

Building Blocks: Laying the Groundwork for Guided Pathways Reform in Ohio

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In 2015, with support from Great Lakes Higher Education Corporation & Affiliates, the Ohio Association of Community Colleges (OACC) launched the Student Success Leadership Institute (SSLI). One main objective of the SSLI was to help the state's two-year colleges develop "completion plans" required by the state as part of a push to improve Ohio public college graduation rates. Through the SSLI, OACC held a series of six workshops for all of the state's 23 two-year colleges and provided coaching on data collection and analysis to help colleges formulate completion plans that were submitted to the Ohio Department of Higher Education (ODHE) in spring 2016.

In summer 2016, OACC, in partnership with ODHE and the Community College Research Center (CCRC), secured additional funding from Great Lakes to provide technical assistance to help colleges implement their completion plans. OACC and its member colleges decided to embrace the "guided pathways" model as the framework both for the colleges' student success efforts and for the technical assistance that OACC would provide to them. They did so because the guided pathways model provides a holistic framework with which to integrate and leverage the multiple improvement strategies the colleges set forth in their completion plans.

CCRC's 2015 book, *Redesigning America's Community Colleges: A Clearer Path to Student Success* (Bailey, Jaggars, & Jenkins, 2015b), has provided a blueprint for guided pathways reforms nationally. As part of the grant from Great Lakes, CCRC is partnering with OACC and ODHE to conduct applied research to learn how the colleges in Ohio are approaching guided pathways reforms, how the reforms are affecting student outcomes, and what barriers to implementation colleges are experiencing.

This research was conducted as part of a project funded by Great Lakes Higher Education Corporation & Affiliates. We thank our partners in the project, the Ohio Association of Community Colleges and the Ohio Department of Higher Education, for their guidance and support. We are also grateful to the faculty and staff from Ohio's 23 public two-year colleges who participated in this research. In addition to the authors, the CCRC research team included Michael Armijo, Maggie Fay, Porshéa Patterson, and Madeline Joy Trimble. Thomas Bailey of CCRC and Laura Ritter and Cody Loew of the Ohio Association of Community Colleges provided feedback on drafts. Kim Morse, Amy Mazzariello, and Doug Slater of CCRC edited and produced the report.

Under the guided pathways model, community college faculty and advisors map out educational programs in consultation with employers and partnering four-year institutions. They specify course sequences, cocurricular requirements, and progress milestones that guide students through programs and on to employment and further education in their chosen field. New students are helped from the start to explore career and academic options, choose a program of study, and develop a customized academic plan based on the college's program maps. Both advisors and students monitor students' progress on their plans to ensure that they make timely headway toward their education and career goals, and advisors intervene when students struggle or fall off-path. The program maps provide a framework to help faculty define and assess essential competencies and ensure that as students progress through their programs they are building the skills and knowledge they will need to succeed in further education and employment.

A handful of Ohio community colleges are leaders in the guided pathways movement nationally. Lorain County Community College, Sinclair Community College, and Stark State College participated in Completion by Design, an initiative funded by the Bill & Melinda Gates Foundation that pioneered guided pathways ideas. Three others—Columbus State Community College, Cuyahoga Community College, and Zane State College—were selected in late 2015, along with 27 other colleges nationally, to participate in the American Association of Community Colleges' (AACC) Pathways Project, which is seeking to further the development and adoption of the guided pathways model by community colleges. Before joining the AACC Pathways Project, these three colleges had not launched full-scale guided pathways reforms, and most of the remaining 17 Ohio community colleges had not formally started implementing guided pathways before OACC adopted guided pathways as the framework for the SSLI in fall 2016. We confirmed this in fall 2016 when CCRC conducted a baseline assessment using CCRC's (2017) *Guided Pathways Essential Practices: Scale of Adoption Self-Assessment* and found that most of these 17 colleges, while they had pieces of the guided pathways model in place, had not yet begun to undertake the more systemic changes involved in guided pathways. The goal of the current phase of the SSLI is to help colleges across the state plan and begin to implement full-scale redesigns of programs and student supports following the guided pathways model, building on the foundations they have laid in their reforms to date.

The Purpose of This Report

This report describes how the Ohio two-year colleges are approaching guided pathways reforms. It is based on our research on the guided pathways reform efforts by these colleges during fall 2016 and spring 2017. Although a handful of Ohio colleges are leaders in guided pathways reforms, our focus in this report is on colleges that are just beginning to engage in such reforms. Implementing guided pathways is a complex endeavor involving changes in both practice and culture. Based on our observations from work nationally with colleges implementing guided pathways reforms, we find that it takes a long time—typically five years or more—to implement guided pathways practices at scale, not including the time required to lay the groundwork for such a comprehensive institutional redesign (Bailey, Jaggars, & Jenkins, 2015a). Nevertheless, as colleges in Ohio and across the country embark on guided pathways reforms, it is critical to understand that they are not starting from scratch. Ideally, colleges should look at guided pathways as a means of integrating and aligning their sometimes disparate student success efforts. In this initial report on our research on guided pathways reforms in Ohio, we focus on

innovations Ohio colleges have implemented in recent years that can serve as building blocks as they seek to transform their policies, practices, and culture following the guided pathways model.

Research Methods

This report is based on two strands of research. First, we conducted a baseline analysis of the extent to which the Ohio two-year colleges have adopted guided pathways practices using CCRC’s scale of adoption self-assessment. OACC asked all of the colleges to fill out the self-assessment in preparation for a statewide meeting in Columbus in September 2016. This meeting was attended by teams from all 23 colleges and marked the formal launch of the Ohio guided pathways work. College teams were given time during the meeting to refine their responses to the self-assessment and begin to formulate plans for scaling up guided pathways reforms on their campuses. After the meeting, CCRC conducted follow-up telephone calls with representatives from each college to discuss in more detail how colleges were approaching the essential guided pathways practices outlined in the self-assessment, what challenges they were encountering, and their plans for the coming months.

