



# Closing the College and Career Readiness Gap

## CONTENTS

- 2 Driving Student Achievement with Academic Bridge Programs
- 4 Keys to Success
- 6 Elmhurst Public Schools: Instilling Confidence and Skills
- 8 Eastern Iowa Community College: A Pathway to College Readiness
- 10 Columbus State Community College: Adding a Game Changer to Education
- 11 The Power of Adaptive Technology in the Classroom

# Closing the College and Career Readiness Gap

*Partnerships between K-12 schools and their local community colleges can better prepare students to handle the rigors of higher education*

## Driving Student Achievement with Academic Bridge Programs

Year after year, research suggests that high school students are unprepared for the rigors of college. The lack of proficiency in their secondary school education and the resulting underperformance in college are having a profound and long-term impact on students, schools, and society in general. According to the National Center for Education Statistics, only 30 percent of first-time full-time American students at two-year colleges who entered in fall 2013 got their degree within three years.

Educators and other experts find that many students are not prepared for college-level courses. The most recent data from the 2014-15 academic year show that more than 569,000 students were enrolled in college-prep courses in two- and four-year colleges, according to The Hechinger Report.

The downsides of this so-called readiness gap are ongoing and costly: educators must invest more resources to correct this imbalance, while students rack up more debt, spend more time pursuing a degree, have feelings of inadequacy, and risk dropping out. In particular, community colleges enroll about 780,000 students in developmental math courses.

One solution that has generated impressive results is an academic bridge program. Called by different names at different schools, an "academic bridge program" is essentially a collaborative partnership between K-12 schools and community colleges that uses adaptive technology and an aligned curriculum to prepare high school students for credit-bearing college courses. Other names for these partnerships include "bridge programs," "regional collaboratives," and "K-12 to higher education partnerships."

Academic bridge programs offer benefits to both partners. For K-12 schools, they can:

- Deliver a focused, unified curriculum.
- Reduce the time it takes a student to matriculate.
- Employ district resources and budgets more efficiently.
- Cut the rate of students dropping out of high school.
- Support teachers and mitigate student learning setbacks.

And for community colleges, academic bridge programs can:

- Increase the percentage of students who are ready for college.
- Improve success in college-level courses, including dual and concurrent enrollment courses.
- Increase the number of students who obtain a college degree.
- Reduce the number of students in developmental courses.
- Decrease the cost of college for students who no longer must pay for developmental courses.

"The way that K-12 district leaders understand student support and student success is continually evolving—and in recent years, it's becoming more holistic," says Marty Lange, Chief Product & Operating Officer for the McGraw-Hill School Group.

"These academic bridge programs are another example of how K-12 leaders are leveraging resources to empower students to succeed in ways that supersede traditional spaces or pathways. As educational equity continues to be a top priority for many districts, close partnerships between local high schools and community colleges can't be underestimated in their value to support and align to students' college readiness and success.



***"These academic bridge programs are another example of how K-12 leaders are leveraging resources to empower students to succeed in ways that supersede traditional spaces or pathways.***

***—Marty Lange, Chief Product & Operating Officer, McGraw-Hill School Group.***

## Keys to Success

Academic bridge programs may differ from each other in some respects, but they also share common objectives, goals and values overall. Central components for K-12 school districts and community colleges include:

**Regional collaborations.** Maintaining and finding partners through a regional alliance or common shared geographic region—the student population, demographic and general political setting is shared across the district and community college since they are typically across one region or location, creating an easy partnership.

**Leadership.** A designated person or team to lead the collaboration at their individual schools—and more important, to sustain it. School leaders need to understand the kind of program that works best for their community and cut through the bureaucratic processes to focus on the essential goals and outcomes.

**Data sharing.** Open communication between K-12 schools and community colleges that share data and feedback from testing is necessary to personalize student learning goals and accelerate their progress.

**Community engagement.** Parents should also communicate openly with schools. Addressing their privacy concerns and cultural considerations about student data in an informed and reasonable way can help communities get the most out of their academic bridge programs.

**Adaptive technology.** Personalized learning technologies provide a data-informed and strategic approach to measure, track, and evaluate student progress consistently. Schools can also use these technologies to remediate students during their junior and senior years of high school and place them in appropriate credit-bearing college courses.

An example of this technology that has been field tested at thousands of schools in the U.S. and around the world is *ALEKS*<sup>®</sup>. Developed by researchers at New York University and the University of California, Irvine, *ALEKS*<sup>®</sup> is a web-based learning and assessment system that uses artificial intelligence to measure a student's performance and come up with an individualized learning program to hone their skills.

*ALEKS*<sup>®</sup> and *ALEKS*<sup>®</sup> Placement, Preparation and Learning (PPL) are two separate programs that share some content and reporting features.

