiency-2	Not proficient-1
1.1 Apply deductive and inductive reasoning to analyze social science topics.	Consistently and thoughtfully uses deductive and/or inductive reasoning as the basis for analysis of a topic, providing a well-developed and logical analysis of a topic with conclusions that follow from deductive and/or inductive reasoning.	Analysis is based in deductive and/or inductive reasoning as the basis for analysis of a topic, and provides a reasonable analysis of a topic with conclusions consistent with deductive and/or inductive reasoning, although there may be some gaps throughout.	There is some analysis of the topic, but it is not clearly grounded in inductive or deductive reasoning. Draws reasonable and plausible conclusions, but these are not the product of deductive and/or inductive reasoning.	Topic is presented very descriptively, without a logical analytic framework. Limited conclusions given that indicate an understanding of principles of deductive and/or inductive reasoning.
1.2 Evaluate evidence used to test theories, hypotheses, or predictions.	Thoroughly and systematically evaluates evidence for accuracy, limitations, and relevance to concepts, theories, hypotheses, or predictions.	Evaluates evidence for accuracy and relevance, with some attention to limitations for how it applies to concepts, theories, hypotheses, or predictions.	Offers some evaluation of evidence of the accuracy, relevance, or limitations for concepts, theories, hypotheses, or predictions, but it may be incomplete or at a fairly general level.	Provides very limited analysis of evidence; what is provided may lack relevance, specificity, and accuracy for concepts, theories, hypotheses, or predictions.
1.3 Recognize that social scientific theories and/or data permit multiple interpretations or conclusions, and articulates reasons for the differing interpretation or conclusions.	Thoroughly and clearly articulates more than one interpretation or conclusion that can be drawn from a theory or body of data. Offers in-depth, sophisticated explanation for how and why these interpretations or conclusions are plausible based on relevant theoretical assumptions, methodologies used, or strength of data.	Describes more than one interpretation or conclusion that can be drawn from a theory or body of data. Offers an explanation for how and why the interpretations or conclusions differs based on relevant theoretical assumptions, methodologies used, or strength of data, but these explanations may lack depth.	Describes more than one interpretation or conclusion that can be drawn from a theory or body of data, although one may be more fully or accurately described than another. Offers limited explanation for how and why the interpretations or conclusions differ based on relevant theoretical assumptions, methodologies used, or strength of data.	Describes more than one interpretation or conclusion from a theory or body of data, but no explanation is offered.

Scorers will use a “0” when student work provides no evidence that the learning objective was actually addressed.