

# GUIDED PATHWAYS TRAILBLAZERS

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*May 18, 2018*

## Newsletter #10

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### Greetings Pathways Trailblazers!

Bakersfield College's commencement was last Friday, May 11<sup>th</sup>. This one was extra special for us because it included the first graduates of our baccalaureate program (Bachelor of Science in Industrial Automation).

I just read a piece Chancellor Constance Carroll wrote in the newspaper about the first graduating baccalaureate class from San Diego Mesa College -- <https://tinyurl.com/yclv6avk>. SB 850 was a revolutionary piece of legislation and today I would like to recognize those leaders who partnered with **Dr. Carroll** to make this possible.

It has been several months since I last sent a trailblazers letter and a lot has happened since then. The original CA Guided Pathways Advisory Committee which was responsible for the development of the Guided Pathways grant to College Futures that now supports the 20-college demonstration project has evolved into a more permanent advisory committee under the leadership of **Executive Vice Chancellor Laura Hope** and the \$150M that Chancellor Oakley was able to secure to advance this work for all community colleges in California. My role now has evolved from chair of the original advisory committee to a member of the new permanent advisory committee. I continue to believe that CA CCs are collectively doing notable work, closely linking policy and practice, to improve student completion of degrees and certificates in a significant manner.

Let me start with the May 14<sup>th</sup> Board of Governors (BOG) meeting that I attended and how impressed I was with the level of engagement and rigor in the discussions among the members of the BOG. The topics ranged from equity, to student completion, to accountability of budgets, technology innovation and integration, transfers to both CSUs and UCs and preparing a strong workforce for our state. At this meeting **Executive Vice Chancellor Van Tom Qunllivan and Visiting Vice Chancellor Omid Pourzanjani** presented the heavy lift from

CCCCO to integrate technologies at the systems level but with the necessary flexibility at the local college level to customize functionality. During the presentation, Dr. Pourzanjani specifically called out the **Pathways Program Mapper** to make his point.

The Pathways Program Mapper, a customized, visual representation of your college's catalog that addresses sequence of courses towards a degree or certificate completion. The first pillar of Guided Pathways is Clarifying the Path.

A key part of clarifying the path is packaging the program information that the target audience—our students—will find easy to consume and relevant to their needs. It makes the educational programs section of the catalog more user-friendly and engaging for the students through an interactive interface (and goodness knows that making a college catalog engaging is a tall order). The Program Mapper is organized by your college's meta-majors and it gives default program maps but it is not an education planner. Rather than try to describe it in words, let's take a look at some screenshots of the map for my college (Bakersfield College).










[See the Program Mapper Here](#)

### **Step 1: The Landing Page**

The landing page shows the meta-majors (we call them “Learning and Career Pathways” at BC)

## Learning and Career Pathways

Learning and career pathways are groups of careers that share common themes or require similar skills.

