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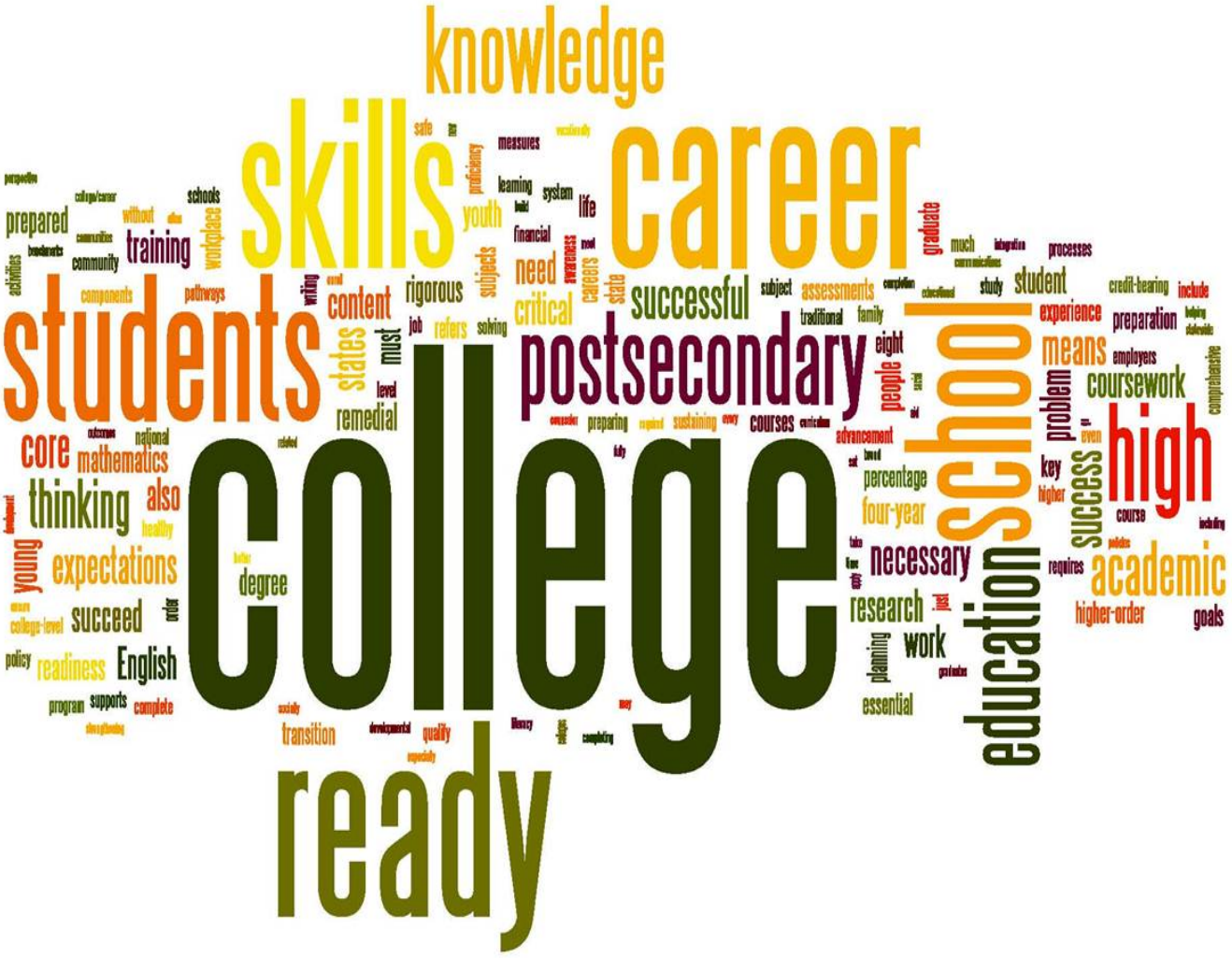

Illinois STEM College and Career Readiness (CCR): Third-Year Report

2015-2016 EXECUTIVE SUMMARY

Eboni M. Zamani-Gallaher, John Lang, Edmund Graham, and Lorenzo Baber

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Background

In 2007, the Illinois General Assembly recognized the need to address the issue of remediation of students entering college by establishing the College and Career Readiness (CCR) Pilot Program. Upon completion of the CCR pilot in 2013, CCR took new form as the Science, Technology, Engineering, and Math (STEM) CCR program, funded by the Illinois Race to the Top grant, which spanned from fall 2013 to spring 2015.

