NATIONAL RESOURCE CENTER
FIRST-YEAR EXPERIENCE® AND STUDENTS IN TRANSITION
UNIVERSITY OF SOUTH CAROLINA

An Examination of Math Readiness for College and Career in South Carolina

Council for The Study of Community Colleges Annual Meeting

April 2, 2022

Presenter

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Objectives and Purpose

Preparing students for college and careers is a persistent challenge for educators and leaders across the U.S. and particularly in South Carolina (SC) (Petcu et al., 2016). Both nation- and statewide, industries with the largest gains in job growth require some form of postsecondary education; this training is also crucial in providing students access to higher paying careers (Lockard & Wolf, 2012). Without proper paths to success, students are less likely to complete college or gain the skills and training necessary for a career (McCarron & Inkelas, 2006; Pusser & Levin, 2009). In SC, it is largely unknown how schools across the state, particularly in community colleges, prepare students to be math ready for college and career and what role educators believe that they play in this process.

Theoretical Framework

We utilized an equity minded framework (Center for Urban Education, 2017) and sensemaking theory (Spillane et al., 2002) to examine how SC educators conceptualized and operationalized math readiness and its association with college and career preparation and, ultimately, student success. We sought to understand math readiness from several perspectives, from educators across the state, data reports from K-12, and policies from community colleges and four-year institutions.

Methods

To understand how community college educators prepared students for math readiness, we purposefully selected 11 institutional sites across the K-20 educational pipeline and from a range of geographic areas across SC. Our sample included four high schools, two charter high schools, three career and technology centers, one technical two-year college, and one school district. We conducted one-time, forty-five-minute, semi-structured interviews with educators at each site, including principals, career specialists, school counselors, and instructors. We triangulated these with institutional- and state-level data related to math preparation and achievement in SC, including test scores of secondary-level assessments (e.g., ACT, SAT, ACT WorkKeys, and SC Ready scores), policy documents associated with degree requirements for math at community colleges and four-year schools across the state, and math assessment and placement policies in at postsecondary schools.

Findings

We discovered multiple perspectives and discrepancies between educators' perspectives and data and policies related to students' math achievement and preparation.

- Many K-12 educators struggled to define and state goals for both college and career readiness and math readiness. Several indicated that they adopted the SC Department of Education's *Profile of the South Carolina Graduate* and set "rigorous standards in math for college and career readiness."
- Educators and policymakers also described that the ways in which math readiness has been measured varied in SC. Early college readiness assessments (e.g., the NAEP) were common forms of measuring math readiness for college and career within the state (Barnett et al., 2013). However, SC scores for the NAEP are only publicly available for 4th

and 8th grade, and the available data indicate that achievement scores declined during this period overall, including a drop between 9 and 15 percentage points in mathematics since 2003.

- Difficulty defining math readiness extended into the postsecondary sector, notably during conversations about developmental education. As a program director at a community/technical college in western SC explained:

> The definition of college and career readiness is being able to succeed/pass a college course without remediation. We're a technical college, so yes, we remediate. We give our Accuplacer placement assessment to all high school juniors in the fall. We do workshops with them before and after and explain to them what their scores mean. Juniors get this information and have time to act before they enter college. If they need remediation, they need to know early in high school so they can take their high school courses more seriously, and so they don't need remediation in college. We want them to understand what college placement is. Many students wait until college to take pre-college courses, and that's a waste of time and money.

Questions and Points for Discussion

- What effects do conflicting messages associated with math, college, and career readiness across the K-20 pipeline have for students?
- What effects do these messages have for educators?
- Overwhelmingly, we found that SC educators described students' pathways through a color-evasive perspective (Annamma et al., 2016), or one in which they actively avoided acknowledging disparities among racial/ethnic groups. Further, educators did not acknowledge how multiple systems (e.g., schools, local/state/national government, housing, judicial, etc.) may have failed students and impacted their success for college and career. What role do community colleges have in exacerbating and/or minimalizing inequities and outcomes for students?

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