

**CALIFORNIA STATE UNIVERSITY STANISLAUS
DEPARTMENT OF SOCIOLOGY
ASSESSMENT MODEL**

Introduction

The purpose of assessment in education is to create a model that can quantify the degree of program success annually in separate target areas. It is dynamic in nature, rather than static, because it requires annual reflection of both program quality and the assessment model on the question of whether revision of either is warranted. As such, it is an on-going quality control process rather than a final result to be filed away.

In the sociology major, there are five core targeted areas to be assessed individually and collectively. They are Classical Theory, Contemporary Theory, Research Methods, Research Analysis, and Social Stratification. The latter is titled “Social Inequalities” at this University. These five courses are required of all sociology majors before graduation. Student achievement in these courses will be assessed by pre-tested during introduction to sociology classes and post-tested among graduating seniors just before graduation. In short, assessment should drive future instruction.

Theory

This section briefly reviews the contents of the five courses that are required for all sociology majors and are targeted in the assessment model.

Classical Sociological Theory. This course starts with the social philosophers of the Renaissance who influenced the birth of sociology along with August Comte, who in turn, influenced the work of Karl Marx, Max Weber, and Emile Durkheim—the three most influential scholars of the 19th century on modern sociology. They gave sociology what became known as positivism, empiricism, and the scientific method that persists to this day.

Contemporary Sociological Theory. This course starts with the work of the early 20th century sociologists, (primarily but not exclusively at Harvard and the University of Chicago), who “stood on the shoulders” of Marx, Weber, and Durkheim. They developed the concepts of social structure and social process; two macro-level theories called structural functionalism and conflict or critical sociology; and a micro-level theory called symbolic interaction with the later becoming the foundation of modern social psychology. Competing theories have never been “proven” right or wrong, but rather have fallen into or out of favor as advances in theory and empirical evidence have developed.

Social Inequalities. This course introduces students to the concept of social stratification by examining the differences in wealth, power, and prestige of the social

classes with a focus on American culture. The five major social institutions—family, education, religion, economics, and political—have boundaries, balance, and interdependence when maintaining social system survival. This involves the development of different norms and values across the social classes that explain the dynamics of both social structure and social process.

Research Methods. This course introduces the student to both quantitative and qualitative methodology. The quantitative portion focuses on the strengths and limitations of the various designs—pre-scientific, quasi-experimental, experimental, and correlational—along with the issues of hypothesis testing, reliability, validity, sampling, and generalization from samples to populations. The qualitative portion focuses on the techniques and value of participant observation and case studies. The goal of this course is to build on sociology theory and hypotheses to the point where the student has the ability to read, comprehend, and appreciate original sociological research articles.

Research Analysis. This course introduces the student to measures of central tendency—the mean, median, and mode—as well as measures of dispersion such as the standard deviation in the beginning of the course. It is followed by hypothesis testing using nominal data (chi square), nominal-interval data testing (t-tests and ANOVA), and interval variable testing (Pearson's r) as well as other inferential tests.

Core Course Summary. These above concepts found within these five courses are representative examples of specific target assessment variables. They are not intended to be exhaustive. They are illustrative. Ten questions related to 10 core concepts in each of the 5 courses will be developed for assessment. However, these questions and the most important core areas within each subject may change over time due to annual re-evaluation of what is most important for undergraduates majoring in sociology.

Assessment Methodology

Research Design. The selected design for the departmental assessment is one of the quasi-experimental designs first published by Stanley and Campbell in their 1966 text, *Experimental and Quasi-Experimental Designs for Educational Institutions*. More specifically, the design is their pre-test, post-test, non-random assignment to group trial that only deviates from the design of the randomized controlled trial, (RCT), by not assigning subjects to the control or intervention group by a randomized process. That shortcoming increases the risk that the two groups are not equivalent at baseline. There have been three important developments in research and statistics since the 1960s that apply to this selected design.

First, there has been no increase in the types of research designs since 1966. This is important because there are no other designs to consider.

Second, since the first RCT was published in 1947 by Abraham Hofer, there have been gradual improvements in RCT designs leading up to the 23 requirements adopted

by 67 peer-reviewed publications for RCT designs. [JAMA, 2003 *****]. It follows that this assessment will follow the RCT methodological design requirements for CONSORT publications with the exception of random assignment to group making the design as rigorous as possible. For example, simple measures of association or correlation leave unanswered the question of whether the relationship between educational performance and desired outcome is causative or spurious due to rival causal factors. As the Director of NIH stated, “It is easy to fool yourself about efficacy if you haven’t done a proper controlled trial.” [Science, 2000: 289, 5479; 573-574]. It is the goal of this department to meet, or almost meet, that NIH standard.

