Building Guided Pathways

Practical Lessons from
Completion by Design Colleges

COMPLETION
BY DESIGN

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Guided Pathways: The Completion by Design Difference

THE GUIDED PATHWAY EXPERIENCE

Louis never thought much about going to college. He was a top athlete but his high school was too small to get recognition, and his grades were only average. No one in his family had ever gone to college. When a couple of his friends got into trouble during senior year, Louis's coach pulled him aside and said, "You've got a big choice to make. It's four blocks to the county jail but only three to the community college—choose wisely."

Louis chose community college. At orientation, he learned that he'd have an advisor to help him choose courses and stay on track to graduation. His advisor asked him what he wanted to do. Louis said he liked working with athletes, so, "Maybe physical education, then I can coach." His advisor explained that there were a lot of different careers in athletics and gave him information about the ones she thought might be the best fit. They talked more about it and narrowed the choices. Louis's advisor then helped him map out the courses he needed to graduate and introduced him to a "career community" of faculty and students with similar interests.

During his first semester, Louis's advisor got an alert that Louis failed a test. When she talked to his instructor, she learned he wasn't attending class regularly. The advisor reached out to Louis who told her he just didn't feel like he belonged in college. He didn't understand how his math and English courses were tied to what he wanted to do after college. Realizing that he needed to make stronger connections, the advisor recommended that Louis join one of the health sciences intramural sports teams so he could have fun and get career reinforcement at the same time.

Shortly after that, Louis's father lost his job, and Louis considered dropping out. He met with his advisor who connected him with a financial aid counselor who helped him identify additional resources to pay for and stay in college, including a work-study job in the athletic department.

Through the people he met in the athletic department, Louis got a summer job at the community recreation center—making ends meet and networking with sports medicine professionals.

Finally, it all made sense: classes, work-study, intramurals, a career.

Louis graduated from the community college and transferred to the state university to finish his coursework. "It was really hard," he said. "I was the first in my family to graduate from college. I never could have done it without the support of my coach, my advisor, and my favorite professor."

The support Louis received at each stage of his college journey is the vision of Completion by Design. Louis's college helped him navigate successfully through his academic and life challenges and complete his degree because it focused on meeting the needs of its students.

Completion by Design and Guided Pathways: A New Approach

Colleges and universities nationwide are acutely focused on increasing student success, measured not only by the completion of valuable credentials, but also as preparation for long, productive, and rewarding careers in a rapidly changing economy. Many institutions have implemented innovative programs for specific cohorts of students, but few have tackled large-scale improvements, or the organizational and cultural change required to sustain them.

Completion by Design (CBD) is one of only a few successful examples of large-scale systemic reform of the student experience. CBD provides a framework for colleges to identify student barriers to progression, design comprehensive solutions to overcome them, and drive institutional transformation to sustain the new ways of doing business. At the core of this transformation are Guided Pathways.

A Guided Pathway is a descriptive and easy-to-use plan that guides a student INTO and THROUGH college to the successful COMPLETION of a credential and the transition to a baccalaureate program or the labor market. A Guided Pathway integrates academic and student services together in a coherent and intentional system of curricular and co-curricular experiences that match a student's interests and goals, and better prepare him or her for success in a rapidly changing global environment.

Over the past four years, CBD colleges have aligned policies, programs, and practices to create Guided Pathways that support student success. This is a bold, innovative, and aggressive approach because it requires total institutional alignment of people, structures, and culture. The CBD colleges are making significant progress in their attack on the very complex completion problem, and they're ready to share what they've learned to date.

How to Use This Toolkit

At the same time the CBD colleges continue their work, they are also helping others by mentoring other colleges, sharing their experiences at regional and national meetings, and informing policymakers and education leaders in their states. In 2015 alone, CBD colleges supported more than 100 community and four-year colleges nationwide to start, revive, and improve their educational reform efforts.

The CBD colleges are excited to share even more broadly what they've learned. That's why this document was created—to serve as a tool for faculty and staff who will do the hard work to design, implement, and sustain Guided Pathways at their colleges. As a whole, this toolkit describes:

- How the colleges organized to do the work.
- What they've accomplished to date.
- How they determine what's working and use that information to further improve.
- What they've learned that will help other colleges.
- What they're still struggling with today.

How CBD Colleges Approached the Work focuses on how the CBD colleges structured and organized their work.

Real Stories from CBD Colleges provides a window into the unique experiences of the colleges, where they started, what they did, and—most importantly—what they learned as they developed their Guided Pathways.

Lessons for Other Colleges shares key takeaways that other colleges committed to sustainable change can apply to their work.

Resources provides contact information and tells you where to find supplemental materials that could be helpful on your journey to developing Guided Pathways (look for the Resource icon ⬁). It also provides a framework to assess institutional readiness for developing Guided Pathways.

Next Steps

Now that the foundation for Guided Pathways is in place at the CBD colleges, they are tackling issues of pedagogy and instructional strategy. Over time, we will add information about their work in this area. We will also share additional information about longer-term performance metrics as students progress through and successfully complete their Guided Pathways. We hope our stories and insights are useful to other college practitioners, and welcome dialogue with other colleges to learn more about what they are doing. Please use the contact information included at the end of this toolkit to get in touch.

What is Completion by Design?

Four years ago, nine colleges in three states—with very different sizes and contexts—set out to increase student success and completion by knocking down the barriers that stop students at each stage of their journey to credential completion. They came together under the umbrella of Completion by Design in a structured process to transform students' experience—and ultimate success—at their colleges.

CBD has a simple, pioneering vision: Community college faculty, staff, administrators, and students, working collaboratively, can create integrated institutional policies, practices, processes, and culture that together improve student performance and completion outcomes.

CBD built upon the work of Achieving the Dream (ATD). ATD institutionalized the central role of data to inform and improve educational reforms, and demonstrated the promise of student-oriented strategies and interventions. CBD further developed this work with a systemic approach to student success that weaves together academic and support services into integrated Guided Pathways for students. CBD colleges designed, tested, and rolled out Guided Pathways for large numbers of students in three states with the infrastructure and culture changes necessary to support and sustain them.

WHY COMPLETION BY DESIGN?

CBD colleges have been leaders for many years in offering open-access education to students of all backgrounds and aspirations. Many of them are also educational reform innovators, earning recognition for their work in such key areas as general education learning outcomes, faculty engagement, instructional strategies, and close collaboration with local industry. Through ATD and multiple grant-funded initiatives, they implemented a range of strategies and interventions to improve student outcomes. But they were stymied by relatively low returns on completion.

Faculty and staff at the colleges have long had the passion and commitment to increase student success; but they lacked a framework for solving completion problems or coordinated strategies to drive improvements.

Moving the needle on student completion requires comprehensive, integrated, and practical approaches that stand the test of time. This is what CBD offered. The colleges wanted to leverage past successes and learning, but they also wanted to build additional strength and capability to improve student outcomes. CBD's inclusive vision, structured processes, and focus on shared learning provides the framework to accomplish these goals.

Who Are the Completion by Design Colleges?

Three colleges in Ohio, five in North Carolina, and one in Florida participate in CBD. Different in many ways, the CBD colleges represent the diversity of community colleges across the country. Overall, when they began their participation in CBD, only about 13.5 percent of their students earned an associate degree within five years of enrolling. For students starting out in developmental education or as English language learners, completion rates are even lower. The barriers students at these community college must overcome are daunting. (See Completion by Design College Overview chart below.)

Florida

Managing Partner Institution: Miami Dade College (Miami Dade)

Colleges/Campuses: Hialeah, Homestead, InterAmerican, Kendall, Medical Center, North, West, and Wolfson Campuses

Policy Lead: Florida College System

North Carolina

Managing Partner Institution: Guilford Technical Community College (Guilford Tech)

Colleges/Campuses: Central Piedmont Community College (Central Piedmont), Davidson County Community College (Davidson), Guilford Tech, Martin Community College (Martin), Wake Technical Community College (Wake Tech)

Policy Lead: North Carolina Community College System

Ohio

Managing Partner Institution: Sinclair Community College (Sinclair)

Colleges/Campuses: Lorain County Community College (Lorain), Sinclair Courseview and Dayton Campuses, Stark State College (Stark State)

Policy Lead: Ohio Association of Community Colleges

COMPLETION BY DESIGN COLLEGE OVERVIEW Academic Year 2014–2015

Student Population (Number or % of total)	Lorain	Sinclair	Stark State	Central Piedmont	Davidson	Guilford Tech	Martin	Wake Tech	Miami Dade
Credential-seeking	12,380	21,792	11,323	26,541	4,874	14,890	667	29,011	83,132
First Time In College	5,015	6,131	2,177	4,157	1,225	2,590	53	3,726	16,554
Pell-eligible	40%	57%	61%	35%	59%	63%	80%	49%	66%
Working at least part-time	80%	77%	70%	80%	46%	39%	45%	61%	74%
Require academic remediation	48%	80%	88%	45%	19%	58%	78%	24%	Historically 68%*
Minority	25%	19%	25%	56%	29%	56%	60%	48%	90%

*Florida S.B. 720 no longer requires certain students to complete placement tests and/or enroll in development courses.
Source: Completion by Design Colleges.

Guided Pathways Produce Promising Results

Academic maps that detail the scope and sequence of courses required to complete a credential efficiently and transition to baccalaureate degree programs or the labor market

Structured onboarding processes that provide students with clear, actionable, and usable information they need to get off to the right start in college

Proactive academic and career advising from the start through completion and/or transfer, with assigned point of contact at each stage

Early alert systems aligned with interventions and resources to help students stay on the Pathway, persist, and progress

Instructional support and co-curricular activities aligned with classroom learning and career interests

Guided Pathway

What is a Guided Pathway?

Students enter college from many places—high school, the military, adult basic education programs, and different career points. They enroll in college for specific courses that will advance their careers, to complete a program that prepares them for a good job, or to earn a degree so they can transfer to a baccalaureate program. All students need direction and guidance to achieve their goals.

A Guided Pathway is a descriptive and easy-to-use plan that guides a student INTO and THROUGH college to the successful COMPLETION of a credential and the transition to a baccalaureate program or the labor market. A Guided Pathway integrates academic and student services together in a coherent and intentional system of curricular and co-curricular experiences that match a student's interests and goals, and better prepare him or her for success in a rapidly changing global environment.

A Guided Pathway has six integrated elements:

- Proactive and intrusive advising that supports students to make the most appropriate decisions at each stage of the journey toward completion.

- Academic maps that detail the scope and sequence of courses students must complete to earn a credential as quickly, and at as little cost, as possible.
- Non-cognitive, career, and other diagnostic assessments to support program of study exploration and choice.
- Supplemental supports (such as labs and tutors) and co-curricular activities (internships, career community activities, and clubs) that are aligned with and augment classroom learning.
- Early alerts and interventions that help students stay on their pathways, persist, and progress.
- Clear, actionable information relevant to each stage of progress and completion.

Early Results Show Progress on Multiple Fronts

Today almost 185,000 students at nine community colleges in three states have benefited from redesigned academic and support strategies that comprise their Guided Pathways.

> "I've been here 26 years and this is the biggest, most collaborative thing we have ever done … There was so much interest in participating that people weren't always working in their first choice topic area."
>
> **Miami Dade Faculty Member**

The CBD colleges estimate that more than 75 percent of their full-time faculty and staff have been involved actively in design, implementation, and improvement strategies over the past couple of years. CBD enabled faculty and staff to develop the tools, structures, and processes necessary to tackle the difficult problems of completion.

COMPLETION BY DESIGN COLLEGE OVERVIEW Academic Year 2014–2015

Student Population (Number or % of total)	Lorain	Sinclair	Stark State	Central Piedmont	Davidson	Guilford Tech	Martin	Wake Tech	Miami Dade
Credential-seeking	12,380	21,792	11,323	26,541	4,874	14,890	667	29,011	83,132
First Time In College	5,015	6,131	2,177	4,157	1,225	2,590	53	3,726	16,554
Participated/ benefited from CBD-driven interventions since start of CBD	21,015	32,000	10,000	16,000	12,000	23,000	400	29,011	40,000
Number of faculty and staff involved in implementing CBD-driven interventions since start of CBD	536	800	350	230	450	1200	26	2,066	1,300
Amount of professional development delivered to faculty (hours)	3,800	8,000	2,900	500	6,875	5,000	390	32,220	14,000

Source: Completion by Design Colleges.

The Guided Pathways framework created shared responsibility for student success and an urgency for action that made people on the front lines want to be involved.

Cross-department college teams created academic maps with clear guidance about the scope and sequence of courses required to earn a credential for transfer to a baccalaureate program or entry into the labor market. They developed math curricula aligned with program of study requirements. They infused career assessment and exploration throughout the student pathway, aligned classroom and supplemental instruction, and created communities for students and faculty to learn from one another outside the classroom. They fundamentally redesigned the way colleges advise and support students to ensure they have the information, skills, and tools they need to be successful in college and life.

Administrative leaders did their part, too, eliminating policies that made it difficult for students to progress, and instituting new ones to support student success. They also led the work to improve business processes, deployed technology differently, and removed organizational bottlenecks.

Critically, college leaders set the tone that this work was different. Presidents and their senior teams shared their unwavering belief in the urgency to improve student success. These leaders prepared their institutions for cultural change and helped steward them through it. As one participant from **Miami Dade** noted, "When the President agrees to do things to improve student success that might negatively impact enrollment, and then says, 'We're doing it anyway,'—that empowers people."

Leaders shifted the conversation from whether students are ready for the institution to whether the institution is ready for students. As the focus changed from "what we can't control" to "what we can," the work evolved from transactional to transformational.

By integrating student-centered success strategies across the educational experience, the colleges evolved from a focus on access to a resolute commitment to access with completion. How do we know this?

- Funding is consistent with new priorities, as evidenced by the new advisors at **Davidson** and **Miami Dade**, **Sinclair's** investment in facilities and predictive analytics; and **Lorain's** investment in facilities.

- **Sinclair** now incorporates student success criteria in their hiring processes for faculty and staff. Many faculty and staff set continuous improvement targets that focus on student success and completion. Some of the targets are process oriented ("include career exploration in each of my introductory classes"), while others are more data driven ("raise course completion rates by 5 percent in my high failure rate classes").

- **Davidson** concludes each spring semester with an all personnel closing session that provides updates about student success initiatives and distributes a "placemat" that identifies student success priorities for the coming academic year. ⬈ See Davidson's placemat: completionbydesign.org/sites/default/files/resources/cbd_toolkit_davidson_4.pdf.

Most importantly, students tell us:

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> **"My advisor has been really helpful from the first time we met. Any time I have a question or need guidance and support, I know exactly where I'll be able to find him."**
>
> Davidson student

> **"You become family. You become friends. The program works and it helped me graduate on time."**
>
> Guilford Tech student

As the result of working side by side on teams, academic and student services personnel have a better understanding of and respect for what the other does. They understand that neither group can solve the complex, nuanced problems of progression and retention alone. They now use the same language, reinforce common messages, and seek each other out for information and advice. In the process, the college cultures have changed. Faculty and staff attest that new ideas and areas for improvement are springing up organically, and that decision-making and responsibility for implementing are delegated more routinely and quickly. This creates momentum for even further innovation and lays the foundation for the sustainability of new ideas and practices.

Assessing Student and Institutional Progress to Drive Improvement

Each of the CBD institutions report common Key Performance Indicator (KPI) data twice a year. Organized into three categories, the KPIs provide the colleges with current and historical information about the progress students are making toward completion:

- Early activity-based metrics, such as program of study selection, course enrollment, and courses completed/credits earned in the first term to measure the extent to which students are starting off right.

- Medium term indicators, such as courses completed/credits earned in the first year and fall to fall retention, to assess student persistence and progression.

- Longer term indicators, such as credential and total credits earned, to measure the efficacy of completion.

The CBD KPIs measure student outcome data beginning in academic year 2009–10, the baseline year. While colleges began to implement new strategies and policies as early as 2012–13, full implementation did not take effect until academic year 2014.

The initial findings on early- and medium-term KPI indicators are positive. All nine colleges show improvement in most or all of the indicators from the initial baseline year through today. The chart below highlights the average performance improvement of the nine colleges. In addition, several colleges already have exceeded, met, or are very close to meeting their 2019 KPI targets.

MEASURING CBD PROGRESS
Improvements in Leading KPI Indicators
2009–10 through 2014–15

% Completing 12 Credits, First Term (FT Students Only)		
2009 Actual	2013 Actual	2014 Actual
20.9	26.7	31.0
% Completing Gateway English on 1st Attempt, Year 1		
2009 Actual	2013 Actual	2014 Actual
32.6	38.5	42.0
% Completing 24 credits, First Year (FT Students Only)		
2009 Actual	2013 Actual	2014 Actual
19.3	21.5	24.3
% Concentrate, Year 1		
2009 Actual	2013 Actual	2014 Actual
42.7	43.1	46.4

Source: Completion by Design Colleges.

Not surprisingly, there is significant variation among the colleges, both in absolute level of progression and the extent of improvement. In addition to internal variables, such as institutional size, history of reform, and culture, the colleges have been challenged to different degrees by external factors, including legislative changes (developmental education, performance-based funding) and the economy (student re-entry into the labor force, especially older students, and increases in percentage of students who are profoundly poor). Nevertheless, they all are demonstrating the positive impact of Guided Pathways on student outcomes.