STEM CCR Model

The operational model for STEM CCR—developed out of the CCR Pilot Program—centered on partnerships between a community college district and local high schools in order to prepare high school juniors and seniors for college and career. The model drew together five programmatic aspects:

- Diagnosis (pre-testing), identification, and recruitment of students in need
- Curricular alignment between college and high school mathematics courses, primarily in algebra II and geometry
- Math intervention based on the curriculum, to act as a bridge between high school and college math levels
- Support services such as tutoring and college and career guidance counseling
- Post-testing to evaluate levels of improvement toward readiness

Seven colleges throughout the state were selected by the Illinois Community College Board (ICCB) to participate in the STEM CCR program.

- Harold Washington College (HWC)—Chicago
- Heartland Community College (HCC)—Normal
- Illinois Central College (ICC)—East Peoria

"…reduce the need for remediation, lower educational costs, shorten time to degree, and increase the overall success rate of Illinois college students."

- Illinois Eastern Community Colleges (IECC)—Olney
- John Wood Community College (JWCC)—Quincy
- Olive Harvey College (OHC)–Chicago
- Wilbur Wright College (WWC)—Chicago

In all, these seven college districts partnered with over twenty local high schools to offer STEM CCR. Between fall 2013 and spring 2015, 809 students entered the program and 717 completed it. Based on student self-reporting, 62% of participants identified as White, 20% identified as African-American, and 15% identified as Hispanic.

Evaluation Summary

The aim of OCCRL's evaluation was four-fold. (I) From an operational standpoint, we examined fidelity to the STEM CCR model, as well as site-specific adjustments to the model. (II) From a participant standpoint, we wanted to understand how students understood and experienced the STEM CCR programs. (III) From a programmatic standpoint, we hoped to measure student success based on post-testing results across sites. (IV) From a policy standpoint, we considered the larger question of scaling STEM CCR statewide to meet the statewide need for students to improve their readiness for college and career. The following summarizes our findings.

I. Implementation of the STEM CCR Model

Student Diagnosis and Recruitment

- Sites consistently used the Co-Ordinated Math and Physics Assessment for Student Success (COMPASS) to diagnose levels of college readiness in mathematics.
- Sites used different scoring ranges to identify students for the STEM CCR intervention.
- Student recruiting varied widely. Some students were scheduled automatically while others received extensive academic counseling, at registration fairs, for instance.

Curricular Alignment

- In contrast to the standardized COMPASS diagnostic, each partnership developed a specific curriculum that would align between high school and college mathematics.
- This entailed a hands-on approach between high school teachers and college faculty, consisting of curriculum design and post-term evaluation, as well as ongoing dialogue and adjustments in some cases.

Academic Intervention

- All program sites used a baseline schedule for the academic intervention, consisting of a four-week summer bridge program at the community college and at least one eight-week intervention held during the fall and spring academic semesters.
- Some partnerships extended the duration of the fall or spring offering and even extended the timeframe so students could participate for a full year.
- However, while all seven sites implemented academic interventions over the course of the evaluation, there were terms in which some sites did not provide an academic intervention for participants.

Student Support Services

- The primary student support service came in the form of tutoring, especially during the fall and spring terms.
- Other support included mentoring and job shadowing programs, introductions to college life such as library services, and college admissions and financial aid counseling.