Second, we conducted on-site interviews and focus groups at six of the Ohio colleges that were in the early stages of formally launching guided pathways reforms: Cincinnati State Technical and Community College, Clark State Community College, Edison State Community College, Lakeland Community College, Marion Technical College, and North Central State College. We selected these colleges to provide variation in terms of size and urbanicity. In total, we interviewed 234 faculty, administrators, staff, and students at these six colleges, as is summarized in Table 1.¹

In these interviews we asked participants to describe their college’s progress in the four main areas of practice in the guided pathways model: mapping pathways to student end goals, helping students choose and enter a program pathway, keeping students on path, and ensuring that students are learning. We also asked them about how their college is implementing these reforms, what challenges they have faced, and what recommendations they may have for other colleges.

Table 1. Interview and Focus Group Participants at Ohio Colleges

| College | Interviews | Focus Group Participants | | | Total |
|--|------------|--------------------------|----------|----------|-------|
| | | Faculty | Advisors | Students | |
| Cincinnati State Technical and Community College | 17 | 5 | 4 | 4 | 30 |
| Clark State Community College | 18 | 7 | 5 | 4 | 34 |
| Edison State Community College | 29 | 6 | 7 | 6 | 48 |
| Lakeland Community College | 20 | 16 | 6 | 7 | 49 |
| Marion Technical College | 12 | 7 | 7 | 7 | 33 |
| North Central State College | 18 | 6 | 6 | 10 | 40 |
| Total | 114 | 47 | 35 | 38 | 234 |

Organization of the Report

In the following section of this report, “Building Blocks for Guided Pathways in Ohio,” we describe innovations the Ohio colleges have already implemented that can serve as building blocks as they continue to implement guided pathways more broadly. We rely primarily on our interviews at the six colleges where we conducted site visits to describe these innovations, as we were able to study their practices in greater depth than we were the others’. The task for these and the other Ohio colleges is to build on and better align these innovations in ways that help students choose, enter, and complete programs of study that are designed to prepare them to succeed in employment and further education. In the second main section, “Recommendations for Ohio Colleges Embarking on Guided Pathways,” we recommend steps colleges might consider taking to facilitate the implementation of guided pathways reforms, drawing on our field research at the six community colleges as well as our analysis of the colleges’ self-assessments and follow-up telephone interviews with representatives from all 23 Ohio two-year colleges. We conclude with a brief description of the next phase of our research with our Ohio partners.

Building Blocks for Guided Pathways in Ohio

Below, we describe innovations in practice implemented by the six Ohio colleges that were the focus of our fieldwork. We focus on innovations that can serve as building blocks for more systemic guided pathways reforms. We have organized these descriptions under the four main areas of practice in the guided pathways model: (1) mapping pathways to student end goals, (2) helping students choose and enter a program pathway, (3) keeping students on path, and (4) ensuring that students are learning.

Mapping Pathways to Student End Goals

Central to the guided pathways approach are efforts to more clearly map out pathways for students to the completion of credentials, career advancement, and further education. To help students make sense of the many programs typically offered, colleges are organizing their programs into career-focused “meta-majors.” The following are examples of ways the six Ohio colleges we visited have laid the groundwork for program mapping and meta-majors.

North Central State College has reorganized its program webpage (<https://www.ncstatecollege.edu/cms/degrees.html>) to show its certificate and applied associate degree programs under three broad meta-majors, or what the college refers to as “career fields”: health sciences, business and engineering, and public service. Transfer programs in specific fields are shown under a fourth heading. Clicking on a program icon leads to the program’s webpage, which in most cases has information about jobs in the field, including statistics on entry-level salaries and local job growth. Figure 1 provides an example (for the full page, see <https://www.ncstatecollege.edu/cms/degrees/criminal-justice>).

Figure 1. North Central State College's Criminal Justice Program Webpage



[Home](#) ▶ [Degrees](#) ▶ [Criminal Justice](#)

criminal justice

Graduates of the Criminal Justice program may find employment with city, county, private and state agencies who are involved with the enforcement of laws, the investigation of criminal acts, corrections, probation, and parole. Positions are also available in the private industry where security and loss prevention are paramount. Some graduates will continue to pursue a bachelor's degree, which expands the employment market to include state and federal agencies.

The qualities that a person should have to be successful include: keen powers of observation; mental alertness, emotional stability; ability to work within prescribed rules and regulations; and the ability to handle responsibility and discipline. As the field of criminal justice becomes more sophisticated and complex, advanced training and education become more critical. The two-year curriculum includes courses in forensic science, juvenile delinquency, drugs and narcotics, family violence, criminal and constitutional law, criminology, and criminal investigations.

Where You Could Go

Common work settings include police/ sheriff's departments, juvenile facilities, city/county probation, correctional facilities, private security agencies and loss-prevention (retail). Many graduates transfer credits to another college or university bachelor degree program.

NC State has over 40 agreements with four-year colleges and universities, to provide a smooth transition for students who want to pursue a bachelor's degree; some of which are offered on the NC State campus or online.

Job Demand

There are a variety of career choices for criminal justice graduates. The field is stable and generally offers good job security, along with advancement opportunities with further training and education.

Career Coach



Data provided by our Career Coach website. Percentage reflects the predicted job growth over the next 5 years in the North Central Region* of Ohio.



Data provided by our Career Coach website. Salary range is calculated for the North Central Region* of Ohio and includes jobs that may require a bachelor's degree.



[Curriculum Worksheet](#)
Courses Plan by Semester



[Required Courses](#)
Descriptions of Courses



[Law Enforcement](#)

This option incorporates the Ohio Peace Officer's Training Academy

Faculty and advisors have worked together to create “curriculum worksheets” for each program, which map the sequence of courses students need to take to earn the credentials offered in each. These program maps, available for both full-time and part-time students, are posted on the college’s website. Some program webpages also list key program learning outcomes. For transfer programs, the website provides curriculum maps that list the courses students should take each semester to prepare for transfer within given fields (see, e.g., the map for the associate of arts for transfer in social work: <http://media.ncstatecollege.edu/curriculum-worksheets/AASW1718.pdf>).