The colleges also collect a significant amount of data beyond the common KPIs. This quantitative and qualitative data is particularly useful in operational decision-making because it identifies areas for ongoing improvement in design and implementation.

> *For example, **Guilford Tech** surveys students and faculty each semester and discusses the results of the surveys openly at convocation, identifying improvements that will be made as the result of the feedback. New materials are created, as needed, and additional tools are implemented to help facilitate new processes.*

> *At **Miami Dade**, data (such as number of students who attended, percentage who met with advisors, and student/advisor satisfaction) was available almost immediately to measure the effectiveness of new intake and onboarding strategies, enabling teams to develop timely improvement strategies. As one team member said, "Data followed closely on the heels of the interventions so we quickly saw our results. We didn't have to wait two years to get the data."*

> ***Lorain** developed a Student Success Dashboard consolidating multiple performance measures. It disaggregates data by student attributes, programs, and courses for comparisons across student populations. The data is used by administrators, faculty, and staff to assess quickly and consistently the results of their efforts.* ⎋ *See Lorain's Student Success Dashboard:* completionbydesign.org/sites/default/files/resources/cbd_toolkit_lorain_3.pptx.

> ***Sinclair** has a visual analytics tool that lets department chairs, faculty, and advisors see student progress in course completion, accumulated credits, completion of gateway courses, and degree/certificate completion. It is also creating dashboards that will highlight student engagement and academic progress.*

Promising Results of Guided Pathways

In four short years, CBD colleges have made notable progress. Approximately 185,000 students have benefited from redesigned academic and student services.

Today, students at CBD colleges are better prepared to:

- Explore careers.
- Choose programs of study that match their goals and interests.
- Select the most appropriate courses to complete their credentials.
- Begin class prepared to learn and succeed.
- Augment their classroom learning with co-curricular experiences.
- Access resources to overcome academic, social, financial, and other challenges.
- Progress to completion.

These outcomes are the result of changes the CBD colleges made to what they do, how they do it, and why. CBD provided the impetus and framework for teams at the colleges to share their dissatisfaction with the status quo and develop collective visions for making it better. As a result, colleges aligned themselves internally across different departments; compromised individual or department interests to achieve common goals; and built additional capability to meet student needs more effectively. The president of **Davidson** explained the cultural shift this way:

"

"I do believe that everyone here knows we've changed and are moving in a direction where student success is the primary focus and most important. When a student comes here we all have a responsibility that his or her needs are met. You have to be focused on the responsibility to the student. Keeping the student at the center of what we do and how we do it, staying focused on the 'why' we do what we do is our new philosophy."

Davidson President

The work of the CBD colleges continues. They are doubling down to solve new progression and retention problems caused by changes in developmental education requirements, state articulation agreements, and performance-based funding. They continue to evolve their strategies, change their cultures and improve on their early successes.

How Completion by Design Colleges Approached the Work

As participants in CBD, the colleges followed a structured, multi-year process to plan, design, implement, assess, and improve the comprehensive reforms that comprise their Guided Pathways.

This section of the Toolkit starts with summarizing the process ("Overviews") and then provides more "In-Depth" information about how the colleges did their work.

At its core, effective Guided Pathways require an integrated, system-wide (versus single intervention) focus on student success. CBD's Preventing Loss, Creating Momentum Framework (also known as the Loss & Momentum Framework) follows student progress across the pathway from start to finish and identifies barriers at each stage of the journey. This framework also gave the colleges an organizing structure for their own change processes.

The Completion by Design Process

Later in this toolkit we lay out the details of the planning, design, and large scale implementation of Guided Pathways. This plan-do-assess-improve process was common among the CBD colleges.

PLANNING: OVERVIEW

- College-wide teams representing faculty, staff, administrators, and students examined student performance and completion data for multiple years, reviewed research literature, and conducted surveys and focus groups.

- The teams identified institutional barriers to completion, including:
  - » Existing unstructured student pathways at all levels.
  - » Too many academic choices and curricular options.
  - » Inconsistent or misaligned support services.
  - » Unclear and inconsistent communication of information to students.
  - » Inadequate technology to effectively guide and monitor student progress.

- Teams used data to develop at scale, college-wide solutions to problems that could be

Preventing Loss, Creating Momentum framework

CONNECTION	ENTRY	PROGRESS	COMPLETION
Interest to Application	Enrollment to Completion of Gatekeeper Courses	Entry into Course of Study to 75 percent of Requirements Completed	Complete Course of Study to Credential with Labor Market Value
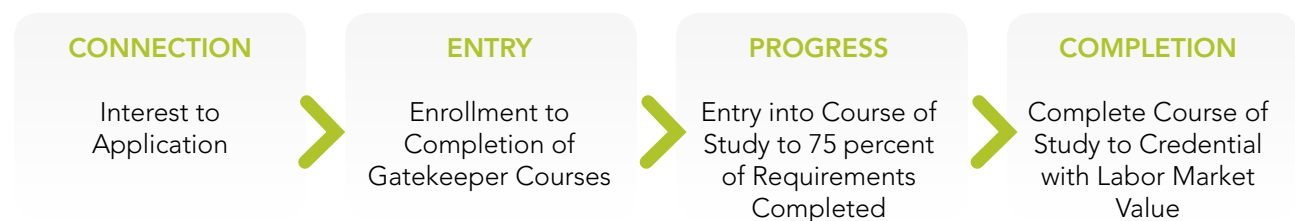
Completion by Design's Pathway Design Principles guide the choices colleges make to boost completion rates:

1. Ensure students know requirements for success.
2. Minimize time required to prepare for college.
3. Accelerate entry into coherent programs of study.
4. Customize and contextualize instruction.
5. Integrate student supports with instruction.
6. Leverage technology to improve learning and program delivery.
7. Continually monitor student progress and provide proactive guidance.
8. Reward behaviors that contribute to completion.

solved only if academic and student services organizations were aligned on strategies and priorities.

DESIGN: OVERVIEW

- CBD's eight design principles provided the colleges with a systematic approach to developing student success strategies that were intentionally comprehensive, integrated, and targeted at the largest, most difficult completion problems.

- The colleges divided their work to attack multiple fronts simultaneously, requiring them to balance several potentially competing factors:
  » sustainable long-term strategy vs. making change as quickly as possible.
  » collaborating with important constituencies vs. recognizing that not everyone would adopt the new approach at the same time.
  » implementing at large scale vs. modifying based on learning and experience.

  This was hard work. It involved a lot of discussion, debate, and compromise. Departments that had not routinely solved problems together had to learn to trust each other. Almost everyone had to learn to trust that senior leaders really meant it when they said it was okay to take smart risks and make mistakes. Prioritizing their work on high impact areas with early results facilitated this process.

- Their work to date has focused on three specific areas: developing academic maps and improved advising models, integrating these new models, and building the organizational capacity for sustainable institutional change.

Academic maps
The CBD colleges developed user-friendly academic maps that are clear outlines of the courses students need to complete to earn a credential in their chosen academic programs, in as little time and with as little cost as possible.

Advising
To address the chaotic and disheartening experience with advising that students consistently described, colleges developed more proactive and intentional advising for large numbers of students at every stage of their experience—from pre-college advising to student onboarding and orientation to completion.

Building Organizational Capacity
Colleges built additional capacity (amount of resources) and capability (ability of the parts to work together) to improve their strategies over time, anticipate change, and innovate effectively. This required leadership and alignment at all levels of the institution, big student-centered goals, and inclusive engagement of students, faculty, staff, and Trustees.

IMPLEMENTATION: OVERVIEW

- CBD set the expectation that the colleges' strategies were to be designed with scale in mind, eventually reaching most students on campus. That said, many colleges focused implementation initially on first-time-in-college (FTIC) students for several reasons:

» Integrated strategies and interventions could be implemented from the time these students were accepted for admission through completion or exit.

» The impact of comprehensive interactions over the entire journey and multiple years could be measured.

» Data from the cohort could be disaggregated and analyzed.

• Colleges began implementing some academic and/or student support strategies quickly, during the 2012–13 academic year. **Sinclair** and **Davidson** started with academic mapping. **Central Piedmont** and **Wake Tech** began with developmental education consistent with state policy changes underway. **Miami Dade** kicked off with advising because it had the most internal support and was easiest to implement quickly at scale.

• Building on their initial experiences, all colleges have expanded their work to include subsequent cohorts of FTIC students and other populations.

> ### ⬀ *Resource: Readiness to do the Work*
>
> **The Resources section of this Toolkit contains a Readiness Assessment. This tool identifies the key topics colleges need to consider when beginning the Guided Pathways work, including institutional readiness, engaging stakeholders, using data, and leveraging technology. The simple questions in the assessment enable you to determine whether you have the right commitment, people, processes, and leadership in place to do this work effectively.**

Planning: An In-Depth Look

Each of the colleges invested six to nine months at the start of the process, analyzing student data, prioritizing strategies, and structuring their work using the CBD Preventing Loss, Creating Momentum (also known as the Loss & Momentum) Framework to follow student progress across the pathway from start to finish.

Using the *Loss & Momentum Framework* to organize their work was transformative for the colleges because it forced them to take an integrated, system-wide (versus single intervention) focus that centered on student success.

College-wide teams representing faculty, staff, administrators, and students examined student performance and completion data for multiple years, reviewed research literature, and conducted surveys and focus groups. They compared anecdotal information and conventional wisdom with relevant quantitative and qualitative data.

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>
> **"We became convinced that we needed to change. I had perceptions of my own but when I saw the data, my perceptions changed."**
>
> **Miami Dade faculty member**

Faculty and staff at most colleges had analyzed data before for other projects, but not as comprehensively, and often not with peers from other
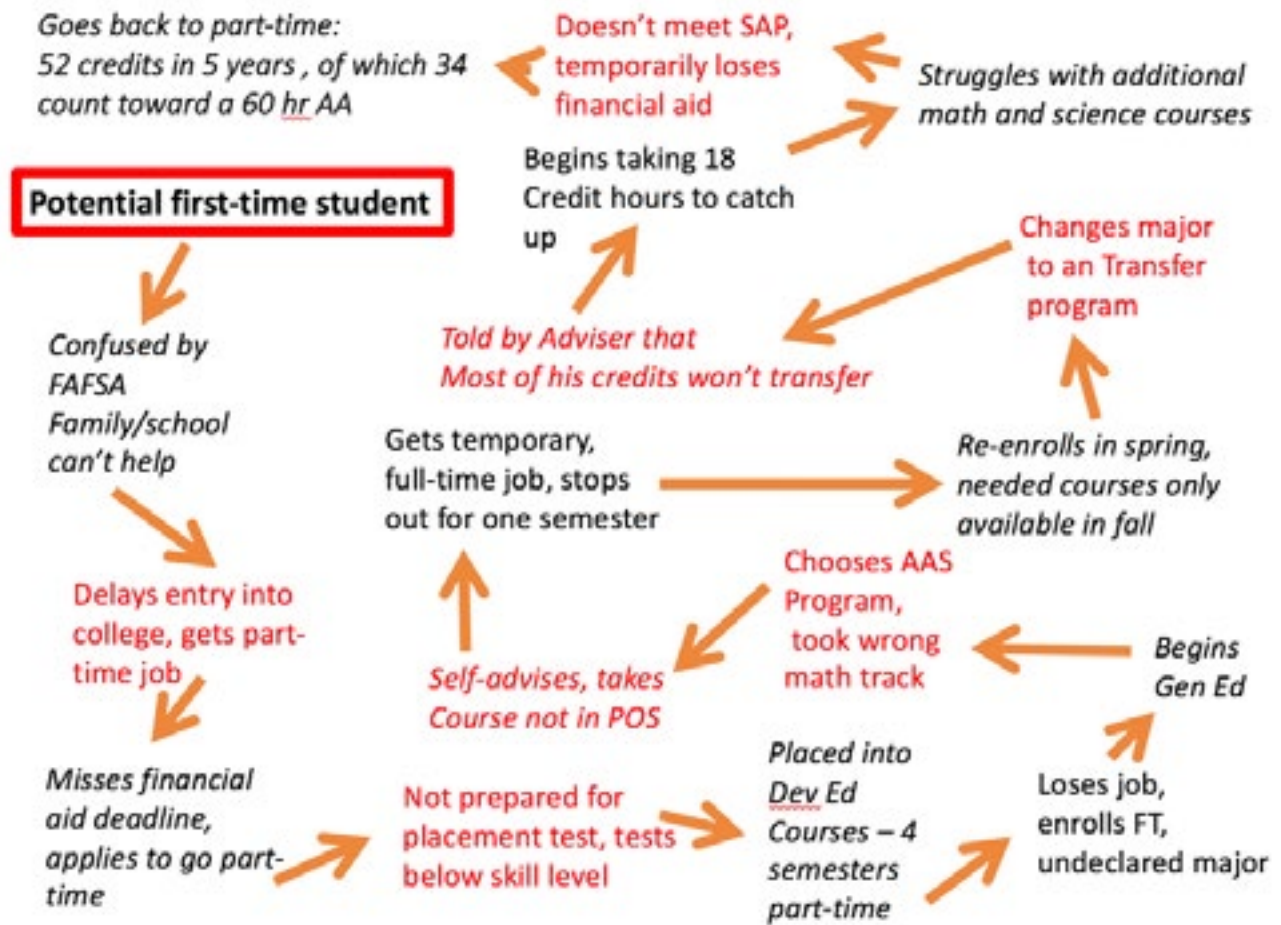
> "
>
> **Several of the colleges said that it was not their "natural capacity to think about the work the way we do now … we've changed the tone from 'students have the right to fail' to 'we need to fix what we control to help them succeed.'"**

departments who had additional information or different interpretations. To be successful, they had to step outside their individual roles and work together to solve the complexity of academic and life problems impeding student success. Contradictory or inconsistent information was discussed and probed and the data was made real by focus groups and student scenarios.

Another difference with CBD was that the teams were using data to develop at scale, college-wide solutions to problems that could be solved only if academic and student services organizations agreed about strategies and priorities. Many teams mapped ideal or optimal routes to completion and compared them to actual student experience as a way of building common understanding of the barriers students were facing. One example of this is from **Guilford Tech**.

Guilford Tech's Student Pathway Before CBD

Goes back to part-time: 52 credits in 5 years , of which 34 count toward a 60 hr AA

Doesn't meet SAP, temporarily loses financial aid

Struggles with additional math and science courses

Potential first-time student

Begins taking 18 Credit hours to catch up

Changes major to an Transfer program

Confused by FAFSA Family/school can't help

Told by Adviser that Most of his credits won't transfer

Gets temporary, full-time job, stops out for one semester

Re-enrolls in spring, needed courses only available in fall

Delays entry into college, gets part-time job

Chooses AAS Program, took wrong math track

Begins Gen Ed

Self-advises, takes Course not in POS

Misses financial aid deadline, applies to go part-time

Not prepared for placement test, tests below skill level

Placed into Dev Ed Courses – 4 semesters part-time

Loses job, enrolls FT, undeclared major
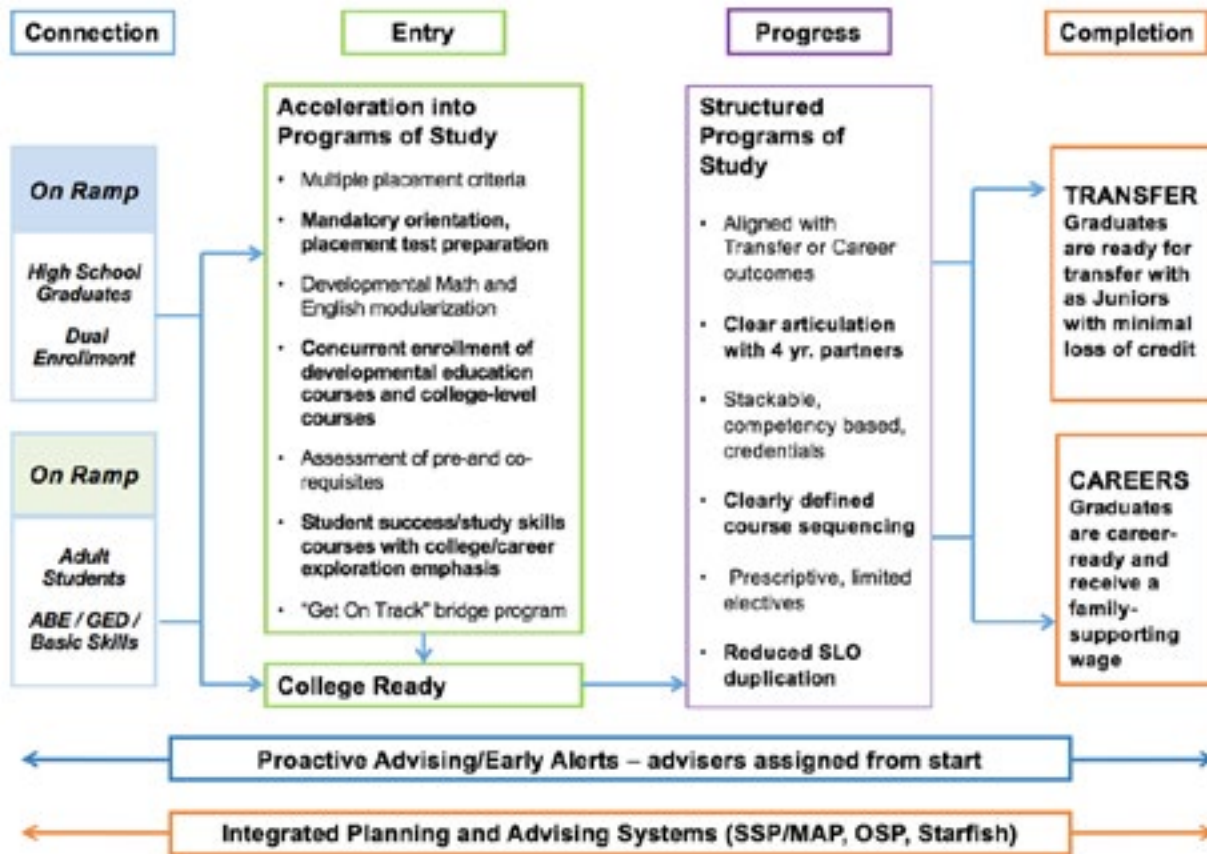
Source: Guilford Tech.