 <p><b>Health Sciences</b></p> <p>Health Sciences programs study human biology, medical care, and support to help keep people healthy and offer assistance in emergencies. They may be employed by private business, government, or work independently.</p> <p><a href="#">EXPLORE →</a></p>	 <p><b>Business</b></p> <p>Business programs study finance and management to help businesses and offices function smoothly and plan for the future. They may be employed by private business, government, or work independently.</p> <p><a href="#">EXPLORE →</a></p>
 <p><b>Agriculture, Nutrition, &amp; Culinary Arts</b></p> <p>Agriculture, Nutrition, &amp; Culinary Arts programs scientifically study plants, animals and food preparation to help us be healthy and food secure. They may be employed by private businesses, government, or work independently.</p> <p><a href="#">EXPLORE →</a></p>	 <p><b>Science, Technology, Engineering, &amp; Math</b></p> <p>STEM programs scientifically study ourselves and the physical world to help us produce medicines, buildings, and other technologies that improve our lives.</p> <p><a href="#">EXPLORE →</a></p>
 <p><b>Public Safety</b></p> <p>Public Safety programs study the agencies that protect us to help keep us safe today and plan for our future.</p> <p><a href="#">EXPLORE →</a></p>	 <p><b>Social &amp; Behavioral Sciences</b></p> <p>Social &amp; Behavioral Sciences programs study people to help solve social issues, improve quality of life, and plan for our future. Graduates may be self-employed, or employed by private businesses or the government.</p> <p><a href="#">EXPLORE →</a></p>
 <p><b>Industrial &amp; Transportation Technology</b></p> <p>Industrial and Transportation Technology programs study drafting, mechanics, and construction to help build homes, businesses, and cars, and keep them all functioning. They may be employed by private business, government, or work independently.</p> <p><a href="#">EXPLORE →</a></p>	 <p><b>Education</b></p> <p>Education programs study children and learning to help teachers be able to work with a diverse student population. They may be employed by private business, government, or work independently.</p> <p><a href="#">EXPLORE →</a></p>
 <p><b>Arts, Humanities, &amp; Communication</b></p> <p>Arts, Humanities, &amp; Communication programs study human creativity and languages to help us express ourselves and communicate effectively. They may be employed by private business, government, or work independently.</p> <p><a href="#">EXPLORE →</a></p>	

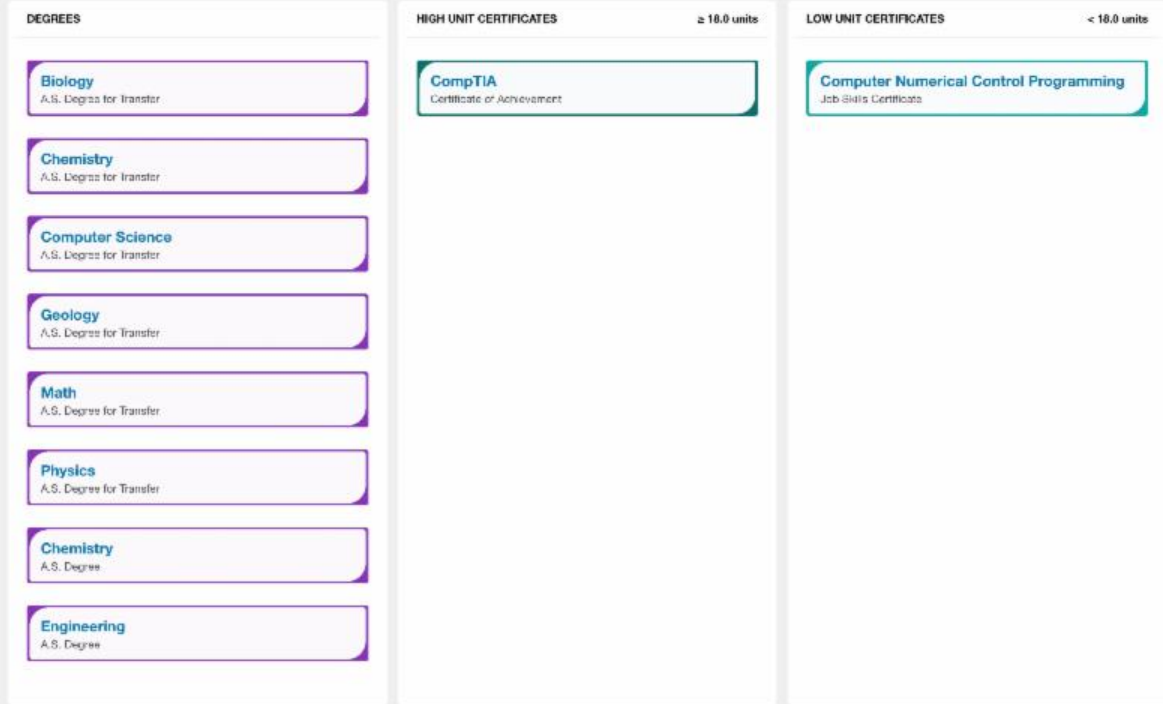
## Step 2: Selecting a Path

For the next screenshot, let's choose the area where I started out: **STEM**. This shows the certificates and degrees offered in the STEM meta-major plus brief explanations about the careers a student can go into that includes two key facts about that career a student would be interested in: annual salary and job prospects.

