



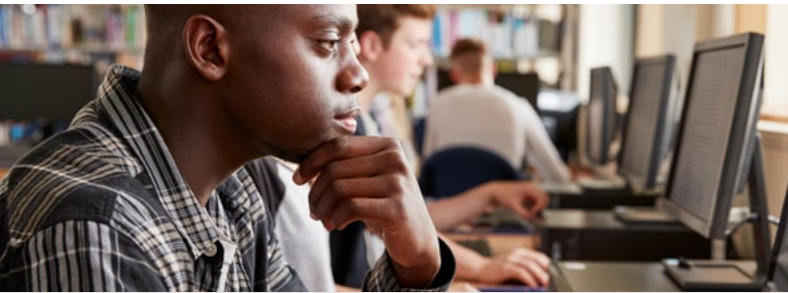
Creating a Future-Oriented Culture In High Schools

The Impact Evaluation of the College and
Career Readiness Expansion (CCRE) Project--
Summary Report

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This brief provides a summary of key findings from the impact evaluation of the College and Career Readiness Expansion Project. More information on the study—including the methodology and detailed impact findings—is available in the accompanying technical report.

More detail on project results can be found in four accompanying briefs that focus on 1) expanding access to college courses, 2) developing a future orientation, 3) ways the College partnered with districts, and 4) the cost of this work.

INTRODUCTION

Similar to many parts of the country, Columbus, Ohio faces challenges with ensuring a high-quality workforce that is ready to meet the challenges of a 21st century economy. Through a regional initiative known as the [Central Ohio Compact](#), Columbus State Community College and a broad range of partners engaged in a comprehensive set of strategies to build an educated, career-ready workforce to support Central Ohio business and industry. As part of this work, Columbus State Community College undertook the College and Career Readiness Expansion (CCRE) Project, partnering with local school districts to build the college and career readiness skills of students in the region. A specific focus of the project was to increase college readiness and expand enrollment in college-level courses among students in underrepresented populations, particularly economically disadvantaged students and students who were members of racial and ethnic groups underrepresented in postsecondary education.

CCRE built on the early college model, one of the most recent successful approaches to increasing students’ enrollment and success in postsecondary education. As originally

conceived, early colleges are small schools, often located on college campuses, that merge the high school and college experiences. Early colleges target students, as early as ninth grade, who might face barriers to postsecondary education. The ultimate goal is for students to graduate in four or five years, either with a high school diploma and a postsecondary credential (usually an associate degree) or two years of transferable college credit. Results from two rigorous experimental studies show that this model has had positive impacts on a variety of outcomes, including staying in school, progressing in college preparatory courses, graduating from high school, and enrolling in and graduating from college.¹

The U.S. Department of Education funded CCRE through an \$11.6 million grant geared toward implementing early college strategies in comprehensive high schools in the Columbus,

Ohio region. [Columbus State Community College](#) led the project, partnering with [Jobs for the Future](#), a national organization focusing on workforce readiness issues, and the [Educational Service Center of Central Ohio](#), an educational support organization in the region. Targeting districts with high proportions of economically disadvantaged students, the project team implemented CCRE in 16 high schools across seven districts in Central Ohio. The [SERVE Center](#) at the University of North Carolina at Greensboro conducted an external evaluation of this federally funded project.

The CCRE Model

The CCRE model included many of the same elements (or Design Principles) as the traditional early college model. The primary difference was that CCRE implemented the principles in comprehensive high schools, as opposed to in small schools of choice. Because comprehensive schools serve a wider range of students, CCRE did not have the same goal of getting all students an associate degree or two years of college credit by high school graduation. Instead, CCRE aimed for 90% of high school students to graduate with at least three hours of college credit or a career credential.

Each participating school was expected to implement four Early College Design Principles, as articulated by the project:

1. **A Career- and College-Ready Academic Program** that supported almost all students in preparing for college and attaining college credit while still in high school;
2. **A Career and College Head Start** that provided students with early exposure to the culture and norms of college;
3. **Wrap-Around Student Supports**, including comprehensive academic and affective supports, and assistance with college applications and financial aid;
4. **School-Level Organizational Practices** intended to support implementation of the other Design Principles.

The Design Principles are described in more depth in the school-level impact section.