North Central’s academic departments are working to identify critical gateway courses for each program. The college’s institutional research staff provide the faculty with drop/fail/withdraw information to help them identify such courses. These courses will eventually be highlighted on the curriculum worksheets, and departments in each career field will work to find ways to strengthen academic support for students taking these courses.

All new students at North Central develop a two-term plan before they register for classes for the first time. Students and their advisors work from the program maps to customize students’ plans based on previous credits they bring to the college and their particular career and academic goals.

Cincinnati State Technical and Community College has similarly organized its programs into “career interest groups,” which are listed with photos on the college’s home page (<http://www.cincinnati-state.edu/>). These interest groups include business, computers, culinary, education, engineering, environment, health and fitness, multimedia and design, public safety, and transportation. Clicking on any one of these fields leads to a list of programs. For each program, the site provides a brief description, a summary of potential employment and transfer opportunities, a curriculum map, and contact information for specific individuals on campus—often the program chair and the cooperative education (co-op) coordinator—who can provide more information on the program. Information on transfer-oriented programs and online programs is also provided under separate icons on the college’s home page.

Cincinnati State has worked with its two main public transfer partners, the University of Cincinnati and Northern Kentucky University, to map out articulated transfer pathways for the most popular majors. This has been done in a way that ensures that credits earned at Cincinnati State will be accepted toward junior standing in the given major. The University of Cincinnati and Northern Kentucky University provide the college with data on how well students who have transferred from the college are performing. Cincinnati State uses this information as part of the program review process to refine these transfer programs. Cincinnati State has industry advisory boards for all of its associate degree and certificate programs, and the college regularly surveys employers about how well prepared students they have brought on as co-op participants from the college are for employment in their industry. In these surveys, the college asks about how well prepared students are in both technical and soft skills. Of the six colleges we visited, Cincinnati State seems to do the most to actively involve both employers and transfer partners in defining program requirements.

Clark State Community College has organized its 120 programs under 10 career-oriented “program clusters.” College faculty and staff conducted focus groups with students to gain feedback on two potential program groupings: one with four clusters, and the other with 10. Based on students’ feedback on which made the most sense, college leaders selected the 10-cluster

grouping. The college plans to use these clusters to organize program maps on its website, along with other information intended to help prospective students understand the college's offerings and to help current students to better navigate program options. Each program page will include a tab with information on related career and transfer options and requirements.

Clark State is creating "curriculum guides" that map out course sequences and other requirements for every program (see Figure 2 for an example). For instance, the college's management department reorganized its programs so that all students take the same core courses in the first year. In the second year, students specialize in one of four focus areas: general management, human resource management, logistics and supply chain management, or marketing. The management department conducted focus groups with employers and used their recommendations to design the curriculum both for the core management program and for the four focus areas. Management faculty have also mapped their programs to the bachelor's degree programs in business at Wright State University (one of the college's main transfer partners) and created marketing materials for use by both current students undecided on a major and prospective students. Faculty in the Division of Arts and Sciences are using these management programs as a model and are beginning to develop "curriculum sheets" that lay out a suggested sequence of courses for students planning to transfer within particular major fields.


To create better defined pathways for transfer programs, faculty at **Lakeland Community College** have developed recommended sequences of courses, or "roadmaps," for major fields that the college calls "concentrations." To do this, they analyzed the requirements for particular majors at common transfer destinations. They found that because major requirements vary by institution, they had to customize the maps to particular four-year destinations. For example, when creating maps for prospective English literature majors, English faculty found that Cleveland State University accepts up to six 2000-level courses, while other common destinations accept only four. Faculty therefore recommended that all prospective English majors take two 2000-level history courses—because history courses provide important background for British and American literature courses—and two 2000-level English courses. The map indicates that students transferring to Cleveland State can take two additional 2000-level English courses at Lakeland and still be able to transfer the credits toward a degree in the major. Lakeland's marketing department has used these maps to create highly informative brochures for each concentration. The next step for the college will be to begin to use these maps more systematically in recruiting new students and advising current ones.

Figure 2. Clark State Community College Curriculum Guide



**EARLY CHILDHOOD EDUCATION
2016-2017 CURRICULUM**

CPE 0100 _____ | CPE 0500 _____
 CPE 0200 _____ | CPE 0600 _____
 CPE 0300 _____ | CPE 0650 _____
 CPE 0400 _____ | CPE 0700 _____

| COURSE # | COURSE NAME | CR | PREREQUISITES |
|--|---|--------------|--|
| FALL 1ST YEAR | | | |
| _____ ECE 1101 | Professional Development for Educators | 1.00 | Pre CPE 0100; Pre/Co CPE 0200, ECE 1102 |
| _____ ECE 1102 | Child Development and Education | 3.00 | Pre/Co CPE 0200, CPE 0300 |
| _____ ECE 1105 | Language and Literacy in Education | 3.00 | Pre/Co CPE 0200, ECE 1102 |
| _____ EDU 1110 | Introduction to Education | 3.00 | Pre/Co CPE 0200 |
| _____ ENG 1111 | English I | 3.00 | Pre CPE 0300 with B or CPE 0400 with C; Pre/Co CPE 0200 |
| _____ FYE 1100 | College Success | 1.00 | |
| Total Credit Hours Fall 1st Year | | 14.00 | |
|  | | | |
| SPRING 2ND YEAR | | | |
| _____ ECE 2110 | Family, Community, School | 3.00 | Pre ECE 1102, ENG 1111, Pre/Co ENG 1112 |
| _____ ECE 2120 | Leadership, Management, Mentoring in EC | 3.00 | Pre ECE 1102, ECE 1115, ENG 1111 |
| _____ ECE 2135 | Practicum Field II | 2.00 | Permission Required Pre ECE 2130, ECE 2133; Co ECE 2135; Instructor |
| _____ ECE 2137 | Seminar II | 2.00 | Permission Required |
| _____ EDU 2216 | Technology for Educators | 3.00 | ITS 0800 and ITS 0810 |
| _____ EDU 2217 | Individuals with Exceptionalities | 3.00 | Pre ECE 1102 or EDU 1110, ENG 1111, Pre/Co ENG 1112 |
| Total Credit Hours Spring 2nd Year | | 16.00 | |
| TOTAL CREDIT HOURS | | 65.00 | |