See Guilford Technical College's Ideal vs. Actual Onboarding Diagrams: completionbydesign.org/sites/default/files/resources/cbd_toolkit_gttc_1.pptx.

Guilford Tech's Guided Student Pathway After CBD

Source: Guilford Tech.

By identifying the gaps between ideal and actual, **Guilford Tech** was able to build consensus about strategic priorities. Many of these gaps had evolved over time as institutional policies or organizational structures had changed. Processes and practices that were intended originally to support students had become barriers preventing their success.

Teams met as work groups and in campus and college-wide convenings to share information, debate findings, identify common challenges or issues, and build consensus for prioritizing their work in implementation. This cross-department (and, in some cases, cross campus) work created a foundation of mutual trust and collaboration that has been instrumental to implementation.

During the planning process most of the CBD colleges identified a number of institutional barriers to completion, including:

- Unstructured student pathways at all levels—especially for students who need remediation or English language support, delay enrollment or return to college after several years.

- Too many academic choices and curricular options.

- Inconsistent or misaligned support services.

- Unclear or inconsistent communication of information.

- Inadequate technological infrastructure to effectively guide and monitor student progress.

As a result of these barriers, students didn't understand the requirements for success, often enrolled in courses they didn't need to graduate, and took too long to complete their credentials. Along the way, they used up valuable financial aid eligibility, took on unnecessary debt, and delayed the continuation of their careers at baccalaureate institutions or in the labor market.

Designing: An In-Depth Look

Leveraging this structured preparatory work, and guided by CBD's eight design principles, the colleges developed student success strategies that were intentionally comprehensive and integrated—and targeted at the largest, most difficult completion problems.

Each college developed an overall vision that articulated how academic and student services would be woven together to provide Guided Pathways for students. However, because of the magnitude of the changes required and the urgency for implementing the pathways, the colleges divided their work—both in scope and timing—so they could attack multiple fronts simultaneously. This required balancing several potentially competing factors:

- Developing a sustainable, long-term strategy vs. the desire to make change as quickly as possible.

- Collaborating with important constituencies vs. the realization that not everyone would adopt the new approach at the same time.

- Implementing at large scale vs. the flexibility for modification and improvement based on learning and experience.

ACADEMIC MAPS

The CBD colleges benefited from research done by the Community College Research Center (CCRC) and others, as well as internal data (especially that taken from associate in science, associate in applied science, and certificate credential programs) demonstrating that students who follow well-defined sequences of courses graduate at higher rates, more quickly. Students also graduate faster and with fewer excess credits, especially when the courses and sequences are aligned with transfer institution baccalaureate program requirements and local workforce needs.

*For example, **Sinclair Community College** began expanding the use of electronic academic plans (known as MAPs) in 2012. Their data shows that students who meet with*

advisors and complete a MAP are 3.4 times more likely to persist fall to fall, and twice as likely to complete a credential as those who did not.

The colleges also had internal research showing that students generally did not understand which courses were required to graduate or which ones met transfer requirements in their programs of study at four-year colleges and universities. Students reported being overwhelmed and confused by the vast array of course options available in the course catalogs and degree audits. They thought there were too many academic choices, and the information provided by the colleges was inconsistent and difficult to find.

The CBD colleges developed clear, user-friendly (for students, faculty, and advisors) Academic Maps to guide students into and through the most appropriate courses in their chosen academic programs.

Academic maps are clear outlines of the courses students need to complete to earn a credential (certificate, diploma, degree) in as little time and with as little cost as possible. Courses are sequenced from beginning to end in a specific order to build/leverage foundational skills, and meet all pre-requisite requirements. Academic maps for Associate of Arts and Associate of Science degrees also identify the courses that are required to transfer with Junior Status to an in-state public four-year college or university. Academic maps may also include recommended elective courses based on transfer institution and program of study.

College advisors use these academic maps to create individualized academic plans (often known as My Academic Plan or MAP) for students. The MAPs are customized for each student's specific situation, including starting points in math and English (developmental or college-level), schedule, transfer institution choice, and financial or other life issues. ⧉ See sample maps with instructions from Sinclair, Davidson, Central Piedmont and Miami Dade (links on page 34 of this toolkit).

ADVISING

Community college practitioners have long recognized the key "connector role" advising plays in student achievement and success, especially during a student's first year. Yet, none of the CBD colleges followed intentionally proactive advising processes for large numbers of their students. Advising was often ad-hoc, stand-alone, and reactive. Too frequently, students met with advisors only when they were in trouble, academically or financially, or could not enroll in courses they wanted.

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> **According to one college advisor, colleges rarely "reached out to students and told them they were doing a good job and encouraging them to keep it up."**

Best practice advising models have been identified by organizations, such as the Center for Community College Student Engagement (CCCSE) and the National Association of Academic Advisors (NACADA), and piloted at many colleges nationwide. But very few colleges have woven the array of effective advising strategies together into a strong, structured support system for students, despite often already having best practice models in place in pre-health or technical programs.

The CBD colleges listened to their students describing long waits to see advisors, frustration with seeing someone different every time they went to the advisement office, confusing and inconsistent information, and the self-advising they did as a result. From the students' perspective it was a chaotic and disheartening experience. A student at **Central Piedmont** described it visually (See Central Piedmont's advising knot: completionbydesign.org/sites/default/files/resources/cbd_toolkit_cpcc_1.jpg):

The Advising Knot: A Central Piedmont Student's Perspective
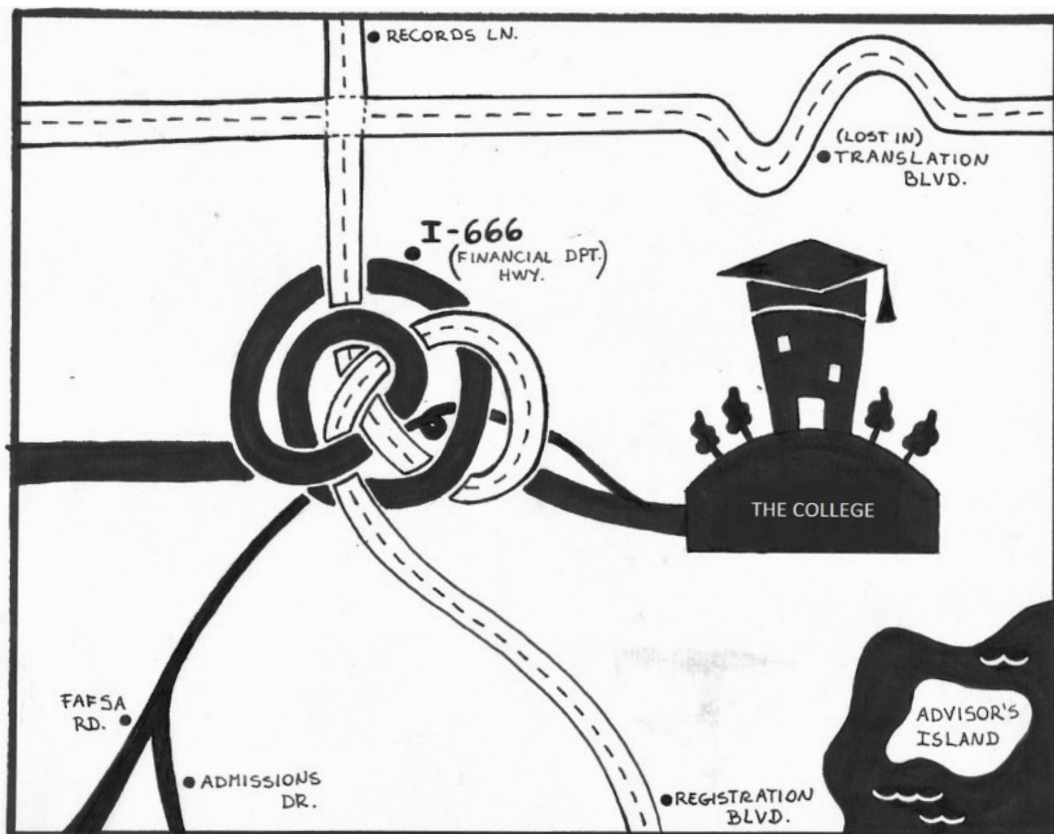
Source: Central Piedmont.

In response, the colleges developed improved advising models to address the specific needs of students at each stage of the Loss & Momentum Framework. They determined that barriers could be overcome by changing the type, level, and intrusiveness of the advising they provide. Today, they deliver more proactive and intentional advising along all dimensions of the experience for large numbers of students—starting with pre-college advising and student onboarding/orientation—and continuing as students progress through the remainder of their journey to completion.

> "
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> **A team member from Martin Community College described it as "changing from the Department of Motor Vehicles model to the Nordstrom model."**

While many of the fundamentals of their redesigns are similar, the processes they developed and the structures they implemented also reflect local factors, such as demographics; availability of human, financial, and technology resources; legislative and policy environments in the states; and institutional culture.

BUILDING ORGANIZATIONAL CAPACITY AND CAPABILITY

The colleges realized early on that the major changes they were making to institutionalize Guided Pathways could not be sustained if they did not build additional organizational capacity and capability. They also recognized that the legislative and policy environments in their states were going to change, and that the rate of change might actually increase. Even the most well-designed and effective strategies for improving student outcomes could be weakened by insufficient internal commitment, changes to developmental education requirements, federal financial aid rules, or performance based funding formulas.

As a result, from the beginning, colleges organized to improve their strategies on a continuous basis, anticipate change, and innovate effectively over time. This required:

- Leadership from all levels of the institution: presidential leadership to set the vision and faculty and staff leadership to execute it.

- Big, aggressive student-centered goals.

- Broad, inclusive engagement among students, faculty, administrative and hourly staff, and leaders, including trustees and union leaders.

- Clear, consistent, and frequent communication.

- Organizational empowerment and smart risk-taking. **Davidson's** president said, "If you aren't making mistakes, you aren't taking enough risks."

- Timely assessment linking cause and effect and identifying areas for improvement.

Implementing: An In-Depth Look

The colleges prioritized their work in implementation using a combination of factors, including:

- Size of barriers and completion challenges.

- Number of students who could be reached.

- Doability with existing resources.

- Opportunities for early wins to build momentum and confidence.

Several colleges developed processes to engage their teams in the prioritization. ⬈ See an example of a prioritization process from Lorain, "Using Data and Engagement Strategies to Prioritize Implementation": completionbydesign.org/sites/default/files/resources/cbd_toolkit_lorain_3.pptx.

CBD set the expectation that improvement strategies were to be designed to reach most students on campus over time. Most colleges started with first-time-in-college students for several reasons:

- Integrated strategies and interventions could be implemented from the time these students were accepted for admission through completion or exit.

- The impact of comprehensive interactions—over the entire journey over multiple years—could be measured.

- Data from the cohort could be disaggregated and analyzed.

The colleges began implementing some academic and/or student support strategies during the 2012–13 academic year:

- **Sinclair** and **Davidson** focused initially on academic mapping. Sinclair had started this effort previously and expanded it with CBD. Davidson was working through outcomes assessment processes to meet re-accreditation requirements; aligning program design with outcomes assessment helped faculty understand the "why" of academic mapping.

- **Central Piedmont** and **Wake Tech** began with developmental education reform consistent with policy changes underway in North Carolina

- **Miami Dade** started with advising because it had the most internal support and was easiest to implement quickly at scale.

Since then, all colleges have broadened their work to include subsequent cohorts of FTIC students and other populations. For example, 100 percent of the students at **Guilford Tech** are now participating in the new advising structure, consistent with its belief that "all students should have similar expectations and experiences."

PROFESSIONAL DEVELOPMENT: THE GLUE THAT BINDS DESIGN AND IMPLEMENTATION

All of the CBD colleges have invested directly (hiring outside experts) or indirectly (providing in-house training and development) in professional development to support their reform efforts. Changes in academic mapping and advising have been accompanied by significant levels of professional development. Colleges are changing their cultures, from the bottom up. Professional development helps them do so by supporting innovation and smart risk-taking.

Miami Dade estimated that it invested about 15 minutes of professional development for every hour of new service delivery by faculty and staff in the first two years of CBD participation. For example, Miami Dade's college mentors get ten hours of training before becoming certified, and faculty who complete the training receive professional development credit. Training addresses topics such as advising strategies, transfer success principles, best practices for building rapport with students, technology and systems, academic plans, and graduation requirements. It's delivered jointly by a team of faculty and student services advisors online and with face-to-face modules and includes four hours of shadowing with student services advisors, first observing and then practicing. The shadowing component has become the most valuable and popular part of the training. Advisors and mentors develop strong working relationships that they leverage on an ongoing basis to share information and better support students. As one advisor said, "The faculty keep us on speed dial." ⧉ See Miami Dade's Syllabus for New College Mentor Training: completionbydesign.org/sites/default/files/resources/cbd_toolkit_mdc_5.pdf.

At **Sinclair**, the Center for Teaching and Learning offers faculty opportunities to spend a full day observing academic advisors. Each faculty member is paired with an advisor assigned to the Career Community to which the faculty belong. Training includes data about student success and the importance of using the case management approach to increase retention. Faculty observe several advising situations over the course of the day and report that they have a greater appreciation of the complexity and pace of advising, and the need for clear and correct information from their disciplines. They recommend that all new faculty participate in a session to become better acquainted with the advising processes at the college.
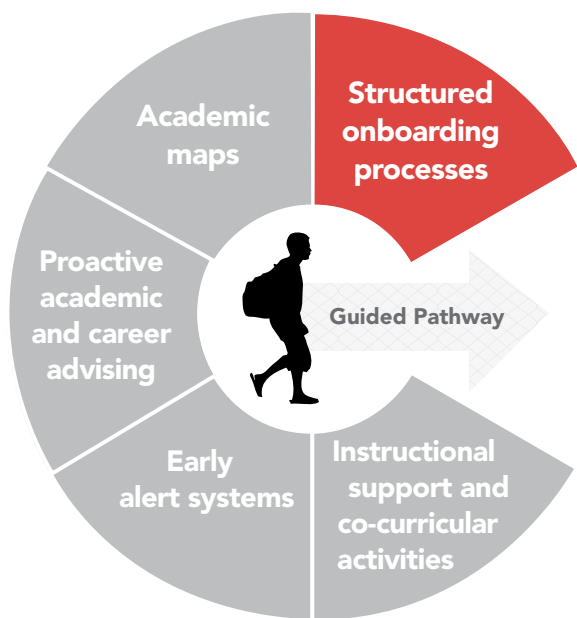
At **Davidson**, training for early alerts and interventions is provided to both faculty and staff in multiple, easy to access formats (large group, on-demand webinars) and venues (academic meetings, symposia). Training is provided every semester as part of the onboarding of new employees; and a video tutorial explaining new processes was presented at the Faculty Opening Session in Fall 2015. Even though ownership of the student success software is shared across multiple departments, there is a single point of contact to answer questions and provide individualized support to students, faculty, and staff.

Training for advisors at **Lorain** was developed and is delivered jointly by faculty and staff. It includes modules such as creating MyPlan, using Career Coach, and other tools to assist students with career exploration and decision. There is also training on the value of internships and service learning aligned with career and academic choices; and cross-training takes place so advisors can support each other, especially at peak registration and enrollment times.

Faculty coaches and Student Success Specialists at **Guilford Tech** also receive extensive training. While they are program experts, they need additional training in areas such as advising fundamentals, catalog and program information, developmental education, student information system, new student orientation, caseload management software and tools, and coaching. Guilford Tech faculty coaches shadow a student services professional advisor to put into practice what they learn. Training is available in face to face and online modules prior to and throughout each semester. It is updated continually to reflect changes in placement and graduation requirements and institutional policies. New faculty now complete the training during their first semester at the college.

Career Coaching Training for the non-academic support staff was conducted at **Stark State College** to ensure students would be getting consistent support from different areas of the college. Faculty, who also have been trained, are developing a plan that will enable everyone to incorporate success coaching principles in their interactions with students.