¹ Berger et al., 2013; Edmunds, Bernstein, Unlu, Glennie, & Smith, 2013; Edmunds et al., 2020; Edmunds, Unlu, et al., 2017; Edmunds, Willse, Arshavsky, & Dallas, 2013



To support schools in this work, the CCRE partners provided a series of implementation supports. These included:

1. A governance structure that provided opportunities for the partners and participating districts to meet and plan work related to the project;
2. Technical assistance, professional development, and coaching that provided support to districts and schools around implementation of the CCRE Design Principles;
3. Curriculum development and alignment, including support for the development of pathways and the creation of a college-readiness course that students could take for college credit;
4. Professional development for faculty teaching dual-enrollment courses, including professional development for teachers of dual-enrollment courses and facilitated collaborations between college English faculty and high school English faculty to create a semester-long college-readiness course; and

5. Supports for students taking dual-enrollment courses including access to and training on the College's monitoring system, college advisors who worked with the schools, and tutoring for dual enrollment students.

Districts were also expected to provide support to their schools, such as:

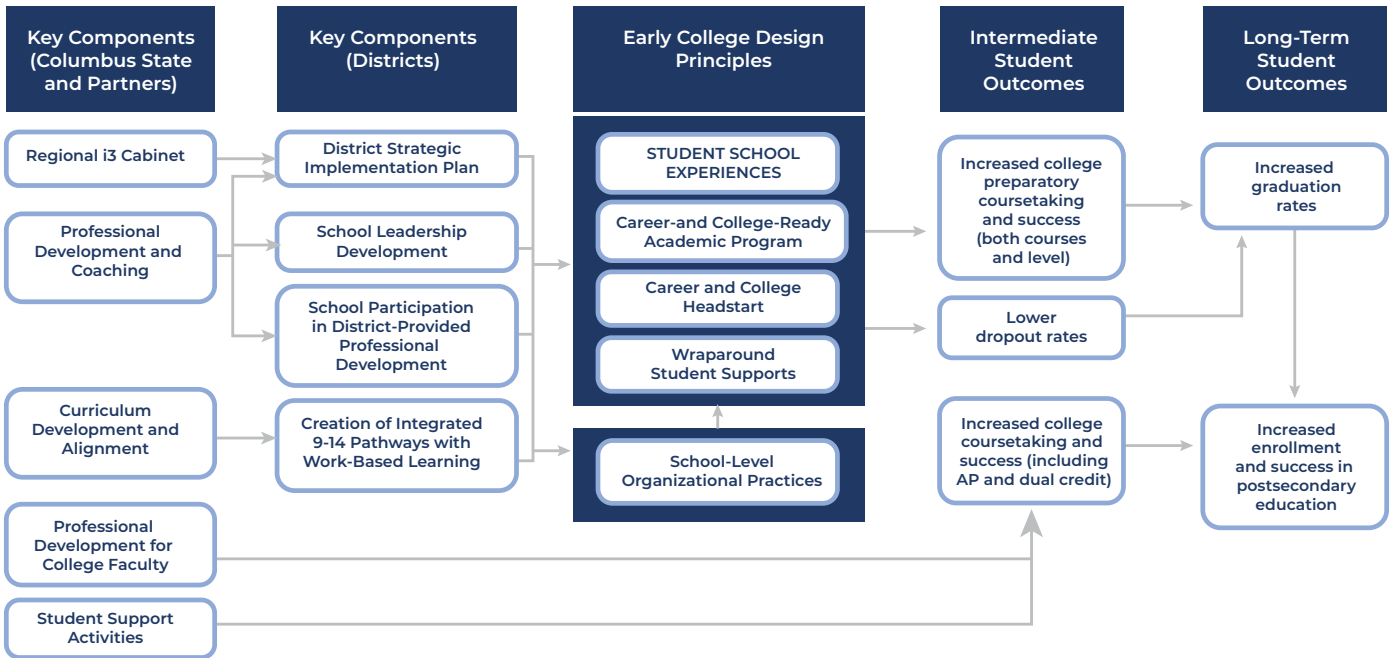
6. Creation of a strategic plan that aligned the early college work to existing district efforts;
7. Professional development for school leadership and school staff; and
8. Creation of pathways leading to credentials or postsecondary majors supported by district-college collaboration, including the creation of formal partnerships between the district and postsecondary institutions.

The evaluation assessed the level of implementation of these supports and found that they were always available to the districts and schools, but that districts and schools did not always make use of the support at the desired levels.



Figure 1 illustrates the different model components and their relationship to each other and to student outcomes.

Figure 1. CCRE Logic Model



Evaluation Methodology

The external evaluation was designed to examine the impact of the project on student outcomes and to explore changes occurring in the comprehensive high schools implementing the CCRE model. The evaluation answered the following research questions:

1. What is the impact of CCRE on key student outcomes, including the extent to which students were on-track for high school graduation, their rate of dropping out of school, their enrollment in college-level courses, and their attainment of college credits?
2. What is the impact of CCRE on schools' implementation of the CCRE Early College Design Principles?

The methodologies used to answer each question are briefly described below.