*BIO 1410, Fundamentals of Biology; BIO 1105 Fundamentals of Anatomy and Physiology; GLG 1131, Physical Geology, GLG 1129, Survey of Earth Sciences (For additional courses, see list under Physical/Natural Sciences in front of catalog)

**Suggested courses: MTH 1050, Math and Today's World; MTH 1060, Business Math; MTH 1280, College Algebra; STT 2640, Elementary Statistics I

Note. This image comes from Clark State's curriculum planning sheet for the early childhood education degree for full-time students. For space, the spring first year, summer, and fall second year terms have been trimmed from this image. A separate version of this curriculum sheet is available for part-time evening students and lays out a recommended schedule with only 7-9 credits per term over four years.

Helping Students Choose and Enter a Program Pathway

Implementing guided pathways requires that colleges rethink the student intake experience with the goal of helping new students explore, choose, plan, and successfully enter a program of study that is a good fit with their interests, talents, and aspirations. In this section, we describe the groundwork in building program “on-ramps” for new students laid by the six Ohio colleges we visited.

College/Career Exploration and Planning From the Start

Students entering **Edison State Community College** are evaluated by their SAT/ACT scores and high school grade point averages in combination with their ACCUPLACER scores for placement into developmental or college-level math and English. However, the college does not simply rely on these measures to assist students with identifying their aptitude to excel in a chosen major or career path; students are also asked to complete a Holland career interest assessment during new student orientation. The college also relies on the recommendations of professors for placing students into the correct level of math or English courses. After taking the Holland assessment, students meet with an advisor to discuss the educational path they would need to take to pursue careers of interest to them. College staff admit that this works well during orientations offered in the spring and early summer but becomes less feasible during the enrollment rush in the final weeks before the start of classes in the fall.

At one time, Edison State offered career services through a separate career center; however, the college has moved to a new model in which success advisors, who advise all entering students, are cross-trained as career advisors. Other career resources are available in the library, and the college still has a career advising coordinator who can help students with resumes. This person is also responsible for updating information on careers on the college’s website.

In 2012, Edison State began requiring all new students to develop an educational plan through the first two semesters. The college is now building on its prior work with student educational plans to implement full-program plans based on program maps developed by faculty and advisors. Since the college already has maps for all programs that include a recommended sequence of courses, it is easy for students to see what courses they need to take in each semester of their plan.

Math Pathways

North Central State College has developed two math pathways: statistics and algebra/calculus. All new students at the college are required to choose a major or career field when they enroll, and the math pathway students take is determined by what field they choose to pursue. For example, students in nursing and allied health programs take statistics. In the past, most students were assigned to an algebra track; now nearly 75 percent take statistics. In addition, the college has implemented corequisite support for nearly all of its math courses. About two thirds of students pursuing the statistics pathway are required to take a two-credit corequisite essential algebra skills course taught by the same instructor as the college-level section in which they are enrolled. North Central is one of the only community colleges nationally CCRC is aware of that has implemented both math pathways and associated corequisite supports for nearly all degree-seeking students. The college has seen a substantial increase in the rate of students passing college-level math in the first year. Based on the key performance indicator (KPI) reports that CCRC produced drawing on

data from ODHE, the percentage of first-time-in-college students at North Central who passed college-level math in their first year jumped from 20 percent in 2010 to 34 percent in 2015, the year the college first implemented the math pathways with corequisite support.²

Lakeland Community College's math department looked at the learning outcomes of its three developmental courses and found that the Intermediate Algebra (MATH0950) developmental course was an unnecessary prerequisite to Statistics (MATH 1330 or MATH 1550) and Survey of College Mathematics (MATH 1600). Effective fall 2016, students advised into the college's statistics pathways who are not deemed college-ready have one less developmental prerequisite to take before enrolling in MATH 1330, 1550, or 1600. Students majoring in science, technology, engineering, or mathematics (STEM) who are planning on taking College Algebra (MATH 1650) or higher level math courses may still be required to take MATH0950 based on their placement scores. The development of a statistics pathway and the elimination of the lowest level of developmental math for students in majors requiring statistics may be the reason that the rate at which first-time students took and passed college-level math in their first year increased from 12 percent in 2010 to 21 percent in 2015, the year the college made these changes.

Corequisite Acceleration

Lakeland Community College has been offering a corequisite English Composition course similar to the Community College of Baltimore County's Accelerated Learning Program³ for a long time. This may be the reason that the rate at which first-time students complete college English in one year at Lakeland is 20 percentage points higher than the Ohio average for two-year colleges.

Clark State Community College is in the process of scaling up developmental education reforms with the goal of implementation at scale in the fall of 2018. The new model will use corequisite courses and acceleration to provide all students, with the exception of those who place into the lowest levels of developmental education and those who intend to follow a STEM-transfer track, the opportunity to take and pass college-level math and English in their first term.

