Carnegie Foundation for the Advancement of Teaching

CARNEGIE MATH PATHWAYS

Mt. San Antonio College

LONGITUDINAL REPORT: THROUGH 2015-2016

Pathways Report

August 2017

Carnegie Foundation, Stanford, CA

Mt. San Antonio College (Mt. SAC) Statway students consistently outperform their traditionally remediated peers.

The table below shows Mt. SAC's Statway success rates (C or better) from Fall 2011 to Spring 2016. Statway is a year-long course designed to replace the traditional developmental math sequence and provide college-level statistics course credit for non-STEM majors. Success rates ranged from 31% to 44% and averaged around 36%. By comparison, the baseline average 1-year success rate for Mt. SAC is 16%.
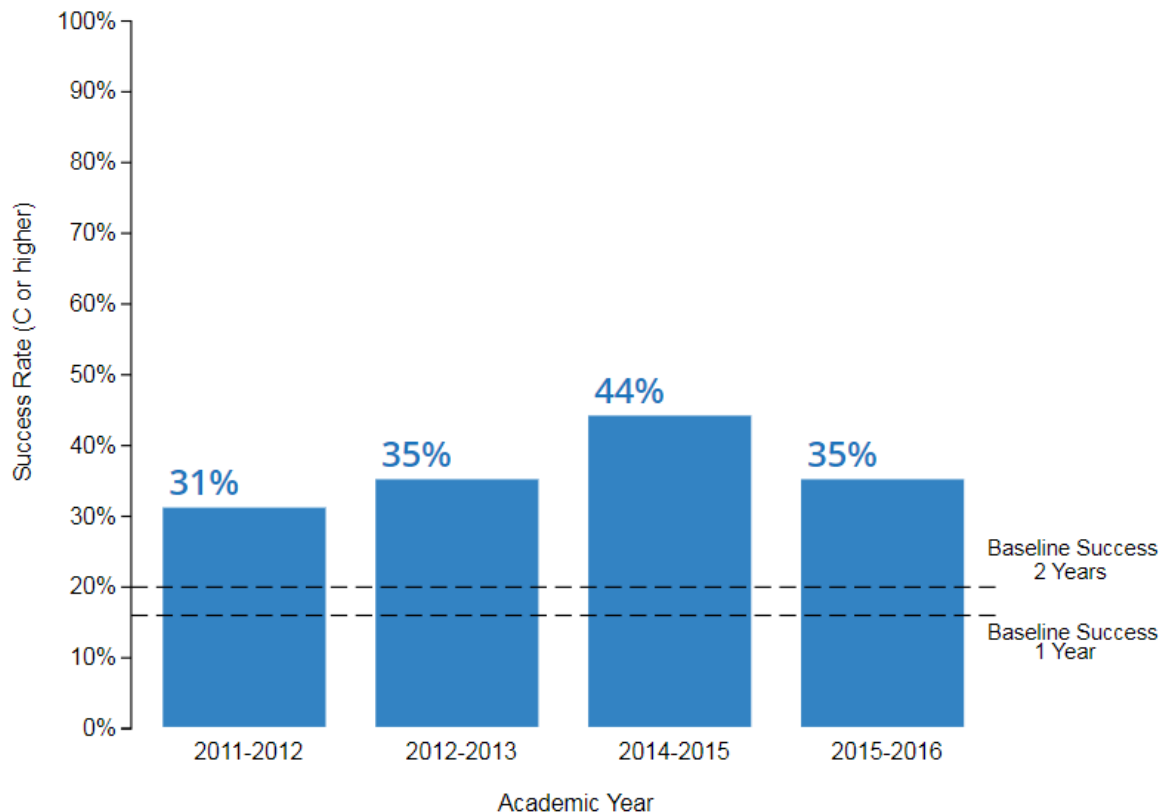
Success in a course is defined as achieving a pass in a pass/fail scheme, or a C or higher (C- if a +/- grading system is used). The denominator of the success rate includes those who received W and I. The baseline success rate represents the percent of developmental math students in the Network who successfully completed a developmental math course 1 level below college level in 1 and 2 years prior to implementation of Statway & Quantway. Data used to compute success rates for 2015-16 and after are from your faculty, whereas data for the previous years are from your institutional researcher. Data, if any, from Winter 2012 and Winter 2015 are included in Spring 2012 and Spring 2016, respectively.