ACCESSING THE IMPACT ON STUDENT OUTCOMES

To look at the impacts on student outcomes, we used a quasi-experimental study in which CCRE high schools were matched to similar comparison schools in Ohio. We identified a set of 32 comparison schools that were comparable to the 16 CCRE high schools on baseline measures of the outcomes and on demographic characteristics. All differences between the two groups were less than 0.14 standard deviations, meeting expectations for baseline equivalence set by the What Works Clearinghouse.² We used student-level data to examine outcomes in three main areas:

² <https://ies.ed.gov/ncee/wcc/Docs/referenceresources/WWCStandards-Handbook-v4-1-508.pdf>

1. Percentage of students in ninth and tenth grade who were on-track for high school graduation. This outcome examined students' successful completion of college preparatory courses by looking at the percentage of students who earned graduation points in specific subjects. We measured ninth grade on-track status through the percentage of students who had earned at least five graduation points between the English and math end-of-course exams; we looked at this outcome in both 2017–18 and 2018–19. For tenth grade, we looked at the percentage of students who had earned at least 15 graduation points in end-of-course exams in English, math, and science and/or social studies; we looked at this outcome only in 2018–19.³
2. Percentage of students in grades 9–12 dropping out in 2018–19.
3. Percentage of students taking college-level courses and earning college credit. This outcome looked at the percentage of students in grades 9–12 who took either a dual-enrollment course⁴ or an Advanced Placement (AP) course. We also looked at the percentage of students who earned at least one college credit, defined as students who either passed a dual-enrollment course or received a passing score on the AP exam, and the number of credits they earned. We looked at all these outcomes for the 2018–19 and 2019–20 school years.

For the analysis, we compared students in CCRE schools to students in comparison schools using hierarchical linear modeling (HLM), which accounts for the fact that students are clustered within schools when estimating program impacts. The analytic models included baseline characteristics of the schools and the students.

ASSESSING THE IMPACT ON SCHOOL-LEVEL OUTCOMES

To examine changes in school-level implementation of the Design Principles, we used two primary sources of data. First, we administered a survey annually to staff in all treatment schools to capture targeted changes in school culture, coursetaking, instruction, and implementation of the Design Principles. A total of 836 staff responded in 2016 during Year 1 of the project, a 79% response rate, and 619 responded in 2019, Year 4 of the project, a 59% response rate. We compared results in Year 1 to results in Year 4.

For the second source of data, we conducted site visits to six schools in Years 2, 3, and 4. These visits were supplemented by annual interviews with Columbus State project staff and with district staff. Across the four project years, we conducted 274 interviews, all of which were transcribed and analyzed. The interviews focused on implementation of the project activities, implementation of the Design Principles, perceptions of project impacts, and potential sustainability of the work.

More detailed information about the study design can be found in the accompanying technical report.



³We could not examine on-track status in the 2019-20 school year because all state exams were cancelled as a result of the COVID-19 pandemic. Similarly, dropout data were not available for the 2019-20 school year.

⁴Dual-enrollment courses are college courses that students can take in high school and that can earn college credit.

Impact on Student Outcomes

The intent of CCRE was to increase the college and career readiness of students by implementing the Early College Design Principles. The study assessed the extent to which the project was successful by looking at the impact of CCRE on a core set of high school student outcomes: 1) students’ successful progression in a college-preparatory course of study; 2) the number of students staying in school; 3) student enrollment in college-level courses; and 4) student attainment of college credits. This section presents results from the quasi-experimental impact study.

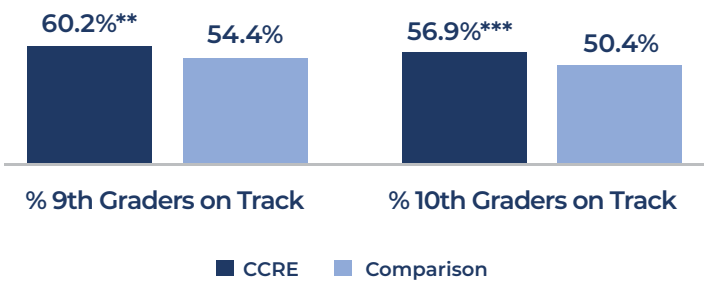
ON-TRACK STATUS IN NINTH AND TENTH GRADE

CCRE intends to ensure that students are ready for college and career. We examined this by looking at the extent to which students were on track for high school graduation in ninth and tenth grade, a measure of their success in high school courses. As noted earlier we looked at the percentage of ninth graders who earned a targeted number of graduation

points through state standardized exams in English and math. We then looked at the percentage of tenth graders who earned a targeted number of graduation points through exams taken in English, math, and science and/or social studies. As shown in Figure 2, there was a statistically significant 6 percentage point impact on the percentage of ninth graders on track for high school graduation. There was a similar, statistically significant 7 percentage point impact on the percentage of tenth graders that were on track for high school graduation.