Building Pathways Into High Schools

All of the colleges we visited enroll substantial numbers of high school dual enrollment students, referred to in Ohio as College Credit Plus (CCP) students. Two years ago, **Marion Technical College** started to build programmatic pathways in collaboration with local high schools. Students are bussed to the campus to take the courses. The college has partnered with Honda of America and other area manufacturing companies, including Whirlpool, to develop an engineering pathway program, which will include activities that expose students to engineering careers. The program is designed so that students can complete an occupational certificate or applied associate degree while in high school. The college is working with other employers in its region to create similar pathways for high school students in medical assisting, criminal justice, and business. The legislation that established CCP two years ago (and has resulted in a more than twofold increase in the number of Ohio high school students taking college courses) called for "15- and 30-credit pathways" for students. The pathways that Marion has started with its local schools seem to be a promising model for such pathways.

North Central State College is also partnering with local high schools and career centers in Ohio to create more well-defined pathways to college and careers for high school students, starting with its CCP students. Particularly promising is the college's work with the Pioneer and Ashland Career Centers, which is focused on enabling high school students to earn college credentials in high-demand technical fields. North Central has established the Tuition Freedom Scholarship program for CCP students who continue their education at the college after high school. Those who earn at least six credits through CCP and a minimum 2.5 grade point average can apply to the program, which will pay for up to 64 credits at North Central as long as the student attends full-time. Tuition Freedom Scholars must meet with their advisor once a term to ensure they are on path. Connecting financial incentives such as this and CCP pathways holds special promise for increasing the rate at which lower income students enroll in postsecondary education directly following high school graduation.

In order to create pathways to college for high school students (including those enrolled through CCP), **Clark State Community College** has begun to extend selected program clusters and pathways at two high schools, with plans to scale to all of its high school partners. Leaders at Clark State surveyed local high school counselors to identify students' top four-year college destinations and majors of interest. The college is currently using results from these surveys to create customized pathways for local CCP students that lay out the courses to take at Clark State while in high school and once enrolled at Clark State following graduation. These pathways are designed to allow students to transfer to a particular four-year institution and graduate with a bachelor's degree in specific majors with no loss of credits.

Keeping Students on Path

Colleges implementing guided pathways need to rethink and redesign their advising systems to help students make timely progress on their program plans, intervene when they are struggling, and help students consider a new direction when they change their minds or fail to make progress on their initial path. All six of the Ohio colleges we visited are exploring ways to redesign advising that align with their efforts to better map programs and create student plans.

Over the past couple of years, **North Central State College** has built an advising model consistent with the guided pathways model. Student Success Center advisors (called "success coaches") work with all new students for the first semester or until they complete any remedial requirements. During the first semester, the success coaches meet with all new students to create a two-term plan. Provided they have completed remediation, students are then transitioned to "academic liaisons" who are embedded in each of three main program areas—health care, business and technology, and liberal arts. The academic liaisons help students complete a full-program plan in their major field of interest. If students intend to transfer to a four-year institution, the liaisons help them figure out what courses they need to take to prepare for their intended transfer destination and major.

Once students complete 30 credits in their program, they are assigned a faculty advisor to provide field- and career-specific guidance, although the academic liaisons often also provide higher level advising to students in their program area. The faculty members we interviewed all spoke enthusiastically about the academic liaisons, noting that they are knowledgeable about financial aid, transfer requirements, and other details faculty are not necessarily as familiar with. At the

same time, the liaisons are experts in the requirements of the programs in their respective fields. While the college is seeking to refine its overall advising model, we heard generally positive feedback about the current model in our interviews with students and faculty. The combination of initial meetings with a student success coach followed by those with a field-specific liaison and the connection to a faculty member in the student's field of study ensures that students are helped to choose a program direction and receive specialized advice and connections in their chosen field when they need it along their path to completion.

North Central will put in place an electronic early-alert system that not only will notify students and their advisors of areas of concern that may require corrective action but also will provide encouragement and praise when students are progressing on their plans.

Department chairs at **Marion Technical College** assign new students to either first-year advisors or faculty advisors. Students deemed to be in need of more intensive support are assigned to first-year advisors. The determination of which students need more support involves several factors, including placement into one or more developmental education courses, recommendation by an admissions advisor or faculty member, student requests for additional support, and enrollment in a pre-health program. Students are typically transitioned to a faculty advisor once they are accepted into a limited-enrollment program or when they successfully complete their first year of coursework. However, first-year advisors can delay this transition if they believe that the student would benefit from continued intensive support. Until they complete 15 credits, all students are required to meet with their assigned advisor (whether a first-year advisor or faculty advisor) to register for classes. Because some faculty are more interested in advising than others, Marion is moving toward a model in which faculty who are interested are assigned to be advisors; those who are less interested in advising have an option to play other roles, such as tutors.

First-year and faculty advisors at Marion are using the alert system within Aviso to generate alerts based on attendance and midterm grades, and to track alerts so that advisors are kept up-to-date on students who are struggling. A few advisors have also chosen to receive alerts on students who have created academic plans using Aviso software but have chosen an off-plan course. We encouraged the college to consider how it could expand this monitoring to all students.

Ensuring That Students Are Learning

A key goal of guided pathways reforms is to ensure that students are building essential skills and knowledge across programs, not just in individual courses. Here we describe how the Ohio colleges we visited are working to strengthen teaching and learning across programs.

Lakeland Community College faculty, supported by college-wide committees and program review processes, regularly clarify and assess student learning across programs and use results to improve student learning. Student learning outcomes are assessed at three levels: course-level outcomes, general education outcomes, and program-level outcomes. Assessment of program-level learning outcomes occurs not only for career-technical programs but also for pre-transfer programs. Faculty in liberal arts and sciences departments set program learning outcomes by outlining what students should know about their subject area as a result of completing the most commonly taken course or sequence of courses in their department. In addition, a faculty committee organizes in-depth assessments around one of the college's general education learning

outcomes each year, which encourages college-wide conversations germane to the learning outcome in focus. Results from these assessments are used during program review and in faculty in-service events to improve teaching and learning. The college uses Taskstream software to keep track of learning outcomes by course and program. The software is used during the program review process to examine results from assessments of general education, course, and program learning outcomes along with data on course enrollments, grades, and instructor evaluations.