Both *ALEKS*<sup>®</sup> and *ALEKS*<sup>®</sup> PPL assess students' knowledge at the beginning, but they use that assessment for different goals.



***Open communication between K-12 schools and community colleges that share data and feedback from testing is necessary to personalize student learning goals and accelerate their progress.***

*ALEKS*<sup>®</sup> helps students master course topics through a continuous cycle of preparation, knowledge retention and positive feedback. Based on the framework an instructor sets up, *ALEKS*<sup>®</sup> creates an individualized path to success where students learn and then master topics.

On the other hand, *ALEKS*<sup>®</sup> PPL gets college-bound high school students ready to be placed in college credit courses.

Academic bridge programs are partnerships in the truest sense of the word, concerning the education outcomes of college freshmen and soon-to-be college freshmen. As such, it is hoped that the experiences of the schools highlighted in this report will be relevant for K-12 district leaders and curriculum directors as well as for leaders in higher education—providing a rounded view of this exciting advance in education collaborations.

With these commonalities in mind, let's explore these partnerships in operation at both sides of the academic bridge, starting from the secondary school perspective.

## Elmhurst Public Schools: Instilling Confidence and Skills

For the educators in Elmhurst Public Schools in Elmhurst, IL, helping students reach their potential was problematic at best.

"There's no one way to describe them. Each student carries with them some group of complicating factors," says Dave Beedy, the director of STEM education for public schools in District 205 in Elmhurst.

Many students came from low-income households, while others were still learning English as a second language. Attendance issues were a chronic problem and emotional traumas routinely disrupted their education.

A large cohort of students could not handle college credit-bearing math courses in high school and lacked the requisite math skills once they got to college. Instead, they were forced to take non-credit remedial math courses first—driving up their tuition costs, putting a financial strain on household finances and increasing the likelihood that they would drop out of college without a degree.

To close this readiness gap, Elmhurst established an academic bridge program with College of DuPage, their regional community college.

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***Instead of relying on a single standardized test given on one day to judge student performance—a highly pressurized experience for these students—Elmhurst measured student aptitude multiple times for a more accurate assessment of their progress.***

Working together, Elmhurst started by redesigning their senior-level Algebra 2 course with the objective of eventually making it their transition course. They also started using adaptive technology to identify students' strengths and weaknesses, so they could develop a customized curriculum for each student.

"It was an awesome experience for our kids. They could see and gauge their growth based on the design of ALEKS<sup>®</sup>," says Erik Westerberg, a math teacher at York Community High School in the Elmhurst school district.

Instead of relying on a single standardized test given on one day to judge student performance—a highly pressurized experience for these students—Elmhurst measured student aptitude multiple times for a more accurate assessment of their progress.

After a pilot program, the academic bridge program fully commenced in the 2017-18 school year. About five percent of the senior class, or 29 students, took part. The results have been encouraging.

"In the past, about 40 percent of those students would have qualified for college credit-bearing math courses. Last year, 100 percent of them did," says Beedy.

Reflecting on their experience, the Elmhurst educators cite several elements for the success of their academic bridge program:

- Proficient teachers who really care about the students and are adept at recognizing and addressing the needs of students who may be struggling or drowning.
- Being clear about the learning goals that students must attain to be ready for college credit-bearing courses.
- Giving students timely and data-driven feedback about what they're doing right and where they need to improve.
- Collaboration and communication between K-12 schools and the community college on things like testing and alignment of curriculum goals. Elmhurst and College of DuPage have regular quarterly meetings to foster and sustain the partnership. Instructors from College of DuPage came to the Elmhurst secondary schools to talk to students about what college is like—giving them a connection when they got to college and making the transition smoother.

Perhaps most important, students acquired a new-found belief in themselves beyond honing specific skills and gaining college-level knowledge.

"Not only were our students coming out of our program better prepared for college credit-bearing math courses, but we saw really improved confidence in terms of students' own abilities for math. Students really felt they were like mathematicians or they could do math. We saw that change and I think that has a bigger impact over someone's life rather than whether they can factor a polynomial," Beedy says.

Now, let's examine the view from the other side of the bridge—community colleges.

## Eastern Iowa Community College: A Pathway to College Readiness

When Eastern Iowa Community College scrutinized the students enrolling at their school, they were struck by three things:

- Only about 40 percent were college-ready for math.
- Some students needed to take three developmental math courses to prepare them for their first college-level course.
- It appeared that math courses were pushing students towards STEM careers, but were not serving the interests or inclinations of every student.

"Everyone is not necessarily in the pathway of STEM. Maybe we needed to have different math options for different pathways," says Joan Kindle, vice chancellor for education and training at Eastern Iowa Community Colleges.

Iowa partnered with the Mississippi Bend Area Education Agency to work with high schools on an academic bridge program that they called Pathway to College Readiness.

