

Why do we use Early Momentum Metrics to study student success?

The Texas Pathways strategy,¹ modeled from the American Association of Community Colleges Pathways Project,² was introduced to the first cohort of community colleges in 2016. By 2021, all 50 community college districts in Texas were engaged in Texas Pathways. The Texas Success Center collaborated with the Community College Research Center (CCRC) to define Key Performance Indicators (KPIs) aligned with the Texas Pathways strategy to measure student success. Through a partnership with the Texas Higher Education Coordinating Board, KPI data is collected every year and shared through [interactive KPI dashboards](#). The KPIs include early momentum metrics (EMMs) that measure attainment in the first term and first year, and long-term metrics that measure attainment after three years.

CCRC has shown that EMM attainment is a predictor of long-term outcomes (see the 2019 [EMM Research Brief](#) by Belfield, Jenkins, & Fink for full details).³ Here we summarize some key points from the CCRC analysis to explain why the Texas Success Center uses EMMs to examine the impact of Texas Pathways while we collect evidence from our long-term KPIs.

Using data from three community college systems, CCRC examined the following question:

How strong are associations between EMMs and student success?

CCRC measured three types of EMMs:

1. **credit momentum,**
2. **gateway course momentum,** and
3. **persistence momentum.**

Student success was measured in two ways:

1. **completion of any community college award** (including associate degrees and certificates) **within three years** of starting at the community college and
2. **completion of any award** (including bachelor's degrees) from any postsecondary institution (using matched data from the National Student Clearinghouse) **within six years** of starting at the community college.

Colleges need information to determine how successful whole-college reforms are likely to be in improving completion rates following full implementation. The credit, gateway course, and persistence EMMs described here meet this need—they are early, leading indicators that strongly predict student completion. (p. 11)

CCRC estimated success rates among those students who met each EMM, controlling for other factors (gender, race/ethnicity, residence, intent, and socioeconomic status, and college, semester-entry, and year indicators). Figures 4 and 5 below show the three- and six-year completion rates with:

- The baseline completion rate: the average actual success rates for all students.
- The completion success rates for students who met the EMM.

¹ <https://tacc.org/tsc/what-we-do>

² <https://www.aacc.nche.edu/programs/aacc-pathways-project/>

³ Belfield, C. R., Jenkins, D., & Fink, J. (2019). *Early momentum metrics: Leading indicators for community college improvement*. CCRC Research Brief. New York, NY: Columbia University, Teachers College, Community College Research Center. <https://ccrc.tc.columbia.edu/publications/early-momentum-metrics-leading-indicators.html>

Figure 4.
Three-Year CC Award Rates Among EMM Attainment Students

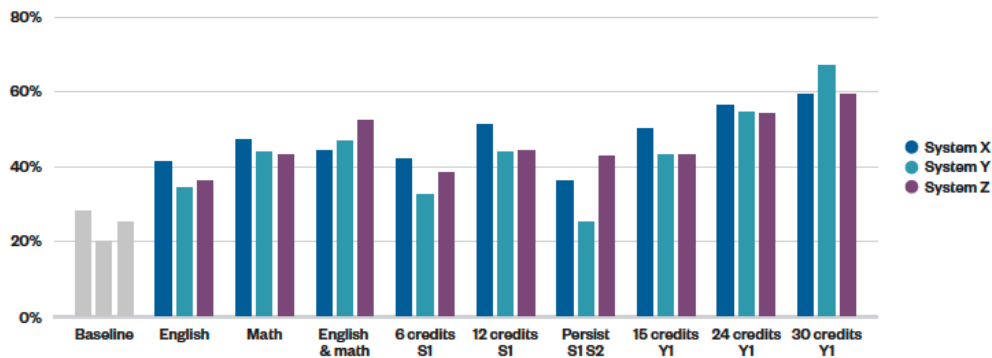
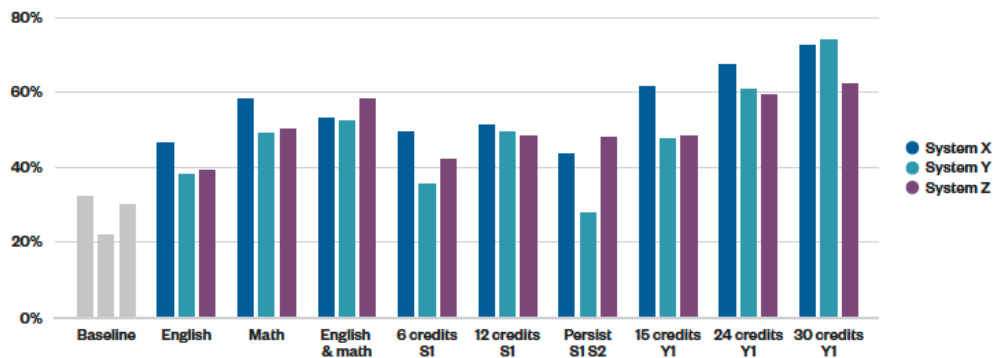


Figure 5.
Six-Year Any Award Rates Among EMM Attainment Students



What do these figures tell us?

- Students who meet EMMs have substantially higher award rates than baseline students.
- The magnitudes are very large, with most rates increasing over baseline rates by at least a factor of 0.5 and up to a factor of 3.
- The effect of earning EMMs is incremental: Meeting a “stricter” EMM is associated with a greater increase in award rates.

Even more encouraging is the CCRC analysis that showed that Black and Hispanic students who meet EMMs have substantially higher award rates over three and six years, suggesting that initiatives by colleges to overcome racial equity gaps early in the student experience are an important step toward closing gaps in credential attainment. (See the [Research Brief](#) for more details.) CCRC concludes:

Overall, students who meet EMMs are more successful, controlling for characteristics such as race/ethnicity, gender, and socioeconomic status. The key issue is the rate of EMM attainment by students in the first year (not how students perform later in college). Thus, getting students to meet EMMs should boost success. (p. 8)

The Texas Success Center is encouraged by the improvements in EMM attainment rates in Texas Pathways colleges as seen in [the interactive KPI dashboards](#). The work completed by CCRC suggests that the guided pathways reforms that have led to improvements in EMMs will translate into improvements in long-term outcomes for all students.