# Science, Technology, Engineering, & Math

STEM programs scientifically study ourselves and the physical world to help us produce medicines, buildings, and other technologies that improve our lives.

## Certificates and Degrees Map



## Career Explorer

<b>Natural Sciences Managers</b> Plan, direct, or coordinate activities in such fields as life sciences, physical sciences, mathematics, statistics, and research and development in these fields.  <b>\$138k</b> Average Salary  <b>+9.9%</b> Job Growth	<b>Biological Scientists, All Other</b> All biological scientists not listed separately.  <b>\$81k</b> Average Salary  <b>+8%</b> Job Growth	<b>Life Scientists, All Other</b> All life scientists not listed separately.  <b>\$99k</b> Average Salary  <b>+9.2%</b> Job Growth
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<b>Biological Science Teachers, Postsecondary</b> Teach courses in biological sciences. Includes both teachers primarily engaged in teaching and those who do a combination of teaching and research.	<b>Secondary School Teachers, Except Special and Career/Technical Education</b> Teach students in one or more subjects, such as English, mathematics, or social studies at the secondary level in public or private schools. May be designated according to subject matter specialty.	<b>Computer and Information Systems Managers</b> Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.
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### **Step 3: Choosing a Program**

**Let's choose the program closest to BC's ISER editor's area (astronomy). This screenshot shows the program information from the catalog, the PLOs, salary range of career options for the program, job prospects, and the careers options for students getting degrees in the program.**

When our Program Mapper goes public, each meta-major and program will have a short video about it.

# Physics



## A.S. Degree for Transfer

The goal of the program is to help students better understand the physical world and its analysis using both qualitative and quantitative reasoning based on mathematical techniques. The coursework prepares students to think critically and apply reasoning skills to analyze real world situations. Students will be able to successfully transfer to any institution of higher learning armed with the foundation needed to pursue a baccalaureate degree in physics and will be prepared for careers as physicists in fields such as research, industry and education. Students will complete comprehensive curriculum ... [More](#)

## Program Learning Outcomes

1

Demonstrate a knowledge of and recognize the processes that explain physical phenomena. Assessment: Exams, quizzes, homework problem sets and laboratory reports.

2

Apply the methodologies of science when approaching a physics problem. Assessment: Exams, quizzes, homework problem sets and laboratory reports.

3

Apply logical quantitative and qualitative reasoning in solving physics problems or analyzing arguments. Assessment: Exams, quizzes, homework problem sets and laboratory reports.

## Salary, Growth and Careers

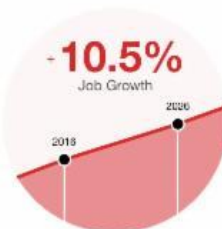
### Salary

Careers associated with this program have a salary range from \$46,000 to over \$208,000 with an average salary of \$102,000.



### Growth

Career opportunities for this program are expected to grow nationwide from 2016 to 2026.



### Careers

Physicists



## Course Map

### Physics A.S. Degree for Transfer

With Transfer To:

California State University System

Time to Completion:

2 years

Map View  List View

1 <sup>ST</sup> TERM	2 <sup>ND</sup> TERM	3 <sup>RD</sup> TERM	4 <sup>TH</sup> TERM
<b>PHYS B4A</b> CORE 4.0 Units Mechanics and Wave Motion	<b>PHYS B4B</b> CORE 4.0 Units Heat, Electricity, Magnetism	<b>PHYS B4C</b> CORE 4.0 Units Optics and Modern Physics	<b>ENGR B17</b> CORE 3.0 Units Introduction to Electric Circuits
<b>MATH B6A</b> CORE 4.0 Units Analytic Geometry/Calculus I	<b>MATH B6B</b> CORE 4.0 Units Analytic Geometry/Calculus II	<b>MATH B6C</b> CORE 4.0 Units Calculus III	<b>ENGR B17L</b> CORE 1.0 Units Electric Circuit Laboratory
<b>CHEM B1A</b> GEN 5.0 Units General Chemistry I	<b>Critical Thinking</b> GEN 3.0 Units Choose a course	<b>Arts</b> GEN 3.0 Units Choose a course	<b>American Institutions History</b> GEN 3.0 Units Choose a course
<b>GEN</b>	<b>GEN</b>	<b>GEN</b>	<b>GEN</b>