Cincinnati State Technical and Community College requires that students participate in at least one paid four-credit-hour cooperative education (co-op) experience in order to graduate. Co-ops provide academic credit for a structured job experience and are required of students in all programs, including liberal arts and humanities. This powerful model can help students explore career options, connect with job opportunities in their field of study, and gain real-world experience that enables them to apply what they are learning in class. The college has 16 coordinators who develop co-op opportunities with employers and help students individually and in required seminars to create resumes and prepare for interviews. The coordinators also work with students and employers to set learning goals for each student's experience. Feedback from students who have participated in the program is glowing. Students we interviewed said that co-ops provide real-world experience that makes use of skills related to their chosen program. Although Cincinnati State has been offering co-ops since long before the field started talking about guided pathways, co-ops align with the guided pathways model in that they help ensure that programs are designed with preparation for careers in mind and that learning outcomes are embedded in program coursework. Feedback from co-op employers is invaluable, since it enables the college to quickly find out when it is not preparing students adequately.

Recommendations for Ohio Colleges Embarking on Guided Pathways

Adopting guided pathways is a complex process requiring major changes to institutional practice and culture. In our recent report on the work of the 30 AACC Pathways Project colleges (Jenkins, Lahr, & Fink, 2017), we examined the challenges colleges face when implementing guided pathways reforms and how they are approaching these challenges. One key finding is that the colleges that have made the most progress have devoted a great deal of time and effort to laying the groundwork for guided pathways reforms.

The Ohio colleges have done impressive work to lay the groundwork for guided pathways. The recommendations below, which are based on our research in Ohio and nationally on guided pathways, are intended to provide ideas for how Ohio colleges can build on their ongoing efforts to help students explore and progress through programs of study, and to successfully transfer or find employment in their field upon graduation. These recommendations address a number of practices, including program mapping, math pathways, academic planning, advising, developmental education, CCP, and performance metrics. We hope these recommendations will be useful to colleges at different stages of planning and implementing guided pathways reforms.

Continue to develop meta-majors and use them as a framework for program marketing and recruitment, new student intake, and program improvement.

All of the six colleges we visited and several of the other Ohio colleges are moving to organize programs into broad fields that we generically refer to as “meta-majors” (though colleges are generally using other names more intuitive to their students and other key audiences). We encourage Ohio colleges to continue to use meta-majors as a framework for marketing programs, recruiting and orienting new students, and improving curriculum and instruction in programs. Colleges should consider convening department chairs, faculty, and professional advisors to begin building academic and career communities within meta-majors. These communities could undertake activities such as:

- working with college marketing, high school recruitment, admissions, and advising staff to coordinate efforts to recruit and orient new students to the college’s programs in each meta-major (for example, inviting high school students interested in a particular field, along with their parents and counselors, to events featuring college faculty, employers, and four-year partners providing information on college and career opportunities in a given meta-major field);
- developing college and career success courses (or adding units to introductory college courses) with the goal of exposing students to career opportunities in the field and giving them a taste of their field of interest in the first term;
- organizing professional development for faculty (including adjunct faculty) in the meta-major to better equip faculty members to discuss academic and career pathways with students interested in their field; and
- helping organize internships, service learning, class-based projects, and other active learning experiences for students in a meta-major’s academic programs.

Involve employers and partnering four-year institutions in reviewing and validating program maps.

All of the colleges we visited are taking steps to more clearly map out their programs. Most are asking employers to review maps for their career-technical programs and seem to rely on state and local transfer agreements to validate maps for transfer programs. While such agreements are a good place to start, we strongly recommend involving the academic departments of four-year institutions directly in the review process. One reason is that bachelor’s program requirements change, and these changes are not always reflected in transfer agreements (including those established locally, which vary in specificity and need to be updated regularly). Consulting with colleagues at four-year institutions on their major requirements will also help to build relationships among faculty and others that are crucial for strengthening curriculum and teaching at both the community college and the four-year institution.

Continue to strengthen efforts to help all students explore career and college options from the start.

Most of the Ohio colleges are taking steps to help new students explore college and career options from the beginning of their college experience. Colleges are organizing their new student orientation and other intake activities around meta-majors to expose students to programs and the career and further education opportunities connected with them. Some are customizing first-year experience courses to particular fields so that students can explore a given field in more depth. Ideally, students should also be able to take an introductory course in a field of interest in their first term so that they can begin to see if the field is a good fit. This is a major change in conventional practice at community colleges, where the focus of the intake and advising process is typically to determine whether students are “college-ready” and help students schedule classes for their first term.

We encourage the Ohio colleges to continue to move in the direction of making career and college exploration an essential part of the new student experience for *all* incoming students. This will help motivate students and greatly increase the chances that they will find a program pathway that is a good fit for them and not have to spend an undue amount of time doing so. We believe that this will be especially beneficial for students who arrive poorly prepared to succeed in college work. At most colleges, such students typically have to go through a term or more of developmental courses before they can begin taking courses in their field and exploring their interests. Even once they complete remedial courses, students are often encouraged to take general education courses that may not relate to their interests. Colleges are beginning to see the benefit of ensuring that all students, including those who are poorly prepared for college, are able to enroll in a course in a program of interest in the first semester and receive help exploring associated careers and college programs from the start.

Rethink the new student intake process to help students develop a full-program plan by the end of the first semester.

An important part of the onboarding process should be to help students create a full-program educational plan that is based on the program maps created by faculty and advisors and customized to each student’s prior credits, academic support needs, goals for transfer and employment, and desired timeline for completion. These plans can be helpful to students, advisors, and the college. Once all students have a plan, colleges are much better able to predict course demand further in advance and can move to a full-year schedule based on the courses in students’ plans. This change in scheduling practices will help ensure that students are able to take the courses they need on their plan when they need them—and can also help reduce the number of course sections cancelled due to low enrollment.

