

Los Medanos College Path2Stats (formerly Statpath)

Path2Stats is an intensive one-semester developmental math course that accelerates students' preparation for college-level Statistics. The course has no prerequisite and offers students in majors that are not math intensive the opportunity to complete their transfer math requirements in two semesters (Path2Stats + Statistics), regardless of math placement. (For students assessing 2 to 4 levels below college math, this is a pathway to and through college math that is 1 to 3 semesters shorter.) Path2Stats replaces the traditional set of algebraic skills that prepare students for the study of calculus, with quantitative reasoning skills pertinent to the study of statistics. Students learn to formulate questions that can be addressed with data, then organize, display and analyze relevant data to address these questions and communicate results. Remediation is "just-in-time" within the context of data analysis, which motivates students to learn pre-collegiate skills, such as how to use percentages or how to create and interpret linear and exponential models. The course uses specific activities and pedagogy to foster effective learning habits and to address affective obstacles to academic success.

Path2Stats was developed by Myra Snell as a solution to the well-documented problem of attrition in the remedial math pipeline in community colleges, a problem that disproportionately impacts students of color. Overall, Path2Stats students are 3 times more likely to complete a college-level math course when compared to students in the traditional remedial math sequence (60% vs. 19%), with rates 2 to 4 times higher than students with comparable math placement scores. Path2Stats students pass college statistics at essentially the same rate as students coming from Intermediate Algebra (73% vs. 74% with a C or better), with significantly lower drop rates than students taking Statistics with no remediation (14% vs. 20%, $p < 0.057$).¹ In learning outcomes assessment on the final exam in college Statistics, 100% of Path2Stats students were rated proficient or better on 2 of 3 learning outcomes, with 82% on the 3rd. On items from the Comprehensive Assessment of Outcomes for a first course in Statistics (CAOS), Path2Stats students' overall performance was within 3% of the national average.

The two main obstacles to implementing Path2Stats are a lack of professional support for math faculty teaching in this new pathway, and articulation guidelines requiring intermediate algebra or the equivalent as a prerequisite for college-level math courses. As of fall 2013, 21 community colleges in California have implemented localized versions of Path2Stats. Math faculty received support via a Community of Practice facilitated by the California Acceleration Project. These colleges have side-stepped the articulation issue by using existing local mechanisms that allow students to challenge prerequisites if they have the knowledge or ability to succeed in the course (see California Ed. Code § 55003, section p, item 4) or by using the Path2Stats course as a multiple measure for placement as mandated by section 55003(k).

For more information about Path2Stats, see cap.3csn.org.

¹ This data is from the first 4 sections of Path2Stats, taught by 2 instructors. Path2Stats sections are open to voluntary enrollment; roughly half of each section was comprised of students also enrolled in Puente or ACE. Puente students are Latino first generation college students. ACE is targeted at high-risk under-represented student groups. So these cohorts of Path2Stats were predominantly students of color with other factors typically associated with high-risk populations.