MT. SAN ANTONIO COLLEGE

Longitudinal Report: Through 2015-16

A rigorous propensity score analysis, comparing matched students at Mt. SAC, shows that Statway students have, on average, had up to four times the success rate compared to their traditionally remediated peers in half the time.

Statway students consistently outperform comparison students matched from your college
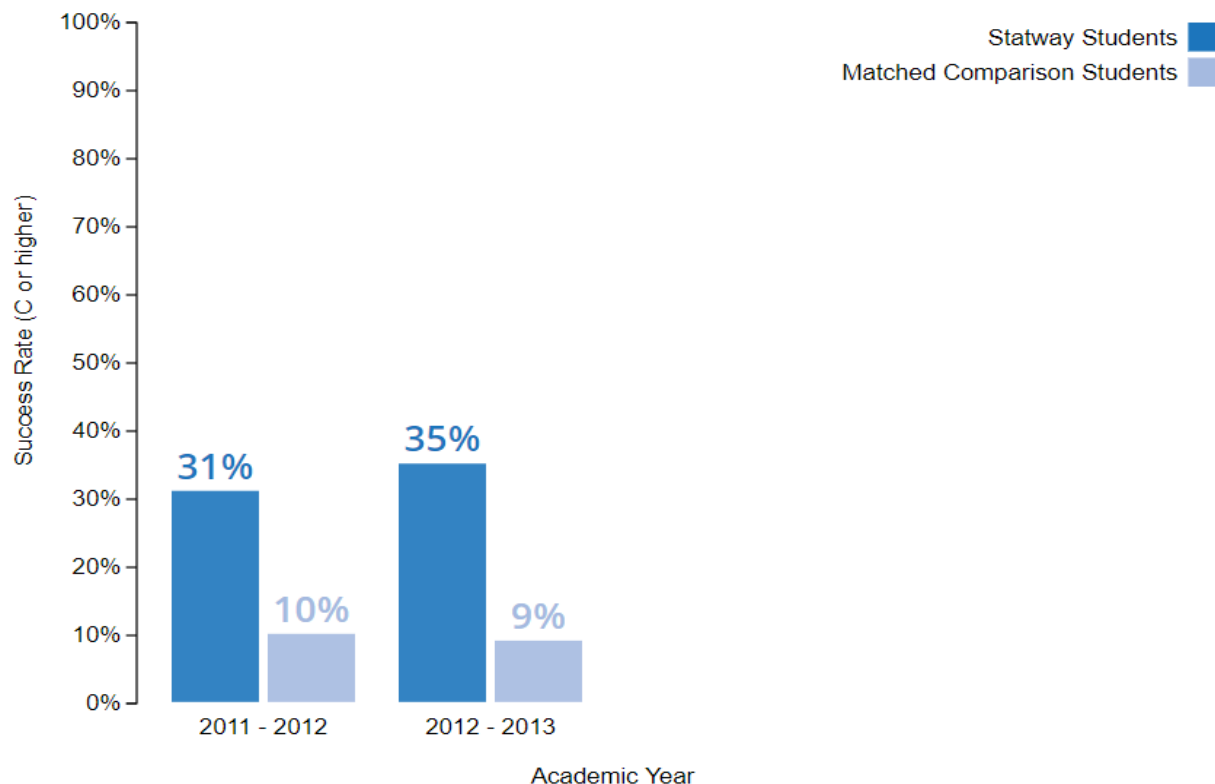
The dark blue bar is the 1-year success rate for Statway. The light blue bar is the success rate of matched students in traditional remediation over two calendar years.

The matched comparison group was formulated using data on student characteristics including demographics, prior course taking and performance at your college. This is based on institutional data provided by your college and the propensity score matching technique detailed in our report. The matched students are like Pathways students in many ways but enrolled in a traditional developmental math sequence.

Success in a course is defined as achieving a pass in a pass/fail grading scheme, or a C or higher (C- if a +/- grading scheme is used). The denominator of the success rate includes those who received W and I. We defined success for matched students as successfully completing a developmental math course 1 level below college level (or a course deemed equivalent to a QW1 or SW1 course by your faculty) during an entire academic year. The analytic sample for this report was determined in October 2015. Data, if any, from Winter 2012 are included in Spring 2012.

MT. SAN ANTONIO COLLEGE

Longitudinal Report: Through 2015-16

Our research has shown that Productive Persistence factors - such as a student's mindset about his/her ability to learn mathematics, sense of belonging, and more - are some of the strongest predictors of student success.