## Step 4: Learning About the Courses

Selecting one of the core courses shows the following screenshot. The information is right from the catalog. As the transfer pathways to UC get worked out, they will be added to the Program Mapper.

Course Map

### Physics

A.S. Degree for Transfer

With Transfer To: California State University System | Time to Completion: 2 years | Map View | List View

	1 <sup>ST</sup> TERM	2 <sup>ND</sup> TERM	3 <sup>RD</sup> TERM	4 <sup>TH</sup> TERM
<b>PHYS B4C</b> 4.0 Units Optics and Modern Physics CORE Third of a three-course calculus-based physics sequence required of physics, engineering, and other majors requiring a thorough physics background. Includes geometric and physical optics, relativity, quantum physics, quantum mechanics, atomic and molecular physics, and nuclear physics. Emphasizes principles, laws, and problem solving. <b>Prerequisites</b> <a href="#">MATH B6B</a> Analytic Geometry/Calculus II <a href="#">PHYS B4B</a> Heat, Electricity, Magnetism	<b>PHYS B4A</b> 4.0 Units Mechanics and Wave Motion CORE	<b>PHYS B4B</b> 4.0 Units Heat, Electricity, Magnetism CORE	<b>PHYS B4C</b> 4.0 Units Optics and Modern Physics CORE	<b>ENGR B17</b> 3.0 Units Introduction to Electric Circuits CORE
	<b>MATH B6A</b> 4.0 Units Analytic Geometry/Calculus I CORE	<b>MATH B6B</b> 4.0 Units Analytic Geometry/Calculus II CORE	<b>MATH B6C</b> 4.0 Units Calculus III CORE	<b>MATH B6D</b> 3.0 Units Ordinary Differential Equations CORE
	<b>CHEM B1A</b> 5.0 Units General Chemistry I GEN	<b>Critical Thinking</b> 3.0 Units Choose a course GEN	<b>Arts</b> 3.0 Units Choose a course GEN	<b>American Institutions History</b> 3.0 Units Choose a course GEN
	<b>ENGL B1A</b> 3.0 Units GEN	<b>Oral Communication</b> 3.0 Units GEN	<b>Life Sciences without lab</b> 3.0 Units GEN	<b>Arts and Humanities</b> 3.0 Units GEN

Whether or not you use a tool like Program Mapper is your choice but the second item, **AB 705**, that I will highlight is legislated so all of us in the field must start planning with guidance from CCCCO and the AB 705 Implementation Taskforce, to make it happen on our campuses. This particular piece of legislation impacts the second and third pillars of Guided Pathways: Entering the Path and Staying on the Path. AB 705 impacts placement in transfer level English and math (entering the path) as well as requires us to consider how we can redesign courses, potentially through a co-requisite model, to successfully complete college-level work (staying on the path) in a shorter time than before, all the while Ensuring that Learning Happens (the fourth pillar). I use the pillars of Guided Pathways to describe the work we need to do because they provide the framework for how we now approach our work.

**Thomas Kuhn** used the word “paradigm” to describe the mental framework of concepts, results, and procedures within which subsequent work is structured. Guided Pathways is that framework we use to figure out how to improve student success but that success is not just in individual courses—we’re focused on how to get students through an entire program pathway but the real end goal is the eventual career. That’s why it is critical that the Pathways Program Mapper include possible career options for the meta-majors and the programs.