In a pilot program in 2016, select Iowa high schools taught senior-year math courses using the Eastern Iowa Community College curriculum. Students could take the *ALEKS*<sup>®</sup> test up to five times within that course and get diagnostic feedback on their weaknesses. With that data, teachers tailored the curriculum to each student's learning goals.

The program is still being rolled out in 2018-19, with about 140 students enrolled out of a maximum capacity of about 600. Although the program is being used solely for math now, Eastern Iowa eventually hopes to use an academic bridge program and adaptive technology for reading and writing courses, too.

For an academic bridge program to work, Kindle says that community colleges and secondary schools must talk to each other about what students need and align the curriculum accordingly.

While the human element of teaching is obviously important, educators can be easily distracted handling daily responsibilities and do not have the time or resources to collaborate about learning goals between secondary and postsecondary education. Pathways can break down, and the result is students may not be ready for college by the time they graduate. The answer, Kindle says, is to put systems in place that bring teachers together to examine student data and align best practice curriculum on a regular basis for sustainable results that bridge the transition to college.



According to Kindle, the benefits of an academic bridge program to community colleges are twofold.

First, community colleges can be a pathway to success that moves students closer to the starting gate for college, alleviating some of the stress of providing non-credit-bearing remedial courses. Second, community colleges can develop closer relationships with K-12 schools and superintendents, helping each side support the other.

Finally, technology can accelerate progress at both institutions. "The *ALEKS*<sup>®</sup> test helped us expedite and shorten that pathway to success," Kindle says.



***"The adaptive nature of technology is crucial to this program, in my opinion. It frees faculty members to engage with what is meaningful to students on that day. It would be impossible for a human being to have 20 or 25 students in class and assess what they know. [With adaptive technology], we get more students arriving on our doorstep ready for a math class that counts toward their degree. I don't think you could do this program without technology."***

***—Beth Barnett, Professor of Mathematics, Columbus State Community College.***

## Columbus State Community College: Adding a Game Changer to Education

Columbus State Community College in Ohio started their Bridge to College Math program in 2012, allowing students to take three levels of remedial math in one semester.

In 2014, they began an academic bridge program with central Ohio high schools. Columbus State trained the high school teachers, who would then share student progress with the college at the end of the year. Seniors who took and passed non-credit college-level remedial math courses would not have to take a math placement test at Columbus State, as the college would honor their placement.

The introduction of adaptive technology in 2014 "was a major game changer in being able to identify what students know and what they don't and having them work on what they need to learn or relearn. A teacher couldn't possibly be assessing students like this individually," says Beth Barnett, professor of mathematics, Columbus State Community College.

Barnett sees some challenges going forward:

- Stressing the importance of regular communication between high school and college faculty members.
- Improving student behavior that revolves around self-discipline, time management, and carving out time for homework.
- Collecting and sharing meaningful data in a formalized method is critical to assessing the success of the program. Columbus State Community College requests that all the high school participants establish student ID numbers to facilitate data collection. Historically, a significant portion of the students have not established ID numbers due to privacy concerns, parental objection, or instructor error. This challenge is being addressed through targeted communication and training.

Even with those obstacles, the academic bridge experience has been positive and beneficial overall. Like other school administrators, Barnett attributes much of the success of the program to the technology capabilities at their disposal:

"The adaptive nature of technology is crucial to this program, in my opinion. It frees faculty members to engage with what is meaningful to students on that day. It would be impossible for a human being to have 20 or 25 students in class and assess what they know. [With adaptive technology], we get more students arriving on our doorstep ready for a math class that counts toward their degree. I don't think you could do this program without technology."

## The Power of Adaptive Technology in the Classroom

Academic bridge programs are transforming the learning outcomes for a population of students who were historically discouraged in school—and equipping educators with new tools to address those challenges actively and decisively. As McGraw-Hill's Lange puts it:

"The core of an academic bridge program is a strong, communicative partnership between K-12 leaders and the community college. But technology can act as powerful fuel to drive the work in that partnership. We've heard from educators who are navigating their own academic bridge programs that adaptive technology allows them to take their work to scale, because it provides them with the personalized classroom instruction necessary to address the diverse needs of their student populations."

The adaptive technology capabilities of a program like *ALEKS*<sup>®</sup> can:

- Prepare more students for college.
- Cut down on the number of developmental courses.
- Lead more students to obtain a college degree.
- Lower the cost of college for students.
- Give teachers measurable feedback on what students need to succeed.
- Help secondary schools and community colleges work together to create data-driven, customized curriculums.

For more information about *ALEKS*<sup>®</sup>, visit <https://www.aleks.com/k12>

If you would like to integrate adaptive learning technology into your existing or upcoming academic bridge program, contact your local McGraw-Hill rep [here](#).

## About McGraw-Hill

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