We believe that one of the reasons that Statway is working so well for Mt. SAC students may be that your faculty are effective in their use of the social and emotional supports built into Statway. These graphs show the distribution of students across key Productive Persistence indicators in the first week of the course. By administering follow-up surveys to track changes in the classroom climate, your institution may benefit from further testing of this theory of improvement.
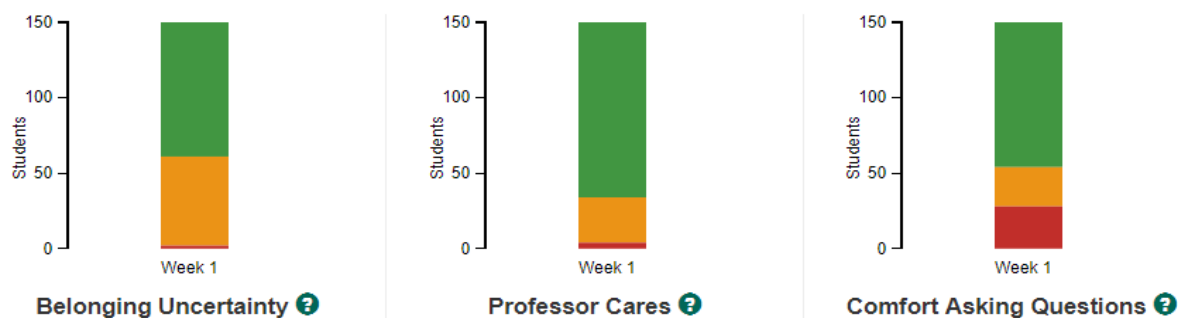

Faculty efforts to "start strong" in their classrooms support students' Productive Persistence

2015-16 Academic Year

Students' perceptions of themselves as mathematical learners and doers

Growth or Fixed Mindset ❓   Stereotype Threat ❓   Math Anxiety ❓
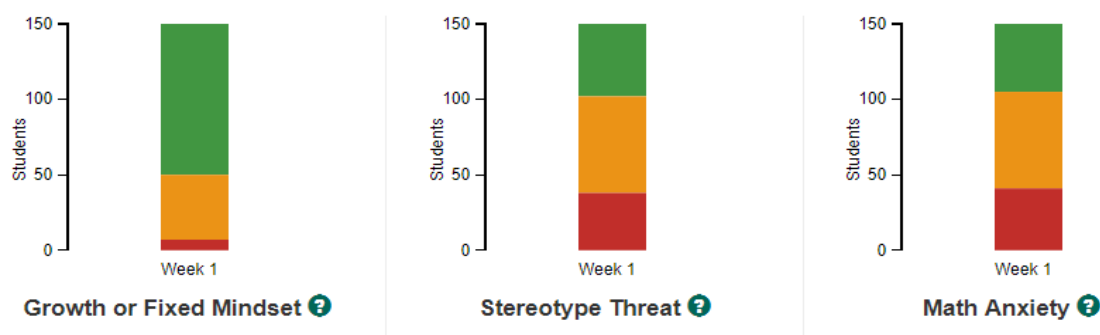
Students' sense of belonging in a mathematical environment

Belonging Uncertainty ❓   Professor Cares ❓   Comfort Asking Questions ❓

These "stock and flow" diagrams represent students that are at risk (red), moderately at risk (yellow), or not at risk (green) on Productive Persistence indicators surveyed at week 1 and week 4. Each diagram represents the movement of individual students.

MT. SAN ANTONIO COLLEGE
Longitudinal Report: Through 2015-16

Enrollment and Number of Sections by Term

Term	Sections	Students	Term	Sections	Students
Fall 2011	3	77	Spring 2012		
Fall 2012	2	91	Spring 2013		
Fall 2013	2	50	Spring 2014		
Fall 2014	2	66	Spring 2015		
Fall 2015	3	85	Spring 2016	5	159

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Carnegie Foundation for the Advancement of Teaching seeks to vitalize more productive research and development in education. We bring scholars, practitioners, innovators, designers, and developers together to solve practical problems of schooling that diminish our nation's ability to educate all students well. We are committed to developing networks of ideas, expertise, and action aimed at improving teaching and learning and strengthening the institutions in which this occurs. Our core belief is that much more can be accomplished together than even the best of us can accomplish alone.

www.carnegiemathpathways.org

We invite you to explore our website, where you will find resources relevant to our programs and publications as well as current information about our Board of Directors, funders, and staff.

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