Intake and Onboarding: Starting College Right

Academic maps

Structured onboarding processes

Proactive academic and career advising

Guided Pathway

Early alert systems

Instructional support and co-curricular activities

CONNECTION > ENTRY > PROGRESS > COMPLETION

Both data and experience at each of the CBD colleges pointed to incoming students'—most of whom were the first in their families to attend college—pronounced lack of understanding about residency, financial aid, and other documentation required to enroll in courses, as well as the skills required to be successful in college.

To address this, CBD colleges restructured their intake processes to give students the information, advising, and support necessary to start off and stay on the right path.

The colleges' efforts focused on **six areas:**

- Orientation for incoming students
- High school outreach (pre-college advising)
- Non-cognitive and career assessments
- Assigned advisors
- First year experience programs
- Institutional policy alignment

AREA 1: Orientation for Incoming Students

Prior to CBD, most colleges held orientations for some cohorts of students, but not all, and they were not mandatory. Now, all of them require first-time-in-college students to attend an orientation before starting their first semester of college.

Wake Tech implemented mandatory orientation (New Student Orientation or NSO) in Fall 2013 to provide students with resources and information they would need to be successful in the first three weeks of the semester. Initially, only students enrolled in the First Year Experience program (see details about this later in the Toolkit) were required to attend NSO, but Wake Tech began to require orientation for all FTIC students in 2015 based on increased persistence and positive feedback from students.

Davidson requires mandatory orientation for all new students. Orientations are led by academic advisors supported by the academic deans who review the expectations of the various programs.

> "The challenge is to meet students where they are and deliver the right amount of services to the right students at the right time."
>
> Sinclair team member

The orientation includes a technology jumpstart class that covers the early alert system (discussed in more detail later in the Toolkit), the learning management system, online tutoring, and information for navigating the college's websites.

Sinclair developed a checklist for new students that guides them through each step of the admissions and registration process. ⬦ See Sinclair's checklist: www.sinclair.edu/enroll/how-to/new. Students are directed that "orientation is the next step in the process." Last spring, even though there were no registration holds or other policies requiring them to, more than 85 percent of incoming students attended. The college also developed an online orientation for the more than 10,000 online students, including military stationed overseas. Now that Sinclair has implemented career communities (discussed in more detail later in the Toolkit), it provides contextualized program orientations to augment the general new student orientation.

Miami Dade first provided mandatory orientation to about 7,000 students in Summer 2012. Feedback from students and advisors was positive about the clear, consistently delivered information at all campuses. But feedback also showed that too much time was spent on general information sharing and not enough on helping students select an appropriate program of study and register for courses.

Miami Dade's *Shark Start Orientation* is now in Version 4.0. It includes a required online orientation for general information, several hours of face-to-face time to counsel students into programs of study based on their interests and goals, and into the most appropriate courses in English and mathematics (developmental or college-level based on multiple measures assessments, and algebra vs. non-algebra pathways based on program of study). Advisors now create first semester academic plans for students in advance of orientation. ⬦ See Miami Dade's Advisor Checklist document: completionbydesign.org/sites/default/files/resources/cbd_toolkit_mdc_2.docx. Students are then supported during orientation by resources from academics, financial aid, and admissions/registration. So far, more than

40,000 students have participated in *Shark Start Orientation*. "*Shark Start* is now the way we operate," said one advisor. "The first year, everything had to be reviewed and approved by leadership. Now, teams of us continually are improving the way we offer it based on what we are learning about what works or doesn't."

AREA 2: Pre-College Advising

Even with mandatory orientation, first -time-in-college students often were not prepared to begin their studies. Most were unaware of the factors to consider in choosing a program of study. They came to orientation unprepared to register for courses because they didn't have completed residency verifications or financial aid documentation. Even students who registered for courses at orientation often withdrew before the start of the semester because they were dropped from courses for non-payment. To address this:

- **Sinclair** invites certain scholarship students to several days of summer bridge activities that include enrollment steps, information about choosing a major, acquiring financial literacy, and connecting to the campus.

- **Davidson** shifted the sequence of their onboarding process so that students have advising appointments prior to attending an orientation session, during which they discuss financial aid documentation, and life schedules and challenges that effect enrollment and success. ⬦ See Davidson's "Navigating the Enrollment Process": completionbydesign.org/sites/default/files/resources/cbd_toolkit_davidson_2.pdf.

- **Guilford Tech** conducts a bridge program for GED graduates that guides them through the application, financial aid, and enrollment process step by step. The "Get on Track" program includes career exploration, activities to improve study skills, campus tours, and placement test preparation.

- **Miami Dade** developed a Pre-College Advising Program to help students get ready for college.

PRE-COLLEGE ADVISING AT MIAMI DADE COLLEGE

Miami Dade's Pre-College Advising program is designed to help high school students enter college better prepared to succeed.

Pre-College Advisors (PCAs)—most of whom were recruiters before being trained for this new role—actively support students in the majority of county public high schools. PCAs are assigned to students after they have been admitted to the College and support them until mandatory orientation when the student transitions to a First Year Advisor in Student Services.

PCAs provide information (admission, financial aid, scholarship, enrollment requirements) and guidance (A.A. vs. A.S. programs, articulation credit for work completed in high school) to make the transition to college as smooth as possible. They also provide a variety of career-themed workshops and information sessions, host FAFSA marathons for students and their parents, and build enthusiasm for attending college. Shark Ambassadors, who are current Miami Dade students, support the PCAs by sharing their college experiences with students at high schools and guiding them through the onboarding processes.

PCAs are also supported by an electronic caseload management system developed with an external software provider. The system allows PCAs to target communications to high schools and students, and monitor student behavior using an internally developed scorecard. "The scorecard indicators drive the work," one PCA said. "Before this we had almost no information about the demographics or needs of our students. We just rolled over our recruiting strategies from year to year."

See Miami Dade's Scoreboard: completionbydesign.org/sites/default/files/resources/cbd_toolkit_mdc_3.pdf.

Since recruiting drives enrollment and revenue, campus leaders initially were reluctant to change the historical recruiting process, even though there was demonstrated demand for more information and support. As a result, the PCA program was piloted in ten high schools to test if more students would apply and enroll in college if they understood the benefits and were better prepared to start on time.

In the three years since the program launched, Fall term applications and enrollment have increased by 22 percent and 10 percent, respectively. The ratio of conversions from application to enrollment increased from 53 percent to 58 percent at PCA high schools, equal to about $500,000 in additional revenue in the Fall term. As a result, senior leadership recently approved the addition of 11 new PCAs to expand the program to all county public high schools and increase the range of services offered. The College also has expanded its working relationship with feeder high schools, which is likely to drive additional long-term benefits in enrollment, progression, and completion.

AREA 3: Non-Cognitive and Career Assessments

Several of the colleges instituted **non-cognitive assessments** to help identify students at risk of failing and/or dropping out in the first year. These assessments typically measure factors like academic engagement and self-efficacy, campus engagement, educational commitment, resiliency, and social comfort.

Lorain administers a non-cognitive diagnostic measuring motivation, financial security, decision-making confidence, receptivity to support resources, attitudes toward education, and other factors. The diagnostic allows them to identify those students most "at risk" of earning a low GPA and/or dropping out in the first year. Students who are unsure of career choice or demonstrate support needs in other areas are referred to a career services specialist ("Success Coach") for more exploration and discussion. Lorain hired Success Coaches to support these students.

Miami Dade also administers non-cognitive assessments to incoming students. They developed "crosswalks" that match student scores in each of the assessment categories with resources at each campus. Advisors discuss assessment results with students, explaining how they can develop additional strengths using the range of support resources.

Several colleges also administer **career assessments** to incoming students. These assessments are targeted to students who express confusion or uncertainty about choosing a program of study or are selecting a very general pre-baccalaureate transfer major.

Guilford Tech includes a career assessment on its Path to Success. ⧉ *See Guilford Tech's Path to Success:* completionbydesign.org/sites/default/files/resources/cbd_toolkit_gtcc_2.png.

Students complete the career assessment prior to applying to the college. Career choice is emphasized throughout the orientation process. As they advise students, orientation leaders distribute diagrams of stackable credentials that show the careers and associated salaries graduates can expect with increasing levels of education.
⧉ *See diagrams of stackable credentials from Guilford Tech:* completionbydesign.org/sites/default/files/resources/cbd_toolkit_gtcc_3.png.

*In **Central Piedmont's** new advising model, students who are uncertain about their program of study at their initial advising session are referred directly to career services. These students meet with specially trained career counselors and receive a full range of services, including interest/aptitude assessments, information on opportunities in various career fields and trends in those areas, and information about how to pursue a chosen career at the college.*

*Students at **Wake Tech** who are uncertain about their career direction are referred to the Career Lens Lab. Career Lens includes self-assessment, career research, and training/education. Career counselors guide students through the career development process by connecting them to resources and services that help them make informed decisions.*

Stark State has integrated career assessment into the required freshman year experience course.

Sinclair is building an integrated pathway for career exploration and development to support their career community strategy. (See more about this later in the toolkit.)

AREA 4: First Year Assigned Advisors

Each college now assigns a single point of contact advisor to incoming students for support during the critical first year of college. As discussed in more detail in this Toolkit, advisors help students explore and affirm educational and career choices, develop academic maps, and identify co-curricular engagement opportunities and support resources. These advisors could be student services professionals, faculty, or counselors; they are called advisors, counselors, coaches, and mentors, depending on who provides the services and the culture of the institution.

At all of the colleges, the advisor role has changed from reactive problem solver to proactive facilitator of student problem solving. The Vice President of Student Success and Communication at **Davidson** said, "The new advising model made the students' wishes come true. They now have a place to go and know who their advisors are. Those advisors help them fill out their pathways and have real conversations with students about completion."

That change required clear descriptions of new or expanded responsibilities, rationale for the changes, organizational re-alignment, training, and ongoing reinforcement.

Advisors typically now integrate academic and non-cognitive information with interventions and resources for students in all programs of study. They support students to develop new skills, confidence, and self-sufficiency that increase the likelihood of their success. Several colleges, including **Sinclair, Lorain, Central Piedmont**, and **Wake Tech**, infused career assessment and exploration directly into first year advising. **Stark State**, **Sinclair** and **Davidson** also included financial literacy and financial aid counseling.

To implement these changes, the colleges initially reassigned existing advisors to new or expanded roles:

- **Sinclair** combined several advising departments and reassigned each of its advisors to one of five career communities.

- **Guilford Tech** assigned faculty to coach students majoring in their academic areas.

- **Wake Tech** has shifted the personal counseling staff to serve as academic advisors while the career component of personal counseling has moved to another division. Personal (life issues) counseling is now provided by an outside agency.

- **Davidson** created a centralized Academic Advising Center with full-time professional advisors whose sole responsibility is to engage in holistic and proactive advising.

- **Stark State** streamlined the communication of advising and program of study material to make it easier for advisors to use.

Most of the colleges also established registration holds at key trigger points (ranging from before first semester registration to before every semester registration) to reinforce the importance of meeting with an advisor, discussing challenges, and staying on plan.

Many of the colleges were able to satisfy the demand for proactive advising by reallocating or reassigning existing resources, but some added resources as the new models proved not to be scalable to large numbers of students.

> *Lorain* *instituted a "Career Advantage Fee" to fund the hiring of Student Success Coaches. In 2014,* *Miami Dade* *added 25 new first year advisors to its annual operating budget. These positions are dedicated to supporting first-time-in-college students from orientation until they reach the 25 percent college completion benchmark. They were added only after the benefits of the new advising model were "proven in."*

AREA 5: First Year Experience Program

Many community college students experience challenges outside the classroom that interfere with their ability to succeed in the classroom (working, supporting themselves and their families, etc.). Many are first in their families to attend college, and when they get stuck, they don't know where to turn for help.

National trends and data collected at the CBD colleges point to a lack of non-cognitive skills and knowledge of the college experience. Students reported that the amount of information provided at pre-college or orientation sessions was overwhelming. They found it challenging to process the information, and, more importantly, to remember it when they needed to use it.

Research shows that students who place into developmental subject areas are at even greater risk for not persisting or completing. Students who enroll in developmental courses during their first term are more likely to complete these courses than those who delay entry into this coursework. Despite this research, prior to CBD, many of the colleges did not require students to complete their developmental education courses at the start of their college-level coursework. Students often left critical math and English courses until later semesters. This is especially problematic in mathematics where long spans without practice or application of analytical concepts make it even harder for students to succeed in those courses. At best, this delays completion, but in many cases it prevents it.

Research also shows that students who participate in first year experience programs demonstrate more positive relationships with faculty, greater knowledge and use of campus resources, and increased engagement and interaction with their campus community.

As a result, many colleges developed First Year Experience (FYE) programs to build on and leverage the early support provided in orientation and advising. Many of the colleges have integrated FYE faculty and first year advisors to reinforce the support and information each provides.

> *Wake Tech tailored its First Year Experience Program for students with developmental placements—to engage them more fully in the life of the college and support them to enroll early and sequentially in required developmental courses. Their FYE program is also a good example of a comprehensive approach to problem solving that was improved over time based on accumulated learning about its effectiveness.*

FIRST YEAR EXPERIENCE PROGRAM AT WAKE TECHNICAL COMMUNITY COLLEGE

Drawing on the research about developmental education and First Year Experience programs, a joint team of faculty and staff determined that a high-touch, structured program for students with development placements could have a significant impact on completion. To date, Wake Tech's FYE has targeted first-time-in-college students with two or more developmental placements.

In addition to new student orientation, this FYE program includes:

- Enrollment in a three-credit First Year Experience course (ACA090), which is eligible for financial aid coverage.

- Participation in an event or workshop and completion of a reflection to foster deeper connections with the college. Workshops and events focus on topics such as stress management and career exploration. Students can also volunteer at homeless shelters, attend athletic events, or visit academic centers on campus.

- Minimum of two meetings with a "student success counselor" who provides support and direction to navigate the first semester. The student success counselor complements the academic advisor, who focuses more on providing course recommendations.

⬈ See Wake Tech's Course Syllabus: completionbydesign.org/sites/default/files/resources/cbd_toolkit_gttc_1.pptx).

- Mid-term progress report to encourage communication about academic progression among students, their instructors, and advisors. Student Success Counselors use this information to develop individualized completion strategies for students in their caseloads.

- End of term survey of students about their experience.

Rolled out in Fall 2013, the FYE program had a number of implementation hiccups. As the result of changes in placement testing in North Carolina demand was higher than projected and not enough First Year Experience courses (ACA) were scheduled.

Students reported that they didn't understand how the ACA course and the overall FYE program were related. Survey responses and classroom observations demonstrated that students had been exposed to hard skills, like time management and study strategies, many times but didn't know how to use them appropriately. Some students didn't complete all the requirements because institutional procedures were not strong enough to enforce the mandatory ones. Input, particularly from students who did not complete the course, was critical for informing improvement.

These findings led to several program enhancements, including:

- Changing the content of the ACA course from an emphasis on hard to soft skills, such as communication, emotional intelligence, advocacy, and goal-identification. These changes reinforce personal responsibility for goals and decision-making.

- Conducting earlier and more frequent outreach to students to make sure they understand the program requirements and support resources.

- Adding policy and practice changes, such as registration holds and regular reviews of student enrollment data, to support mandatory aspects of the program.

- Increasing alignment between the ACA course and the overall FYE program:
  - » Assigning Student Success Counselors to students in specific sections of the ACA course for more consistent interaction and relationship building.
  - » Making student event/workshop reflections and mid-term reports part of ACA course grade.
  - » Ensuring ACA faculty and Student Success Counselors use the same language to reinforce each other's messages to sustain student learning.

To date, more than 2,000 students have enrolled in FYE and 865 have completed it. Completers demonstrate higher retention and report strong connections with Student Success Counselors.

⬀ Hear more about one student's journey and the positive impact the FYE program had on her first semester experience: completionbydesign.org/sites/default/files/resources/cbd_toolkit_wake_tech_2.docx.

AREA 6: Institutional Policy Alignment

CBD colleges identified internal policies that were creating barriers to student success and changed them. For example:

- Several colleges eliminated late registration policies that were setting students up for failure by allowing them to start classes as late as two weeks into a semester. Faculty and advisors knew that late registration impeded student progress but administrators were reluctant to change the policy because of the potential impact on enrollment. Colleges solved that problem by increasing the number and variety of mini-term courses as options for students who missed traditional registration deadlines. Students who showed up "late" for traditional 16-week terms were registered "early" into new 12- and 14-week mini-terms.

- Students at some colleges were allowed to delay completing developmental education courses as long as they were not prerequisites for college level courses. As a result, students often left these courses until the end of their programs and delayed completion. **Lorain** now requires all degree-seeking students to be assessed for college readiness when enrolling for their first three-credit college-level course. It also requires them to complete foundational education courses at the start of college to increase the likelihood of successful completion.

- Faculty at **Davidson** intentionally identified college-credit courses that could be taken by students who had not yet completed their developmental education requirements. The goal is to engage students in their programs of study earlier and decrease the likelihood they will lose interest in college.