When we look at results for specific sub-groups of students, we see that there was a positive impact on economically disadvantaged students and students of color, groups typically underrepresented in dual enrollment and early college coursetaking. Table 1 shows the impact for ninth graders by sub-group. Similar patterns were seen for tenth graders.

Figure 2: More CCRE Students were On Track for High School Graduation



** Statistically significant at $p < .01$.
 *** Statistically significant at $p < .001$



Table 1. Impacts on Percentage of Ninth Graders on Track for High School Graduation (2017–18 and 2018–19 combined), by Subgroup

Outcome and Population	CCRE Adjusted Mean	Comparison Unadjusted Mean	Adjusted Impact Estimate
% of ninth graders on track—All students	60.2%	54.4%	+5.8 pp**
% Economically disadvantaged students on track	46.7%	42.1%	+4.6 pp*
% Non-economically disadvantaged students on track	82.8%	77.8%	+5.0 pp**
% Underrepresented racial/ethnic group students on track	43.1%	38.5%	+4.6 pp*
% Non-underrepresented racial/ethnic group students on track	74.0%	70.0%	+4.0 pp

*Differences statistically significant at $p \leq .05$. **Differences statistically significant at $p \leq .01$.

Why did the program have positive impacts on the percentage of students who are on-track for high school graduation? The CCRE project incorporated a variety of practices that were intended to improve student outcomes (see discussion on school changes below) but the study was only intended to look only at the overall impact of the intervention and not isolate the impact of individual practices. As a result, we cannot definitively say which specific practices produced these results.

IMPACT ON DROPOUT RATES

Giving students access to college courses and increased supports are expected to keep students in school. As a result, we examined the impact of CCRE on dropout rates, or the percentage of ninth through twelfth grade students who dropped out of school in 2018–19. As Table 2 shows, CCRE schools had descriptively lower dropout rates for most sub-groups but none of the differences were statistically significant.



Table 2. Impacts on Dropout Rates (2018–19)

Outcome and Population	CCRE Adjusted Mean	Comparison Unadjusted Mean	Adjusted Impact Estimate
% All students who dropped out	3.1%	3.8%	-0.7 pp
% Economically disadvantaged students who dropped out	4.1%	4.7%	-0.6 pp
% Non-economically disadvantaged students who dropped out	1.5%	1.4%	+0.1 pp
% Underrepresented racial/ethnic group students who dropped out	3.4%	4.4%	-1.0 pp
% Non-underrepresented racial/ethnic groups who dropped out	2.3%	2.6%	-0.3 pp

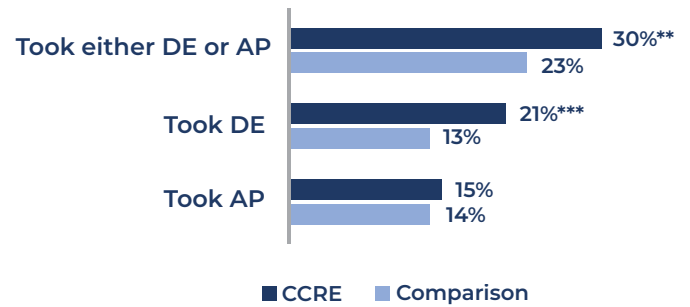
Differences were not statistically significant.

IMPACT ON COLLEGE COURSETAKING

One of the key goals of the project was to increase the number of students taking college-level courses, with an emphasis on expanding access to college courses among underrepresented populations. We looked at college coursetaking in several different ways. The first was the enrollment of students in grades 10–12 in college-level courses, which could be dual-enrollment (DE) courses or AP courses. As shown in Figure 3, more students in CCRE schools were taking college-level courses than in comparison schools, driven primarily by increases in dual enrollment.

Interestingly, the increased participation in dual-enrollment courses did not come at the expense of AP courses. CCRE students had descriptively higher rates of enrollment in AP courses than comparison students, although it was not statistically significant. These findings stand in contrast to results we have measured in other similar efforts, where students were shifted out of AP courses into dual enrollment.⁵

Figure 3: More CCRE Students Took College-Level Courses



** Statistically significant at $p \leq .01$.

*** Statistically significant at $p \leq .001$

When we looked at the impacts on coursetaking for the sub-groups of interest, we saw that students in all subgroups benefitted from the program. Table 3 shows the coursetaking impacts by subgroup.

⁵Edmunds, Klopfenstein, Lewis, & Hutchins (2018).