At the same time, once students’ customized plans are stored in a program such as DegreeWorks or Colleague Student Planning, students and advisors should be able to more readily follow students’ progress and know when they are “off-plan” and thus require intervention. Students we interviewed at **Lakeland Community College** said that they used the degree-audit function in the college’s DegreeWorks system to make sure they were taking courses that would count toward their intended degree, to see how much further they had to go to complete their program, and to conduct “what-if” audits to explore alternate program paths. Lakeland updates its DegreeWorks system annually to reflect curriculum changes. While the positive feedback from students using

these tools is encouraging to hear, Lakeland and other colleges need to make sure that the program maps in these systems are up-to-date and accurate—and that all students know how to use them.

Students at **North Central State College** who have completed any needed remediation are required to meet with an advisor specific to their chosen field to develop a full-program plan. Although this strategy seems to be working well, we urged the college to work with *all* new students, including those who need academic support, to develop full-program plans—ideally by the end of the first semester. The program maps being developed by faculty and advisors should serve as guides to students and their advisors in developing these plans, and helping students develop a plan should begin at orientation and extend through the first semester. To facilitate this process, some colleges are requiring all incoming students—including dual enrollment students—to take a first-year experience course in which a key assignment is to explore career and college interests and to develop a full-program academic and financial plan.

Marion Technical College and other Ohio colleges are implementing student information systems that will allow students and advisors to create a plan and use it to track students' progress. In the system Marion is developing, when students speak with an advisor to develop a plan or register for courses, the system autopopulates their plan with the courses they need to take based on the curriculum guides (the college's term for program maps) created by faculty. One of the key next steps for colleges that are completing their initial mapping of programs is to use the program maps as the default curriculum that students and advisors can use to create a customized plan for each student.

Continue to scale math pathways and expand corequisite courses—and connect these with program pathways.

As mentioned, **North Central State College** and **Lakeland Community College** have implemented math pathways nearly at scale—that is, for all degree-seeking students. Both colleges are currently offering two math pathways: statistics and algebra/calculus. Most Ohio colleges are piloting corequisite remediation and other strategies for helping students take and pass college-level courses in math, English, and other critical program subjects in their first year. Lakeland has offered corequisite English for a long time—we believe this may be why new students at Lakeland are on average far more likely to take and pass college-level English in their first year than are students in other Ohio community colleges. Of the six Ohio colleges we visited, only North Central has implemented math pathways with corequisite support at scale. **Marion Technical College** plans to implement math pathways for all students beginning fall 2017, and **Clark State Community College** plans to implement math pathways and corequisite support in math and English by fall 2018. We would encourage the other Ohio colleges to follow their lead.

A key reason that North Central was able to scale math pathways is that students are required to choose a major or exploratory major (similar to a meta-major) upon entering the college. Which field they choose determines which math pathway (algebra or statistics) they will take. Thus, it is not possible for advisors to recommend, for example, that students pursue an algebra path when they are seeking to major in nursing and allied health or criminal justice, both of which require students to take statistics. We recommend that other colleges emulate this process by assigning students to a math pathway based on the major or meta-major they are interested in pursuing.

In general, we think it is a mistake to separate students into those who are college-ready and those who are not. This practice discourages students who are deemed not college-ready and overlooks the fact that many students who pass placement tests or complete remedial sequences nevertheless struggle in college courses and need help finding direction. We believe that colleges should assume that virtually all new students are not necessarily college-ready; students may need not only academic support but also help in setting goals and making plans, mastering college success skills, and coping with a learning culture much different than they may have experienced in high school. Thus, students' entire first-year experience should be organized around helping students get off to a strong start.

Continue to rethink advising roles and processes to help students at key decision points as they enter and progress through a program of study.

Colleges should continue their efforts to rethink how best to advise students at different stages of their time at the college. For example, at intake, students need help exploring career and academic program options. Once they have chosen and entered a program, students should receive regular feedback on their progress. Some may need help if they lose momentum or need to redirect to another path—for example, pre-nursing students who are passing their courses but are not receiving high enough grades to be accepted into a nursing program. Students may need help finding internships during their programs and preparing for job placement and transfer to a four-year institution when they near completion.

To develop strategies for advising students effectively at different stages of their college career, we encourage colleges that have not already done so to facilitate conversations among faculty, advisors, and other student services staff about key decision points along students' pathways at which they tend to need support, what supports students need, and who should provide it.⁴ Whatever approach a college chooses to guide students into and through programs and beyond, we recommend that advising be mandatory and proactive rather than optional and reactive. Students should not be allowed to register for classes for the next term without approval from an advisor. Some colleges and advisors are accomplishing this via an electronic approval for students who are making steady progress along their plans, freeing time for advisors to work with students who are struggling or want to change course. We encourage colleges to continue to explore how to expand their advising capacity. As we have seen in other colleges nationally, this conversation will need to address how to accommodate increased workloads associated with scaling up proactive student advising, and how to use technology to support the process.

North Central State College, Marion Technical College, and other colleges are in the process of upgrading their student information systems to flag when students have fallen off-plan. Implementing such systems takes time, in part because to be effective colleges must reorganize roles and business processes and provide the necessary training to ensure staff preparedness in new roles. Moreover, this strategy requires that every student have a plan that is stored in the student information system. Chief information officers we interviewed said that it is critical to involve user groups when implementing a new system. The chief information officer at **Lakeland Community College** said that when the college first implemented DegreeWorks, there were issues with accuracy. As a result, counselors were reluctant to move from the existing paper-based system. As counseling staff became involved and started providing feedback on the new system, it became more accurate, and counselors we interviewed said they now love it. As an interim

solution for colleges that are in the process of implementing a new software system to monitor students' progress on their plans, we suggest running batch reports to help advisors and others identify students who are off-plan or otherwise potentially in need of support.