Next Steps for Improvement

Both Florida and North Carolina made changes in their states' developmental education requirements. As a result, academic and student services staff participating in intake and onboarding activities had to develop new competencies and take on additional responsibilities in the midst of their own college improvements.

The challenges in Florida were particularly daunting. Florida colleges were required to introduce several new instructional modalities; create supplemental instructional support for co-curricular, just in time remediation; train faculty in pedagogy and technology; develop new methodologies for course placement recommendations; and craft new advising strategies for students who could choose to avoid developmental courses.

At **Miami Dade**, advisors were trained to identify students who would benefit from developmental courses, determine which of the new modalities best matched individual student needs and have effective discussions with students about developmental vs. college-level options. This would not have been possible if the organizational capacity for urgency and adaptability had not been built during the first two years in CBD.

There were fewer changes and fewer students affected in North Carolina. However, advisors there also had to learn to apply Multiple Measures Placement methodologies that considered high school performance for students with certain placement scores.

Academic Maps: Getting Students to Credential Completion

CONNECTION ⟩ ENTRY ⟩ PROGRESS ⟩ COMPLETION
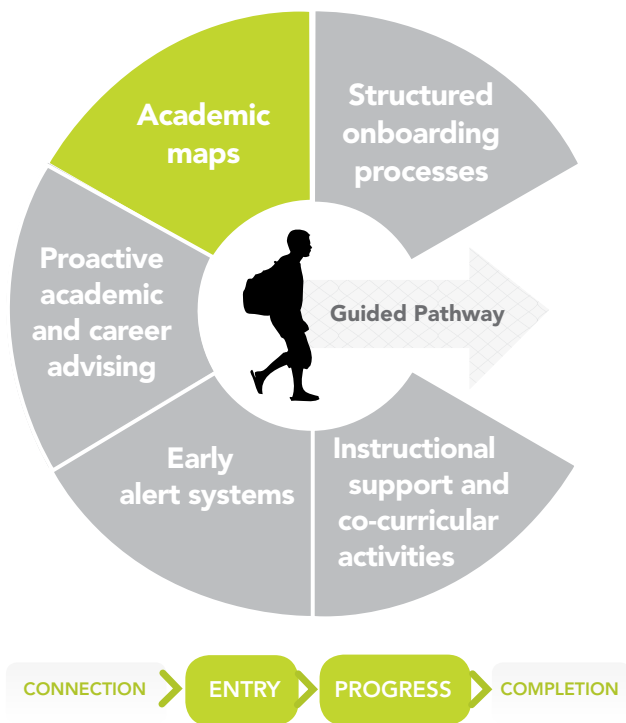
Prior to CBD, most colleges had a variety of program sheets for degree and certificate programs. These program sheets typically were more specific and prescriptive for associate in science and technical programs, but looked more like a cafeteria menu for transfer programs. Recognizing that all students could benefit from more specific guidance, the colleges developed and/or expanded their use of academic maps to ensure all program areas had clear paths to credential completion.

Academic Mapping Teams

Colleges built small teams to structure the academic mapping work. These design teams typically included core CBD members, a few faculty, and one or more representatives from academic leadership (e.g., vice-president of instruction, academic dean, department chair). With a structure in place, the colleges then expanded the number of faculty involved in the actual mapping work.

Most colleges focused initially on programs of study with the highest enrollment or ones that were known to have problems (too many credits, too many electives, courses that didn't transfer, etc.) Over time the colleges expanded the academic maps to cover programs that represent the majority of students enrolled. Colleges anticipated pushback from faculty, especially General Education faculty, because of the potential to limit or reduce the number of elective choices. In fact, colleges in North Carolina did reduce the number of electives they offered after an analysis of transferrable courses and subsequent changes in the articulation agreement within the state system.

The larger colleges established faculty steering committees with representatives from the major academic disciplines to guide the work of the disciplines throughout the mapping process. Faculty participating in the steering committees typically were given release time from other duties; discipline faculty who did the actual mapping were not compensated separately.

> "Few activities were simultaneously as fun and depressing as compiling the spreadsheet showing which of our general education core courses were being accepted by the 16 state universities as general education credit. … It was sad to see how little the universities regarded the courses we offered. But we began to better understand the frustrations of our students. In the end, we couldn't in good conscience recommend students take courses that didn't transfer to most UNC schools."

Guilford Tech team member

The Sinclair team said that faculty involvement was important because faculty peers worked with one another "to engage the college from the ground up."

At **Miami Dade**, the steering committee tried to complete an academic map for a student in the sciences, using information in the college's degree audit and the state's transfer requirements website. After half an hour, they raised their hands in defeat, arguing that it was impossible to complete the task. Realizing that students (and some advisors) also were struggling to create a logical sequence of courses, they were convinced of the need for simple, easy to understand academic maps. These faculty then became champions of the process. See Miami Dade's academic maps: completionbydesign.org/resource/building-guided-pathways-mdc.

Broad faculty engagement helped build understanding and use of academic maps. But it also required significant planning time—ranging from nine months at a smaller college to more than 24 months at larger ones. One college suggests it would have been more expedient if advisors had built draft maps to which faculty could add recommended electives and departmental information. Most others believe faculty involvement clearly outweighed any negatives about timing.

The academic mapping team at **Guilford Tech** recommended adding seven certificate programs in the Computer Science area after identifying the need for specialization and certificates that would stack toward broader credential achievement. They presented first round recommendations to department chairs and then invited all faculty to a presentation of their findings delivered in person, online in real time, and by recorded video for those unable to participate live. With that feedback, the mapping team made minor adjustments to their recommendations that were then approved by the Curriculum Committee at the college. This led to two additional rounds of program restructuring: a voluntary departmental self-study process in 2013 that restructured 20 programs, and a mandatory process in 2015 to restructure all technical programs.

Some colleges also involved advisors in the mapping process from the start. However, all of them ultimately realized the value of advisors' practical experience helping students navigate the system and included them in subsequent reviews and re-assessments.

"Many folks felt frustrated with the amount of time it took to have the discussions with general education faculty. In retrospect, though, it may have been the best thing we did. And it contributed to a successful redesign experience."

Davidson team member

"We considered delaying because we knew the possibility existed that we would do all this work and then the new CCA (articulation agreement with the university system) would change everything. It did, but because we had engaged our faculty by then, it was a little easier for them to accept and make additional changes when the new CCA came."

Central Piedmont team member

"We learned that a one-size academic map does not fit all. Academic maps have to be adapted to each student's life situation and reconfigured when a student changes his program of study or fails a course or transitions to part-time status. The advisors do this work. They, with faculty and other staff, can learn from each other about how to implement academic maps and reinforce their use."

Sinclair team member

Good Data, Consistent Process

Using data to "de-emotionalize" the mapping process was key to success at most colleges.

At one college, the humanities faculty in the fine arts was concerned that enrollment declines in arts courses were due to academic mapping because some disciplines recommended that students enroll in philosophy instead of art or music. But the data showed that enrollment declines were due, to a large extent, to higher enrollment in gateway mathematics and English courses. When this was shared with the fine arts faculty, along with the data that demonstrated higher completion rates for students who completed math and English at the start of college, faculty readjusted their enrollment projections for the near term with an understanding that enrollment levels would increase once math and English requirements had been fulfilled.

All colleges cite the importance of using structured processes and templates to manage the broad faculty engagement and varying levels of knowledge about general education requirements. Resources and tools used successfully by the colleges include:

- Templates to list term by term curriculum requirements and recommendations ⤴ See sample templates:
  completionbydesign.org/resource/building-guided-pathways-sinclair

  completionbydesign.org/resource/building-guided-pathways-mdc

  completionbydesign.org/sites/default/files/resources/cbd_toolkit_cpcc_2.pdf

  completionbydesign.org/sites/default/files/resources/cbd_toolkit_davidson_1.pdf

- Standard instructions and materials, including examples of completed academic maps. ⤴ See sample instructions and materials (same as template links above).

- Clearly communicated graduation and transfer requirements.

- Rationale for strategic placement of key courses, especially in math, English, and first program of study courses.

- Best practice information from their own states and nationally.

- Facilitated cross-discipline discussions and collaboration.

- Regularly scheduled reviews and progress reporting.

Operationalizing Academic Maps

Sinclair developed an annual pathway review process that takes place prior to the release of their annual calendar. After curriculum changes are made by the academic disciplines, advisors and faculty meet to review them and adjust student academic plans, if necessary.

Additionally, external factors in some states have required the colleges to amend, revise, and change some of the academic maps.

> *In 2014, North Carolina implemented a Comprehensive Articulation Agreement defining 43 general education courses that could be completed at community colleges to satisfy the equivalent requirements of the state university system for students transferring with AA and AS degrees. This required the NC colleges to reassess the list of general education courses included in the first version of their academic maps for compliance with the articulation agreement. Several colleges reduced their course offerings, eliminating those that did not transfer to the UNC system, or did not transfer as a program, general education, or elective requirement.*

> *Florida had strong articulation agreements in place for many years prior to CBD, but the foreign language and general education requirements were changed statewide in 2014 and 2015, respectively. Like the NC colleges, **Miami Dade** had to update its academic maps to reflect these changes. This work was easier to do and accepted more quickly because of the prior academic mapping work that had been done.*

Professional development for faculty and staff was an important component of successfully developing and implementing academic maps. Mapping team members went to discipline meetings and retreats to share the rationale for academic pathways and help faculty teams start the mapping processes. Ongoing training for advisors is also in place to share the rationale and provide them with the content knowledge and updates they need to implement maps effectively with students.

Students like academic maps because they provide all the information they need about which courses to take and when to take them in one place. One student described the difference:

> **"They tell you what you need to take, show you what that's going to look like and help you choose the right courses. Versus just saying, 'Here are all the options. Whatever you want to take, just take.'"**
>
> Student

These academic maps are living documents. They adapt to statewide changes and to shifts at the institutions to which CBD college students transfer. Many transfer institutions have begun to encourage or require students in certain programs of study (like arts and humanities, mass communications, and social sciences) to complete non-algebra track math courses (like statistics, quantitative reasoning, or liberal arts math) that are more contextualized to the competencies students in those programs need to master. Because academic maps guide students' preparation for transfer institutions so they enter with the skills and competencies equal to students who begin at those institutions, the CBD academic maps were adapted to reflect similar math pathways.

Impact and Intervention

Many of the colleges are now able to both see and measure the impact of academic maps on:

- **Program selection:** More students are correctly placed in associate science vs. associate arts programs based on their career goals.
- **Course taking patterns and pass rates:** Increasing numbers of students are enrolling in and completing key mathematics and English courses in the first year, and also completing the first meta-major or program of study course.
- **Benchmark achievement (credits earned/ credits required):** More students are completing 12 and 24 college level credits in their first year.
- **Retention:** Fall to Fall enrollment is increasing at many colleges.

Academic maps are also a valuable predictive tool for early alerts and intervention strategies. Together with course performance data they highlight where and when students are most at risk of faltering. Interventions include supplemental instruction, referrals to resources that provide financial and/or counseling support, and re-evaluation of academic and career goals.

*At **Lorain,** students repeating a course for the third time are now required to meet with a member of the relevant academic department to create an appropriate intervention, such as a study plan or participation in a preparatory course.*

***Stark State** developed an algorithm that allows them to identify which pre-nursing students are on track—or not—to meet admissions requirements for their nursing programs. They initiate discussions with students who are not on track to explain the likelihood of program admission and identify potential alternate programs of study pathways that may help students to make smart decisions about their academic and career goals.*

***Guilford Tech** students are blocked from repeating a course for the third time and required to meet with a Student Success Specialist to develop appropriate interventions before the registration hold is lifted.*

In North Carolina, the statewide degree audit technology allows students to "try out" other majors they may be interested in pursuing. The technology identifies which credits earned to date would apply to a new major as well as additional courses and credits that need to be completed.

DAVIDSON COUNTY COMMUNITY COLLEGE'S EARLY ALERTS AND INTERVENTIONS STRATEGY

A team of faculty and staff at Davidson created a conceptual design for a unified, comprehensive early alert system. The design would combine intake assessments and non-cognitive information about students with real time information about classroom performance. The goal was to leverage what was working already by integrating successful (but often manual) processes within the college with best practice strategy.

Senior leadership invested in software to accomplish this integration. Faculty teams began planning implementation of electronic grade books and mid-term reporting. Another team began working with an external software provider to identify and develop internal processes at the heart of an alert and intervention system.

The alert system is linked to the Learning Management System so assignment and test grades are imported automatically on a daily basis. This gives all members of a student's support network instant access to monitor the student's progress throughout the term. The resulting "alerts" are auto-generated in the system when students meet pre-defined "triggers," identifying those who would benefit from academic and/or student services intervention and support. Faculty also raise flags (alerts) when they have concerns about students in their classes, and this information is communicated immediately to the advisors for those students. Faculty and advisors who receive these alerts have access to actionable information to engage the student in substantive, meaningful discussions about their progress. Faculty can also use the tool to provide positive feedback and encouragement to students who are doing well.

The new system was piloted with a small group of faculty in Fall 2012. It was available for other faculty on a voluntary basis in Spring 2013 and became mandatory for all faculty and advising staff in Fall 2013.

The team at Davidson faced several early implementation challenges:

- Although faculty and staff were involved in determining the triggers for alerts, the system generated so many that there weren't enough human resources to follow up individually with every student. This required additional strategic planning to develop automated processes as a first line of intervention, "making the system work for us, to help students."

- Faculty and staff had to get comfortable that each would use the information appropriately. To build trust, advisors attended faculty meetings and scheduled advising sessions during faculty office hours so they could communicate and collaborate more effectively. Advisors shared their strategies for interventions and developed "crosswalks" to link specific alerts with appropriate non-cognitive interventions.

As a result, the number of student-initiated withdrawals has declined from 11.1 percent in the year prior to pilot implementation to 7.5 percent in 2014–15. Students are making more informed decisions about dropping courses and fewer students are repaying money. Students who received an unsatisfactory mid-term report and were flagged with concerns by faculty within the first eight weeks of the semester were 8 percent more likely than those not flagged to complete their courses successfully. Students tell each other they have been "Starfished" and report in surveys that advisors are more proactively supporting them.

> *"It was awesome for me." said one student. "It made a positive impact on my academic performance this semester and last semester. When I get a Kudos, it's like getting that pat on the back saying, 'You're doing great, keep it up.' It makes me want to keep doing my best. It's typical for a teacher to let you know when you need to step it up but it's just as helpful, if not more, to be told you're doing a great job. Without encouragement, sometimes the work can be overwhelming, so it's nice to have that encouragement from my teachers."*

These improvements in student success were driven by a cultural shift from faculty-focused to student-centered. Davidson has moved from using the technology as an early alert system to a comprehensive student success solution. Next steps include adding student intake assessments and non-cognitive information to the system and expanding its scope to include prospective students.

STARK STATE COLLEGE'S ALTERNATE PATHWAYS STRATEGY

At Stark State, the admissions criteria for the selective nursing program stipulates students earn a cumulative 3.0 GPA in their pre-application courses, and a "B" or higher in specific courses. Historically, students who declared Nursing as their program of study were not making successful progress in the developmental pre-requisites, nor earning "B" grades in the required courses. Students also frequently failed to earn a 3.0 GPA. Even more alarming, a large number of students accumulated excess credit hours without positively effecting their GPA or chances for admission, all the while using up valuable financial aid eligibility. As a result, students "languished in a pre-nursing state" for several semesters with no clear path to completion.

Why was this happening? Because advising was not required after the first semester and students were self-advising through what was, at the time, a complex nursing application process. Without better support from the College, students were making bad decisions based on folklore they heard from other students.

Leveraging tools like a GPA calculator, the academic mapping team used a formula to determine the number of "A" and "B" level course work hours students would need to improve their GPAs to 3.0. For example, if a student had a 2.5 GPA after earning 30 credits she or he would need to earn an "A" in each of the additional 15 credit hours prior to applying to the nursing program. The team segmented pre-nursing students into three groups (green, yellow, red) based on their readiness to apply and likelihood their applications would be successful. The analysis also considered financial aid eligibility to determine if students had enough left to complete the courses required to improve their GPAs.

Faculty and staff designed a comprehensive advising program to support students in taking more active roles in their career decision making. Advisors reached out to students they believed would benefit most from the intervention (those with GPAs from 2.0 to 2.8) and asked to review the nursing program requirements with them.

An advising tool was created to ensure that clear, consistent information was disseminated. It identifies appropriate interventions based on the same green-yellow-red categories and gives advisors quick access to policies, forms, the GPA calculator, and information about alternate pathways so students can explore their options fully.
See Stark State's Advising Tool: completionbydesign.org/sites/default/files/resources/cbd_toolkit_stark_1.pdf.

These were hard changes. As one advisor described it, "The complexity of each student's situation made many conversations challenging. Students were disappointed and frustrated. Sometimes they had retaken so many classes to meet eligibility requirements that they had too little financial aid eligibility to get a nursing degree. That's a tough conversation."

Stark State rolled out this intrusive advising model to all health students. Students now meet with academic departments before applying to selective admissions programs to ensure admissions requirements are met and students have a full understanding of the program and career options before enrolling.