Table 3. Impacts on College-level Coursetaking, by Sub-Group (2018–19 and 2019–20 combined)

Outcome and Population	CCRE Adjusted Meann	Comparison Unadjusted Mean	Adjusted Impact Estimate
% of students taking college-level courses—All students	29.9%	22.7%	+7.2pp**
% Economically disadvantaged students taking college-level courses	22.8%	15.1%	+7.7pp**
% Non-economically disadvantaged students taking college-level courses	43.4%	33.7%	+9.6pp**
% Underrepresented racial/ethnic group students taking college-level courses	21.2%	14.4%	+6.8pp**
% Non-underrepresented racial/ethnic group students taking college-level courses	39.2%	30.5%	+8.7pp**

**Differences statistically significant at p<.01.

Data from Columbus State shows additional information about participation detail over time for the CCRE students only. As Figure 4 shows, the number of dual enrollment courses taken by CCRE students at Columbus State more than doubled during the project period. The figure also shows that pass rates remained high even as more students were taking courses.

IMPACT ON COLLEGE CREDITS EARNED

The results above show that more students are earning college credits. We also looked at the number of college credits earned by students in grades 9–12. Students could have earned credit by taking and passing a dual-enrollment course or by earning a passing score on the AP exam. As Table 4 shows, CCRE schools had a descriptively lower average number of college credits earned, although the differences were not statistically significant.

Figure 4: Participation More Than Doubled in Columbus State Dual Enrollment Courses

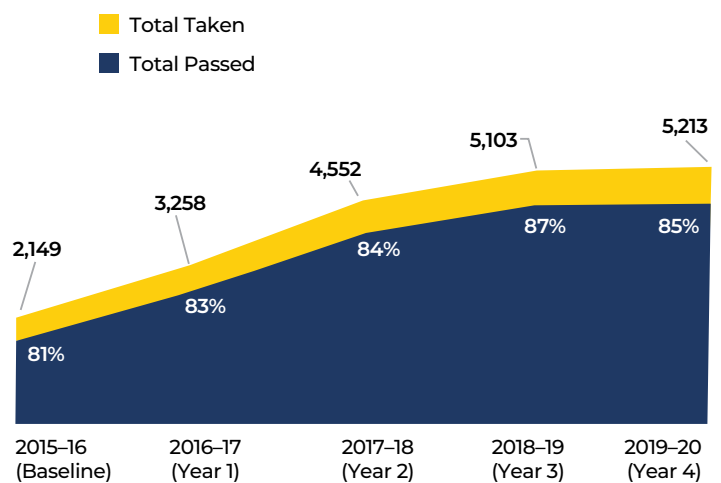


Table 4. Impacts on College-level Credits Earned, Overall and by Sub-Group (2018–19 and 2019–20 combined)

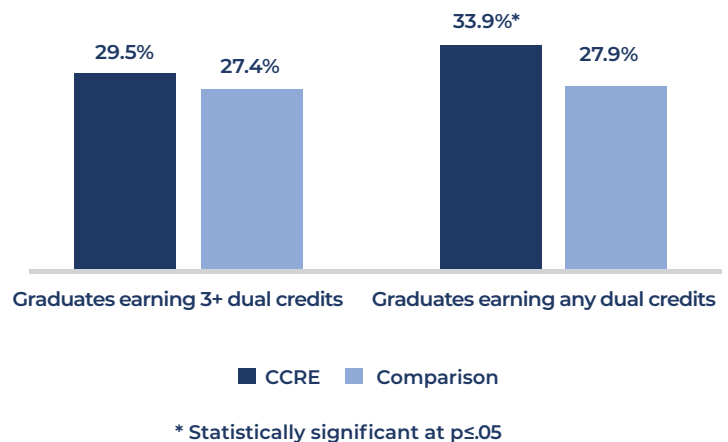
Outcome and Population	CCRE Adjusted Mean	Comparison Unadjusted Mean	Adjusted Impact Estimate
Average # of college credits earned—All students	4.7 credits	5.5 credits	-0.8 credits
Average # of college credits earned by economically disadvantaged students	2.5 credits	2.6 credits	-0.1 credits
Average # of college credits earned by non-economically disadvantaged students	9.0 credits	9.6 credits	-0.6 credits
Average # of college credits earned by underrepresented racial/ethnic group students	2.1 credits	2.6 credits	-0.5 credits
Average # of college credits earned by non-underrepresented racial/ethnic group students	7.8 credits	8.1 credits	-0.2 credits

Differences were not statistically significant.

