

# Scaling Up through Networked Improvement (SUNI)



National Science Foundation  
WHERE DISCOVERIES BEGIN

Testing a practical theory about improving math outcomes for developmental students at scale Award Abstract #1820830 ([link](#))

NSF Org:[DUE](#)

[Division Of Undergraduate Education](#)

**Initial Amendment Date:**December 20, 2017

**Latest Amendment Date:**May 11, 2018

**Award Number:**1820830

**Award Instrument:**Continuing grant

**Program Manager:**Ron Buckmire

DUE Division Of Undergraduate Education

EHR Direct For Education and Human Resources

**Start Date:**October 24, 2017

**End Date:**August 31, 2022 (Estimated)

**Awarded Amount to Date:**\$584,599.00

**Investigator(s):**Christopher Thorn [cthorn@wested.org](mailto:cthorn@wested.org) (Principal Investigator)

Shandy Hauk (Co-Principal Investigator)

Karon Klipple (Co-Principal Investigator)

Ann Edwards (Co-Principal Investigator)

**Sponsor:**WestEd

730 Harrison Street

San Francisco, CA 94107-1242 (415)615-3136

**NSF Program(s):**S-STEM:SCHLR SCI TECH ENG&MATH,

IUSE,

ADVANCED TECH EDUCATION PROG

**Program Reference Code(s):**8209, 9178

**Program Element Code(s):**1536, 1998, 7412

## ABSTRACT

Scaling effective programs is critical for dramatically improving educational outcomes. Too often, however, innovations that prove promising in one context fail to achieve success at scale. The aim of the Scaling Up through Networked Improvement (SUNI) project is to learn how a complex educational innovation, the Carnegie Math Pathways (CMP), is effectively taken to scale across a variety of institutions of higher education. The CMP initiative is a systemic reform effort to dramatically improve the outcomes of college students who place into developmental mathematics. Roughly 1.7 million first-time undergraduates are placed into developmental mathematics courses each year across the country and must complete prerequisites as well as a college-level mathematics course to complete a degree or transfer. However, in community colleges, approximately 80% of such students do not complete a college-level mathematics course within 3 years, and in comprehensive 4-year institutions 60% fail to do so within 2 years. The CMP consists of two course pathways, Statway and Quantway, that accelerate students who place into developmental mathematics to and through college-level mathematics in a single year. CMP's instructional design provides students with opportunities to learn mathematics content that is engaging and relevant to their academic goals using a student-centered and problem-centered approach that supports students' persistence and engagement. A distinctive feature of the effort is that institutions implementing pathways courses are organized as a Networked Improvement Community (NIC). The CMP NIC provides support for institutional leaders to learn about how to effectively implement pathways courses and share their learning across and within member institutions. Since their launch in 2011, Statway/Quantway have been implemented in 58 institutions of higher education and have impacted over 22,000 students improving developmental mathematics and college credit completion success rates from around 6% to 50% or higher. The SUNI project will bring an additional 12 colleges into the NIC, impacting at least 280 instructors. Based on current course success rates, 10,000 more students across participating sites are expected to complete developmental mathematics courses and be successful in college than would have done so with traditional remediation.

The SUNI project will test and refine a practical theory about scaling complex educational innovations within institutions through a NIC, while scaling the CMP program nationwide. Three cohorts of institutions of higher education will implement the CMP at scale. Leadership teams in those institutions will be supported to undertake a set of implementation activities (the CMP Implementation Framework) through a structured series of learning engagements utilizing formal improvement methods and leveraging the NIC as a social learning structure. Through broad statistical study and deep case study of leadership learning, the project will build understanding about what works, for whom, and under what conditions for the SUNI approach. The resulting evidence about institutional implementation of innovation at scale, as well as the concrete products derived from that knowledge, are of significant value to educational research, policy development, and classroom practice. The project's dissemination of findings will inform innovation, organizational change, and reform, particularly about large-scale efforts to implement system-wide changes in higher education settings.

Please report errors in award information by writing to: [awardsearch@nsf.gov](mailto:awardsearch@nsf.gov).