BC’s August 12, 2011 College Council meeting (yes, over six years ago) included discussion about a district wide summit on student success: what do we mean by student success and how should we measure student success. It came down to completing college-level classes successfully. Completing college-level English and math are the keys to success in so many other college-level classes which is why completing English and math are two of the momentum points that have been used for many years in student success policy making. Your college has very likely had discussions just like this for many years too.

My point is that AB 705 has been in the works for many years, long before Bailey et. al introduced us to the idea of guided pathways in *Redesigning America’s Community Colleges* in 2015. The MMAP research proved that using high school performance metrics were better indicators of success than the usual placement exam. Statewide research showed that the usual remediation course work as prerequisites that dipped as low as “four levels below college level” resulted in only a small fraction of students finally enrolling in college level English and math – a concept that researchers have termed “throughput.” Also, research showed that the great majority of students placed two or more levels below transfer level were Latinx and African-American students. When you couple that with the extremely low chances of those in remedial classes two or more levels below transfer even getting to attempt transfer level English and math, raises the question, did we set them up to fail? Should we have given them a chance, with support to be successful in that college level class in the very first place?

With this research as the backdrop and the almost one-billion dollars already spent on student success measures for the California Community College system with flat success rates, I don’t think any of us were surprised that something like AB 705 was legislated. The Guided Pathways paradigm is how all of us can approach figuring out how to implement AB 705 in ways that work for our own



colleges. All of us in the field must honestly engage in this work, however hard, so that we can shape the practice of this policy. Remember, those who come to the table will have the influence this direction so it is important to engage.

### **AB 705 Workshop at Bakersfield College**

On Star Wars day (May 4th), was the [first of a set of AB 705 workshops](#) that will be held throughout the state.

Members of the [AB 705 Implementation Committee](#) led the workshop at BC for colleges in the Central Valley Higher Education Consortium. The AB 705 workshop agenda, presentation materials, and more are posted on the BC website.



[Click Here for Workshop Materials & Resources](#)

**Here's a brief rundown on what took place:**

- Michelle Siqueiros, President of the Campaign for College Opportunity, spoke about her own journey and how having support systems and good public policy were crucial to her success. She shared several students' stories who persevered through the obstacles that had been created in our system, including Lulu Matute (graduating this year from UC Berkeley) who told us in a video (posted at



<https://www.youtube.com/watch?v=o31d6t2VNGI>) about how she was able to challenge her remedial placement at the community college she transferred from, so she could take transfer-level classes at the start. [Link to Siqueiros slides.](#)

- Janet Fulks, Nicole Bryant, and Nika Hogan led us through two sessions where attendees looked at case studies of typical student placement, barriers, and support options at the attendee's college and what the future processes and support would be at the college for those students.



They also gave us time to read some of the AB 705 resources and have group discussion about what we learned. [Link to their slides.](#)

- Craig Hayward presented the research behind the default placement rules and why the key metric we need to consider is “throughput”—the proportion of a student cohort completing transfer/gateway math or English within a certain time frame (AB 705 says one year). The “classic” MMAP more accurately placed students into the appropriate English and math class without changing the proportion of students in those transfer-level classes who successfully completed it. When you consider that the denominator of that proportion is a lot bigger than before, the numerator must be correspondingly larger—that’s the “throughput”. We can use the MMAP research to help us figure out how to use high school performance to place students. [Link to Hayward’s slides.](#)



- The data cruncher trio of Craig Hayward, Terrence Willett, and John Hetts gave an AB 705 MythBusters presentation where they addressed eight common objections to the research on the use of high school grades for placement. One important result of the research is that of a wide range of possible variables, high school GPA is reliably the strongest predictor of student performance and it works better than the usual placement exam for many years after the student graduated from high school. Research also indicates that self-reported GPA works fine for the great majority of students. [Link to their slides.](#)