Despite the planning and setup, in the first year of the new program only about 26 percent of students contacted met with advisors. As a result, the program has been enhanced in three key ways:

- Science faculty are now assigned to students with lower than 3.0 GPAs to engage them in career discussion earlier.

- Group advising sessions have been established to provide students with more guidance on the appropriate courses in which to enroll.

- New pre-health pathways were designed in the Associate of Science degree. Students now participate in three different stages to enable better identification, advisement, and progress monitoring.

Next Steps for Improvement

Three dynamics challenge the long-term sustainability of academic maps: institutional policy, mismatched intent and practices, and course pass rates.

Institutional policy: No college currently prohibits students from enrolling in courses not on their academic map. This occurs for three key reasons:

- Philosophical beliefs that students should take more responsibility for their educational and career choices.
- Technology that prevents enrollment in "off map" courses.
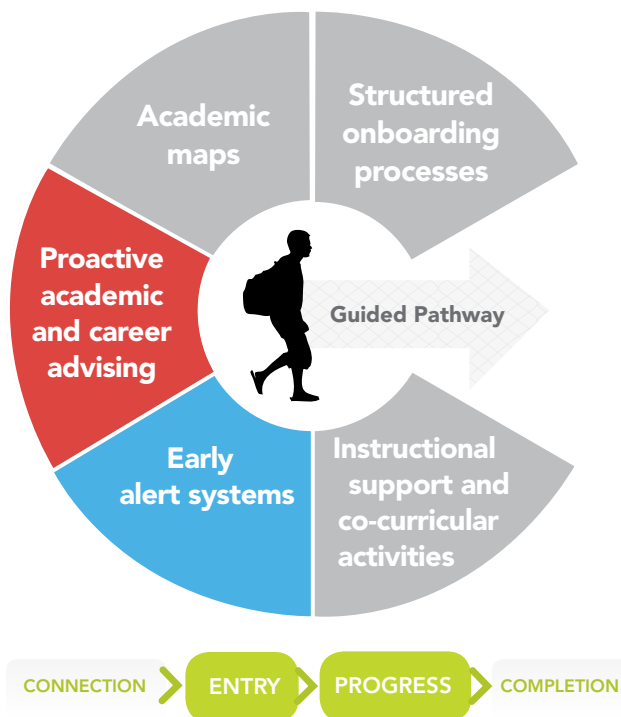- Scheduling systems that fail to align demand with the supply of courses.

Mismatched intent and practice: Most CBD colleges don't have technology that enables automatic monitoring to determine if students are enrolling in the courses recommended by the academic plans and their advisors. In some cases this is a timing issue (technology cannot be rolled out until new enterprise resource planning systems are in place). In others, it's a financial resource issue.

However, even with improved technology, as long as students self-register and can change schedules at the start of every semester, no technology will stop them from enrolling in courses not recommended by their academic maps unless institutional policies change. Early data at several colleges indicates that more than half the students are not following their academic plans. Some of this may be due to course unavailability (especially at the end of registration season), but data from students also indicate that they still delay taking foundational courses, especially in mathematics, and continue to follow the recommendations of their peers. Even when advisors are able to access information that students are deviating from plan, they often don't have enough time to try to convince students to change their courses. This may change when technology improves and/or if financial aid regulations focus more on paying only for courses outlined in a student's program of study.

Course pass rates: Academic maps require modifications when students fail or withdraw from classes. This occurs frequently, not only for academic reasons, but also as the result of life issues (change in work hours, change in family circumstances, etc.). This has been exacerbated in Florida by the changes in state requirements that permit most high school graduates to skip developmental education. Failure and withdrawal rates in gateway mathematics and English courses have increased, affecting progression in both areas, and also in science courses and courses that require reading and writing proficiency. While technologies can automate the modification of academic maps, they do not solve failure rate issues.

Advising: Promoting Persistence and Progress

- Provide systematic career assessment and exploration.

- Integrate support provided by faculty and staff.

Guilford Tech historically reached out to advise all students on two occasions only: during orientation before their first semester and before graduation. Students on financial aid probation were required to see an advisor but their challenges were often difficult to overcome at that late stage. Even when students initiated contact with advisors they received different forms of support depending on the academic programs they pursued. Some departments, especially those in technical programs, required students to meet with faculty advisors prior to registration every semester. Departments with lock-step course sequences advised students in class. But students in college transfer programs had to initiate contact with the Student Services Center if and when they needed support. Advice was provided by the staff member available at the time the student initiated contact. Students often received conflicting advice or didn't understand what they had been told. There was also no record of advising sessions because there wasn't software in place. As one student said, "You don't develop that personal relationship and try to figure out what's best for you and your education. The advisors were always friendly. There just wasn't that personal connection and no consistency. You never knew what you were walking into."

Most participating colleges had an uncoordinated variety of advising supports in place prior to CBD. Generally, students in technical programs received more comprehensive and frequent advising because of program requirements for specific courses in specific sequences. Students in Associate of Arts programs that transfer to baccalaureates received the least comprehensive and frequent advising.

In addition, prior to implementation most colleges did not:

- Provide a single point of contact for advising to students.

- Require students meet with advisors in the first year or complete an academic plan.

*Students at **Sinclair** reported feeling overwhelmed by the size of the institution. Yet, they had no single point of contact they could turn to for guidance, advice, or encouragement. Students were not required to meet with advisors. Those who did experienced long wait times and rarely saw the same person twice.*

*Data at **Central Piedmont** showed that students were not using—and in many cases didn't even know about—the advising resources that were available to them. They received different advice or messages depending on who they talked to and where they sought advice. Not surprisingly, they by-passed existing processes and channels and self-advised, sometimes expressing their frustration in calls and emails to the administration.*

*An internal review at **Lorain** confirmed that faculty and staff expected students to know which courses to take and when to take them. But, the institution did not communicate this*

information effectively or provide any navigational tools to help students find what they needed.

Across colleges, faculty, staff, and students were equally frustrated with existing processes and structures. Faculty complained that the information provided in advising was sometimes inaccurate and inconsistent. Advisors complained that the academic departments didn't provide them with up-to-date information or support them in the classroom. Students were frustrated because they didn't have a single point of contact.

They all wanted the same thing: a "go to" person who could provide complete, accurate information and academic, career, and life skills support. They all knew advising structures and processes had to change.

In response, CBD colleges expanded the breadth (and in many cases, the depth) of advising services provided, as highlighted below.

College/ Activity	Pre-College Advising	Mandatory Advising in First Year	Single Point of Contact Assigned Advisor	Intentional Career Advising	Noncognitive Dignostic Assessments	Individual Academic Plan	Integrated Faculty Advising or Mentoring	First Year Experience Course
Central Piedmont		X	X	X		X	X	
Davidson	X	X	X	X	X	X	X	X
Guilford Tech	X	X	X	X		X	X	X
Lorain	X	X	X	X	X	X	X	
Martin	X	X	X				X	X
Miami Dade	X	X	X	X	X	X	X	X
Sinclair	X	X	X	X		X	X	X
Stark State	X	X	X	X	X	X	X	X
Wake Tech		X	X	X	X	X	X	X

Source: CBD Colleges.

Five Colleges, Five Approaches

CBD colleges took different approaches to improve the advising services available to their students based on their demographics, resources, and institutional cultures.

Lorain and **Sinclair** developed models infusing strong career exploration, especially in students' first year at college. Lorain developed Program and Career Pathways to allow students who were confused or uncertain about their career choices the time and structure to make more informed decisions. Sinclair requires all students to choose a program of study before the start of their first semester. They also created Career Communities to help students engage in activities tied to those choices.

Like Sinclair, **Guilford Tech** provides program-expert advisors for students. But instead of assigning students to career communities, Guilford Tech assigns students to faculty coaches in their chosen programs of study.

Central Piedmont and **Miami Dade** took similar approaches. Different advisors are assigned to students at different stages of their education because they believe students need different supports at different times. Central Piedmont developed a "Road Map to Success" for students that connects all activities, interactions, and resources and explains it in a clear visual that students can follow. Miami Dade crafted a three-tier model that transitions students from pre-college advising, to first year advising, and then to college mentors at the 25 percent completion benchmark.

LORAIN COUNTY COMMUNITY COLLEGE'S PROGRAM AND CAREER PATHWAYS

A sub-group of Lorain's core completion team developed a framework for students, advisors, and faculty to work collaboratively to help students clarify their career goals, choose the program of study to maximize their time and effort, and stay on track to completion. ⧉ See Lorain's framework: completionbydesign.org/sites/default/files/resources/cbd_toolkit_lorain_4.pptx.

They consolidated 130 programs of study into nine Program and Career Pathways (also known as "meta-majors"). Starting with academic year 2016–17, all students will apply to a Program and Career Pathway, rather than traditional individual programs of study. Students who know which area they want to pursue can select a specific program of study at their first required advising appointment. All other students will remain in the Program and Career Pathway for their first semester at college.

All incoming students complete a non-cognitive diagnostic assessment (discussed earlier in this Toolkit). They also meet with an advisor their first semester to ensure they are in the most appropriate Program and Career Pathway, receive more in depth career coaching if needed, and select a specific program of study if they have not already. In their first year, students also enroll in a student life skills course that exposes them to a range of career resources and tools to inform their decision making. By the end of the first semester, students complete MyCAP, an individualized career and academic plan identifying courses and course sequences consistent with their career goals.

Each Program and Career Pathway has a common, default academic map for the first and second semester so students enroll in the courses required for that Area, regardless of their program of study. These maps were created by a team of faculty who examined labor market requirements and identified common courses among all programs. For example, in the Program and Career Pathway, there are seven courses in mathematics, English, accounting, computer science, and student life skills that satisfy the graduation requirements of 12 Business programs of study. ⧉ See Lorain's academic maps: completionbydesign.org/sites/default/files/resources/cbd_toolkit_lorain_2.pptx.

Lorain students participate in internships and service learning projects, and the Curriculum Council recently approved an Experiential Education opportunity for all programs of study.

Lorain is also piloting block scheduling of courses in another grant-funded project and will apply the lessons learned there to more strategic scheduling of courses within the Program and Career Pathways.

The website is being updated to include comprehensive career and labor market resources, information about meta-major courses, degree and certificate requirements, and general education guidelines for each Program and Career Pathway.

SINCLAIR COMMUNITY COLLEGE'S CAREER COMMUNITIES

Sinclair's career communities help students assess their career options, coach them to make informed educational decisions, and engage them with like-minded students, faculty, and employers, and co-curricular activities linked to their career choices. The strategy is designed to increase student engagement with the college and provide a structure for advising and student service referrals. ⬈ See more about Sinclair's Career Communities: completionbydesign.org/sites/default/files/resources/cbd_toolkit_sinclair_2.docx.

After conducting focus groups and surveys at the college, and reviewing structures and processes internally and at other colleges, Sinclair assigned every program of study to one of five meta-major focused career communities: Business, Health Sciences, Liberal Arts and Social Studies, STEM, and Creative Studies. This decision was based on best practices in the field (especially the Freshman Academy model at Queensborough Community College) and Sinclair's own experience with career communities through a multi-year Connect to Completion grant, which highlighted the importance of career exploration early in the student's pathway.

Existing advisors, who previously had been generalists, were assigned to one of the communities based on a combination of personal interest and student demand. New first-time-in-college students were assigned to career communities starting in Fall 2014. Currently, the Dayton campus central advising center has 40 full-time advising positions, seven advisors serving Distance Learning students, and ten advisors covering the four outreach campuses.

Incoming students get a checklist of activities to complete before meeting with advisors or registering for classes. They are strongly encouraged to attend New Student Orientation and meet with an advisor before registering to ensure they get off to a strong start. Advisors explain academic programs, develop personal academic plans, review the links between academic programs and careers, and serve as the bridge to career information and local job markets. While there are no registration holds to mandate compliance, 87 percent of new students met with their advisors and created a MAP before registering in Spring 2015 as the result of electronic reminders and phone calls encouraging them to do so. Following registration, all students receive a welcome to the career community.

In addition to academic and career planning support, students in career communities receive action plans to help them address non-academic barriers. Advising is also required (with registration holds) for students in academic difficulty (defined as a GPA of 2.0 or lower).

,All career communities incorporate standard elements (such as career information supplied by local employers), and customized components (such as the Liberal Arts and Social Sciences focus on the transfer process). Technology tools support advisors with online appointment scheduling, common access to information, analytics, and student progress documentation.

Each community has a multi-function steering committee that plans the activities for the community. They identify ongoing completion barriers (such as course scheduling conflicts, financial aid barriers, and technology issues) and develop solutions to overcome them.

At first, faculty and staff were skeptical of the new model. Advising had undergone multiple re-organizations in the prior several years creating significant skepticism of another new model. Concerns were exacerbated by the speed (six months) with which the college moved to implement the new model (including adopting new protocols, rolling out new software, and physically relocating advisors), and external changes in the state retirement system that led to large turnover among academic department chairs and advisors. Both of these factors increased the need for documentation and ongoing, program-specific professional development that was jointly developed by academic and student services.

Collaborative teamwork is an important reason the communities are effective.

- While the advisor-to-student ratio has not changed, student wait times have been reduced by two-thirds (from 26 minutes to eight minutes except during peak intervals).
- Ninety-nine percent of students now report that advising "meets" or "exceeds" their expectations.
- Faculty and staff report stronger connections and more accurate information.

> **"Advisors are sitting in on our classes to learn what is covered so they can better advise students. Faculty are sitting in on advising sessions to learn what is discussed. Instead of blaming each other for the fact that students are not getting good advice, they are working together to provide it in every interaction any one of them has with students."**

- Organizational silos have broken down. Recently a chairperson called an advisor in advance of making a change to the curriculum to ask what impact it would have on advising.

GUILFORD TECHNICAL COMMUNITY COLLEGE'S FACULTY COACHING FROM THE START

Starting in Spring 2014, Guilford Tech implemented mandatory annual advising for all students and assigned a "coach" to each student based on declared program of study. Students who intend to apply to limited enrollment programs in nursing, allied health, and cosmetology are assigned to a Student Success Specialist in the Student Success Center. Students enrolled in open-admissions programs, and those who already have been admitted to limited enrollment programs, are assigned to faculty coaches who teach in those programs.

Coaches build relationships and support students in several ways:

- Identifying appropriate programs of study based on interest and career goals.
- Exploring transfer institution or limited enrollment program options, admission requirements, and transfer pathways.
- Mapping out the most appropriate courses to earn a credential.
- Addressing challenges affecting academic success and linking students with campus and community resources
- Facilitating communication across departments.

All new Guilford Tech students receive a two semester academic plan at first year orientation that is built out with advisors during meetings together after that. This coaching is supported by an electronic caseload management system that monitors student progress (www.studentsuccessplan.org). It allows coaches to document conversations with students and assign tasks for students to complete (such as an action/study plan if a student is repeating a course). Faculty also use the caseload management system to issue early alerts for students struggling in their courses and to notify coaches. Faculty report they like the caseload management system because they can see background information, identify patterns of alerts and interventions, and document their interactions with students for follow-up and reference.

The importance of coaching is also reinforced with registration holds:

- First year students have registration holds for the first two semesters to ensure they attend orientation and an advising meeting (where they discuss academic and career options, discuss goals and challenges based on a survey administered prior to orientation, and complete their academic plans).
- Returning students have a registration hold placed on their accounts before the start of a new academic year. Holds can be removed only by faculty coaches and Success Specialists after students meet with them to discuss course selection for the upcoming semester.

Because students are assigned to faculty in their programs of study, and enrollment varies significantly across programs, caseload assignments vary significantly. Some popular programs have a limited number of full-time faculty members, which leads to large caseloads for departments that already are stretched. Technical issues with the student information system led to faculty confusion and frustration. It is still a challenge to get students to see their advisors early in the semester, despite all the advertising that emphasize the importance of this. Even with these challenges, the team believes that the advising model gets stronger every semester.

Students report that they are happy to have a single point of contact who is also a specialist in their program of study.

> *Luisa started taking paralegal courses. She wasn't overly excited about them, didn't do too well, and didn't have any idea what she really wanted to do. She had never taken a career assessment. Then somebody told her that she had a coach. For the first meeting, the coach went to the satellite campus to meet with her. He found her bright and excited to learn—she simply had no idea of how to proceed. Now, Luisa is in her last semester and ready to graduate. She has fallen in love with political science, joined the Model UN club, and plans to become a lawyer. Consistent communication with her coach and a few trusted instructors has guided her at each stage of her pathway.*

Guilford Tech graduated its largest class of students in 2015. While it's not possible to attribute this increase directly to the new advising model, faculty coaches say they've identified significant numbers of students who were almost ready to graduate but didn't know it. Coaches helped students identify the courses they needed to earn a credential. "My very first advising appointment with a student reminded me why this transition was so important," said a faculty member. "The student arrived at my office looking dejected and asked 'What else do I need to take?' I showed her that she was only six credit hours away from graduation. Her attitude changed immediately. Her eyes got bright and a huge smile came across her face. She looked at me and said, 'I was just going to keep taking classes but I didn't know what classes to take.' I've heard that same thing dozens of times since then."