We also looked at two additional outcomes, the percentage of high school graduates who earned three or more dual credits and the percentage of students earning any college credit. The former outcome is tracked as part of the Ohio accountability system. As shown in Figure 5, there is a statistically significant positive impact on the percentage of graduates earning any credit but no statistically significant differences between the percentage of graduates earning more than three credits.

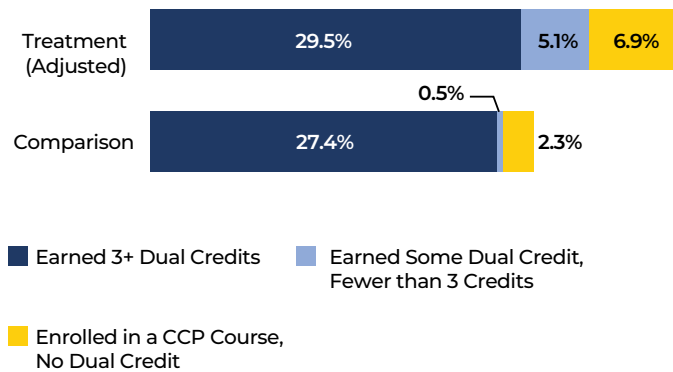
Why do we see no impacts on average credits earned when we did see positive impacts on expanding access to college courses? It appears that the expanded access included single-credit courses, such as COLS 1101, a college readiness course. Additionally, a higher proportion of CCRE students taking college courses did not pass them. Figure 6 shows

Figure 5: More CCRE graduates earned any dual credits



the percentage of students in each group who earned more than three credits, fewer than three credits, and no credits at all. As the figure shows, the increases in CCRE student coursetaking were primarily among students earning fewer credits.

Figure 6: Course Expansion Occurred Among Students Earning Fewer Credits



Project staff asserted that there was merit in increasing the number of students taking at least some college credit because it would change the culture of the school, resulting in more teachers thinking of students as potential college-goers and more students thinking of themselves as college material. This concept—college coursetaking can change teachers’ and students’ perceptions—was also borne out during some interviews (see box for a quote from a district staff member describing the project’s impact).



[I see] more students taking the college courses, definitely. I mean, that's the biggest thing. And I think then that changes the mindset of teachers because ... it's very rewarding and encouraging when you see your young people in your school doing well in these college courses, when you see them graduating with college credit and going on to college. I think that is something that was not happening when I first came to this high school. And I think it gives credence to what we're saying when we're saying, "Hey, we have to prepare them for college,"... Because years ago, [this high school] had a low graduation rate, and the students weren't going to college. And so, it's easy to say, "Oh well these kids aren't going to do that." But when you see students doing it, I think it changes the mindset and it makes people rise up a little bit more.

— Staff member in district

Changes in Schools

As the quote in the previous section suggests, there is evidence that schools made changes as a result of this project, placing more focus on what students will do after high school—what we call a “future-oriented” culture. This section reports impacts that occurred at the school level, organized by the four CCRE Early College Design Principles; 1) A Career- and College-Focused Academic Program; 2) A Career and College Headstart; 3) Wraparound Student Supports; and 4) School-level Organizational Practices. Surveys and site visits provided data about their implementation in schools. Each Design Principle is discussed below.

CAREER- AND COLLEGE-READY ACADEMIC PROGRAM

The first Design Principle focused on creating learning environments that prepare students for college and

career and includes the following elements: 1) college-level courses, including career pathways; 2) work-based learning; 3) improved instructional practices; and 4) a strong postsecondary partnership.

College-Level Courses and Pathways. As described in the previous section, there was a significant effort to expand access to college courses, particularly for students who historically were less likely to get the opportunity to enroll in these courses. In the CCRE high schools, college-level courses were offered in four ways. First, students could take college courses on the Columbus State campus. Second, students could be taught on their high school campus by an adjunct faculty member, usually a high school teacher who met Columbus State’s qualifications. Third, the college course could be offered as a facilitated course. In the facilitated course setting, students were enrolled in a regular high school course (e.g., Chemistry) and would also participate in an online college course including additional assignments and exams with the high school teacher acting as a facilitator. Finally, students could take AP courses at their high school; to earn college credit, they also had to pass the exam associated with the course.

The intent was for students to take college-level courses as part of a pathway that led to an industry-recognized credential or a postsecondary program. These pathways were often conceptualized as running from grade 9 to grade 14, meaning that students could seamlessly transition their coursetaking from high school to a two-year institution. By the end of the project, each school had submitted a design for at least one pathway although schools varied in the degree of implementation. Pathways covered many fields with examples including information technology, allied health, marketing, pre-nursing, and business management.