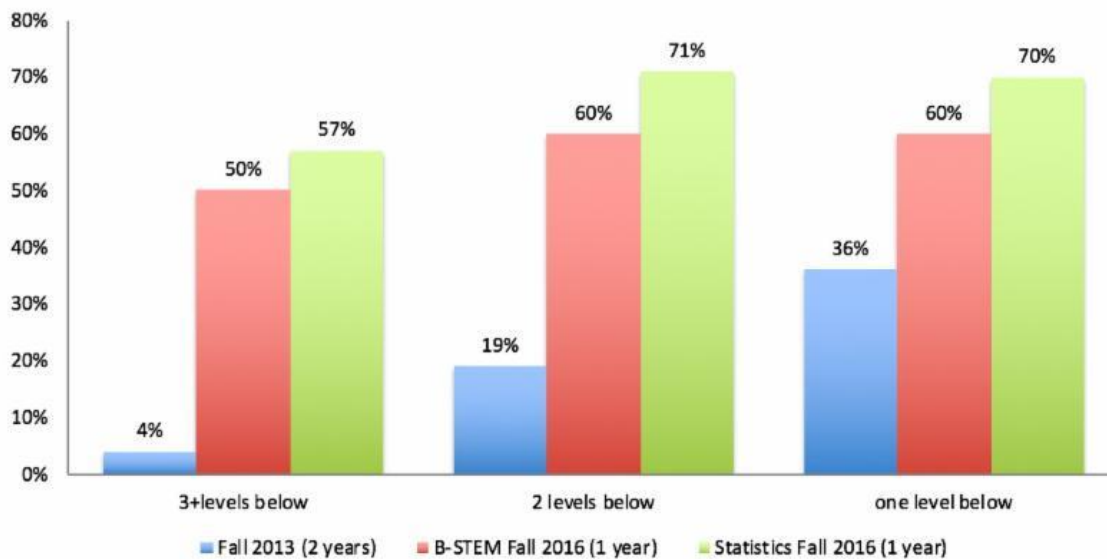


- Summer Serpas of Irvine Valley College and Myra Snell of the California Acceleration Project answered the question “will AB 705 help students?” with results from Cuyamaca and Solano College who are leading the way with placing students directly in transfer-level English and math and attaching co-requisite support for the lower high school GPA students. Here are a couple of charts from their presentation showing the dramatic increase in students completing transfer level English and math. First are math results from Cuyamaca.



The three groups are the placement levels if only Accuplacer was used. Within each set are: the completion rates of transfer-level math in 2013 before their curriculum design (far left bar); the completion rates within one year for Business-STEM math with the co-requisite support in 2016 (middle bar); and the completion rates for Statistics with co-requisite support in 2016 (right bar).