CENTRAL PIEDMONT COMMUNITY COLLEGE'S ROAD MAP TO SUCCESS

An interdisciplinary team of faculty, advisors, counselors, and administrators started with a goal to create a well-defined advising process that students would be required to follow, with clear documentation to steer them along the way to completion. Now, at their first advising appointment students are given the "Road Map to Success," a visual tool connecting all of the activities, interactions, and resources they need to follow.

Central Piedmont's Road Map to Success for Students

See Central Piedmont's Road Map to Success: completionbydesign.org/sites/default/files/resources/cbd_toolkit_cpcc_3.jpg.

Students wanted one person advising them throughout their time at Central Piedmont. The college couldn't afford to do that, so the inter-disciplinary team created an integrated system of handoffs from one advisor to another as a student progresses from initial enrollment to completion. Students are now supported at

different times by counselors, transfer advisors, career services advisors, and faculty advisors—all connected by online student profiles and academic plans of coursework. The online profiles have information about current course schedules, learning styles, and notes from faculty and staff. The Road Map to Success was implemented initially for full-time first-time-in-college students in 2013.

More than 12,500 students (approximately 40 percent of those currently enrolled) have academic maps. More than 6,000 students, including most incoming and many returning students, participated in at least one advising session. Survey and focus group results indicate that students increasingly know where to go next and are confident there will be someone at the next step to guide them.

> *For example, walking across campus one day in early fall, a college administrator met the son of family friends. He was a new student who had taken time off after high school to make decisions about the direction he would take. Aware (because she knew the family) that the student had expressed reluctance to attend Central Piedmont, the administrator gently inquired about how his studies were going and how he was finding things at the college. "Are your classes going okay?" she asked. "Are you figuring out where to go and what to do?" "Oh, yeah," the student replied. "They gave us these map things and it tells me exactly what I need to take each semester and how long it will take me to finish and be able to transfer to a university."*

MIAMI DADE COLLEGE'S THREE-TIERED MODEL OF ADVISING

Integrated academic and student services teams at Miami Dade created a new three-tiered model of advising to support students from high school through completion of a credential. It is designed to provide the right support at each stage by the people best equipped to provide that information and advice most effectively.

Unlike Guilford Tech, where faculty advise students from the time they attend orientation and register for the first semester, Miami Dade's mentors don't assume responsibility for students until they complete 25 percent of the college level courses required to complete their credentials. For most students, this is at the end of the second semester. After a lot of discussion and debate, the design team decided that Miami Dade students would benefit from interaction with different areas of the college at different times in their journeys.

- In the first tier, Pre-College Advising, (described earlier in this toolkit) students are assigned a Pre-College Advisor (PCA) when they are admitted to the college. The PCA is the primary point of contact until a student attends first year orientation and is transitioned to a First Year Advisor.

- The second tier, First Year Advising, provides a wide range of intake and onboarding services, including mandatory orientation, non-cognitive diagnostic assessments, pre-enrollment boot camps, and mandatory first year advising. First Year Advisors are student services advisors selected and trained to support incoming students in their caseloads with intrusive support.

- The third tier, College Mentoring, provides in-depth information about baccalaureate programs and transfer institutions, internships, and career opportunities. Mentors are faculty, academic department chairs, and academic department advisors. Currently, more than 60 percent of the 300+ mentors are full-time faculty who volunteered and have been trained.

Faculty in certain academic departments, especially those with rigorous transfer requirements, had been advising students for many years, but faculty advising was not implemented systematically across the college.

A member of the design team that developed the three-tiered model of advising at Miami Dade said, "For the first two months, faculty and advisors sat on opposite sides of the table with their arms crossed." Through twice a month meetings, the design team ultimately built shared language and created multiple implementation strategies. Faculty members on the team shared ideas with their colleagues for feedback and improvement. An active design team member was also a well-respected union leader; he shared information and facilitated discussions with union leadership as implementation strategies evolved. Over time, compromises were reached and implementation proceeded.

Like other CBD colleges, faculty were concerned about the amount of information they would need to know, the likely time commitment, and compensation. As one faculty member said, "I'll be swamped with too many students, I'll misadvise them, and I don't want to be an expert in the student information system." Professional development, faculty champions, ongoing feedback from surveys of students and their mentors, additional technology support, and other improvements (such as local coordinators at each campus) have been key in building a "supply" of trained mentors.

Faculty were also concerned about the amount of time it would take to advise students. After several months of discussion and debate, the team developed a solution: (1) faculty would participate in college mentoring on a voluntary basis; (2) the number of students who could be assigned to faculty members would be limited to 30; and (3) faculty could exchange campus hours (typically used for committee work) for college mentoring hours.

Developing an adequate supply of trained mentors has been less of a challenge than creating "demand" for mentoring services among students. More than 12,500 students have transitioned from first year advising to college mentoring. Unlike first year advising, mentoring is voluntary for students. As a result, only about 25 percent participate. Local coordinators now host formal "celebration" events to introduce students to their mentors and a marketing campaign was introduced in Fall 2015 to increase overall awareness of mentoring.

Students who participate in mentoring report high levels of satisfaction with the interaction and guidance they receive. Approximately 90 percent of the students who transition to mentors remain in good academic standing the following year and more than half of the students transitioned to date reached the 75 percent benchmark (typically 45 college-level credits earned) within the 12 months following transition.

Lessons for Getting Advising Right

Today, three years into implementation, CBD colleges' advising models contain nine essential elements:

- **Leverage what works at each institution.** An iterative, testing-while-doing approach allows colleges to improve with learning and experience.

- **Build around students' full academic journey from where they start through completion.**

- **Focus initially on cohorts of first-time-at-college students.**

- **Familiarize students to the college before their first semester** (most often as some form of mandatory orientation).

- **Include career exploration in advising and FYE courses in a student's first year.**

- **Change the advisor's role from reactive problem solver to proactive facilitator of student success.**

- **Give students a primary point of contact in their first year, and—if at all possible— throughout their time at the college.**

- **Invest in targeted, ongoing training and development for staff and faculty advisors.**

- **Keep lines of communication open and celebrate success along the way.**

Next Steps for Improvement

Five dynamics challenge the long-term viability of the improved advising models.

Sustainability: Advisors estimate that an effective advising session, in which career plans, course selection, challenges, and progress are discussed, requires 30–45 minutes. As colleges admit new freshmen cohorts and expand advising beyond freshmen, the demand on advisor time is daunting:

- **Central Piedmont** says that advisor staffing levels are their biggest challenge.

- At **Guilford Tech**, coaches receive notification when faculty issue alerts based on inadequate student progress, but they are not responsible for reaching out and intervening with their "at risk" students. Additional resources are required to do this systematically. Currently, student success specialists, not assigned coaches, respond to early alerts.

- **Lorain** and **Stark State** have supplemented in-house advisors with student success coaches from AmeriCorps.

- Colleges are exploring small group advising sessions and integrating advising more completely with first year experience courses to leverage existing resources.

- Declining enrollments will limit the ability of the colleges to add advising personnel.

Training: Changes to graduation and transfer requirements, curriculum and advising protocols, and employee turnover or reassignment means advisors and those who support them in academic and administrative departments need frequent training.

Technology: Most colleges report ongoing problems integrating new technologies for caseload management, progress monitoring, course scheduling, and predictive analytics with existing learning management systems and enterprise systems:

- **Central Piedmont** realized during implementation that they should have included a representative from Information Technology on the interdisciplinary planning team to figure out how the advising system would work with existing technology.

- Matching students with the right faculty advisors is still done manually at both **Central Piedmont** and **Miami Dade**. Given the large student populations at both colleges this isn't a long-term solution. To address that, Miami Dade is developing an electronic algorithm to assign students to mentors and Central Piedmont is exploring software enhancements.

Student Engagement: Most colleges report that changes to the advising model take several semesters to implement. Many students continue to be

unaware of the changes, despite major communications outreach campaigns. They procrastinate, waiting until the last possible moment, which puts additional strain on already stretched resources. To accommodate this:

- Several colleges have had to maintain "belt and suspenders" approaches, like registration holds, to ensure students meet with advisors.
- **Miami Dade** rolled out a new targeted marketing and awareness campaign and celebration events for students who reach the 25 percent completion benchmark to entice students to meet with their mentors, the only voluntary tier of their advising model. It is too soon to tell if the number of students working with college mentors increases beyond the current level.

Data: Most colleges do not have historical data on student use of advising, completion of academic maps, or engagement in activities like the career communities. This makes measurement of early and leading indicators more difficult.

Lessons for Other Colleges Committed to Sustainable Change

Over the past four years, CBD colleges have aligned policies, programs, and practices to create Guided Pathways that support students to be more successful. As reflected throughout this Toolkit, colleges took an array of approaches to develop new or improved onboarding, academic maps, and advising strategies. They designed, tested, and improved what worked best for their own students and their own institutions. All of them continue to make significant progress in their attack on complex completion problems. All of them remain focused on sustaining the institutional changes they have made.

For other colleges embarking on this work, it's useful to keep the central lessons of the CBD experience in mind—and in hand.

Start with the end in mind.

Spend the time up front to develop hypotheses about why, how, and when your strategies will change attitudes, motivations, actions, and behaviors.

Make sure the problems you are attacking are big, important, and bold.

Align processes, structures, and activities to achieve your goals.

- Connect existing student success initiatives together under a larger completion umbrella (using the Loss and Momentum framework or another tool)

Develop a plan to sustain momentum and minimize burnout.

- Start with a big team because you will have— and want—turnover.
- Evolve the structure and membership of the teams as priorities evolve and change.
- Plan for succession and institutionalization.

Useful resources for planning are available at the Completion by Design website. ⬈ See a sample planning document from Sinclair: completion-bydesign.org/sites/default/files/resources/cbd_toolkit_sinclair_3.pptx.

Make a long-term commitment to student success.

Comprehensive reform at this scale results only from the cumulative impact of a system of strategies, processes, interventions, and structures.

Take the time to build consensus for change.

But don't wait too long to begin. Phase solutions in over time. "Learning by doing" is invaluable for evolving general best practice to highly effective strategy at your institution.

- "You don't know what you don't know … you can't have every detail worked out in advance," **Wake Tech** team members said. They say that substantive improvements to the FYE program would not have occurred if they had not accumulated experience and confidence over time.
- "This is a continuous process that is always improving … start the process and expect to

modify as you go. We phased in additional services as the resources became available—new software, redesigned training, new MAPS and additional support materials for advisors," members of the **Central Piedmont** team said.

Reallocate existing resources.

- Significant progress can be made without a lot of new investment.

- Focus on what can be influenced and controlled.

- "Prove-in" new models before spending on technology or human resources.

- Eliminate or move away from lower-value added activities.

Set clear expectations about progress to improve learning and performance.

Build organizational capability for ongoing innovation and improvement.

No single intervention, program, or person can create or sustain change of this magnitude.

Organizational strength is built through broad and inclusive engagement, collaboration and learning, inquiry and innovation, flexibility and adaptability, and a tolerance for risk, uncertainty, and setbacks.

Authentic broad and inclusive engagement means:

- Everyone understands this is a cultural change, not a pilot project.

- Participants are candid and focus on solutions. "People checked their egos at the door in a remarkable way," said one participant from **Miami Dade.**

- Leadership empowers teams to explore options and make recommendations.

- Out-of-the-box thinking and ideas are core values.

- Teams work collectively toward common goals. "The work was easiest to institutionalize when faculty and staff believed it was their idea," said a **Sinclair** team lead.

Invest in ongoing and intentional professional development. It is necessary to change a culture.

Commit to a structured, open process.

A good process includes:

- Templates for data analysis, identification of student success issues, determination of root causes, and development of improvement strategies.

- Integrating faculty and staff from the start, enabling them to build relationships and jointly develop a collegewide commitment to better serve students.

- "The sky's the limit" approach that encourages innovation and risk-taking and constantly pushes participants to answer the question, "Why wouldn't it work?"

- Visibility of the decision-making process and communication of success.

- Rapid turn-around of data (proof) to boost morale and perseverance, and drive continued improvements.

- Freedom to make mistakes, step back, rethink, and reboot.

STRATEGIES FOR MANAGING CULTURE CHANGE

Changes in policy, practice and behavior to support student success don't happen in isolation. As we see from CBD colleges' experiences throughout this toolkit, they are related to and reinforce one another. And their endurance requires changes in college culture. Attention to this cultural change is a core part of the CBD approach. Every college wrestled with it and each developed strategies to promote the culture change needed to support the hard, practical work of Guided Pathways.

In early 2016, SPEC Associates interviewed 44 representatives across the nine colleges to hear how they managed culture change at their institutions. The interview findings that follow capture their collective advice and lessons learned.

Overall, CBD college representatives had many concerns about how Guided Pathways would endure in the long term: 1) that the CBD work is overwhelmingly complex and still work in progress, 2) that these kinds of changes are not ever finished; and 3) that changes can unravel with a turnover in leadership.

At the same time, they also mentioned many factors that enhance sustainability, most of which focused on culture change. They included: security of resources, political support, flexibility, planning for sustainability at the beginning, integrating and aligning the work into existing ways of doing business, effective promotion, aligning with values, having clear goals, effective leadership, transparency, and diverse participation.

Two organizational change concepts help frame CBD colleges' experience with culture change: sustained organizational change and sub-optimization. The findings that follow are organized around these two concepts.

Findings Related to Sustained Organizational Change

A simple, enduring description of organizational change dynamics is the formula created by David Gleicher and refined by Kathie Dannemiller in the 1980s.[1] The model states that meaningful organizational change begins when there is: (1) a vision of what is possible (starting with the end in mind), (2) dissatisfaction with the status quo, and (3) a clear, achievable set of first steps that together are greater than (4) the resistance to change or comfort with the status quo.

Culture change findings reflected in this model are summarized under the following headings:

- Providing Vision and Focus
- Finding or Creating Dissatisfaction with the Status Quo
- Getting Started
- Handling Resistance to Change

PROVIDING VISION AND FOCUS: Most CBD colleges used visioning processes to change the idea of what constituted "success." Those visioning processes included:

- **Focus on the ideal first.** At the beginning, it helped some colleges to put aside current reality in order to have more effective brainstorming about what could be achieved. Some CBD participants said this idealistic visioning helped them make bigger strides for change.

[1] See https://en.wikipedia.org/wiki/Formula_for_change. Additional references are listed on this site for further reading on the formula for change.

- **Consider a wide variety of student experiences and definitions of student success.** For many colleges, first-time, full-time students are in the minority. A more sustainable vision is one that incorporates the complexity of students' experiences and conceptualizes student success in ways that reflect diverse aims (i.e. not only gaining qualifications or the ability to transfer).

- **Frame the conversation from the students' point of view.** Most colleges' conversations about this were about ways institutions could manage students' needs more effectively. Comments from some implied a deeper student-centric reorientation—such as changing conversations from "Do we have enough students for the class?" to "Do students have the classes that they need?" By using a customer service frame, leadership communicated that student success is a priority for everyone, no matter their role.

- **Make sustainability of the improvements a part of the conversation from the beginning.** Faculty and staff need to believe that successful efforts will be sustained. When sustainability was built into planning, committee members and others began to see the importance of piloting, evaluating, and revising. Some colleges tried to use as much of the external grant money as possible for "seed funds" such as one-time expenditures that would last beyond the grant. Some colleges drew on institutional funds for a significant portion of the work.

- **Consider branding Guided Pathway efforts under a broad umbrella like a student success or completion agenda.** Some colleges said this approach sent a message that the work was aligned and integrated into how the college would do business into the future. This helped overcome a sense of fatigue of yet-another-initiative. Some colleges chose to organize all completion-related external grant money under one office/department headed by senior staff focused on student success. Some made sure that faculty members were well represented in this office.

- **A cadre network provides additional support for the work.** Organizing CBD in groups of colleges by state provided useful opportunities to network and share information. Importantly, these cadres also provided a "meta vision" which created a degree of safety by being able to show both skeptics and supporters that other colleges are doing similar things.

FINDING OR CREATING DISSATISFACTION WITH THE STATUS QUO: Most colleges used evidence to demonstrate how unsatisfactorily they were performing along student success metrics. This helped to create dissatisfaction with the status quo and focus conversations on student success. Many colleges have noted the impact of data and ways to use it effectively:

- **Share indicators broadly with staff and faculty.** The need to change was most compelling to staff and faculty when CBD college leaders shared institution-wide indicators like retention rates and who was retained, how many and what types of students graduated, and developmental education completion rates. This revelation process was called "compelling," "a wow factor," and "unsettling." Once leaders revealed the data, there was a natural curiosity about what needed to change. One college showed the data and asked staff/faculty "What can we do about it?" All colleges distributed the data widely. In some cases, leaders shared the data across every department and level of the college, including administration, student services, academics, facilities management, and students.

- **Combine data with sense-making activities.** While overall there was enthusiasm and support for the data to be widely available, transparent, and visually easy to understand, providing data alone wasn't enough. Interview respondents described extensive and systematic sense-making activities that facilitated discussions about what the data meant and the implications for serving students. Sometimes this took the form of individual IT staff coming to work meetings with easy-to-understand data visuals and facilitating discussions. Other times it included college-wide large group processes where staff, faculty, external experts and institutional research people debated and discussed the meaning and implications of the data presented. Some colleges used dashboards that allowed easy access and/or the ability to drill down into data. Another sense-making strategy was to use symbols and colors for easy navigation through complex analyses.