Work-Based Learning. To increase the relevance of students’ high school experiences and connect students’ education to careers, CCRE schools were expected to provide work-based learning experiences associated with the pathways. Columbus State staff conceptualized work-

based learning as a “continuum” of activities that range from career awareness activities to high school and college coursework aligned with career pathways to meaningful work experiences, such as career assessments, job shadowing, and internships. In general, the area of work-based learning showed lower levels of change than other areas of CCRE, with no differences or developments indicated on the surveys or in the interviews. Project staff acknowledged that this was an area that still required additional work and there are plans to deepen these workforce connections beyond the life of the grant.

Instructional Practices. The CCRE program focused on high school classroom instruction as a major contributor to student college and career readiness. As such, a shared vision for instruction was an important part of a school-wide Career- and College-Ready Academic Program. According to the survey results, 52% of Year 4 respondents indicated that there was a common vision driving major instructional decisions for all staff; this was a statistically significant increase over the Year 1 level of 36%. The instructional focus varied by district with some districts embracing the Common Instructional Framework (CIF), a set of six instructional strategies supported by the project.⁶ One district even made

“[The CIF] is part of the culture; it's part of our framework for learning. All staff are aware, and ... I don't think there's the pushback on it at all. It is just an accepted way ... particularly for the instructional piece, that is how we teach. It's wrapped up into every building's professional development plans, staff retreats, our new teacher orientation programs, and even ... teachers who are relatively new to the district undergo training.”

— Staff member in district that adopted the CIF

⁶<https://www.jff.org/resources/common-instructional-framework/>

these strategies the centerpiece of a whole-district reform effort (see box). Other districts chose to focus on their own frameworks for instructional practice. Because of these differing emphases, the survey showed no changes in the implementation of the specific CIF strategies.

Strong Postsecondary Partnership. A strong postsecondary partnership was a critical part of ensuring that a Career- and College-Ready Academic Program was in place. The primary partnership in this grant was between the districts and Columbus State, although some districts collaborated with other postsecondary institutions. Survey results showed a statistically significant increase in the quality of the postsecondary partnership with Columbus State during the project period. These results were supported by the interviews, which suggested a strong and supportive partnership was in place between the college and the districts. One district coordinator said, “I think [Columbus State] does a phenomenal job of supporting us at the school level. I cannot tell you the number of times I've met or called [the dual enrollment coordinator], hundreds of times.”

CAREER AND COLLEGE HEADSTART

The second Early College Design Principle, Career and College Headstart, focused on ensuring that students were prepared for college courses and were provided with early exposure to the culture and norms of college, as well as to careers. To do this, schools implemented a variety of strategies intended to build students' academic readiness, including the instructional strategies mentioned earlier, using specialized or developmental software to build students' skills in math and English, and providing intentional instruction in college readiness skills. Survey results showed a statistically significant increase in teachers' reported instruction of college-readiness skills such as time management, note-taking, and self-advocacy. These different approaches likely contributed to the positive impacts on students being on-track for high school graduation.

Schools also implemented a variety of activities intended to expose students to college and career, including fairs. One school hosted “Future Fridays,” during which business

“Exposure matters with the students. Exposure with Future Fridays and careers, exposure with college visits, and college fairs, and just all-around college programs that we have here. Exposure matters, because it does let [students] know that they can attain it, so it definitely helps that they are seeing these things on a daily and monthly basis.”

— School staff member

representatives would come to classes to talk with students about job opportunities, the training that would be required, and the benefits that would be offered (see box). Some schools also used college and career readiness software such as Naviance.

WRAPAROUND STUDENT SUPPORTS

The Wraparound Student Supports Design Principle included comprehensive academic supports, social and emotional programming and support, and assistance with college applications and financial aid.



Because a community college led this project, there was substantial collaboration between the College and high schools to help students who were taking dual-enrollment courses. One of the key support strategies was the use of the college's Starfish monitoring system. Columbus State faculty were responsible for entering key indicators (e.g., attendance, grades on assignments) that could then be used to identify students who might need assistance. Columbus State provided Starfish training to CCRE schools; each high school had a contact that received alerts and could intervene when needed (see counselor's quote).

I get an email and, if I log into Starfish, I can also view all of those alerts. For example, right now I got an alert from an English professor for a student [who had a] participation concern, attendance concern, class completion concern, and all for the same student. That student is basically hospitalized ... So, if we have a medical note, we can drop the class without penalty of a "W".

— Counselor

In addition to Starfish, all students taking dual enrollment courses through Columbus State were eligible to receive tutoring both on the College's campus and through an online service, NetTutor, although not many students took advantage of this support. According to data from Columbus State, 186 students used college tutoring in the fall of 2020.