**Concurrent Support Student Completion of Transfer-level Math by Accuplacer Assessment Level**

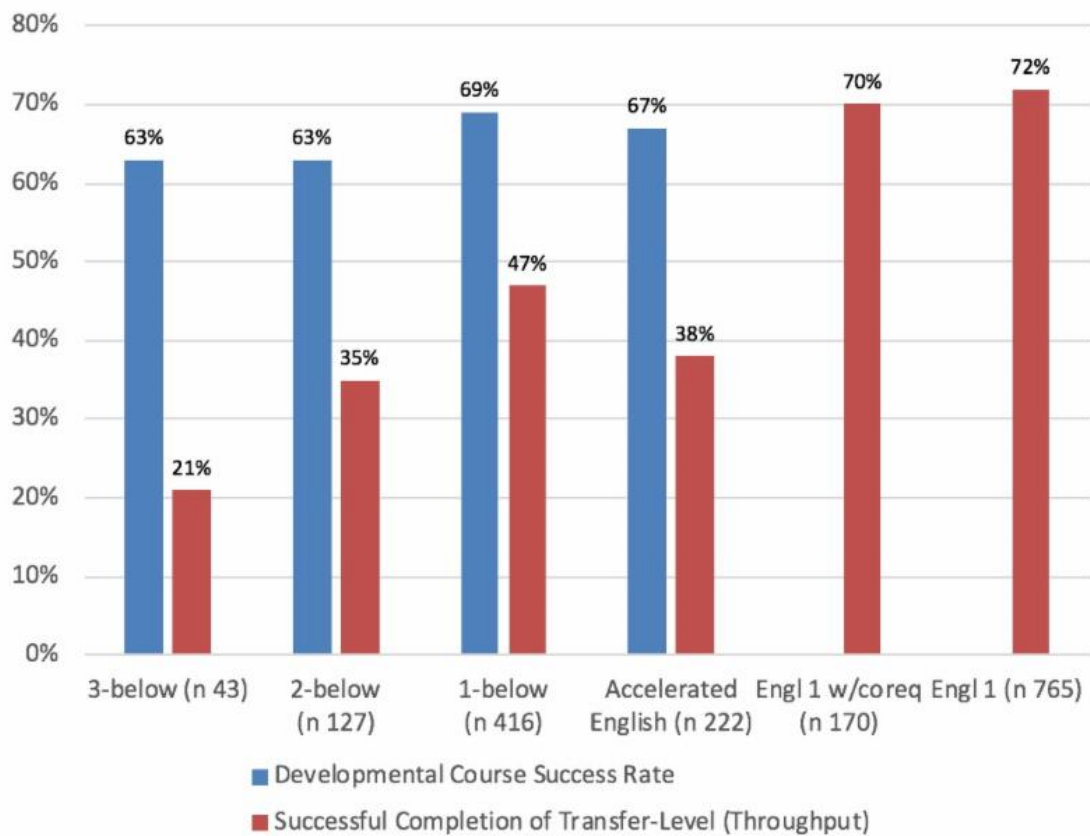


Between two to ten times the completion rate between 2013 and 2016 and another chart showed that Latinx and African-American students had the biggest gains with this approach, almost eliminating the gap between them and their white/asian student peers.

Solano College allowed about 70% of their students into transfer-level English in Fall 2016 and 85% in Fall 2017. Some students were required to take the concurrent support. Here are their results before their curriculum reform (Fall 2014), with the accelerated remediation approach (Fall 2015), and finally the newest reform of direct placement into transfer level.

The three sets of bars on the left are for students in the traditional remediation sequence tracked up to three years. The accelerated English students were tracked for two years. The difference between green bars and the red bars show the problem of “leakage” in the remediation pipeline to transfer-level classes. The two right bars are for students in the newer courses with the concurrent support feature. Solano also saw dramatic improvements in equity measures with their new approach.

The predominant model of concurrent support is linking a co-requisite 1-2 unit to the transfer level that contextualizes the support, so students can more clearly see the connection of the basic English or math skills to the transfer-level class they’re taking. It works best if the same instructor teaches both the transfer-level class and the co-requisite back-to-back and also if the co-requisite session comes *before* the parent course.



- Alice Perez from the Chancellor’s Office framed the AB 705 initiative as the social justice fight of our time. She shared the arc of processing any paradigm shift: from awareness to acceptance then finally to action. How do we become student-ready colleges?



After lunch, breakout sessions allowed people to get deeper into the research behind AB 705, how to implement AB 705, and how to prepare this coming year before the deadline of implementation in Fall 2019. How are you preparing for AB 705?

We, at BC, just like the rest of the colleges are grappling with these issues as we craft practices that will continue to promote student learning and student achievement.

I want to thank Lesley Bonds, Jessica Wojtsiak, and Nick Strobel for helping me with this communication. Here we are as we rode the train up to Sacramento to attend the BOG meeting.



It's a good time to be in CA Community Colleges.

With much warmth and collegiality,

sonya

Sonya Christian

President, Bakersfield College

Follow my blog at: <https://sonyachristianblog.com>

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The opinions expressed here are my own and does not represent any other organization or group.

For all previous Trailblazer letters:

[Visit the CA Guided Pathways Resources at Bakersfieldcollege.edu](https://www.bakersfieldcollege.edu)

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[BC Pathways Summit Archive](#)