- **Go beyond numbers for insights.** In some cases, this meant reviewing specific surveys, information about skill gaps from employers, and labor market information. At several colleges, focus groups across departments and with students revealed that students lacked meaningful connection to both the process of going through college and the people who could help them complete. It was also important to keep an open mind and not discount informal kinds of data, including that from students, faculty, and advisors.

- **Frame the discussion differently for different stakeholders.** It was important to work within existing beliefs and attitudes by finding out what stakes people had in the system. Virtually everyone was dissatisfied with advising, including students, faculty, non-academic staff, and advisors, but often for different reasons. These reasons needed to be understood and addressed. College representatives said that some people were persuaded by financial arguments, such as showing how non-transferable credits translated into financial cost to students, or how poor course scheduling links to lower enrollments and thus less tuition revenue. In states with outcome-based funding, completion rates are linked to increased allocations from the state. In one case, the loan default rate of students was used to support changes in probation and dismissal policies aimed at improving student success.

GETTING STARTED: The first steps the colleges took toward achieving what they described as the major accomplishment of CBD were crucial:

- **Plan first.** Many colleges stressed the importance of having a planning period and coherent planning process. A few felt they had rushed into the work and had to "unwind the process." Others spent time doing activities like diagnosing the problem, mapping out what is currently going on and whether it can be built upon or connected with something else, finding where the cracks are in current student pathways, identifying which courses don't transfer, and/or creating a wish list. Some said they tried to anticipate the consequences of possible actions and identify what departments would be affected and should be involved in the process before making the first move.

- **Make getting started as easy as possible.** There were many approaches to getting started, all of which depended on the specific circumstance of each college. Suggestions included:
  » Narrow the focus. After thinking broadly, select a few areas to focus on.
  » Start small. For example, redesign a few pathways in the beginning rather than all of them at once.
  » Give time-limited tasks to specific groups of people to fulfill specific purposes.

- **Build on existing organizational structures and practices.** Many colleges had existing practices and cultural norms they were able to build on. These included participative visioning and planning processes, student roundtables, inter-department meetings, shared governance structures, strong R&D, adaptable software and technology infrastructure, and an existing strong completion culture.

- **Build coalitions of the willing.** It's important to engage people, especially champions, who are likely to have conversations about the work in ways that engage others. Champions are often easy to identify by 1) past efforts at the college, 2) relationships with leaders, and 3) their emergence at meetings where the work is being done. One college participant said it was important to explore who should or wanted to be involved and make sure that there's a place for anyone who wants to engage with the work. Others noted that it was important to include skeptics in those coalitions (discussed more below).

- **Don't wait for data to be perfect to get started.** It takes time to build good data, pick indicators, and learn how to use the data. Also many colleges couldn't afford or adapt existing data processing to match what they wanted to do or know. On the whole, colleges did not wait around until the data systems were perfect before starting to use data. However, one college representative stated that they should have brought in the IT people much earlier.

- **Start with high-reward/low-risk actions.** Starting with low hanging fruit that can lead to quick success and momentum was common, but what constituted low hanging fruit was different across institutions.

Examples include focusing on students who already have 60-80 credit hours, starting with programs that require 75+ credits and need to be cut back to around 60 credits, and making a more flexible math schedule for greater access to classes.

- **There is no 'best' practice, but there is good practice.** College representatives note that it was rarely possible to take a specific practice from one college and apply it unchanged to a different one. In that sense there was no such thing as "best practice." Rather, colleges took the principles that underpinned ideas and actions from other colleges and worked out how to apply them to their own settings.

- **Authority, autonomy and responsibility are essential to getting the work done.** Several colleges gave those involved in the change processes as much authority, autonomy and responsibility as possible. In some cases this was helped by highly supportive presidents and trustees who understood when and how to stay out of the way, and who were realistic about the fact that some projects will not work.

- **Student success work should be top-down and bottom-up.** Generally, colleges used a mix of top-down and bottom-up strategies. Some CBD participants felt that sustainability would be achieved mainly by commitment to change from the "bottom," but it still needed people in key positions to make decisions and remove institutional barriers. One person stressed the importance of, wherever possible, including front-line staff who have direct experience with the issues.

HANDLING RESISTANCE TO CHANGE: The first three elements of the sustained organizational change model (providing vision, creating dissatisfaction, and getting started) are all in service to overcoming resistance to change or comfort with the status quo. CBD colleges addressed a range of factors that hindered or challenged their work at different points. They also devised ways to work through them:

- **Address worries about "lowering standards."** Faculty at some colleges worried that some of the reforms would result in "lowering standards" of what students should be expected to learn. Colleges adopted various strategies to handle this argument. Some college leaders made it clear that faculty are not to lower their expectations or standards, but should be willing to try new classroom management or teaching strategies that could actually improve student learning. Some brought in experts that faculty members would respect to show national research data demonstrating that the integrity of student learning is not lost when reforms are made. Some brought in third-party experts to analyze data after initiatives were implemented to test and show that the integrity of student learning is not lost when reforms are made.

- **Align meanings of "student success."** Faculty, advisors, trustees, presidents, deans, and students all wanted students to succeed, but they defined success differently. It's important to discuss what student success means and gain alignment among different meanings. Some defined success as post-graduation employment, job promotion, or transfer to a four-year institution; others were concerned about the knowledge students gained. In support of the employment-related definition of success, colleges used labor market information and brought in employers to talk to faculty about what students needed to know to be employable. With regard to the transfer definition, some colleges collected data from four-year institutions to show how many (and in some cases how few) courses were transferable.

- **Talk about ways Guided Pathways can fit with different ideas about the purpose of a college education.** Some faculty want students to have the option to explore disciplines or have broad liberal arts education as they may find their true passion lies in fields they knew little about. The pathway approach is designed to keep students on a career-related track and accelerate them to completion, saving them dollars lost to credits that don't count toward a degree or don't transfer to a four-year institution. Some colleges explained this tension as the difference between a community college and a four-year university. Some noted that broader, mind-opening classes may be more important for students with fewer resources and less access to the world of experiences and perspectives. One resolution was to allow for several options of electives within the student maps. While one particular elective may be preferred for a certain degree, students would be given other options for electives they may be interested in exploring

which still fulfill their degree requirements. Another resolution was to show faculty the research on "choice theory" which demonstrates that too many choices can lead to an inability to make decisions, thus promoting the pathways approach.

- **Understand that skeptics have a role to play.** As noted earlier, some colleges deliberately included skeptics in the change processes, letting them air their concerns and frustrations to encourage debate. One respondent explained that this strengthened the initiative because skeptics raised valid concerns and asked deep questions. One college used a less direct route to engage skeptics by asking the faculty senate to collect concerns and negotiate through them. Another college had skeptics visit colleges where initiatives have been successful.

- **Make sure the college president, senior staff and trustees are on board and active.** Senior leadership, especially presidents, must broadly and publicly communicate their support and actively demonstrate it in their behaviors. One college made student success a standing agenda item at all leadership meetings, including trustee meetings. One had a student success column in the provost/president newsletter. One president purposefully put student success up front and center visually in every public presentation. Some college presidents were publicly willing to acknowledge the possible tradeoff of drops in enrollments due to reforms aimed at student success.

- **Build trust across disciplines and departments.** All colleges said that they encouraged new interactions across disciplines or departments. Through these interactions, departments, staff and faculty gain an understanding of each other's work and they built bridges. One respondent explained that when people got to think outside of their discipline they didn't see disciplines as territories to be protected in discussions. Teammates became more comfortable expressing themselves which enabled more meaningful conversations. Another strategy was to select faculty who were trusted by their peers to lead the work. Some encouraged advisors and faculty to talk together and/or observe each other's work to build understanding of one another's challenges. One faculty leader talked about the importance of trust when there is a need to explain to faculty how their course policies could be barriers to student success. At one college, an existing shared governance structure was said to facilitate trust between administration and faculty. Another example is holding cross-department meetings.

- **Foster a no-blame climate.** Some respondents said that they have achieved a genuinely no-blame organizational climate mostly via supportive presidents. In one example, it was organizationally understood that a project could fail, and faculty/staff would not need to be fearful of project results. Attempting a new way, in earnest, to make progress that ends up not working as envisioned was still progress on the path to figuring out what will work.

- **Create a diverse mix of faculty and staff with different strengths on work teams.** Having faculty representation on every work team was reported to undermine resistance. Having each work team include both faculty and student service staff was another diversifying strategy. Colleges thought about diversity not only in terms of department or functionality, but also in terms of seniority, degree of skepticism, doer/thinker personalities, detail/big-picture thinkers, etc.

Findings Related to Sub-Optimization

The idea of sub-optimization goes back to work by the RAND Corporation in the 1950s.[2] It means that to sustain a complicated piece of work effectively over time, there must be an organizational culture where those involved in parts of that work are willing, for the good of the whole, to enter into tradeoffs, make compromises and resolve conflicting interests. Findings related to sub-optimization are summarized under the heading Managing Tradeoffs.

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[2] McKean, R. (1953). Sub-optimization Criteria and Operations Research, The RAND Corporation.

MANAGING TRADEOFFS: To sustain complex organizational change, everyone must be willing to make compromises for the good of the whole. CBD colleges faced some common tensions, compromises and tradeoffs in order to get the work done:

- **Some responsibilities change and some workloads increase.** Many colleges report that workloads increased for some faculty and advisors and for some project leads. Better advising and developmental education reforms meant different work for faculty and/or staff when advising offices were changed, faculty took on advising roles, or academic advisors needed to also perform career counseling. In some cases, these were resolved through extra service contracts or release time. In other cases, resolution relied on more intrinsic motivations of staff and faculty such as seeing students persist one semester to another, thinking about students' experiences from the perspective of themselves as parents, feeling the importance of the reform work, or seeing personal opportunities flowing from new activities and positions.

- **Some positions may no longer be needed.** In some cases, the development of pathways reduced the need for part-time, adjunct and non-tenured faculty. One college worked with other institutions to see if there were options for employing adjunct faculty who were no longer needed. In some cases, people were supported through professional development to do other or similar work at their college.

- **Changes to programs and their sequencing will be necessary.** Following recommended academic maps can yield lower faculty morale if their favorite specialty course is eliminated. At least one college used professional development approaches to explore with faculty how they could cover aspects of their favorite course within the new course structure and process. Another college realigned how courses were offered, gaining agreement on what was basic (required) and specialty (elective) levels; some specialty courses were kept on as acceptable electives.

- **Technology should be balanced with human interaction.** While predictive and early alert technologies are becoming very sophisticated, many CBD participants felt that such technology should facilitate but not replace human interventions. Some early alert software facilitated the ability to identify, and then communicate with, students who were not performing, but only when faculty were committed to using it. One college administrator explained that computers cannot talk with students who are falling off track and need advice about their career/education goals or personal factors interfering with their course completion. Another commented that students using only technology can easily misinterpret which two-year degrees are wholesale transferrable to which four-year degree programs. Technology-human tensions occurred when changes were made to advising without parallel changes to IT. Some colleges considered carefully whether particular IT technology was worth the cost. In at least one case, a college made revisions to advising before determining whether the existing technology would fit their needs, or if they needed something new.

- **Enrollment may fall with a focus on completion.** Some colleges report that leadership was afraid reforms focused on student completion—such as mandatory orientation or abolishing late registration—could discourage enrollment. The tension is especially relevant now, when enrollments are falling nationally for demographic and economic reasons. One strategy to address this tension was to have leadership publicly accept that interventions aimed at improving completion can also reduce enrollment. Another was to show how, eventually, student success efforts can result in increased enrollment. Another sought to resolve the tension by creating processes that served both enrollment and completion such as creating "late start" classes when abolishing late registration, or allowing students to complete courses in semesters later than ideal when required courses are full. Another strategy was to offer mini-terms to offset registration restrictions that reduced enrollments

Resources ⬈

Tools and Resources

Throughout this Toolkit, we refer to a variety of tools, examples, and resources that could be helpful to practitioners as they go through the process to develop their own Guided Pathways. All of these resources are available online at:

http://completionbydesign.org/resource/building-guided-pathways-toolkit-attachments

Contact Completion by Design Colleges

Completion by Design colleges are eager to share their progress with others who are interested in developing Guided Pathways. If you are inspired by the work of a specific college or colleges, please use the contact information below to get in touch.

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Readiness Assessment

Do you think you're prepared to start a similar effort at your college? We've developed a series of questions you can use to assess your readiness.

This tool identifies the key topics colleges need to consider when beginning the Guided Pathways work, including institutional readiness, engaging stakeholders, using data, and leveraging technology. The simple questions in the assessment enable you to determine whether you have the right commitment, people, processes, and leadership in place to do this work effectively. Based on your answers, you'll have a better understanding of what you need to add or enhance before you begin.

SELF-ASSESSMENT #1: INSTITUTIONAL READINESS FOR SYSTEMIC CHANGE.

Please assess your agreement with the following statements on a 1–5 scale

1 Strongly disagree   2 Disagree   3 Neutral   4 Agree   5 Strongly agree

_____ 1. Student persistence, program credit accumulation, and credential completion are among the college's highest priorities.

_____ 2. Executive leadership is committed to making systemic changes to organizational structures, policies, and practices to improve student outcomes.

_____ 3. The trustees of the college review student success data on a regular basis.

_____ 4. Resources allocation decisions are aligned with goals for student persistence, credit accumulation, and completion.

_____ 5. Leadership has set a clear vision for student success, and employees receive effective communications about the college's goals and strategies.

_____ 6. Barriers to student success are continuously identified, and effective solutions are developed and implemented to reduce or eliminate those barriers.

_____ 7. Personnel feel empowered to make changes in their areas to increase student success.

_____ 8. High quality, ongoing professional development that aligns with student success initiatives is provided to faculty, adjuncts, and staff.

_____ 9. Faculty and staff collaborate to develop and provide comprehensive support to learners.

_____ 10. Employees embrace new challenges and are open to changes.

_____ 11. The college has a culture of inquiry and data is readily available to employees across the institution.

_____ 12. Promising practices or programs are implemented at scale or have a plan to scale in a short period of time.

_____ 13. Institutional policies are regularly reviewed to ensure that they do not hinder student progress.

SELF-ASSESSMENT #2: ENGAGING STAKEHOLDERS IN THE PATHWAY WORK

Please assess your agreement with the following statements on a 1–5 scale

1 Strongly disagree   2 Disagree   3 Neutral   4 Agree   5 Strongly agree

_____ 1. Students have a genuine and ongoing role in helping to identify and solve obstacles to student success.

_____ 2. Executive leadership promotes and rewards broad collaboration and involvement among faculty and staff to develop and implement new programs, practices, and processes.

_____ 3. Employees know and understand what the college's strategies and goals are for student persistence, program credit accumulation, and credential completion.

_____ 4. Communications about new initiatives are designed to solicit feedback and support from faculty and staff.

_____ 5. Faculty actively participate in student development activities beyond the classroom.

_____ 6. There is a widely known and understood process through which employees can make suggestions for institutional improvements.

_____ 7. Strategies to help students transition from high school to college are developed in collaboration with local K-12 systems.

_____ 8. Four-year institutions work with the college to ensure effective articulation and successful transfer.

_____ 9. Area employers help define required jobs skills and provide critical feedback about the job readiness of completers.

_____ 10. Local and state policymakers understand the college's student success strategies.

_____ 11. Large, systemic initiatives have been implemented in the past, and they led to sustained institutional change.

SELF-ASSESSMENT #3: COLLECTING, ANALYZING, AND USING DATA IN PATHWAY WORK

Please assess your agreement with the following statements on a 1–5 scale

1 Strongly disagree   2 Disagree   3 Neutral   4 Agree   5 Strongly agree

____ 1.   Historical data is regularly collected, analyzed, and used to make institutional improvements.

____ 2.   Data is shared across the institution, and employees are trained on how to access, analyze, and use the data to inform decision-making, design solutions, and assess effectiveness.

____ 3.   Trustees are regularly provided data about student persistence, program credit accumulation, and credential completion.

____ 4.   Data is collected that assess early, intermediate, and long-term indicators.

____ 5.   Student success activities are mapped to specific performance indicators.

____ 6.   The Institutional Research Department is staffed in a way that adequately meets the college's needs.

SELF-ASSESSMENT #4: USING TECHNOLOGY TO SUPPORT NEW ACADEMIC AND ADVISING MODELS

Please assess your agreement with the following statements on a 1–5 scale

1 Strongly disagree   2 Disagree   3 Neutral   4 Agree   5 Strongly agree

____ 1.   Students have an assigned adviser that they must meet with on a scheduled basis.

____ 2.   Advisers have technology that helps maintain records about students' advising meetings and goals.

____ 3.   An early alert system, with specific policies and procedures for intervention, is in place at the college and utilized by faculty and staff.

____ 4.   Program requirements, courses/course sequence, and expected outcomes are clearly defined and provided to students.

____ 5.   Technology is used by advisers and students to help ensure that students remain on their program pathway.

____ 6.   Progression policies are aligned with technology capabilities.

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