Third, the most popular statistical procedure through the 1980s for examination of both quasi-experimental and RCT designs was Analysis of Variance (ANOVA). However, by 1990 biostatisticians replaced this statistic with Analysis of Covariance (ANCOVA). Their reasoning was straightforward. Since no design, including RCTs, assures baseline equivalence on all variables, ANCOVA eliminates the effect of any baseline non-equivalence on every measured variable before assessing the effect on any outcome variable of interest. Conceptually, it subtracts any measurable advantage in the experimental group before analysis of post-intervention differences.

The primary ANCOVA shortcoming is the increased risk of failing to reject the null hypothesis when it should have been rejected. In other words, the primary limitation of ANCOVA is that effect size of education may be under-estimated due to the lack of baseline control of important variables that were not measured. Minimization of this risk can be accomplished by including, as dichotomous nominal variables, questions as to which other courses have been taken in which knowledge in the target areas is likely to have been gleaned. Potential covariates will be developed for each of the five areas.

Six Dependent Variables. Assessment of each core area will be based on 10 multiple choice questions containing 5 choices per question. The maximum score in each core area will be 10 and the maximum in the 5 core areas combined will be a score of 50 that will be reported as percent correct. This creates 6 dependent variables.

The Independent Variable. This will be a dichotomous nominal scale: the completion or anticipated completion that semester of a core course, or not yet enrolling in a core course. The test will be administered to all student majors annually and to students in each introduction to sociology course.

Control Variables. Enrollment in any of the other 28 sociology courses will be factored out by treating them as a potential covariate. Any that are correlated with change in academic performance will be included in the final model and any that are not correlated with academic performance will be ignored. The demographic potential covariates include age, ethnicity, and gender. The sole academic potential co-variates are GPA in the major and overall GPA.

Hypotheses. There will be a statistically greater gain in the score of each core course among students who have taken each core course when compared with students

who did not take these courses before the post-test while controlling for all potential co-variates. Second, the magnitude of the gain in each of the five areas will be assessed individually and collectively since statistically significant growth is not an assurance of substantially significant growth. Third, and perhaps most important of all, the combined score and each subject area score for graduating students will be calculated and reported as aggregate data. Since proper assessment drives instruction, the last results may result in instructional revision.

In short, the three goals are to determine if academic performance growth is statistically significant, to measure and report the percent of gain, and to measure and report the final percentage correct of the graduating seniors in the five courses combined.

Questionnaire construction. Questions 1 and 7 through 33 ask whether the student has taken each of the 28 sociology courses the department offers other than the 5 core courses. These will be coded as 0 or 1 and serve as potential co-variates. It is presumed that completion of some will be associated with performance in core courses and may need to be controlled while others may not be associated with core area performance.

Questions 2 through 6 ask whether the student has taken each of the 5 core courses. Whether the survey is treated as a potential pre-test or a post-test for each of these courses depends on whether or not the course in question has been taken and whether the examination has been taken before. Obviously, in order for the examination to be used as a post-test, there must have been a previous pre-test.

The demographic covariates of age, ethnicity, and gender will not be asked on the survey, but will be retrieved from departmental files and recorded in an SPSS file by student ID rather than student name to ensure anonymity. GPA in the major and overall will be retrieved from the same departmental file.

The next 50 questions, numbers 34 through 83, will include 10 questions each on each of the five courses of interest. Since there are 100 spaces for correct answers on "Scantron" 882, that leaves space for 17 discretionary questions.

For the pre-test, 20 questions have been selected for the research methods area instead of 10. They include measurement of knowledge in the following areas: (1) spurious relationships; (2) random selection for generalization purposes; (3) the dominance of correlational research in sociology; (4) random assignment to group for the purpose of baseline equivalence; (5) the letters than convention dictates for independent and dependent variables; (6) causality conclusions require randomized controlled trials; (7) meta-analysis; (8) dependent v. independent variables; (9) replication; (10) pure v. applied research; (11) conceptualization and operationalization precedes variable construction; (12) hypotheses; (13) theory; (14) variables; (15) values; (16) validity; (17) steps to demonstrate causality; (18) Hawthorne Effect; (19) classical research design; and (20) time-series designs.

Statistics. The main results will consist of five analysis of co-variance in the core areas with 28 potential co-variates, demographic potential co-variates, and GPA co-variates that may be included in the final model if statistically significant at the .01 level. The magnitude of change in percentage and percentile correct at the post-test on the combined scores will also be reported. The dynamic aspect will include an analysis of how well the students perform on individual concepts within each scale that might necessitate instructional changes and/or measurement changes.