Encourage and support College Credit Plus students and career center students to explore and plan college programs, not just take courses.

Colleges should encourage CCP students and their families to think more strategically about CCP as an entry point to college programs and related transfer and career paths, rather than just as an opportunity to take college classes.

Colleges can do this in a number of ways, such as partnering with high schools to educate students, counselors, and parents about the importance of exploring career and college options and the benefits of starting on a program path while in high school. Although students will likely change their minds about what field they want to pursue at least once, the opportunity to explore career fields while in high school at no cost to students and their families is invaluable. The high cost of college for students and states makes extensive exploration less feasible and affordable once students graduate from high school and enroll in college.

Another strategy is for colleges to expand and highlight 15- and 30-credit CCP pathways in particular fields, emphasizing that students can get on a degree and career path in high school and save money by completing lower division work at the community college before transferring to a bachelor's degree program in their desired major. Early such efforts by **Marion Technical College** and **North Central State College** are described in the previous section.

Finally, colleges should continue to build paths to college programs from the Ohio career centers. Some career center students may need extra academic and nonacademic support, but once they are on a path to a degree and a career, we think they will be highly motivated to complete programs—particularly those that are closely tied to in-demand jobs. Recruiting and retaining more of these students would help to increase colleges' revenue from financial aid-funded tuition.

Because colleges do not receive tuition and fees for CCP students, it is important that they recoup their investment by ensuring that a larger number of CCP students transition to the community college right after high school and complete their programs before they transfer to a four-year college. Right now, many Ohio colleges do not regularly monitor how many former CCP students matriculate at their institution after high school, and they may be underestimating the number of dual enrollment students who enroll post-high school. When we asked colleges what percentage of former CCP students enrolled at their institution after high school, their responses ranged from 10 to 20 percent. CCRC's forthcoming analysis of National Student Clearinghouse data (Fink, Jenkins, & Yanagiura, 2017) indicates that around 42 percent of former dual enrollment students in Ohio first enrolled at a community college after high school. Forty-nine percent first enrolled at a four-year college, while only 9 percent were not enrolled at all in college when they were 18–20 years old.

Based on these observations, we recommend that Ohio colleges monitor more closely the rates at which CCP students matriculate at their institution right after high school and go on to earn a certificate or associate degree from the college. Colleges should review historical trends and set goals for increasing this rate through activities such as those described above. Increasing

enrollment among former CCP students will help the colleges generate tuition and fee revenue as well as state subsidies through improved performance. It will also help to increase students' and Ohio taxpayers' return on investment in the state's community colleges.

Measure the effects of reforms by tracking first-year momentum.

We recommend that colleges evaluate the effectiveness of pathways reforms by measuring “early momentum” indicators. Research by CCRC and others indicates that students who gain momentum in the first year in college are more likely to complete their programs and to do so at a lower cost to themselves and taxpayers (Jenkins & Bailey, 2017). We encourage colleges to focus on three measures of early momentum in particular:

1. *Credit momentum*—defined as attempting (not necessarily completing) at least 15 semester credits (developmental and college-level) in the first term, or attempting at least 30 credits in the first academic year. An emphasis on credit momentum focuses students and the college on the time it will take students to finish their programs and hopefully motivates efforts by both to minimize that time.
2. *Gateway momentum*—defined as taking and passing pathway-appropriate introductory college-level math and English in the student's first year. Measuring gateway momentum draws attention to the content of credits students take and encourages colleges to remove barriers created by traditional prerequisite remediation by integrating academic support into college-level coursework rather than offering it through a prerequisite sequence.
3. *Program momentum*—defined as taking and passing at least nine semester credits (three courses) in the student's field of study in the first academic year. A focus on program momentum encourages colleges to help students choose a field of study early on and indicates the potential effect of reforms such as program maps and redesigned intake advising on student outcomes. This indicator will be more meaningful if the college's programs are coherent and well organized (another reason why we encourage colleges to continue to develop meta-majors and program maps).

These metrics provide a relatively simple set of leading indicators of longer term success that can be measured over the first year for each student cohort and compared year-to-year. In addition, focusing on these first-year metrics motivates colleges to introduce practices that create the initial conditions necessary for subsequent success. Prior to the February 9 OACC SSLI meeting at Columbus State, the Ohio colleges received a set of KPI reports that CCRC produced using data provided by ODHE. These included measures of both credit and gatekeeper momentum. Program momentum is best measured by colleges themselves, as the program mix and critical courses are often college-specific.

Next Steps in Building Guided Pathways in Ohio

Over the next year, OACC will continue to hold SSLI workshops where college teams can learn about guided pathways practices and update their plans for implementing guided pathways reforms. CCRC will continue to assist OACC in conducting these workshops. CCRC will also continue to study and develop knowledge to inform guided pathways reforms in Ohio. We have requested de-identified student unit record data from ODHE, which we will use to conduct in-depth baseline analyses of student progression patterns by college. We will consult with ODHE, OACC, and college leaders in conducting these analyses. We will work with ODHE to produce another set of early momentum KPI reports for each college in early 2018. We will also administer the CCRC guided pathways scale of adoption self-assessment to all 23 Ohio two-year colleges (with follow-up phone calls to each) in spring 2018.

Endnotes

1. For these interviews, we used protocols based on two frameworks, one developed by CCRC that reflects CCRC's (2017) *Guided Pathways Essential Practices: Scale of Adoption Self-Assessment* and another based on Kotter's (n.d.) eight-step process for leading change; copies are available on request.
2. As part of the SSLI, CCRC developed a set of KPIs using data from ODHE. These data were distributed to all colleges at the February 2017 SSLI meeting.
3. See <http://alp-deved.org/> for more information on this program.
4. For a more detailed discussion of key decision points, see Jenkins, Lahr, and Fink (2017, pp. 29–32).

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