Over the course of the project, participating high schools were expected to implement a variety of strategies to improve the academic and affective supports to students. As noted earlier, many schools utilized specialized software to build students' English and math skills. Other key CCRE strategies included: starting new advisory periods or further refining existing advisories, implementing indicator-based and tiered support systems, bringing in additional

counselors, and providing explicit support around college application logistics and financial aid. Overall, survey results showed no significant changes in the implementation of support activities, suggesting that schools already had supports in place or that changes were not widespread or systemic. Nevertheless, some schools did expand their support activities. For example, one school restructured its advisory period to more explicitly focus on college and career readiness with the curricula designed to support the needs of each grade (i.e., interest inventories and career exploration were the focus of ninth grade advisory periods; college applications and FAFSA completion were the focus of twelfth grade advisory periods). Another district integrated college and career readiness indicators into its early warning system.

SCHOOL-LEVEL ORGANIZATIONAL PRACTICES

The final Early College Design Principle encompassed school-level practices that needed to be in place to ensure effective implementation of the other Design Principles. As shown in the logic model, these practices were; 1) structures to support personalized relationships; 2) establishment of a college-going culture; 3) ongoing job-embedded professional development; 4) data-based decision-making; and 5) time and support for teacher collaboration. Survey results showed a statistically significant increase in data usage related to students' performance in college courses and a statistically significant increase in the amount of time scheduled for teacher collaboration. There was a descriptively positive increase in the number of teachers reporting that their school had a college-going culture, although the result was not statistically significant. This may have been because the schools had a broader focus, a future orientation, which included an emphasis on careers as well. There were no impacts on the other scales measured in the survey.

One of the challenges faced by participating schools was a fair amount of turnover at both school and district levels. In general, the CCRE project team believed that this turnover slowed down project implementation.

DISCUSSION AND CONCLUSIONS

The CCRE project was a complex, multi-year initiative that used college coursetaking as a lever to move schools to develop a culture focused on preparing students not just for high school graduation but for what comes afterwards—what we called a “future orientation.”

Throughout the grant period, the CCRE project team provided a range of implementation supports. They helped schools implement college courses and create pathways. They provided professional development and coaching to leadership and staff to help schools change their instruction and improve their early alert systems and multi-tiered systems of support. They funded efforts to promote college readiness for students through a college-readiness course (COLS 1101) and college and career readiness software. Columbus State made these resources available to all participating districts and schools; however, levels of participation varied because districts did not always choose to make use of all available support.

The project activities were intended to support schools as they implemented Early College Design Principles. The evaluation data showed that all schools were shifting their focus away from just preparing students for high school graduation to preparing them for the next stage of life, whether that be college, a career, or the military.

The survey and administrative data highlighted changes that had been made across all schools. These changes tended to be related to college enrollment and success activities. Schools showed significant increases in the existence of a common vision for instruction. There were more supports focused on post-high school readiness, and there was increased use of data from college courses. Implementation tended to vary across districts. In some districts, the changes were primarily related to college coursetaking. One district, however, used the project as an impetus to redesign their entire district improvement plan to focus on student-centered instruction and college readiness.

The analyses of student impacts showed that the changes districts made led to improvements in student outcomes. More CCRE students were on track for high school graduation in ninth and tenth grade than students in similar high schools. There was also a statistically significant increase in the percentage of students who were taking college courses, particularly for underserved students, which differs from results found by other researchers.⁷ This study provides a reminder that positively impacting earning college credits is challenging as this expanded access did not result in an increase in the average number of college credits earned.

The information in this report summarizes key implementation and impact findings. From these results and from other extensive data we have collected over the past five years we have identified several lessons and corresponding recommendations for practitioners and policymakers seeking to do similar work. Selected insights include the following; a more complete list is in the final report.

- **Early college work requires strong partnerships.** The early college model depends heavily on a high-quality partnership between school districts and colleges. The CCRE project included numerous examples of how the college and district were able to work together to resolve challenges.
- **Expanding access to college courses requires a focus on college readiness.** CCRE managed to successfully expand access to students who are traditionally underrepresented in dual-enrollment courses by making sure that eligible students were recruited and encouraged to participate. More importantly, the project expanded the pool of students who were eligible to take college courses by increasing the number of students who were academically prepared for college courses.

⁷ Miller, et al. (2018); Pierson, Hodara, & Luke (2017)

- **Supporting students requires the sharing of information.** One of the more successful strategies used by CCRE was providing access to and training high school staff in the use of the College's student performance monitoring software, Starfish.
- **Equity requires intentionality and purposefulness.** This project was successful at expanding access to college courses for populations traditionally underrepresented in higher education, including those who were economically disadvantaged and students who were members of racial and ethnic groups underrepresented in higher education. The project team intentionally focused on these populations.

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