II. Student Experiences

At the end of each term, students were asked to complete a voluntary survey to share individual assessments of the program and their experiences in it. A total of 459 students completed the survey, with overall responses being positive across sites. As a baseline, students reported an initial belief that they would not be successful in math—that they lacked the academic skillset, the focus, and the motivation. Students then noted four ways in which the program was particularly helpful:

- Improving academic skills toward a college-level competency
- Setting expectations for college
- Thinking about majors and careers
- Boosting self-confidence about their math abilities

III. Effectiveness: Improving College Readiness

The most significant breakdown in STEM CCR goes to the heart of the program: measuring student improvement toward readiness. Pre- and post-testing, using COMPASS, was intended to provide a standard measure of improvement toward college readiness. However, the testing system suffered from two basic problems.

As noted, while COMPASS was used across sites, each site determined the scoring range for both pre-testing to identify students for the program and post-testing to assess “college

readiness." Consequently, a post-test score that registered at a college-ready level at one site could fall below readiness at another site. More importantly, sites submitted post-test COMPASS scores to ICCB for only half of the participating students. As a result, we were unable to analyze, with any confidence, specific student improvements, and the overall effectiveness of the program using COMPASS as a standard and cross-site measure.

By contrast, sites did report on student completion rates and final grades, providing helpful measures of student performance. As noted above, 717 of 809 students completed the program, for an 89% completion rate. Of those who completed the program, 97.3% received a passing grade: 49.4% based on pass/fail; 47.9% with a C or better.

While these grades do not reflect a program-wide standard, they do reflect the culminating grade attainment by students over weeks and months rather than a high-stakes testing measure. Importantly, a flaw in post-testing is that the final assessment is not, in fact, high stakes since students had little incentive to do well. What grades lack in standardization, they may make up for as a more complete picture of student work and achievement.

IV. Scaling CCR in Illinois

As the STEM CCR program ends, a basic educational policy question is whether to advance a new iteration or version of the college and career readiness intervention in Illinois. It seems fair to say that the statewide need is just as pressing today as it was in 2007: students continue to graduate from high school unprepared for college and career, and many of these students who enter college follow a path of remediation and lack of persistence, rather than certificate or degree attainment.

In 2007, however, college and career readiness policy was a new venture in Illinois and nationwide. In this sense, the experiences and evaluations of the CCR Pilot Program and STEM CCR have been their own kind of education on readiness: how best to design a successful policy that helps students to succeed in college and careers. STEM CCR and the CCR Pilot Program provide a wealth of information on how to design (and not design) a next iteration, especially on a larger scale. In addition, a new iteration means a chance to rethink past and current theory and practice toward a program that benefits from successes and learns from shortcomings. The following highlights aspects of a design *process* that might help to accomplish both aims.

<u>Top-Down Leadership and Administration</u>

Moving forward, an administrative partnership between ISBE and ICCB might benefit an initiative in several respects.

- High schools are a vital part of site partnership, yet in the CCR Programs, leadership and oversight came from the community college side.

- Shared administrative involvement between secondary and postsecondary agencies would deepen the resources, expertise, and system-wide commitment to STEM CCR and establish greater balance in the very design of high school-community college partnerships.

Bottom-Up Experience and Expertise

The enabling legislation for the CCR Pilot Program called for the creation of "*readiness teams*, which shall include the chief academic officer, the chief student services officer, an institutional researcher, faculty, and counselors or advisers from the community college and high school, the college and career readiness coordinator from the community college, and other members as determined by the high school and community college."

- The same formula speaks to the wisdom of involving high school and community college partnerships from the beginning, to help design a next iteration of college and career readiness in Illinois.

- Bottom-up ownership in program design might help to ensure greater success in key aspects of testing and reporting.

Design and Implementation Coordination

Two important aspects of the CCR Pilot Program, which carried over into STEM CCR, were experimentation and decentralization. From the beginning, ICCB adopted a decentralized model of implementation, in which each site developed its own program. With a plurality of sites, consistency and adherence to all the dimensions of the program model suffered.

A third level of design would be ongoing program management: the on-the-ground work of facilitating, steering, communicating and knitting together the various aspects of experience, expertise, and authority into a meaningful and successful planning process. Especially on a statewide scale, the development of a consistent program calls for consistent direction at a state level.

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